



# FEDERAL REGISTER

---

Vol. 81                      Wednesday,  
No. 61                      March 30, 2016

Book 1 of 2 Books  
Pages 17601–18110

OFFICE OF THE FEDERAL REGISTER



The **FEDERAL REGISTER** (ISSN 0097-6326) is published daily, Monday through Friday, except official holidays, by the Office of the Federal Register, National Archives and Records Administration, Washington, DC 20408, under the Federal Register Act (44 U.S.C. Ch. 15) and the regulations of the Administrative Committee of the Federal Register (1 CFR Ch. I). The Superintendent of Documents, U.S. Government Publishing Office, Washington, DC 20402 is the exclusive distributor of the official edition. Periodicals postage is paid at Washington, DC.

The **FEDERAL REGISTER** provides a uniform system for making available to the public regulations and legal notices issued by Federal agencies. These include Presidential proclamations and Executive Orders, Federal agency documents having general applicability and legal effect, documents required to be published by act of Congress, and other Federal agency documents of public interest.

Documents are on file for public inspection in the Office of the Federal Register the day before they are published, unless the issuing agency requests earlier filing. For a list of documents currently on file for public inspection, see [www.ofr.gov](http://www.ofr.gov).

The seal of the National Archives and Records Administration authenticates the **Federal Register** as the official serial publication established under the Federal Register Act. Under 44 U.S.C. 1507, the contents of the **Federal Register** shall be judicially noticed.

The **Federal Register** is published in paper and on 24x microfiche. It is also available online at no charge at [www.fdsys.gov](http://www.fdsys.gov), a service of the U.S. Government Publishing Office.

The online edition of the **Federal Register** is issued under the authority of the Administrative Committee of the Federal Register as the official legal equivalent of the paper and microfiche editions (44 U.S.C. 4101 and 1 CFR 5.10). It is updated by 6:00 a.m. each day the **Federal Register** is published and includes both text and graphics from Volume 59, 1 (January 2, 1994) forward. For more information, contact the GPO Customer Contact Center, U.S. Government Publishing Office. Phone 202-512-1800 or 866-512-1800 (toll free). E-mail, [gpocusthelp.com](mailto:gpocusthelp.com).

The annual subscription price for the **Federal Register** paper edition is \$749 plus postage, or \$808, plus postage, for a combined **Federal Register**, **Federal Register** Index and List of CFR Sections Affected (LSA) subscription; the microfiche edition of the **Federal Register** including the **Federal Register** Index and LSA is \$165, plus postage. Six month subscriptions are available for one-half the annual rate. The prevailing postal rates will be applied to orders according to the delivery method requested. The price of a single copy of the daily **Federal Register**, including postage, is based on the number of pages: \$11 for an issue containing less than 200 pages; \$22 for an issue containing 200 to 400 pages; and \$33 for an issue containing more than 400 pages. Single issues of the microfiche edition may be purchased for \$3 per copy, including postage. Remit check or money order, made payable to the Superintendent of Documents, or charge to your GPO Deposit Account, VISA, MasterCard, American Express, or Discover. Mail to: U.S. Government Publishing Office—New Orders, P.O. Box 979050, St. Louis, MO 63197-9000; or call toll free 1-866-512-1800, DC area 202-512-1800; or go to the U.S. Government Online Bookstore site, see [bookstore.gpo.gov](http://bookstore.gpo.gov).

There are no restrictions on the republication of material appearing in the **Federal Register**.

**How To Cite This Publication:** Use the volume number and the page number. Example: 81 FR 12345.

**Postmaster:** Send address changes to the Superintendent of Documents, Federal Register, U.S. Government Publishing Office, Washington, DC 20402, along with the entire mailing label from the last issue received.

## SUBSCRIPTIONS AND COPIES

### PUBLIC

#### Subscriptions:

Paper or fiche 202-512-1800  
Assistance with public subscriptions 202-512-1806

General online information 202-512-1530; 1-888-293-6498

#### Single copies/back copies:

Paper or fiche 202-512-1800  
Assistance with public single copies 1-866-512-1800  
(Toll-Free)

### FEDERAL AGENCIES

#### Subscriptions:

Assistance with Federal agency subscriptions:

Email [FRSubscriptions@nara.gov](mailto:FRSubscriptions@nara.gov)  
Phone 202-741-6000





# Contents

## Federal Register

Vol. 81, No. 61

Wednesday, March 30, 2016

### Agency for Healthcare Research and Quality

#### NOTICES

Agency Information Collection Activities; Proposals, Submissions, and Approvals, 17714–17715

Requests for Nominations:

National Advisory Council for Healthcare Research and Quality, 17716

### Agriculture Department

*See* Forest Service

### Air Force Department

#### PROPOSED RULES

Administrative Claims, 17621–17635

### Centers for Disease Control and Prevention

#### NOTICES

Meetings:

Disease, Disability, and Injury Prevention and Control Special Emphasis Panel, 17716–17717

### Centers for Medicare & Medicaid Services

#### RULES

Medicaid and Children's Health Insurance Programs:

Mental Health Parity and Addiction Equity Act of 2008; the Application of Mental Health Parity Requirements to Coverage Offered by Medicaid Managed Care Organizations, the Children's Health Insurance Program (CHIP), and Alternative Benefit Plans, 18390–18445

### Civil Rights Commission

#### NOTICES

Meetings:

Kansas Advisory Committee, 17664

Oklahoma Advisory Committee, 17664–17665

### Coast Guard

#### PROPOSED RULES

Safety Zones:

Louisiana Dragon Boat Race, Red River Mile Marker, 17635–17637

### Commerce Department

*See* International Trade Administration

*See* National Oceanic and Atmospheric Administration

### Commodity Futures Trading Commission

#### NOTICES

Meetings:

Market Risk Advisory Committee, 17682–17683

### Comptroller of the Currency

#### NOTICES

Agency Information Collection Activities; Proposals, Submissions, and Approvals:

Annual Company-Run Stress Test Reporting Template and Documentation for Covered Institutions with Total Consolidated Assets of \$10 Billion to \$50 Billion under the Dodd–Frank Wall Street Reform and Consumer Protection Act, 17786–17787

### Consumer Product Safety Commission

#### NOTICES

Settlement Agreements and Orders:

Gree Electric Appliances, Inc. of Zhuhai, Hong Kong Gree Electric Appliances Sales Co., Ltd., and Gree USA Sales, Ltd., 17683–17686

### Corporation for National and Community Service

#### NOTICES

Agency Information Collection Activities; Proposals, Submissions, and Approvals, 17686–17687

### Defense Department

*See* Air Force Department

*See* Navy Department

#### NOTICES

Agency Information Collection Activities; Proposals, Submissions, and Approvals, 17687

### Drug Enforcement Administration

#### NOTICES

Decisions and Orders:

Avi Weisfogel, D.D.S., 17738–17739

### Election Assistance Commission

#### NOTICES

Meetings; Sunshine Act, 17689

### Energy Department

#### NOTICES

Applications to Export Electric Energy:

Cargill Power Markets, LLC, 17692–17693

Intercom Energy, Inc., 17693–17694

Meetings:

Inform the Design of a Consent-Based Siting Process for Nuclear Waste Storage and Disposal Facilities, 17689–17690, 17694

Quadrennial Energy Review, 17690–17692

### Environmental Protection Agency

#### RULES

Exemption from the Requirement of a Tolerance:

Salicylaldehyde, 17611–17615

#### NOTICES

Agency Information Collection Activities; Proposals, Submissions, and Approvals, 17694–17696

Agency Information Collection Activities; Proposals, Submissions, and Approvals:

Regional Haze Regulations, 17696

Guidance:

Agency Applicability Determinations, Alternative Monitoring Decisions, and Regulatory Interpretations, etc., 17697–17708

Meetings:

Managing Cyanotoxins in Drinking Water, 17696–17697

### Federal Aviation Administration

#### RULES

Class D Airspace and Class E Airspace; Amendments:

Ithaca, NY; Poughkeepsie, NY, 17602–17603

Lynchburg, VA, 17603–17604

Flight Simulation Training Device Qualification Standards for Extended Envelope and Adverse Weather Event Training Tasks, 18178–18388

**PROPOSED RULES**

Proposed Establishment of Temporary Restricted Areas R–2509E, R–2509W, and R–2509N; Twentynine Palms, CA, 17619–17621

**NOTICES**

Guidance:

Procedures and Process to Petition the Secretary under the Airport and Airway Improvement Act, 17756–17758

**Federal Communications Commission**

**RULES**

Technology Transitions, Policies, and Rules Governing Retirement of Copper Loops by Incumbent Local Exchange Carriers and Special Access for Price Cap Local Exchange Carriers; Correction, 17617

**NOTICES**

Agency Information Collection Activities; Proposals, Submissions, and Approvals, 17708–17713

**Federal Deposit Insurance Corporation**

**NOTICES**

Meetings:

Systemic Resolution Advisory Committee, 17713–17714

**Federal Emergency Management Agency**

**RULES**

Suspension of Community Eligibility, 17615–17617

**NOTICES**

Major Disaster Declarations:

Louisiana; Amendment No. 1, 17717

Louisiana; Amendment No. 2, 17717

Major Disasters and Related Determinations:

Louisiana, 17717–17718

**Federal Highway Administration**

**NOTICES**

Agency Information Collection Activities; Proposals, Submissions, and Approvals, 17758–17760

**Federal Maritime Commission**

**NOTICES**

Complaints:

Jill M. Alban, et al. v. Nippon Yusen Kabushiki Kaisha, et al., 17714

**Fish and Wildlife Service**

**RULES**

Endangered and Threatened Wildlife and Plants:

Designation and Nondesignation of Critical Habitat on Molokai, Lanai, Maui, and Kahoolawe for 135 Species, 17790–18110

**NOTICES**

Meetings:

Advisory Council on Wildlife Trafficking, 17719–17720

Sport Fishing and Boating Partnership Council, 17718–17719

**Food and Drug Administration**

**RULES**

New Animal Drugs:

Approval of New Animal Drug Applications; Changes of Sponsorship, 17604–17610

**Forest Service**

**NOTICES**

Meetings:

Pacific Northwest National Scenic Trail Advisory Council, 17663

Shasta County Resource Advisory Committee, 17663–17664

**Health and Human Services Department**

*See* Agency for Healthcare Research and Quality

*See* Centers for Disease Control and Prevention

*See* Centers for Medicare & Medicaid Services

*See* Food and Drug Administration

**PROPOSED RULES**

Medication Assisted Treatment for Opioid Use Disorders, 17639–17662

**Homeland Security Department**

*See* Coast Guard

*See* Federal Emergency Management Agency

**Information Security Oversight Office**

**NOTICES**

Meetings:

National Industrial Security Program Policy Advisory Committee, 17739

**Interior Department**

*See* Fish and Wildlife Service

*See* Land Management Bureau

*See* National Park Service

*See* Ocean Energy Management Bureau

**International Trade Administration**

**NOTICES**

Antidumping or Countervailing Duty Investigations, Orders, or Reviews:

Certain Petroleum Wax Candles from the People's Republic of China, 17665–17666

**Justice Department**

*See* Drug Enforcement Administration

**Land Management Bureau**

**NOTICES**

Agency Information Collection Activities; Proposals, Submissions, and Approvals, 17728–17733

Environmental Impact Statements; Availability, etc.:

Federal Coal Program; Public Scoping Meetings, 17720–17728

**Management and Budget Office**

**NOTICES**

Category Management Policy 16–2—Improving the Acquisition and Management of Common Information Technology—Mobile Devices and Services, 17739

**National Archives and Records Administration**

*See* Information Security Oversight Office

*See* Office of Government Information Services

**RULES**

Fees, 17610–17611

**National Credit Union Administration**

**RULES**

Investment and Deposit Activities:

Bank Notes, 17601–17602

**NOTICES**

Agency Information Collection Activities; Proposals, Submissions, and Approvals:  
Investment and Deposit Activities, 17740

**National Highway Traffic Safety Administration****NOTICES**

Importation Eligibility; Petitions:  
Model Year 2014 Mercedes-Benz SLK Class Passenger Cars, 17760–17761  
Petitions for Decisions of Inconsequential Noncompliance:  
Chrysler Group, LLC, 17763–17764  
General Motors, LLC, 17761–17763  
Nitto Tire U.S.A, Inc., 17764–17765

**National Oceanic and Atmospheric Administration****RULES**

Fisheries of the Exclusive Economic Zone Off Alaska:  
Pollock in Statistical Area 610 in the Gulf of Alaska; Closure, 17617–17618

**NOTICES**

Takes of Marine Mammals Incidental to Specified Activities:  
Subsea Cable-laying Operations in the Bering, Chukchi, and Beaufort Seas, 17666–17682

**National Park Service****NOTICES**

Agency Information Collection Activities; Proposals, Submissions, and Approvals, 17735  
Inventory Completions:  
Kamehameha Schools and University of Hawai'i at Hilo, Hilo, HI, 17736  
Sheriff's Office, Berrien County, Saint Joseph, MI, 17736–17737  
University of South Alabama, Center for Archaeological Studies, Mobile, AL, 17734–17735  
Policies and Procedures Governing Philanthropic Partnerships, 17733–17734

**Navy Department****NOTICES**

Meetings:  
Draft Environmental Impact Statement for the Disposal and Reuse of Surplus Property at Naval Station Newport, Rhode Island, 17688–17689

**Nuclear Regulatory Commission****NOTICES**

Integrated Action Plan to Modernize Digital Instrumentation and Controls Regulatory Infrastructure, 17740–17741

**Ocean Energy Management Bureau****RULES**

Leasing of Sulfur or Oil and Gas in the Outer Continental Shelf, 18112–18176

**Office of Government Information Services****NOTICES**

Meetings:  
Freedom of Information Act Advisory Committee, 17739–17740

**Pipeline and Hazardous Materials Safety Administration****NOTICES**

Meetings:  
Oil Spill Response Planning Workshop, 17765–17766

**Postal Service****PROPOSED RULES**

Procedures Relating to the Disposition of Property Acquired by the United States Postal Service Office of Inspector General for Use as Evidence, 17637–17639

**Securities and Exchange Commission****NOTICES**

Applications:  
NexPoint Capital, Inc., et al., 17741–17746  
Meetings; Sunshine Act, 17752  
Self-Regulatory Organizations; Proposed Rule Changes:  
New York Stock Exchange, LLC, 17752–17753  
NYSE Arca, Inc., 17746–17752

**State Department****NOTICES**

Agency Information Collection Activities; Proposals, Submissions, and Approvals:  
Electronic Diversity Visa Entry Form, 17755  
Statement of Consent—Issuance of a U.S. Passport to a Minor Under Age 16, 17754–17755  
Statement of Exigent/Special Family Circumstances for Issuance of a U.S. Passport to a Minor under Age 16, 17753–17754  
Culturally Significant Objects Imported for Exhibition:  
High Society—The Portraits of Franz X. Winterhalter, 17754  
Meetings:  
Advisory Panel to the U.S. Section of the North Pacific Anadromous Fish Commission, 17755–17756

**Surface Transportation Board****NOTICES**

Meetings:  
Rail Energy Transportation Advisory Committee, 17756

**Transportation Department**

See Federal Aviation Administration  
See Federal Highway Administration  
See National Highway Traffic Safety Administration  
See Pipeline and Hazardous Materials Safety Administration

**NOTICES**

Agency Information Collection Activities; Proposals, Submissions, and Approvals, 17782–17786  
Order Soliciting Community Proposals, 17767–17782  
Transportation Research and Development Strategic Plan; Requests for Information, 17766–17767

**Treasury Department**

See Comptroller of the Currency

**Separate Parts In This Issue****Part II**

Interior Department, Fish and Wildlife Service, 17790–18110

**Part III**

Interior Department, Ocean Energy Management Bureau, 18112–18176

**Part IV**

Transportation Department, Federal Aviation Administration, 18178–18388

**Part V**

Health and Human Services Department, Centers for  
Medicare & Medicaid Services, 18390–18445

---

**Reader Aids**

Consult the Reader Aids section at the end of this issue for phone numbers, online resources, finding aids, and notice of recently enacted public laws.

To subscribe to the Federal Register Table of Contents LISTSERV electronic mailing list, go to <http://listserv.access.gpo.gov> and select Online mailing list archives, FEDREGTOC-L, Join or leave the list (or change settings); then follow the instructions.

---

**CFR PARTS AFFECTED IN THIS ISSUE**

---

A cumulative list of the parts affected this month can be found in the Reader Aids section at the end of this issue.

**12 CFR**

703.....17601

**14 CFR**

60.....18178

71 (2 documents) .....17602,  
17603

**Proposed Rules:**

73.....17619

**21 CFR**

510.....17604

520.....17604

522.....17604

524.....17604

528.....17604

529.....17604

556.....17604

558.....17604

**30 CFR**

550.....18112

556.....18112

559.....18112

560.....18112

**32 CFR****Proposed Rules:**

842.....17621

**33 CFR****Proposed Rules:**

165.....17635

**36 CFR**

1258.....17610

**39 CFR****Proposed Rules:**

230.....17637

**40 CFR**

180.....17611

**42 CFR**

438.....18390

440.....18390

456.....18390

457.....18390

**Proposed Rules:**

8.....17639

**44 CFR**

64.....17615

**47 CFR**

51.....17617

**50 CFR**

17.....17790

679.....17617

# Rules and Regulations

Federal Register

Vol. 81, No. 61

Wednesday, March 30, 2016

This section of the FEDERAL REGISTER contains regulatory documents having general applicability and legal effect, most of which are keyed to and codified in the Code of Federal Regulations, which is published under 50 titles pursuant to 44 U.S.C. 1510.

The Code of Federal Regulations is sold by the Superintendent of Documents. Prices of new books are listed in the first FEDERAL REGISTER issue of each week.

## NATIONAL CREDIT UNION ADMINISTRATION

### 12 CFR Part 703

RIN 3133-AE55

#### Investment and Deposit Activities—Bank Notes

**AGENCY:** National Credit Union Administration (NCUA).

**ACTION:** Final rule.

**SUMMARY:** The NCUA Board (Board) is finalizing a rule that amends the maturity requirement for bank notes to be permissible investments for federal credit unions (FCUs) by removing the word “original” from the current requirement that bank notes have “original weighted average maturities of less than 5 years.”

**DATES:** This rule is effective April 29, 2016.

**FOR FURTHER INFORMATION CONTACT:** John Nilles, Senior Capital Markets Specialist, Office of Examination and Insurance, at the above address or telephone (703) 518-6360; or Justin M. Anderson, Senior Staff Attorney, Office of General Counsel, at the above address or telephone (703) 518-6540.

#### SUPPLEMENTARY INFORMATION:

##### Table of Contents

- I. Background
- II. Comments on the October 2015 Proposal
- III. Final Rule
- IV. Regulatory Procedures

### I. Background

In October 2015, the Board issued a proposed rule to amend the maturity requirement for bank notes to be permissible investments for FCUs by removing the word “original” from the requirement that bank notes have “original weighted average maturities of less than 5 years.”<sup>1</sup> As the Board noted

in the proposal, the authority for FCUs to invest in bank notes is derived from the provision in the Federal Credit Union Act (the Act) that permits FCUs to make deposits in, among other things, national and state banks.

The Act does not provide authority for FCUs to purchase bank notes that are not deposits. The Act, however, does not define “deposit.” NCUA’s long-standing policy has been to use the definition of deposit in the Federal Reserve Board’s Regulation D. Regulation D provides, in relevant part, that a liability of a depository institution can be a “deposit” if, among other things: (1) It is insured; (2) it is not subordinated to the claims of depositors; and (3) it has a weighted average maturity of less than five years.<sup>2</sup>

The Board stated in the proposal that removing the word “original” would better align NCUA’s requirements for bank notes with the Regulation D definition of a deposit. Further, the Board noted that this amendment would also provide FCUs with some measure of regulatory relief. By removing the word “original,” which ties the bank note’s maturity to its original date of issuance, FCUs will be permitted to select from a much larger pool of possible bank note offerings. Specifically, FCUs will be permitted to purchase bank notes that had *original* maturities of *greater* than five years but have *remaining* maturities of *less than* five years. Expanding the list of permissible offerings for FCUs will result in: (1) Cheaper execution prices; (2) flexibility for FCUs; and (3) greater efficiency for FCUs in finding suitable offerings. The weighted average maturity of less than five years will also maintain safety and soundness by avoiding excessive interest rate risk.

### II. Comments on the October 2015 Proposal

The Board received eight comment letters in response to the October 2015 proposal. Generally, all of the commenters supported the rule as proposed. Several of those commenters, however, suggested ways to improve the rule.

One commenter suggested the Board eliminate the maturity requirement for bank notes completely. This commenter

suggested that, because there is no statutory requirement for the Board to align the definition of deposit with Regulation D, the Board should define deposit in a way that would allow FCUs to invest in bank notes with any maturities. However, the Federal Reserve Board’s Regulation D definition provides sufficient flexibility for FCUs, and maintains safety and soundness in this context. The Board, therefore, will continue to follow NCUA’s long-standing policy to use the definition of deposit in Regulation D to determine permissible bank notes that may be purchased by FCUs under the Act.

Another commenter requested the Board issue guidance on concentration limits for FCUs investing in bank notes. The Board notes that there are no regulatory concentration limits on bank notes due to the limited exposure to FCUs that the asset class currently represents.

A final commenter suggested the Board authorize additional investments for FCUs under part 703. This comment raises an issue that is outside the scope of this rulemaking. However, part 703 was included in the Office of General Counsel’s review of one-third of NCUA’s regulations in 2015. As a result, the Board is considering whether additional amendments to part 703 are warranted. If the Board determines to promulgate such amendments, it will do so in a separate rulemaking.

### III. Final Rule

For the reasons stated above, the Board is adopting as final the proposed amendment without change.

### IV. Regulatory Procedures

#### 1. Regulatory Flexibility Act

The Regulatory Flexibility Act requires NCUA to prepare an analysis of any significant economic impact a regulation may have on a substantial number of small entities (primarily those under \$100 million in assets).<sup>3</sup> This final rule will have a minimal economic impact on small credit unions as bank notes are just one small fraction of a typical investment portfolio. Accordingly, NCUA certifies the rule will not have a significant economic impact on a substantial number of small credit unions.

<sup>1</sup> 80 FR 63932 (Oct. 22, 2015).

<sup>2</sup> NCUA’s regulations do not require that all of these criteria be met for bank notes to be permissible investments.

<sup>3</sup> 5 U.S.C. 603(a); 12 U.S.C. 1787(c)(1).

## 2. Paperwork Reduction Act

The Paperwork Reduction Act of 1995 (PRA) applies to rulemakings in which an agency by rule creates a new paperwork burden or increases an existing burden.<sup>4</sup> For purposes of the PRA, a paperwork burden may take the form of a reporting or recordkeeping requirement, both referred to as information collections. This final rule creates new investment options for FCUs but will not create any new burdens or increase any existing burdens. Therefore, a PRA analysis is not required.

## 3. Executive Order 13132

Executive Order 13132 encourages independent regulatory agencies to consider the impact of their actions on state and local interests. NCUA, an independent regulatory agency as defined in 44 U.S.C. 3502(5), voluntarily complies with the executive order to adhere to fundamental federalism principles. The final rule does not have substantial direct effects on the states, on the relationship between the national government and the states, or on the distribution of power and responsibilities among the various levels of government. NCUA has, therefore, determined that this final rule does not constitute a policy that has federalism implications for purposes of the executive order.

## 4. Assessment of Federal Regulations and Policies on Families

NCUA has determined that this final rule will not affect family well-being within the meaning of section 654 of the Treasury and General Government Appropriations Act, 1999, Public Law 105-277, 112 Stat. 2681 (1998).

## List of Subjects

### 12 CFR Part 703

Credit unions, Investments.

By the National Credit Union Administration Board on March 24, 2016.

**Gerard Poliquin,**

*Secretary of the Board.*

For the reasons discussed above, the National Credit Union Administration amends 12 CFR part 703 as follows:

## PART 703—INVESTMENT AND DEPOSIT ACTIVITIES

■ 1. The authority citation for part 703 continues to read as follows:

**Authority:** 12 U.S.C. 1757(7), 1757(8), and 1757(15).

## § 703.14 [Amended]

■ 2. Amend § 703.14(f)(5) by removing the word “original”.

[FR Doc. 2016-07151 Filed 3-29-16; 8:45 am]

BILLING CODE 7535-01-P

## DEPARTMENT OF TRANSPORTATION

### Federal Aviation Administration

### 14 CFR Part 71

[Docket No. FAA-2015-4532; **Airspace**  
Docket No. 15-AEA-10]

### Amendment of Class D Airspace and Class E Airspace for the Following New York Towns; Ithaca, NY; Poughkeepsie, NY

**AGENCY:** Federal Aviation Administration (FAA), DOT.

**ACTION:** Final rule; delay of effective date, correction.

**SUMMARY:** This action changes the effective date of a final rule published in the **Federal Register** of February 4, 2016, amending Class E Airspace designated as an extension at Ithaca Tompkins Regional Airport, Ithaca, NY; and the Kingston VORTAC, Poughkeepsie, NY. This correction updates the geographic coordinates of each navigation aid and Ithaca Tompkins Regional Airport (formerly Tompkins County Airport), under Class D airspace and Class E surface area airspace to coincide with the FAA's aeronautical database. Also, Dutchess County Airport is added to the Kingston VORTAC, Poughkeepsie, NY, designation in Class E airspace designated as an extension. The Kingston VORTAC reference is removed from the Class D airspace designation. This action also adds Class D airspace to the title of this rulemaking.

**DATES:** This correction is effective 0901 UTC, May 26, 2016, and the effective date of the rule amending 14 CFR part 71, published on February 4, 2016 (81 FR 5902), is delayed to 0901 UTC May 26, 2016. The Director of the Federal Register approves this incorporation by reference action under Title 1, Code of Federal Regulations, part 51, subject to the annual revision of FAA Order 7400.9 and publication of conforming amendments.

**FOR FURTHER INFORMATION CONTACT:** John Fornito, Operations Support Group, Eastern Service Center, Federal Aviation Administration, P.O. Box 20636, Atlanta, Georgia 30320; telephone (404) 305-6364.

## SUPPLEMENTARY INFORMATION:

## Authority for This Rulemaking

### History

The **Federal Register** published a final rule amending Class E Airspace Designated as an Extension at Ithaca Tompkins Regional Airport, Ithaca, NY, (formerly Tompkins County Airport), and the Kingston VORTAC, Poughkeepsie, NY (81 FR 5902, February 4, 2016) Docket No. FAA-2015-4532. Further review revealed the geographic coordinates for the airport and nav aids needed to be amended in Class D airspace and Class E surface area airspace. It is also noted that the Kingston VORTAC is erroneously listed in Class D airspace for Poughkeepsie, NY, and is removed. Also, Class D Airspace is added to the title.

Class D and Class E airspace designations are published in paragraphs 5000, 6002, and 6004, respectively, of FAA Order 7400.9Z dated August 6, 2015, and effective September 15, 2015, which is incorporated by reference in 14 CFR part 71.1. The Class D and Class E airspace designations listed in this document will be published subsequently in the Order. These are administrative corrections and do not affect the controlled airspace boundaries or operating requirements supporting operations in the Ithaca and Poughkeepsie, NY areas.

### Availability and Summary of Documents for Incorporation by Reference

This document amends FAA Order 7400.9Z, Airspace Designations and Reporting Points, dated August 6, 2015, and effective September 15, 2015. FAA Order 7400.9Z lists Class A, B, C, D, and E airspace areas, air traffic service routes, and reporting points.

### Correction to Final Rule

Accordingly, pursuant to the authority delegated to me, in the **Federal Register** of February 4, 2016 (81 FR 5902) FR Doc. FAA-2016-02040, Amendment of Class E Airspace for the following NY Towns; Ithaca, NY; Poughkeepsie, NY, is corrected as follows:

On page 5902, column 2, beginning on line 6, remove the following text: “Amendment of Class E Airspace for the following New York Towns; Ithaca, NY; Poughkeepsie, NY” and add in its place “Amendment of Class D and E Airspace for the following New York Towns; Ithaca, NY, Poughkeepsie, NY

On page 5903, column 2, after line 23, add the following text:

*Paragraph 5000 Class D Airspace.*

\* \* \* \* \*

<sup>4</sup> 44 U.S.C. 3507(d); 5 CFR part 1320.

**AEA NY D Ithaca, NY [Corrected]**

Ithaca Tompkins Regional Airport, Ithaca, NY  
(Lat. 42°29'29" N., long. 76°27'31" W.)

That airspace extending upward from the surface to and including 3,600 feet MSL within a 4-mile radius of Ithaca Tompkins Regional Airport. This Class D airspace area is effective during specific dates and times established in advance by a Notice to Airmen. The effective date and time will thereafter be published continuously in the Airport/Facility Directory.

**AEA NY D Poughkeepsie, NY [Corrected]**

Dutchess County Airport, Poughkeepsie, NY  
(Lat. 41°37'36" N., long. 73°53'03" W.)

That airspace extending upward from the surface to and including 2,700 feet MSL within a 4-mile radius of Dutchess County Airport. This Class D airspace area is effective during the specific dates and times established in advance by a Notice to Airmen. The effective date and time will thereafter be continuously published in the Airport/Facility Directory.

*Paragraph 6002 Class E Surface Area Airspace*

\* \* \* \* \*

**AEA NY E2 Ithaca, NY [Corrected]**

Ithaca Tompkins Regional Airport, Ithaca, NY

(Lat. 42°29'29" N., long. 76°27'31" W.)  
Ithaca VOR/DME  
(Lat. 42°29'42" N., long. 76°27'35" W.)

Within a 4-mile radius of Ithaca Tompkins Regional Airport and that airspace extending upward from the surface from the 4-mile radius of the airport to the 5.7-mile radius of the airport clockwise from the 329° bearing to the 081° bearing from the airport; that airspace from the 4-mile radius of the airport to the 8.7-mile radius of the airport extending clockwise from the 081° bearing to the 137° bearing from the airport; that airspace from the 4-mile radius of the airport to the 6.6-mile radius of the airport extending clockwise from the 137° bearing to the 170° bearing from the airport; that airspace from the 4-mile radius to the 5.7-mile radius of the airport extending clockwise from the 170° bearing to the 196° bearing from the airport, and that airspace within 2.7 miles each side of the Ithaca VOR/DME 305° radial extending from the 4-mile radius of the airport to 7.4 miles northwest of the Ithaca VOR/DME. This Class E airspace area is effective during the specific dates and times established in advance by a Notice to Airmen. The effective date and time will thereafter be continuously published in the Airport/Facility Directory.

\* \* \* \* \*

**AEA NY E2 Poughkeepsie, NY [Corrected]**

Dutchess County Airport, Poughkeepsie, NY  
(Lat. 41°37'36" N., long. 73°53'03" W.)  
Kingston VORTAC

(Lat. 41°39'56" N., long. 73°49'20" W.)

Within a 4-mile radius of the Dutchess County Airport; and that airspace extending upward from the surface within 3.1 miles each side of the Kingston VORTAC 025° radial extending from the VORTAC to 8.3

miles northeast of the VORTAC, and within 1.8 miles each side of the Kingston VORTAC 231° radial extending from the 4-mile radius to 9.2 miles southwest of the VORTAC and within 3.1 miles each side of the Kingston VORTAC 050° radial extending from the VORTAC to 9.2 miles northeast of the VORTAC. This Class E airspace area is effective during the specific dates and times established in advance by a Notice to Airmen. The effective date and time will thereafter be continuously published in the Airport/Facility Directory.

Issued in College Park, Georgia, on March 23, 2016.

**Jim Dickinson,**

*Acting Manager, Operations Support Group,  
Eastern Service Center, Air Traffic  
Organization.*

[FR Doc. 2016-07077 Filed 3-29-16; 8:45 am]

**BILLING CODE 4910-13-P**

**DEPARTMENT OF TRANSPORTATION****Federal Aviation Administration****14 CFR Part 71**

[Docket No. FAA-2015-6231; Airspace  
Docket No. 15-AEA-12]

**Amendment of Class D Airspace and  
Class E Airspace; Lynchburg, VA**

**AGENCY:** Federal Aviation  
Administration (FAA), DOT.

**ACTION:** Final rule; delay of effective  
date, correction.

**SUMMARY:** This action changes the effective date of a final rule published in the **Federal Register** of February 4, 2016, amending Class E surface area airspace at Lynchburg, VA, by adjusting the geographic coordinates at Lynchburg Regional-Preston Glenn Field Airport, and Falwell Airport. This correction updates the geographic coordinates of the above airports in Class D airspace, Class E airspace designated as an extension, and Class E airspace extending upward from 700 feet above the surface, and adds Class D Airspace to the title.

**DATES:** This correction is effective 0901 UTC, May 26, 2016, and the effective date of the rule amending 14 CFR part 71, published on February 4, 2016 (81 FR 5901), is delayed to 0901 UTC May 26, 2016. The Director of the Federal Register approves this incorporation by reference action under Title 1, Code of Federal Regulations, part 51, subject to the annual revision of FAA Order 7400.9 and publication of conforming amendments.

**FOR FURTHER INFORMATION CONTACT:** John Fornito, Operations Support Group, Eastern Service Center, Federal Aviation Administration, P.O. Box 20636,

Atlanta, Georgia 30320; telephone (404) 305-6364.

**SUPPLEMENTARY INFORMATION:****History**

The **Federal Register** published a final rule amending the geographic coordinates of Lynchburg Regional-Preston Glenn Field Airport and Falwell Airport, Class E surface airspace, Lynchburg, VA. (81 FR 5901, February 4, 2016) Docket No. FAA-2015-6231. Subsequent to publication, the FAA discovered the geographic coordinates of both airports in Class D Airspace, Class E airspace designated as an extension, and Class E airspace extending upward from 700 feet above the surface required an adjustment as well.

Class D and Class E airspace designations are published in paragraphs 5000, 6002, 6004, and 6005, respectively, of FAA Order 7400.9Z dated August 6, 2015, and effective September 15, 2015, which is incorporated by reference in 14 CFR part 71.1. The Class D and Class E airspace designations listed in this document will be published subsequently in the Order. These are administrative corrections and do not affect the controlled airspace boundaries or operating requirements supporting operations in the Lynchburg, VA area.

**Availability and Summary of  
Documents for Incorporation by  
Reference**

This document amends FAA Order 7400.9Z, Airspace Designations and Reporting Points, dated August 6, 2015, and effective September 15, 2015. FAA Order 7400.9Z lists Class A, B, C, D, and E airspace areas, air traffic service routes, and reporting points.

**Correction to Final Rule**

Accordingly, pursuant to the authority delegated to me, in the **Federal Register** of February 4, 2016 (81 FR 5901) FR Doc. FAA-206-02033, Amendment of Class E Airspace; Lynchburg, VA, is corrected as follows:

**§ 71.1 [Amended]**

On page 5901, column 1, line 22, remove the following text: "Amendment of Class E Airspace for Lynchburg, VA" and add in its place: "Amendment of Class D and Class E Airspace; Lynchburg, VA". On page 5902, column 1, after line 51, add the following text:

*Paragraph 5000 Class D Airspace.*

\* \* \* \* \*

**AEA VA D Lynchburg, VA [Corrected]**

Lynchburg Regional-Preston Glenn Field  
Airport, Lynchburg, VA



(Lat. 37°19'31" N., long. 79°12'04" W.)  
Falwell Airport, VA  
(Lat. 37°22'41" N., long. 79°07'20" W.)

That airspace extending upward from the surface to and including 3,400 feet MSL within a 4.5-mile radius of Lynchburg Municipal-Preston Glenn Field Airport, excluding the portion within a .5-mile radius of Falwell Airport. This Class D airspace area is effective during the specific dates and times established in advance by a Notice to Airmen. The effective date and time will thereafter be published continuously in the Airport/Facility Directory.

*Paragraph 6004 Class E Airspace  
Designed as an Extension to a Class D  
Surface Area.*

\* \* \* \* \*

#### AEA VA E4 Lynchburg, VA [Corrected]

Lynchburg Regional-Preston Glenn Field  
Airport, Lynchburg, VA  
(Lat. 37°19'31" N., long. 79°12'04" W.)  
Lynchburg VORTAC  
(Lat. 37°15'17" N., long. 79°14'11" W.)

That airspace extending upward from the surface within 2.7 miles each side of the Lynchburg VORTAC 020° and 200° radials extending from the 4.5-mile radius of Lynchburg Municipal-Preston Glenn Field Airport to 1 mile south of the VORTAC, and within 1.8 miles each side of the Lynchburg VORTAC 022° radial extending from the 4.5-mile radius of the airport to 11.3 miles northeast of the VORTAC. This Class E airspace area is effective during the specific dates and times established in advance by a Notice to Airmen. The effective date and time will thereafter be published continuously in the Airport/Facility Directory.

*Paragraph 6005 Class E Airspace Areas  
Extending Upward From 700 Feet or More  
Above the Surface of the Earth.*

\* \* \* \* \*

#### AEA VA E5 Lynchburg, VA [Corrected]

Lynchburg Regional-Preston Glenn Field  
Airport, Lynchburg, VA  
(Lat. 37°19'31" N., long. 79°12'04" W.)  
Lynchburg VORTAC  
(Lat. 37°15'17" N., long. 79°14'11" W.)  
Falwell Airport, VA  
(Lat. 37°22'41" N., long. 79°07'20" W.)

That airspace extending upward from 700 feet above the surface within a 6.5-mile radius of Lynchburg Regional-Preston Glenn Field, and within 2.7 miles each side of the Lynchburg VORTAC 200° radial extending from the 6.5-mile radius to 7.4 miles south of the VORTAC, and within 3.1 miles each side of the Lynchburg VORTAC 022° radial extending from the 6.5-mile radius to 21.3 miles northeast of the VORTAC, and within a 6.5-mile radius of Falwell Airport.

Issued in College Park, Georgia, on March 23, 2016.

**Jim Dickinson,**

*Acting Manager, Operations Support Group,  
Eastern Service Center, Air Traffic  
Organization.*

[FR Doc. 2016-07079 Filed 3-29-16; 8:45 am]

**BILLING CODE 4910-13-P**

## DEPARTMENT OF HEALTH AND HUMAN SERVICES

### Food and Drug Administration

#### 21 CFR Parts 510, 520, 522, 524, 528, 529, 556, and 558

[Docket No. FDA-2015-N-0002]

#### New Animal Drugs; Approval of New Animal Drug Applications; Changes of Sponsorship

**AGENCY:** Food and Drug Administration, HHS.

**ACTION:** Final rule; technical amendment.

**SUMMARY:** The Food and Drug Administration (FDA) is amending the animal drug regulations to reflect application-related actions for new animal drug applications (NADAs) and abbreviated new animal drug applications (ANADAs) during November and December 2015. FDA is also informing the public of the availability of summaries of the basis of approval and of environmental review documents, where applicable. The animal drug regulations are also being

amended to reflect changes of sponsorship of applications that occurred in November and December 2015.

**DATES:** This rule is effective March 30, 2016.

**FOR FURTHER INFORMATION CONTACT:**  
George K. Haibel, Center for Veterinary  
Medicine (HFV-6), Food and Drug  
Administration, 7519 Standish Pl.,  
Rockville, MD 20855, 240-402-5689,  
[george.haibel@fda.hhs.gov](mailto:george.haibel@fda.hhs.gov).

#### SUPPLEMENTARY INFORMATION:

#### I. Approval Actions

FDA is amending the animal drug regulations to reflect approval actions for NADAs and ANADAs during November and December 2015, as listed in table 1. In addition, FDA is informing the public of the availability, where applicable, of documentation of environmental review required under the National Environmental Policy Act (NEPA) and, for actions requiring review of safety or effectiveness data, summaries of the basis of approval (FOI Summaries) under the Freedom of Information Act (FOIA). These public documents may be seen in the Division of Dockets Management (HFA-305), Food and Drug Administration, 5630 Fishers Lane, Rm. 1061, Rockville, MD 20852, between 9 a.m. and 4 p.m., Monday through Friday. Persons with access to the Internet may obtain these documents at the CVM FOIA Electronic Reading Room: <http://www.fda.gov/AboutFDA/CentersOffices/OfficeofFoods/CVM/CVMFOIAElectronicReadingRoom/default.htm>. Marketing exclusivity and patent information may be accessed in FDA's publication, Approved Animal Drug Products Online (Green Book) at: <http://www.fda.gov/AnimalVeterinary/Products/ApprovedAnimalDrugProducts/default.htm>.

TABLE 1—ORIGINAL AND SUPPLEMENTAL NADAs AND ANADAs APPROVED DURING NOVEMBER AND DECEMBER 2015

File No.	Sponsor	Product name	Action	21 CFR Section	FOIA Summary	NEPA Review
141-453 .....	Alexion Pharmaceuticals, Inc., 33 Hayden Ave., Lexington, MA 02421.	hLAL rDNA construct in SBC LAL-C chickens.	Original approval for expression of a human gene for recom- binant human lysosomal acid lipase (rhLAL) protein in chicken egg whites.	528.2010	yes .....	EA/ FONSI <sup>1</sup>
141-456 .....	Orion Corp., Orionintie 1, 02200 Espoo, Finland.	SILEO (dexmedetomidine oromucosal gel).	Original approval for the treat- ment of noise aversion in dogs.	529.539	yes .....	CE <sup>2,3</sup>
141-246 .....	Intervet, Inc., 556 Morris Ave., Summit, NJ 07901.	AQUAFLOr (florfenicol) Type A medicated article.	Supplemental approval of re- vised representative labeling for Type C medicated feeds; technical amendments revis- ing the expiration of veterinary feed directives (VFDs) and the description of tolerances for fish.	556.283, 558.261	no .....	CE <sup>2,4</sup>

TABLE 1—ORIGINAL AND SUPPLEMENTAL NADAS AND ANADAS APPROVED DURING NOVEMBER AND DECEMBER 2015—Continued

File No.	Sponsor	Product name	Action	21 CFR Section	FOIA Summary	NEPA Review
141–258 .....	Intervet, Inc., 556 Morris Ave., Summit, NJ 07901.	ZILMAX (zilpaterol hydrochloride) Type A medicated article.	Supplemental approval of a cattle muscle tolerance and of new determinative and confirmatory procedures for residues of zilpaterol in cattle liver and muscle.	556.765	yes .....	CE <sup>2,4</sup>
141–361 .....	Elanco Animal Health, A Division of Eli Lilly & Co., Lilly Corporate Center, Indianapolis, IN 46285.	PULMOTIL AC (tilmicosin phosphate) Concentrate Solution.	Supplemental approval for the control of swine respiratory disease associated with <i>Mycoplasma hyopneumoniae</i> in the presence of Porcine Reproductive and Respiratory Syndrome Virus (PRRSV).	520.2471	yes .....	EA/FONSI <sup>1</sup>

<sup>1</sup> The Agency has carefully considered an environmental assessment (EA) of the potential environmental impact of this action and has made a finding of no significant impact (FONSI).

<sup>2</sup> The Agency has determined that this action is categorically excluded (CE) from the requirement to submit an environmental assessment or an environmental impact statement because it is of a type that does not have a significant effect on the human environment.

<sup>3</sup> CE granted under 21 CFR 25.33(d)(1).

<sup>4</sup> CE granted under 21 CFR 25.33(a)(1).

## II. Changes of Sponsorship

Bayer HealthCare LLC, Animal Health Division, P.O. Box 390, Shawnee

Mission, KS 66201 (Bayer) has informed FDA that it has transferred ownership of, and all rights and interest in, the following approved applications to

Cronus Pharma LLC, 2 Tower Center Blvd., Suite 1101, East Brunswick, NJ 08816:

File No.	Product name	21 CFR section
055–002 .....	TEVCOSIN (chloramphenicol) Injectable Solution .....	522.390
094–170 .....	Phenylbutazone Tablets, USP 100 mg and 200 mg .....	520.1720a
123–815 .....	Dexamethasone Sodium Phosphate Injection .....	522.540
141–245 .....	TRIBUTAME (chloroquine phosphate, embutramid, lidocaine) Euthanasia Solution .....	522.810
200–178 .....	Amikacin Sulfate Injection, 50 mg/mL .....	522.56
200–193 .....	Clindamycin Hydrochloride Oral Liquid .....	520.447
200–248 .....	Pyrantel Pamoate Suspension; 2.27 and 4.54 mg .....	520.2043
200–265 .....	Praziquantel Tablets .....	520.1870
200–287 .....	GBC (Gentamicin Sulfate Betamethasone Valerate Clotrimazole) Ointment .....	524.1044g
200–297 .....	Ivermectin Chewable Tablets .....	520.1193
200–298 .....	Clindamycin Hydrochloride Capsules .....	520.446
200–365 .....	ROBINUL–V (glycopyrrrolate) Injectable Solution .....	522.1066
200–382 .....	Furosemide Syrup 1% .....	520.1010

Bayer has also informed FDA that it has transferred ownership of, and all rights and interest in, approved ANADA 200–342 for Pyrantel Pamoate Paste to

Farnam Companies, Inc., 301 West Osborn Rd., Phoenix, AZ 85013–3928. Boehringer Ingelheim Vetmedica, Inc., 2621 North Belt Hwy., St. Joseph, MO 64506–2002 has informed FDA that it

has transferred ownership of, and all rights and interest in, the following approved applications to Huvepharma AD, 5th Floor, 3A Nikolay Haitov Str., 1113 Sofia, Bulgaria:

File No.	Product name	21 CFR section
006–084 <sup>1</sup> .....	SULMET (sulfamethazine) Drinking Water Solution .....	520.2261a
008–774 .....	SULMET (sulfamethazine) Injectable Solution .....	522.2260
033–373 <sup>1</sup> .....	VETSULID (sulfachlorpyridazine) .....	520.2200
040–181 <sup>1</sup> .....	VETSULID (sulfachlorpyridazine) Oral Suspension .....	520.2200
055–012 <sup>1</sup> .....	CHLORONEX SULMET (chlortetracycline bisulfate/sulfamethazine bisulfate) Soluble Powder.	520.445
055–018 <sup>1</sup> .....	AUREOMYCIN (chlortetracycline HCl) Tablets 25 mg .....	520.443
055–039 <sup>1</sup> .....	AUREOMYCIN (chlortetracycline HCl) Soluble Olets .....	520.443
065–071 <sup>1</sup> .....	AUREOMYCIN (chlortetracycline HCl) Soluble Powder .....	520.441
065–269 <sup>1</sup> .....	POLYOTIC (tetracycline hydrochloride) Soluble Powder .....	520.2345d
065–440 <sup>1</sup> .....	CHLORONEX (chlortetracycline HCl or chlortetracycline bisulfate) Soluble Powder .....	520.441
122–271 <sup>1</sup> .....	SULMET (sulfamethazine) Olets .....	520.2260a
122–272 <sup>1</sup> .....	SULMET (sulfamethazine sodium) Soluble Powder .....	520.2261b

<sup>1</sup> These NADAs were identified as being affected by guidance for industry #213, “New Animal Drugs and New Animal Drug Combination Products Administered in or on Medicated Feed or Drinking Water of Food-Producing Animals: Recommendations for Drug Sponsors for Voluntarily Aligning Product Use Conditions with GFI #209,” December 2013.

In addition, Novartis Animal Health US, Inc., 3200 Northline Ave., suite 300, Greensboro, NC 27408 (Novartis) has

informed FDA that it has transferred ownership of, and all rights and interest in, the following approved applications

to Elanco US, Inc., 2500 Innovation Way, Greenfield, IN 46140.

File No.	Product name
134-644 .....	DENAGARD (tiamulin) Soluble Powder.
139-472 .....	DENAGARD (tiamulin) Type B Medicated Feed.
140-915 .....	INTERCEPTOR (milbemycin oxime) Tablets.
140-916 .....	DENAGARD (tiamulin) Liquid Concentrate.
141-011 .....	DENAGARD (tiamulin) plus CTC (chlortetracycline).
141-026 .....	PROGRAM (lufenuron) Suspension.
141-029 .....	PERCORTEN-V (desoxycorticosterone pivalate) Injectable Suspension.
141-035 .....	PROGRAM (lufenuron).
141-062 .....	PROGRAM (lufenuron) Cat Flavor Tabs.
141-084 .....	SENTINEL (lufenuron and milbemycin oxime) Flavor Tabs.
141-105 .....	PROGRAM (lufenuron) 6-Month Injectable for Cats.
141-120 .....	CLOMICALM (clomipramine) Tablets.
141-163 .....	MILBEMITE (milbemycin oxime) Otic Solution.
141-175 .....	CAPSTAR (nitenpyram) Tablets.
141-203 .....	DERAMAXX (deracoxib) Chewable Tablets.
141-204 .....	SENTINEL Flavor Tabs and CAPSTAR Flea Management System.
141-205 .....	PROGRAM Flavor Tabs and CAPSTAR Flea Management System.
141-218 .....	ATOPICA (cyclosporine) Capsules.
141-320 .....	ONSIOR (robenacoxib) Tablets.
141-329 .....	ATOPICA (cyclosporine) Oral Solution for Cats.
141-333 .....	SENTINEL SPECTRUM (milbemycin oxime, lufenuron, praziquantel) Chewable Tablets.
141-338 .....	INTERCEPTOR SPECTRUM (milbemycin oxime and praziquantel) Chewable Tablets.
141-437 .....	OSURNIA (florfenicol, betamethasone acetate, and terbinafine) Otic Gel.
141-443 .....	ONSIOR (robenacoxib) Injection.
200-517 .....	ZOBUXA (enrofloxacin) Tablets.
200-519 .....	FLORVIO (florfenicol) 2.3% Concentrate Solution.

As provided in the regulatory text of this document, the animal drug regulations are amended to reflect these changes of sponsorship. Elanco US, Inc., is retaining Novartis' drug labeler code (058198). Accordingly, the animal drug regulations need only be amended in § 510.600(c) to add Elanco US, Inc., who previously was not the sponsor of an approved application. Cronus Pharma LLC will also be added as a new listing. Following these changes of sponsorship, Novartis is no longer the sponsor of an approved application and will be removed from § 510.600(c).

### III. Technical Amendments

FDA has noticed the animal drug regulations in 21 CFR part 556 contain tolerances for residues in edible tissues for sulfathiazole, which is no longer the subject of an approved application (79 FR 15540, March 20, 2014). Accordingly, § 556.690 is being removed. FDA has also noticed that the animal drug regulations in 21 CFR 558.4 (§ 558.4) contain assay limits for ronnel and sulfaethoxyypyridazine in medicated feed. As there is no longer an approved application for use of either of these drugs in medicated feed, the table for Category II drugs in § 558.4 is being amended to remove assay limits in

medicated feed for both drugs. These actions are being taken to improve the accuracy of the regulations.

In addition, FDA is taking this opportunity to revise the spelling of a bacitracin salt to a preferred form, bacitracin methylenedisalicylate, and to correct the spelling of a genus of pathogenic bacteria, *Haemophilus*. These actions are being taken to improve the accuracy of the regulations.

This rule does not meet the definition of "rule" in 5 U.S.C. 804(3)(A) because it is a rule of "particular applicability." Therefore, it is not subject to the congressional review requirements in 5 U.S.C. 801-808.

#### List of Subjects

##### 21 CFR Part 510

Administrative practice and procedure, Animal drugs, Labeling, Reporting and recordkeeping requirements.

##### 21 CFR Parts 520, 522, 524, 528, and 529

Animal drugs.

##### 21 CFR Part 556

Animal drugs, Foods.

##### 21 CFR Part 558

Animal drugs, Animal feeds.

Therefore, under the Federal Food, Drug, and Cosmetic Act and under authority delegated to the Commissioner of Food and Drugs and redelegated to the Center for Veterinary Medicine, 21 CFR parts 510, 520, 522, 524, 528, 529, 556, and 558 are amended as follows:

### PART 510—NEW ANIMAL DRUGS

■ 1. The authority citation for 21 CFR part 510 continues to read as follows:

**Authority:** 21 U.S.C. 321, 331, 351, 352, 353, 360b, 371, 379e.

#### § 510.600 [Amended]

■ 2. In § 510.600, in the table in paragraph (c)(1), remove the entry for "Novartis Animal Health US, Inc." and add entries for "Cronus Pharma LLC" and "Elanco US, Inc." in alphabetical order; and in the table in paragraph (c)(2), revise the entry for "058198" and add an entry for "069043" in numerical order to read as follows:

#### § 510.600 Names, addresses, and drug labeler codes of sponsors of approved applications.

\* \* \* \* \*

(c) \* \* \*

(1) \* \* \*

Firm name and address						Drug labeler code
*	*	*	*	*	*	*
Cronus Pharma LLC, 2 Tower Center Blvd., Suite 1101, East Brunswick, NJ 08816 .....						069043
*	*	*	*	*	*	*
Elanco US, Inc., 2500 Innovation Way, Greenfield, IN 46140 .....						058198
*	*	*	*	*	*	*

(2) \* \* \*

Drug labeler code	Firm name and address					
*	*	*	*	*	*	*
058198 .....	Elanco US, Inc., 2500 Innovation Way, Greenfield, IN 46140					
*	*	*	*	*	*	*
069043 .....	Cronus Pharma LLC, 2 Tower Center Blvd., Suite 1101, East Brunswick, NJ 08816					
*	*	*	*	*	*	*

## PART 520—ORAL DOSAGE FORM NEW ANIMAL DRUGS

■ 3. The authority citation for 21 CFR part 520 continues to read as follows:

Authority: 21 U.S.C. 360b.

### § 520.88b [Amended]

■ 4. In § 520.88b, in paragraph (b)(1)(ii)(B), remove “*Hemophilus*” and in its place add “*Haemophilus*”.

■ 5. In § 520.154b:

■ a. Revise the section heading.

■ b. In paragraph (a), remove “methylene disalicylate” and in its place add “methylenedisalicylate”.

The revision reads as follows:

### § 520.154b Bacitracin methylenedisalicylate and streptomycin sulfate powder.

\* \* \* \* \*

### § 520.441 [Amended]

■ 6. In § 520.441, in paragraphs (b)(2) and (d)(4)(iii)(C), remove “000010” and in its place add “016592”; and in paragraphs (d)(1)(i)(A)(1), (d)(2)(i)(A)(1), (d)(4)(iii)(B), and (d)(4)(iv)(B), remove “*Hemophilus*” and in its place add “*Haemophilus*”.

### § 520.443 [Amended]

■ 7. In § 520.443, in paragraph (b), remove “No. 054628” and in its place add “Nos. 016592 and 054628”; and in paragraphs (d)(1)(i), (d)(2)(i), and (d)(3)(i), remove “*Hemophilus*” and in its place add “*Haemophilus*”.

### § 520.445 [Amended]

■ 8. In § 520.445, in paragraph (b), remove “000010” and in its place add “016592”.

### § 520.446 [Amended]

■ 9. In § 520.446, in paragraph (b)(1), remove “No. 054771” and in its place add “Nos. 054771 and 069043”.

### § 520.447 [Amended]

■ 10. In § 520.447, in paragraph (b), remove “Nos. 000859, 051311, 054771, 058829, and 061623” and in its place add “Nos. 051311, 054771, 058829, 061623, and 069043”.

### § 520.823 [Amended]

■ 11. In § 520.823, in paragraph (d)(2)(ii), remove “*Hemophilus*” and in its place add “*Haemophilus*”.

### § 520.1010 [Amended]

■ 12. In § 520.1010, in paragraph (b)(3), remove “Nos. 000859 and 058829” and in its place add “Nos. 058829 and 069043”.

### § 520.1193 [Amended]

■ 13. In § 520.1193, in paragraph (b)(2), remove “Nos. 000859 and 051311” and in its place add “Nos. 051311 and 069043”.

### § 520.1720a [Amended]

■ 14. In § 520.1720a, in paragraph (b)(2), remove “Nos. 000859 and 054628” and in its place add “Nos. 054628 and 069043”.

■ 15. In § 520.1870, revise paragraph (b) to read as follows:

### § 520.1870 Praziquantel tablets.

\* \* \* \* \*

(b) *Sponsor*. See No. 069043 in § 510.600(c) of this chapter for use of the product described in paragraph (a)(1) of this section as in paragraph (c)(1) of this section; and for use of the product

described in paragraph (a)(2) of this section as in paragraph (c)(2) of this section.

\* \* \* \* \*

### § 520.2043 [Amended]

■ 16. In § 520.2043, in paragraph (b)(1), remove “Nos. 000859, 054771, and 058829” and in its place add “Nos. 054771, 058829, and 069043”.

### § 520.2044 [Amended]

■ 17. In § 520.2044, in paragraph (b)(2), remove “000859” and in its place add “017135”.

### § 520.2200 [Amended]

■ 18. In § 520.2200, in paragraph (b), remove “000010” and in its place add “016592”.

### § 520.2260a [Amended]

■ 19. In § 520.2260a, in paragraph (a)(1), remove “000010” and in its place add “016592”.

### § 520.2261a [Amended]

■ 20. In § 520.2261a, in paragraph (b), remove “000010” and in its place add “016592”.

### § 520.2261b [Amended]

■ 21. In § 520.2261b, in paragraph (b), remove “000010” and in its place add “016592”.

### § 520.2345d [Amended]

■ 22. In § 520.2345d, in paragraphs (b)(5), (d)(1)(iii), and (d)(2)(iii), remove “000010” and in its place add “016592”; and in paragraphs (d)(1)(ii) and (d)(2)(ii), remove “*Hemophilus*” and in its place add “*Haemophilus*”.

- 23. In § 520.2471, revise paragraph (d)(2) to read as follows:

**§ 520.2471 Tilimicosin.**

\* \* \* \* \*

(d) \* \* \*

(2) *Indications for use*—(i) For the control of swine respiratory disease associated with *Pasteurella multocida* and *Haemophilus parasuis* in groups of swine in buildings where a respiratory disease outbreak is diagnosed.

(ii) For the control of swine respiratory disease associated with *Mycoplasma hyopneumoniae* in the presence of Porcine Reproductive and Respiratory Syndrome Virus (PRRSV) in groups of swine in buildings where a respiratory disease outbreak is diagnosed.

\* \* \* \* \*

**PART 522—IMPLANTATION OR INJECTABLE DOSAGE FORM NEW ANIMAL DRUGS**

- 24. The authority citation for 21 CFR part 522 continues to read as follows:

Authority: 21 U.S.C. 360b.

**§ 522.56 [Amended]**

- 25. In § 522.56, in paragraph (b), remove “000859” and in its place add “069043”.

**§ 522.390 [Amended]**

- 26. In § 522.390, in paragraph (b), remove “Nos. 000859 and 054771” and in its place add “Nos. 054771 and 069043”.

**§ 522.540 [Amended]**

- 27. In § 522.540, in paragraph (e)(2), remove “000859” and in its place add “069043”.

**§ 522.810 [Amended]**

- 28. In § 522.810, in paragraph (b), remove “000859” and in its place add “069043”.

**§ 522.1066 [Amended]**

- 29. In § 522.1066, in paragraph (b), remove “Nos. 000859 and 054771” and in its place add “Nos. 054771 and 069043”.

**§ 522.1662a [Amended]**

- 30. In § 520.1662a, in paragraphs (b)(3)(i)(b), (c)(3)(i), (d)(3)(i)(a), (e)(3)(i)(b), (g)(3)(i)(b), and (k)(3)(ii), remove “*Hemophilus*” and in its place add “*Haemophilus*”.

**§ 522.2260 [Amended]**

- 31. In § 522.2260, in paragraph (b), remove “000010” and in its place add “016592”.

**PART 524—OPHTHALMIC AND TOPICAL DOSAGE FORM NEW ANIMAL DRUGS**

- 32. The authority citation for 21 CFR part 524 continues to read as follows:

Authority: 21 U.S.C. 360b.

**§ 524.1044g [Amended]**

- 33. In § 522.1044g, in paragraph (b)(3), remove “000859” and in its place add “069043”.

**PART 528—NEW ANIMAL DRUGS IN GENETICALLY ENGINEERED ANIMALS**

- 34. The authority citation for 21 CFR part 528 continues to read as follows:

Authority: 21 U.S.C. 360b.

- 35. Add § 528.2010 to read as follows:

**§ 528.2010 Human lysosomal acid lipase recombinant deoxyribonucleic acid construct.**

(a) *Specifications*. A single copy of a human lysosomal acid lipase (hLAL) recombinant deoxyribonucleic acid (rDNA) gene construct located at the SYN LAL-C site in chromosome 6 in a specific, diploid line (SBC LAL-C) of hemizygous and homozygous domestic chickens (*Gallus gallus*), derived from the lineage progenitor XLL 109.

(b) *Sponsor*. See No. 069334 in § 510.600 of this chapter.

(c) *Conditions of use*—(1) *Intended use*. The gene construct directs the expression of that encoding gene such that recombinant, human lysosomal acid lipase (rhLAL) protein intended for the treatment of human disease is present in SBC LAL-C chicken egg whites.

(2) *Limitations*. Food or feed from XLL 109 chickens is not permitted in the food or feed supply.

**PART 529—CERTAIN OTHER DOSAGE FORM NEW ANIMAL DRUGS**

- 36. The authority citation for 21 CFR part 529 continues to read as follows:

Authority: 21 U.S.C. 360b.

- 37. Add § 529.539 to read as follows:

**§ 529.539 Dexmedetomidine.**

(a) *Specifications*. Each milliliter of gel contains 0.09 milligrams (mg) dexmedetomidine (equivalent to 0.1 mg dexmedetomidine hydrochloride).

(b) *Sponsor*. See No. 052483 in § 510.600(c) of this chapter.

(c) *Conditions of use*—(1) *Amount*. Administer onto the oral mucosa between the dog’s cheek and gum at a dose of 125 micrograms per square meter.

(2) *Indications for use*. For the treatment of noise aversion in dogs.

(3) *Limitations*. Federal law restricts this drug to use by or on the order of a licensed veterinarian.

**PART 556—TOLERANCES FOR RESIDUES OF NEW ANIMAL DRUGS IN FOOD**

- 38. The authority citation for 21 CFR part 556 continues to read as follows:

Authority: 21 U.S.C. 342, 360b, 371.

- 39. In § 556.70, in paragraph (b), remove “methylene disalicylate” and in its place add “methylenedisalicylate”; and add paragraph (c) to read as follows:

**§ 556.70 Bacitracin.**

\* \* \* \* \*

(c) *Related conditions of use*. See §§ 520.154a, 520.154c, 558.76, and 558.78 of this chapter.

- 40. In § 556.283, revise paragraphs (b)(3) and (4) to read as follows:

**§ 556.283 Florfenicol.**

\* \* \* \* \*

(b) \* \* \*

(3) *Freshwater-reared finfish (other than catfish) and salmonids*. The tolerance for florfenicol amine (the marker residue) in muscle/skin (the target tissues) is 1 ppm.

(4) *Catfish*. The tolerance for florfenicol amine (the marker residue) in muscle (the target tissues) is 1 ppm.

\* \* \* \* \*

**§ 556.690 [Removed]**

- 41. Remove § 556.690.

- 42. In § 556.765, revise paragraph (b)(1)(i) and add paragraphs (b)(1)(ii) and (c) to read as follows:

**§ 556.765 Zilpaterol.**

\* \* \* \* \*

(b) \* \* \*

(1) \* \* \*

(i) *Liver (the target tissue)*. The tolerance for zilpaterol (the marker residue) is 12 parts per billion (ppb).

(ii) *Muscle*. The tolerance for zilpaterol (the marker residue) is 10 ppb.

\* \* \* \* \*

(c) *Related conditions of use*. See § 558.665 of this chapter.

**PART 558—NEW ANIMAL DRUGS FOR USE IN ANIMAL FEEDS**

- 43. The authority citation for 21 CFR part 558 continues to read as follows:

Authority: 21 U.S.C. 354, 360b, 360ccc, 360ccc–1, 371.

**§ 558.4 [Amended]**

- 44. In § 558.4, in paragraph (d), in the “Category I” table, in the “Drug”

column, remove “Bacitracin methylene disalicylate” and in its place add “Bacitracin methylenedisalicylate”; and in the “Category II” table, remove the entries for “Ronnell” and “Sulfaethoxypyridazine”.

#### § 558.55 [Amended]

■ 45. In § 558.55, in paragraph (d)(2)(ii), in the “Combination in grams per ton” and “Limitations” columns, remove “methylene disalicylate” and in its place add “methylenedisalicylate”.

#### § 558.58 [Amended]

■ 46. In § 558.58, in paragraph (e)(4), in the “Limitations” column, remove “methylene disalicylate” and in its place add “methylenedisalicylate”.

#### § 558.68 [Amended]

■ 47. In § 558.68, remove paragraph (e)(3).

■ 48. In § 558.76, remove paragraph (e)(2), redesignate paragraph (e)(3) as paragraph (e)(2), and revise redesignated paragraph (e)(2) to read as follows:

#### § 558.76 Bacitracin methylenedisalicylate.

\* \* \* \* \*

(e) \* \* \*

(2) Bacitracin methylenedisalicylate may also be used in combination with:

- (i) Amprolium as in § 558.55.
- (ii) Amprolium and ethopabate as in § 558.58.
- (iii) Clopidol as in § 558.175.
- (iv) Decoquinat as in § 558.195.
- (v) Diclazuril as in § 558.198.
- (vi) Fenbendazole as in § 558.258.
- (vii) Halofuginone hydrobromide as in § 558.265.
- (viii) Ivermectin as in § 558.300.
- (ix) Lasalocid as in § 558.311.
- (x) Monensin as in § 558.355.
- (xi) Narasin as in § 558.363.
- (xii) Nicarbazine alone and with narasin as in § 558.366.
- (xiii) Robenidine as in § 558.515.
- (xiv) Salinomycin as in § 558.550.
- (xv) Semduramicin as in § 558.555.
- (xvi) Zoalene as in § 558.680.

#### § 558.128 [Amended]

■ 49. In § 558.128, in paragraph (e)(7)(ii), remove “methylene disalicylate” and in its place add “methylenedisalicylate”.

#### § 558.175 [Amended]

■ 50. In § 558.175, in paragraph (d)(2), in the “Combination in grams per ton” and “Limitations” columns, remove “methylene disalicylate” and in its place add “methylenedisalicylate”.

#### § 558.195 [Amended]

■ 51. In § 558.195, in paragraph (e)(1)(ii), in the “Combination in grams/ton” and “Limitations” columns,

remove “methylene disalicylate” and in its place add “methylenedisalicylate”.

#### § 558.198 [Amended]

■ 52. In § 558.198, in paragraphs (d)(1)(ii) and (d)(2)(ii), in the “Combination grams/ton” and “Limitations” columns, remove “methylene disalicylate” and in its place add “methylenedisalicylate”.

#### § 558.258 [Amended]

■ 53. In § 558.258, in paragraphs (e)(2)(vi) and (vii), in the “Combination in grams per ton” and “Limitations” columns, remove “methylene disalicylate” and in its place add “methylenedisalicylate”.

■ 54. In § 558.261, redesignate paragraphs (c)(2)(i) and (ii) as paragraphs (c)(2)(ii) and (i), respectively, revise redesignated paragraph (c)(2)(ii), and add paragraph (c)(4) to read as follows:

#### § 558.261 Florfenicol.

\* \* \* \* \*

(c) \* \* \*

(2) \* \* \*

(ii) For fish must not exceed 6 months from the date of issuance.

\* \* \* \* \*

(4) Type A medicated articles and medicated feeds intended for use in fish shall bear the following: “Not for use in animals intended for breeding purposes. The effects of florfenicol on reproductive performance have not been determined. Toxicity studies in dogs, rats, and mice have associated the use of florfenicol with testicular degeneration and atrophy.”

\* \* \* \* \*

#### § 558.265 [Amended]

■ 55. In § 558.265, in paragraphs (d)(1)(vi) and (d)(2)(ii), remove “methylene disalicylate” and in its place add “methylenedisalicylate”.

#### § 558.300 [Amended]

■ 56. In § 558.300, in paragraphs (e)(2) and (3), in the “Combination in g/ton of feed” column, remove “methylene disalicylate” and in its place add “methylenedisalicylate”; and in paragraph (e)(9), in the “Combination in g/ton of feed” and “Limitations” columns, remove “methylene disalicylate” and in its place add “methylenedisalicylate”.

#### § 558.311 [Amended]

■ 57. In § 558.311, in paragraphs (e)(1)(iv) and (x), in the “Limitations” column, remove “methylene disalicylate” and in its place add “methylenedisalicylate”; and in paragraph (e)(1)(xv), in the

“Combination in grams per ton” and “Limitations” columns, remove “methylene disalicylate” and in its place add “methylenedisalicylate”.

#### § 558.355 [Amended]

■ 58. In § 558.355, in paragraphs (f)(1)(iii)(b), (f)(1)(xxiv), (f)(1)(xxix) introductory text, (f)(1)(xxix)(b), (f)(1)(xxx) introductory text, (f)(1)(xxx)(b), (f)(2)(ii) introductory text, (f)(2)(ii)(b), (f)(2)(iii) introductory text, (f)(2)(iii)(a), (f)(2)(iii)(b), (f)(4)(ii) introductory text, (f)(4)(ii)(b), (f)(4)(iii) introductory text, (f)(4)(iii)(b), (f)(4)(v) introductory text, and (f)(4)(v)(b), remove “methylene disalicylate” and in its place add “methylenedisalicylate”.

#### § 558.363 [Amended]

■ 59. In § 558.363, in paragraphs (d)(1)(iv) introductory text, (d)(1)(iv)(B), and (d)(3)(ii), remove “methylene disalicylate” and in its place add “methylenedisalicylate”.

#### § 558.366 [Amended]

■ 60. In § 558.366, in paragraph (d), in the “Combination in grams per ton” and “Limitations” columns, remove “methylene disalicylate” wherever it occurs and in its place add “methylenedisalicylate”.

#### § 558.450 [Amended]

■ 61. In § 558.450, in paragraph (d)(5)(v), in the “Indications for Use” column, remove “*Hemophilus*” and in its place add “*Haemophilus*”.

#### § 558.515 [Amended]

■ 62. In § 558.515, in paragraph (d), in the “Combination in grams per ton” and “Limitations” columns, remove “methylene disalicylate” wherever it occurs and in its place add “methylenedisalicylate”.

#### § 558.550 [Amended]

■ 63. In § 558.550, in paragraphs (d)(1)(iii)(a), (d)(1)(iii)(c), (d)(1)(vi)(a), (d)(1)(xx)(A), (d)(1)(xx)(C), (d)(1)(xxi)(A), (d)(1)(xxi)(C), (d)(3)(ii) introductory text, (d)(3)(ii)(B), (d)(3)(iii) introductory text, (d)(3)(iii)(B), (d)(3)(v) introductory text, and (d)(3)(v)(B), remove “methylene disalicylate” and in its place add “methylenedisalicylate”; and in paragraph (d)(1)(vi)(c), remove “Bacitracin MD” and in its place add “Bacitracin methylenedisalicylate”.

#### § 558.555 [Amended]

■ 64. In § 558.555, in paragraph (d)(2), in the “Combination in grams per ton” and “Limitations” columns, remove “methylene disalicylate” and in its place add “methylenedisalicylate”.

**§ 558.680 [Amended]**

■ 65. In § 558.680, in paragraphs (d)(1)(ii), (iii), (iv), (vi), (vii), and (viii) in the “Combination in grams per ton” and “Limitations” columns, remove “methylenedisalicylate” and in its place add “methylenedisalicylate”; and in paragraph (d)(2)(ii), in the “Combination in grams per ton” column, remove “methylenedisalicylate” and in its place add “methylenedisalicylate”.

Dated: March 25, 2016.

**Tracey H. Forfa,**

*Deputy Director, Center for Veterinary Medicine.*

[FR Doc. 2016–07135 Filed 3–29–16; 8:45 am]

BILLING CODE 4161–01–P

## NATIONAL ARCHIVES AND RECORDS ADMINISTRATION

### 36 CFR Part 1258

[FDMS No. NARA–16–0003; NARA–2016–018]

**RIN 3095–AB90**

#### Fees

**AGENCY:** National Archives and Records Administration (NARA).

**ACTION:** Direct final rule.

**SUMMARY:** The National Archives and Records Administration (NARA) is making a minor administrative revision to its fees regulation to set a time limit for requesting refunds of reproduction fees.

**DATES:** This rule is effective April 29, 2016, without further action, unless NARA receives adverse comments by April 19, 2016. If NARA receives an adverse comment, it will publish a timely withdrawal of the rule in the *Federal Register*.

**ADDRESSES:** You may submit comments, identified by RIN 3095–AB90, by any of the following methods:

- *Federal eRulemaking Portal:* <http://www.regulations.gov>. Follow the instructions for submitting comments.
- *Email:* [Regulation\\_comments@nara.gov](mailto:Regulation_comments@nara.gov). Include RIN 3095–AB90 in the subject line of the message.
- *Fax:* 301–837–0319. Include RIN 3095–AB90 in the subject line of the fax cover sheet.
- *Mail* (for paper, disk, or CD–ROM submissions. Include RIN 3095–AB90 on the submission): Regulations Comment Desk (External Policy Program, Strategy & Performance Division (SP)); Suite 4100; National Archives and Records Administration; 8601 Adelphi Road; College Park, MD 20740–6001

• *Hand delivery or courier:* Deliver comments to front desk at the address above.

*Instructions:* All submissions must include NARA’s name and the regulatory information number for this rulemaking (RIN 3095–AB90). We may publish any comments we receive without changes, including any personal information you include.

#### FOR FURTHER INFORMATION CONTACT:

Kimberly Keravuori, by email at [regulation\\_comments@nara.gov](mailto:regulation_comments@nara.gov), or by telephone at 301–837–3151.

#### SUPPLEMENTARY INFORMATION:

#### Background

NARA is authorized by 44 U.S.C. 2116(c) to charge reproduction fees when it reproduces documents for non-Federal individuals or entities. This includes official reproductions with the Archives seal, reproductions of archival holdings, and reproductions of operational records. The statute authorizes NARA to recoup its costs, equipment fees, and similar expenses, and to retain the fees as part of the National Archives Trust Fund. NARA promulgated regulations at 36 CFR 1258 to notify users of the fee structure and processes. Among these regulations is a section addressing refunds of these fees (36 CFR 1258.16). It is this provision that we are revising with this rulemaking.

Due to various factors, it is occasionally difficult for us to make a legible reproduction, particularly of old documents. We notify customers if we anticipate the reproduction will have questionable legibility, and request the customer’s approval to proceed with the reproduction—and the fee charges. As a result, we do not provide refunds except in special cases; primarily if we have somehow processed an order incorrectly or it contains errors. However, the regulation’s refund provision did not include a refund cut-off period after which a person who ordered a reproduction could no longer request a refund. Customers could request refunds for orders that were years old, which has occurred in several instances. We had no recourse but to process the refunds, which is not a reasonable business practice for orders that are multiple years old. This also caused a significant administrative burden, as NARA had discarded records for some of these orders at the end of their routine business life, in accord with our agency’s official records schedule. For example, under records schedule 1807–2, orders made on our online ordering system (SOFA) are destroyed once they are one year old. A refund request five

years after the customer received the reproduction not only is not reasonable, but occurs four years after we destroyed records of the order, making it impossible for us to determine if the customer was notified and approved the reproduction, whether there really was an error or something incorrect about the order, and similar issues.

As a result of these difficulties with refund requests on old orders, we are now revising 36 CFR 1258.16 to set a refund time limit. Customers will have four months from the order date in which to request a refund.

#### Regulatory Analysis

#### Review Under Executive Orders 12866 and 13563

Executive Order 12866, Regulatory Planning and Review, 58 FR 51735 (September 30, 1993), and Executive Order 13563, Improving Regulation and Regulation Review, 76 FR 23821 (January 18, 2011), direct agencies to assess all costs and benefits of available regulatory alternatives and, if regulation is necessary, to select regulatory approaches that maximize net benefits (including potential economic, environmental, public health and safety effects, distributive impacts, and equity). This proposed rule is not “significant” under section 3(f) of Executive Order 12866 because it merely modifies the window of opportunity in which customers may request refunds of reproduction fees. The Office of Management and Budget (OMB) has reviewed this regulation.

#### Review Under the Regulatory Flexibility Act (5 U.S.C. 601, *et seq.*)

This review requires an agency to prepare an initial regulatory flexibility analysis and publish it when the agency publishes the proposed rule. This requirement does not apply if the agency certifies that the rule will not, if promulgated, have a significant economic impact on a substantial number of small entities (5 U.S.C. 603). NARA certifies, after review and analysis, that this proposed rule will not have a significant adverse economic impact on small entities because it merely modifies the window of opportunity in which customers may request refunds of reproduction fees.

#### Review Under the Paperwork Reduction Act of 1995 (44 U.S.C. 3501 *et seq.*)

This proposed rule does not contain any information collection requirements subject to the Paperwork Reduction Act.

**Review Under Executive Order 13132, Federalism, 64 FR 43255 (August 4, 1999)**

Review under Executive Order 13132 requires that agencies review regulations for federalism effects on the institutional interest of states and local governments, and, if the effects are sufficiently substantial, prepare a Federal assessment to assist senior policy makers. This proposed rule will not have any direct effects on State and local governments within the meaning of the Executive Order. Therefore, the regulation requires no federalism assessment.

**List of Subjects in 36 CFR Part 1258**

Archives and records.

For the reasons stated in the preamble, NARA amends 36 CFR part 1258 as follows:

**PART 1258—FEES**

- 1. The authority citation for part 1258 remains as follows:

**Authority:** 44 U.S.C. 2116(c) and 2307.

- 2. Revise § 1258.16 to read as follows:

**§ 1258.16 What is NARA's refund policy?**

Due to various factors, it is occasionally difficult for NARA to make a legible reproduction. NARA will notify customers and ask for approval to proceed if we anticipate a reproduction of questionable legibility. As a result, NARA does not provide refunds except in special cases. If a customer requests a refund, we review the order to determine if we properly notified the customer of the questionable nature of the original and if the product is a true representation of the original. If the product is a true representation of the original, we will not issue a refund. If you feel we processed your order incorrectly or it contains errors, please contact us within 120 days of your order date to have your issue verified. Once we verify the issue, we will correct the error and resend the documents. If we cannot correct the error, you will receive a refund.

Dated: March 20, 2016.

**David S. Ferriero,**

*Archivist of the United States.*

[FR Doc. 2016-07149 Filed 3-29-16; 8:45 am]

**BILLING CODE 7515-01-P**

**ENVIRONMENTAL PROTECTION AGENCY**

**40 CFR Part 180**

[EPA-HQ-OPP-2015-0019; FRL-9944-12]

**Salicylaldehyde; Exemption From the Requirement of a Tolerance**

**AGENCY:** Environmental Protection Agency (EPA).

**ACTION:** Final rule.

**SUMMARY:** This regulation establishes an exemption from the requirement of a tolerance for residues of salicylaldehyde (2-hydroxybenzaldehyde, CAS Reg. No. 90-02-8) when used as an inert ingredient (penetration aid) in pesticide formulations applied to growing crops and raw agricultural commodities under 40 CFR 180.910 at a concentration not to exceed 14% by weight of the pesticide formulation. Ag-Chem Consulting LLC, on behalf of Omex Agrifluids submitted a petition to EPA under the Federal Food, Drug, and Cosmetic Act (FFDCA), requesting establishment of an exemption from the requirement of a tolerance. This regulation eliminates the need to establish a maximum permissible level for residues of salicylaldehyde.

**DATES:** This regulation is effective March 30, 2016. Objections and requests for hearings must be received on or before May 31, 2016, and must be filed in accordance with the instructions provided in 40 CFR part 178 (see also Unit I.C. of the **SUPPLEMENTARY INFORMATION**).

**ADDRESSES:** The docket for this action, identified by docket identification (ID) number EPA-HQ-OPP-2015-0019, is available at <http://www.regulations.gov> or at the Office of Pesticide Programs Regulatory Public Docket (OPP Docket) in the Environmental Protection Agency Docket Center (EPA/DC), West William Jefferson Clinton Bldg., Rm. 3334, 1301 Constitution Ave. NW., Washington, DC 20460-0001. The Public Reading Room is open from 8:30 a.m. to 4:30 p.m., Monday through Friday, excluding legal holidays. The telephone number for the Public Reading Room is (202) 566-1744, and the telephone number for the OPP Docket is (703) 305-5805. Please review the visitor instructions and additional information about the docket available at <http://www.epa.gov/dockets>.

**FOR FURTHER INFORMATION CONTACT:**

Susan Lewis, Registration Division (7505P), Office of Pesticide Programs, Environmental Protection Agency, 1200 Pennsylvania Ave. NW., Washington, DC 20460-0001; main telephone

number: (703) 305-7090; email address: [RDfRNtices@epa.gov](mailto:RDfRNtices@epa.gov).

**SUPPLEMENTARY INFORMATION:**

**I. General Information**

*A. Does this action apply to me?*

You may be potentially affected by this action if you are an agricultural producer, food manufacturer, or pesticide manufacturer. The following list of North American Industrial Classification System (NAICS) codes is not intended to be exhaustive, but rather provides a guide to help readers determine whether this document applies to them. Potentially affected entities may include:

- Crop production (NAICS code 111).
- Animal production (NAICS code 112).
- Food manufacturing (NAICS code 311).
- Pesticide manufacturing (NAICS code 32532).

*B. How can I get electronic access to other related information?*

You may access a frequently updated electronic version of 40 CFR part 180 through the Government Printing Office's e-CFR site at [http://www.ecfr.gov/cgi-bin/text-idx?&c=ecfr&tpl=/ecfrbrowse/Title40/40tab\\_02.tpl](http://www.ecfr.gov/cgi-bin/text-idx?&c=ecfr&tpl=/ecfrbrowse/Title40/40tab_02.tpl).

*C. How can I file an objection or hearing request?*

Under FFDCA section 408(g), 21 U.S.C. 346a, any person may file an objection to any aspect of this regulation and may also request a hearing on those objections. You must file your objection or request a hearing on this regulation in accordance with the instructions provided in 40 CFR part 178. To ensure proper receipt by EPA, you must identify docket ID number EPA-HQ-OPP-2015-0019 in the subject line on the first page of your submission. All objections and requests for a hearing must be in writing, and must be received by the Hearing Clerk on or before May 31, 2016. Addresses for mail and hand delivery of objections and hearing requests are provided in 40 CFR 178.25(b).

In addition to filing an objection or hearing request with the Hearing Clerk as described in 40 CFR part 178, please submit a copy of the filing (excluding any Confidential Business Information (CBI)) for inclusion in the public docket. Information not marked confidential pursuant to 40 CFR part 2 may be disclosed publicly by EPA without prior notice. Submit the non-CBI copy of your objection or hearing request, identified by docket ID number EPA-HQ-OPP-



2015–0019, by one of the following methods:

- *Federal eRulemaking Portal*: <http://www.regulations.gov>. Follow the online instructions for submitting comments. Do not submit electronically any information you consider to be CBI or other information whose disclosure is restricted by statute.

- *Mail*: OPP Docket, Environmental Protection Agency Docket Center (EPA/DC), (28221T), 1200 Pennsylvania Ave. NW., Washington, DC 20460–0001.

- *Hand Delivery*: To make special arrangements for hand delivery or delivery of boxed information, please follow the instructions at <http://www.epa.gov/dockets/contacts.html>. Additional instructions on commenting or visiting the docket, along with more information about dockets generally, is available at <http://www.epa.gov/dockets>.

## II. Petition for Exemption

In the **Federal Register** of April 6, 2015 (80 FR 18327) (FRL–9924–00), EPA issued a document pursuant to FFDCA section 408, 21 U.S.C. 346a, announcing the filing of a pesticide petition (PP IN–10777) by Ag-Chem Consulting LLC, 12208 Quinke Lane, Clifton, VA 20124 on behalf of Omex Agrifluids, 24730 Avenue 13, Madera, CA 93637. The petition requested that 40 CFR 180.910 be amended by establishing an exemption from the requirement of a tolerance for residues of salicylaldehyde (CAS Reg. No. 90–02–8) when used as an inert ingredient (penetration aid) in pesticide formulations applied to growing crops or to raw agricultural commodities after harvest at a concentration not to exceed 14% by weight of the pesticide formulation. That document referenced a summary of the petition prepared by Ag-Chem Consulting LLC, on behalf of Omex Agrifluids, the petitioner, which is available in the docket, <http://www.regulations.gov>. There were no comments received in response to the notice of filing.

## III. Inert Ingredient Definition

Inert ingredients are all ingredients that are not active ingredients as defined in 40 CFR 153.125 and include, but are not limited to, the following types of ingredients (except when they have a pesticidal efficacy of their own): Solvents such as alcohols and hydrocarbons; surfactants such as polyoxyethylene polymers and fatty acids; carriers such as clay and diatomaceous earth; thickeners such as carrageenan and modified cellulose; wetting, spreading, and dispersing agents; propellants in aerosol

dispensers; microencapsulating agents; and emulsifiers. The term “inert” is not intended to imply non-toxicity; the ingredient may or may not be chemically active. Generally, EPA has exempted inert ingredients from the requirement of a tolerance based on the low toxicity of the individual inert ingredients.

## IV. Aggregate Risk Assessment and Determination of Safety

Section 408(c)(2)(A)(i) of FFDCA allows EPA to establish an exemption from the requirement for a tolerance (the legal limit for a pesticide chemical residue in or on a food) only if EPA determines that the exemption is “safe.” Section 408(c)(2)(A)(ii) of FFDCA defines “safe” to mean that “there is a reasonable certainty that no harm will result from aggregate exposure to the pesticide chemical residue, including all anticipated dietary exposures and all other exposures for which there is reliable information.” This includes exposure through drinking water and in residential settings, but does not include occupational exposure. Section 408(b)(2)(C) of FFDCA requires EPA to give special consideration to exposure of infants and children to the pesticide chemical residue and to “ensure that there is a reasonable certainty that no harm will result to infants and children from aggregate exposure to the pesticide chemical residue . . . .”

EPA establishes exemptions from the requirement of a tolerance only in those cases where it can be clearly demonstrated that the risks from aggregate exposure to pesticide chemical residues under reasonably foreseeable circumstances will pose no appreciable risks to human health. In order to determine the risks from aggregate exposure to pesticide inert ingredients, the Agency considers the toxicity of the inert in conjunction with possible exposure to residues of the inert ingredient through food, drinking water, and through other exposures that occur as a result of pesticide use in residential settings. If EPA is able to determine that a finite tolerance is not necessary to ensure that there is a reasonable certainty that no harm will result from aggregate exposure to the inert ingredient, an exemption from the requirement of a tolerance may be established.

Consistent with FFDCA section 408(c)(2)(A), and the factors specified in FFDCA section 408(c)(2)(B), EPA has reviewed the available scientific data and other relevant information in support of this action. EPA has sufficient data to assess the hazards of and to make a determination on

aggregate exposure for salicylaldehyde including exposure resulting from the exemption established by this action. EPA’s assessment of exposures and risks associated with salicylaldehyde follows.

### A. Toxicological Profile

EPA has evaluated the available toxicity data and considered their validity, completeness, and reliability as well as the relationship of the results of the studies to human risk. EPA has also considered available information concerning the variability of the sensitivities of major identifiable subgroups of consumers, including infants and children. Specific information on the studies received and the nature of the adverse effects caused by salicylaldehyde as well as the no-observed-adverse-effect-level (NOAEL) and the lowest-observed-adverse-effect-level (LOAEL) from the toxicity studies are discussed in this unit.

The acute oral toxicity of salicylaldehyde was examined in male rats and mice. The general oral lethal amount of salicylaldehyde is estimated to be 500 mg/kg in mice. The dermal LD<sub>50</sub> for salicylaldehyde was determined to be greater than 23,000 mg/kg. Dermal irritation studies found salicylaldehyde to be irritating, with eschar formation and scarring 14 days after administration.

No adverse effects attributable to a single exposure to salicylaldehyde were seen in the toxicity databases. In a combined repeated dose toxicity study with the reproduction/developmental toxicity screening test, toxicity was not observed in parental animals nor in reproductive parameters at doses up to 160 mg/kg/day, the highest dose tested. Fetal susceptibility was observed. Reduced bodyweight and offspring mortality after 4 days of nursing were observed at 160 mg/kg/day. The NOAEL was 40 mg/kg/day. There was no evidence of neurotoxicity or immunotoxicity in the combined repeated dose toxicity with the reproduction/developmental toxicity screening test.

Salicylaldehyde was negative for mutagenicity in the Ames test and gave a positive response in the chromosome aberrations test using Chinese hamster cells (in vitro). An in vivo micronucleus assay was negative. Since the in vivo study is more reliable than the in vitro assays, the weight of evidence suggests that salicylaldehyde is unlikely to be mutagenic.

There are no cancer studies available for salicylaldehyde. According to a DEREK (Nexus) (structural activity relationship) report, there are no structural alerts for carcinogenicity.

Based on predicted rapid metabolism and excretion, lack of specific target organ toxicity in the repeat dose toxicity study, lack of mutagenicity concerns, and lack of any structural alerts for carcinogenicity, salicylaldehyde is not expected to be carcinogenic to humans at anticipated dietary concentrations.

The metabolism of salicylaldehyde in rabbits demonstrated that 75% of single dose of salicylaldehyde was excreted in the urine as glucuronic acid and sulfate conjugates of vanillic acid.

#### *B. Toxicological Points of Departure/Levels of Concern*

Once a pesticide's toxicological profile is determined, EPA identifies toxicological points of departure (POD) and levels of concern to use in evaluating the risk posed by human exposure to the pesticide. For hazards that have a threshold below which there is no appreciable risk, the toxicological POD is used as the basis for derivation of reference values for risk assessment. PODs are developed based on a careful analysis of the doses in each toxicological study to determine the dose at which no adverse effects are observed (the NOAEL) and the lowest dose at which adverse effects of concern are identified (the LOAEL). Uncertainty/safety factors are used in conjunction with the POD to calculate a safe exposure level—generally referred to as a population-adjusted dose (PAD) or a reference dose (RfD)—and a safe margin of exposure (MOE). For non-threshold risks, the Agency assumes that any amount of exposure will lead to some degree of risk. Thus, the Agency estimates risk in terms of the probability of an occurrence of the adverse effect expected in a lifetime. For more information on the general principles EPA uses in risk characterization and a complete description of the risk assessment process, see <http://www.epa.gov/pesticides/factsheets/riskassess.htm>.

No acute toxicological endpoint of concern has been identified for salicylaldehyde. On the basis of the repeated dose and reproductive/developmental toxicity screening study, a no observed adverse effect level (NOAEL) for offspring toxicity for salicylaldehyde was 40 mg/kg bw/day based on reduced body weight and increased mortality in pups at 160 mg/kg/day. The standard 10X factors for intra- and inter-species were applied in establishing the chronic reference dose (cRfD) of 0.4 mg/kg/day (40 mg/kg/day/100). Based on the reduced FQPA Safety Factor for salicylaldehyde of 1X, the chronic population adjusted dose (cPAD) is equivalent to the chronic

reference dose (cRfD) at 0.4 mg/kg/day. The chronic oral NOAEL is also applicable to the short- and intermediate-term dermal and inhalation exposure routes.

#### *C. Exposure Assessment*

1. *Dietary exposure from food and feed uses.* In evaluating dietary exposure to salicylaldehyde, EPA considered exposure under the proposed exemption from the requirement of a tolerance. EPA assessed dietary exposures from salicylaldehyde in food as follows:

Acute dietary assessments take into account exposure estimates from dietary consumption of food and drinking water. Chronic dietary assessments take into account dietary food and drinking water. The Agency assessed the dietary exposures to salicylaldehyde as an inert ingredient used in pesticide formulations applied to growing crops and livestock.

No adverse effects attributable to a single exposure to salicylaldehyde were seen in the toxicity databases; therefore, an acute dietary risk assessment is not appropriate.

In conducting the chronic dietary exposure assessment to salicylaldehyde an inert ingredient used in pesticide formulations applied to growing crops, raw agricultural commodities, and livestock, the Dietary Exposure Evaluation Model/Food Commodity Intake Database (DEEM-FCID) TM, Version 3.16 was used. EPA used food consumption information from the U.S. Department of Agriculture's National Health and Nutrition Examination Survey, What We Eat in America, (USDA/NHANES/WWEIA). This dietary survey was conducted from 2003 to 2008. As to residue levels in food, no residue data were submitted for salicylaldehyde. In the absence of specific residue data, EPA has developed an approach that uses surrogate information to derive upper bound exposure estimates for the subject inert ingredient. Upper bound exposure estimates are based on the highest tolerance for a given commodity from a list of high-use insecticides, herbicides, and fungicides. A complete description of the general approach taken to assess inert ingredient risks in the absence of residue data is contained in the memorandum entitled "Alkyl Amines Polyalkoxylates (Cluster 4): Acute and Chronic Aggregate (Food and Drinking Water) Dietary Exposure and Risk Assessments for the Inerts." (D361707, S. Piper, 2/25/09) and can be found at <http://www.regulations.gov> in docket ID number EPA-HQ-OPP-2008-0738.

2. *Dietary exposure from drinking water.* For the purpose of the screening level dietary risk assessment to support this request for an exemption from the requirement of a tolerance for salicylaldehyde, a conservative drinking water concentration value of 100 ppb based on screening level modeling was used to assess the contribution to drinking water for the chronic dietary risk assessments for parent compound. These values were directly entered into the dietary exposure model.

3. *From non-dietary exposure.* The term "residential exposure" is used in this document to refer to non-occupational, non-dietary exposure (e.g., textiles (clothing and diapers), carpets, swimming pools, and hard surface disinfection on walls, floors, tables).

There are no current or proposed residential uses for salicylaldehyde; however, it is possible that salicylaldehyde may be used as an inert ingredient in pesticide products. A highly conservative residential exposure assessment was performed in which it was assumed that all residential use pesticide products would contain salicylaldehyde as an inert ingredient. A complete description of the approach used to assess possible residential exposures from salicylaldehyde can be found in <http://www.regulations.gov> in document "Salicylaldehyde; Human Health Risk Assessment and Ecological Effects Assessment to Support Proposed Exemption from the Requirement of a Tolerance When Used as an Inert Ingredient in Pesticide Formulations," pp. 15 in docket ID number EPA-HQ-OPP-2015-0019.

4. *Cumulative effects from substances with a common mechanism of toxicity.* Section 408(b)(2)(D)(v) of FFDCA requires that, when considering whether to establish, modify, or revoke a tolerance or exemption from a tolerance, the Agency consider "available information" concerning the cumulative effects of a particular pesticide's residues and "other substances that have a common mechanism of toxicity."

EPA has not found salicylaldehyde to share a common mechanism of toxicity with any other substances, and salicylaldehyde does not appear to produce a toxic metabolite produced by other substances. For the purposes of this tolerance action, therefore, EPA has assumed that salicylaldehyde does not have a common mechanism of toxicity with other substances. For information regarding EPA's efforts to determine which chemicals have a common mechanism of toxicity and to evaluate the cumulative effects of such chemicals, see EPA's Web site at

<http://www.epa.gov/pesticides/cumulative>.

#### *D. Safety Factor for Infants and Children*

1. *In general.* Section 408(b)(2)(C) of FFDCA provides that EPA shall apply an additional tenfold (10X) margin of safety for infants and children in the case of threshold effects to account for prenatal and postnatal toxicity and the completeness of the database on toxicity and exposure unless EPA determines based on reliable data that a different margin of safety will be safe for infants and children. This additional margin of safety is commonly referred to as the FQPA Safety Factor (SF). In applying this provision, EPA either retains the default value of 10X, or uses a different additional safety factor when reliable data available to EPA support the choice of a different factor.

2. *Prenatal and postnatal sensitivity.* There is evidence of increased susceptibility of infants and children due to exposure to salicylaldehyde. In a combined repeated dose toxicity study with the reproduction/developmental toxicity screening test, offspring toxicity was manifested as decreased body weights and increased mortality in the absence of maternal toxicity at doses up to 160 mg/kg/day. The offspring toxicity NOAEL was 40 mg/kg/day. However, there are no low concerns for this susceptibility since there is a clear, well defined offspring toxicity NOAEL and this study is being used to establish the cRfD.

3. *Conclusion.* EPA has determined that reliable data show the safety of infants and children would be adequately protected if the FQPA SF were reduced to 1X. That decision is based on the following findings:

i. The toxicity database for salicylaldehyde includes the battery of acute studies, mutagenicity studies and a combined repeated dose toxicity study with the reproduction/developmental toxicity screening test.

ii. There is no evidence of neurotoxicity in the available studies, therefore there is no need for a developmental neurotoxicity study.

iii. There is no evidence of immunotoxicity in the available database, therefore there is no need for an immunotoxicity study.

iv. There are low to no concerns for the increased susceptibility seen in the combined repeated dose toxicity study with the reproduction/developmental toxicity screening test.

v. There are no residual uncertainties identified in the exposure databases. The dietary food exposure assessments were performed based on 14% by

weight in the formulation (the maximum allowable use rate) and tolerance-level residues.

EPA made conservative (protective) assumptions in the ground and surface water modeling used to assess exposure to salicylaldehyde in drinking water. EPA used similarly conservative assumptions to assess post application exposure of children as well as incidental oral exposure of toddlers. These assessments will not underestimate the exposure and risks posed by salicylaldehyde.

#### *E. Aggregate Risks and Determination of Safety*

1. *Acute risk.* An acute aggregate risk assessment takes into account acute exposure estimates from dietary consumption of food and drinking water. No adverse effect resulting from a single oral exposure was identified and no acute dietary endpoint was selected. Therefore, salicylaldehyde is not expected to pose an acute risk.

2. *Chronic risk.* Using the exposure assumptions described in this unit for chronic exposure, EPA has concluded that chronic exposure to salicylaldehyde from food and water will utilize 13% of the cPAD for the U.S. population and 49% of the cPAD for children 1–2 years old, the population group receiving the greatest exposure.

3. *Short- and intermediate-term risk.* Short- and intermediate-term aggregate exposure takes into account short-term residential exposure plus chronic exposure to food and water (considered to be a background exposure level).

Salicylaldehyde may be used as inert ingredients in pesticide products that could result in short-term residential exposure and the Agency has determined that it is appropriate to aggregate chronic exposure through food and water with short-term residential exposures to salicylaldehyde. Using the exposure assumptions described in this unit, EPA has concluded the combined short- and intermediate-term food, water, and residential exposures result in short- and intermediate-term aggregate MOEs of 430 for adults and 170 for children (1–2 years old). Because EPA's level of concern for salicylaldehyde is a MOE of 100 or below, these MOEs are not of concern.

4. *Aggregate cancer risk for U.S. population.* Based on a DEREK structural alert analysis and the lack of mutagenicity, salicylaldehyde not expected to pose a cancer risk to humans.

5. *Determination of safety section.* Based on these risk assessments, EPA concludes that there is reasonable certainty that no harm will result to the

general population, or to infants and children from aggregate exposure to salicylaldehyde residues.

#### **V. Analytical Enforcement Methodology**

An analytical method is not required for enforcement purposes since the Agency is establishing an exemption from the requirement of a tolerance without any numerical limitation. EPA is establishing a limitation on the amount of salicylaldehyde that may be used in pesticide formulations applied to growing crops. That limitation will be enforced through the pesticide registration process under the Federal Insecticide, Fungicide, and Rodenticide Act ("FIFRA"), 7 U.S.C. 136 *et seq.* EPA will not register any pesticide formulation for use on growing crops for sale or distribution that exceed 14% of salicylaldehyde.

#### **VI. Conclusions**

Therefore, an exemption from the requirement of a tolerance is established under 40 CFR 180.910 for residues salicylaldehyde (CAS Reg. No. 90–02–8) when used as an inert ingredient (penetration aid) in pesticide formulations applied to growing crops and raw agricultural commodities after harvest at a concentration not to exceed crops at no more than 14% by weight of the pesticide formulation.

#### **VII. Statutory and Executive Order Reviews**

This action establishes an exemption from the requirement of a tolerance under FFDCA section 408(d) in response to a petition submitted to the Agency. The Office of Management and Budget (OMB) has exempted these types of actions from review under Executive Order 12866, entitled "Regulatory Planning and Review" (58 FR 51735, October 4, 1993). Because this action has been exempted from review under Executive Order 12866, this action is not subject to Executive Order 13211, entitled "Actions Concerning Regulations That Significantly Affect Energy Supply, Distribution, or Use" (66 FR 28355, May 22, 2001) or Executive Order 13045, entitled "Protection of Children from Environmental Health Risks and Safety Risks" (62 FR 19885, April 23, 1997). This action does not contain any information collections subject to OMB approval under the Paperwork Reduction Act (PRA) (44 U.S.C. 3501 *et seq.*), nor does it require any special considerations under Executive Order 12898, entitled "Federal Actions to Address Environmental Justice in Minority Populations and Low-Income

Populations” (59 FR 7629, February 16, 1994).

Since tolerances and exemptions that are established on the basis of a petition under FFDCA section 408(d), such as the exemption in this final rule, do not require the issuance of a proposed rule, the requirements of the Regulatory Flexibility Act (RFA) (5 U.S.C. 601 *et seq.*), do not apply.

This action directly regulates growers, food processors, food handlers, and food retailers, not States or tribes, nor does this action alter the relationships or distribution of power and responsibilities established by Congress in the preemption provisions of FFDCA section 408(n)(4). As such, the Agency has determined that this action will not have a substantial direct effect on States or tribal governments, on the relationship between the national government and the States or tribal governments, or on the distribution of power and responsibilities among the various levels of government or between the Federal Government and Indian tribes. Thus, the Agency has determined that Executive Order 13132, entitled

“Federalism” (64 FR 43255, August 10, 1999) and Executive Order 13175, entitled “Consultation and Coordination with Indian Tribal Governments” (65 FR 67249, November 9, 2000) do not apply to this action. In addition, this action does not impose any enforceable duty or contain any unfunded mandate as described under Title II of the Unfunded Mandates Reform Act (UMRA) (2 U.S.C. 1501 *et seq.*).

This action does not involve any technical standards that would require Agency consideration of voluntary consensus standards pursuant to section 12(d) of the National Technology Transfer and Advancement Act (NTTAA) (15 U.S.C. 272 note).

#### VIII. Congressional Review Act

Pursuant to the Congressional Review Act (5 U.S.C. 801 *et seq.*), EPA will submit a report containing this rule and other required information to the U.S. Senate, the U.S. House of Representatives, and the Comptroller General of the United States prior to publication of the rule in the **Federal Register**. This action is not a “major rule” as defined by 5 U.S.C. 804(2).

#### List of Subjects in 40 CFR Part 180

Environmental protection, Administrative practice and procedure, Agricultural commodities, Pesticides and pests, Reporting and recordkeeping requirements.

Dated: March 22, 2016.

**Susan Lewis,**

*Director, Registration Division, Office of Pesticide Programs.*

Therefore, 40 CFR chapter I is amended as follows:

#### PART 180—[AMENDED]

■ 1. The authority citation for part 180 continues to read as follows:

**Authority:** 21 U.S.C. 321(q), 346a and 371.

■ 2. In § 180.910, add alphabetically the inert ingredient “Salicylaldehyde” to the table to read as follows:

**§ 180.910 Inert ingredients used pre- and post-harvest; exemptions from the requirement of a tolerance.**

\* \* \* \* \*

Inert ingredients	Limits	Uses
* * *	* * *	* * *
Salicylaldehyde (CAS Reg. No. 90–02–8).	Not to exceed 14% by weight of pesticide formulation	Penetration aid.
* * *	* * *	* * *

[FR Doc. 2016–07085 Filed 3–29–16; 8:45 a.m.]

BILLING CODE 6560–50–P

## DEPARTMENT OF HOMELAND SECURITY

### Federal Emergency Management Agency

#### 44 CFR Part 64

[Docket ID FEMA–2016–0002; Internal Agency Docket No. FEMA–8429]

#### Suspension of Community Eligibility

**AGENCY:** Federal Emergency Management Agency, DHS.

**ACTION:** Final rule.

**SUMMARY:** This rule identifies communities where the sale of flood insurance has been authorized under the National Flood Insurance Program (NFIP) that are scheduled for suspension on the effective dates listed within this rule because of noncompliance with the floodplain management requirements of the

program. If the Federal Emergency Management Agency (FEMA) receives documentation that the community has adopted the required floodplain management measures prior to the effective suspension date given in this rule, the suspension will not occur and a notice of this will be provided by publication in the **Federal Register** on a subsequent date. Also, information identifying the current participation status of a community can be obtained from FEMA’s Community Status Book (CSB). The CSB is available at <http://www.fema.gov/fema/csb.shtm>.

**DATES:** The effective date of each community’s scheduled suspension is the third date (“Susp.”) listed in the third column of the following tables.

**FOR FURTHER INFORMATION CONTACT:** If you want to determine whether a particular community was suspended on the suspension date or for further information, contact Patricia Suber, Federal Insurance and Mitigation Administration, Federal Emergency Management Agency, 500 C Street SW., Washington, DC 20472, (202) 646–4149.

**SUPPLEMENTARY INFORMATION:** The NFIP enables property owners to purchase Federal flood insurance that is not otherwise generally available from private insurers. In return, communities agree to adopt and administer local floodplain management measures aimed at protecting lives and new construction from future flooding. Section 1315 of the National Flood Insurance Act of 1968, as amended, 42 U.S.C. 4022, prohibits the sale of NFIP flood insurance unless an appropriate public body adopts adequate floodplain management measures with effective enforcement measures. The communities listed in this document no longer meet that statutory requirement for compliance with program regulations, 44 CFR part 59. Accordingly, the communities will be suspended on the effective date in the third column. As of that date, flood insurance will no longer be available in the community. We recognize that some of these communities may adopt and submit the required documentation of legally enforceable floodplain

management measures after this rule is published but prior to the actual suspension date. These communities will not be suspended and will continue to be eligible for the sale of NFIP flood insurance. A notice withdrawing the suspension of such communities will be published in the **Federal Register**.

In addition, FEMA publishes a Flood Insurance Rate Map (FIRM) that identifies the Special Flood Hazard Areas (SFHAs) in these communities. The date of the FIRM, if one has been published, is indicated in the fourth column of the table. No direct Federal financial assistance (except assistance pursuant to the Robert T. Stafford Disaster Relief and Emergency Assistance Act not in connection with a flood) may be provided for construction or acquisition of buildings in identified SFHAs for communities not participating in the NFIP and identified for more than a year on FEMA's initial FIRM for the community as having flood-prone areas (section 202(a) of the Flood Disaster Protection Act of 1973, 42 U.S.C. 4106(a), as amended). This prohibition against certain types of Federal assistance becomes effective for the communities listed on the date shown in the last column. The Administrator finds that notice and public comment procedures under 5 U.S.C. 553(b), are impracticable and unnecessary because communities listed

in this final rule have been adequately notified.

Each community receives 6-month, 90-day, and 30-day notification letters addressed to the Chief Executive Officer stating that the community will be suspended unless the required floodplain management measures are met prior to the effective suspension date. Since these notifications were made, this final rule may take effect within less than 30 days.

**National Environmental Policy Act.** This rule is categorically excluded from the requirements of 44 CFR part 10, Environmental Considerations. No environmental impact assessment has been prepared.

**Regulatory Flexibility Act.** The Administrator has determined that this rule is exempt from the requirements of the Regulatory Flexibility Act because the National Flood Insurance Act of 1968, as amended, Section 1315, 42 U.S.C. 4022, prohibits flood insurance coverage unless an appropriate public body adopts adequate floodplain management measures with effective enforcement measures. The communities listed no longer comply with the statutory requirements, and after the effective date, flood insurance will no longer be available in the communities unless remedial action takes place.

**Regulatory Classification.** This final rule is not a significant regulatory action

under the criteria of section 3(f) of Executive Order 12866 of September 30, 1993, Regulatory Planning and Review, 58 FR 51735.

**Executive Order 13132, Federalism.** This rule involves no policies that have federalism implications under Executive Order 13132.

**Executive Order 12988, Civil Justice Reform.** This rule meets the applicable standards of Executive Order 12988.

**Paperwork Reduction Act.** This rule does not involve any collection of information for purposes of the Paperwork Reduction Act, 44 U.S.C. 3501 *et seq.*

#### List of Subjects in 44 CFR Part 64

Flood insurance, Floodplains.

Accordingly, 44 CFR part 64 is amended as follows:

#### PART 64—[AMENDED]

■ 1. The authority citation for part 64 continues to read as follows:

**Authority:** 42 U.S.C. 4001 *et seq.*; Reorganization Plan No. 3 of 1978, 3 CFR, 1978 Comp.; p. 329; E.O. 12127, 44 FR 19367, 3 CFR, 1979 Comp.; p. 376.

#### § 64.6 [Amended]

■ 2. The tables published under the authority of § 64.6 are amended as follows:

State and location	Community No.	Effective date authorization/cancellation of sale of flood insurance in community	Current effective map date	Date certain federal assistance no longer available in SFHAs
<b>Region III</b>				
Virginia:				
Albemarle County, Unincorporated Areas.	510006	May 9, 1973, Emerg; December 16, 1980, Reg; May 16, 2016, Susp.	May 16, 2016 ...	May 16, 2016
Hampton, City of, Independent City .....	515527	March 27, 1970, Emerg; January 15, 1971, Reg; May 16, 2016, Susp.	.....*do .....	Do.
King and Queen County, Unincorporated Areas.	510082	June 20, 1974, Emerg; September 5, 1990, Reg; May 16, 2016, Susp.	.....do .....	Do.
Scottsville, Town of, Albemarle and Fluvanna Counties.	510007	April 12, 1973, Emerg; September 5, 1979, Reg; May 16, 2016, Susp.	.....do .....	Do.
<b>Region V</b>				
Wisconsin:				
Cambria, Village of, Columbia County ..	550057	June 11, 1975, Emerg; September 18, 1985, Reg; May 16, 2016, Susp.	.....do .....	Do.
Columbia County, Unincorporated Areas.	550581	July 31, 1975, Emerg; April 15, 1980, Reg; May 16, 2016, Susp.	.....do .....	Do.
Columbus, City of, Columbia and Dodge Counties.	550058	October 7, 1974, Emerg; December 1, 1981, Reg; May 16, 2016, Susp.	.....do .....	Do.
Doylestown, Village of, Columbia County.	550059	April 30, 1976, Emerg; September 18, 1985, Reg; May 16, 2016, Susp.	.....do .....	Do.
Fall River, Village of, Columbia County	550060	April 17, 1975, Emerg; September 4, 1985, Reg; May 16, 2016, Susp.	.....do .....	Do.
Lodi, City of, Columbia County .....	550061	June 13, 1974, Emerg; November 15, 1984, Reg; May 16, 2016, Susp.	.....do .....	Do.
Pardeeville, Village of, Columbia County.	550062	August 19, 1976, Emerg; August 15, 1983, Reg; May 16, 2016, Susp.	.....do .....	Do.
Portage, City of, Columbia County .....	550063	June 11, 1974, Emerg; August 15, 1983, Reg; May 16, 2016, Susp.	.....do .....	Do.

State and location	Community No.	Effective date authorization/cancellation of sale of flood insurance in community	Current effective map date	Date certain federal assistance no longer available in SFHAs
Poynette, Village of, Columbia County	550064	July 29, 1975, Emerg; September 18, 1985, Reg; May 16, 2016, Susp.	.....do .....	Do.
Wisconsin Dells, City of, Adams, Columbia, Juneau and Sauk Counties.	550065	July 17, 1975, Emerg; December 18, 1984, Reg; May 16, 2016, Susp.	.....do .....	Do.
Wyocena, Village of, Columbia County	550066	May 22, 1975, Emerg; January 18, 1984, Reg; May 16, 2016, Susp.	.....do .....	Do.
<b>Region VIII</b>				
Colorado:				
Crook, Town of, Logan County .....	080311	May 6, 1977, Emerg; February 5, 1986, Reg; May 16, 2016, Susp.	.....do .....	Do.
Iliff, Town of, Logan County .....	080207	March 20, 1984, Emerg; August 4, 1987, Reg; May 16, 2016, Susp.	.....do .....	Do.
Logan County, Unincorporated Areas ...	080310	January 3, 1977, Emerg; September 29, 1989, Reg; May 16, 2016, Susp.	.....do .....	Do.
Sterling, City of, Logan County .....	080294	August 4, 1977, Emerg; September 29, 1989, Reg; May 16, 2016, Susp.	.....do .....	Do.

\* .....do = Ditto.

Code for reading third column: Emerg.—Emergency; Reg.—Regular; Susp.—Suspension.

Dated: March 16, 2016.

**Roy E. Wright,**

*Deputy Associate Administrator, Federal Insurance and Mitigation Administration, Department of Homeland Security, Federal Emergency Management Agency.*

[FR Doc. 2016-07093 Filed 3-29-16; 8:45 am]

BILLING CODE 9110-12-P

## FEDERAL COMMUNICATIONS COMMISSION

### 47 CFR Part 51

[GN Docket No. 13-5, RM-11358; WC Docket No. 05-25, RM-10593; FCC 15-97]

### Technology Transitions, Policies and Rules Governing Retirement of Copper Loops by Incumbent Local Exchange Carriers and Special Access for Price Cap Local Exchange Carriers; Correction

**AGENCY:** Federal Communications Commission.

**ACTION:** Final rule, announcement of effective date; correction.

**SUMMARY:** The Federal Communications Commission published a document in the **Federal Register** of March 24, 2016 announcing that the Office of Management and Budget (OMB) has approved, for a period of three years, the information collection requirements. This document corrects the **DATES** section.

**DATES:** The amendments to 47 CFR 51.325(a)(4) and (e), 51.332, and 51.333(b) and (c) published at 80 FR 63322, October 19, 2015, are effective on March 24, 2016. The removal of 47 CFR 51.331(c) and 51.333(f) is effective on March 30, 2016.

### FOR FURTHER INFORMATION CONTACT:

Michele Levy Berlove, Attorney Advisor, Wireline Competition Bureau, at 202-418-1477, or by email at [michele.berlove@fcc.gov](mailto:michele.berlove@fcc.gov).

**SUPPLEMENTARY INFORMATION:** The Federal Communications Commission published a document in the **Federal Register** of March 24, 2016 (81 FR 15647) announcing that the Office of Management and Budget (OMB) has approved, for a period of three years, the information collection associated with the Commission's network change disclosure rules pertaining to copper retirement notices. That document omitted the removal of 47 CFR 51.331(c) and 51.333(f) as effective rules.

In FR Doc. 2016-06683, published on March 24, 2016 on pages 15647-48, in the third and first columns respectively of those pages, correct the **DATES** caption to read:

**DATES:** The amendments to 47 CFR 51.325(a)(4) and (e), 51.332, and 51.333(b) and (c) published at 80 FR 63322, October 19, 2015, are effective on March 24, 2016. The removal of 47 CFR 51.331(c) and 51.333(f) is effective on March 30, 2016.

Federal Communications Commission.

**Gloria J. Miles,**

*Federal Register Liaison Officer, Office of the Secretary.*

[FR Doc. 2016-07147 Filed 3-29-16; 8:45 am]

BILLING CODE 6712-01-P

## DEPARTMENT OF COMMERCE

### National Oceanic and Atmospheric Administration

#### 50 CFR Part 679

[Docket No. 150818742-6210-02]

RIN 0648-XE543

### Fisheries of the Exclusive Economic Zone Off Alaska; Pollock in Statistical Area 610 in the Gulf of Alaska

**AGENCY:** National Marine Fisheries Service (NMFS), National Oceanic and Atmospheric Administration (NOAA), Commerce.

**ACTION:** Temporary rule; closure.

**SUMMARY:** NMFS is prohibiting directed fishing for pollock in Statistical Area 610 in the Gulf of Alaska (GOA). This action is necessary to prevent exceeding the B season allowance of the 2016 total allowable catch of pollock for Statistical Area 610 in the GOA.

**DATES:** Effective 1200 hours, Alaska local time (A.l.t.), March 28, 2016, through 1200 hours, A.l.t., May 31, 2016.

**FOR FURTHER INFORMATION CONTACT:** Josh Keaton, 907-586-7228.

**SUPPLEMENTARY INFORMATION:** NMFS manages the groundfish fishery in the GOA exclusive economic zone according to the Fishery Management Plan for Groundfish of the Gulf of Alaska (FMP) prepared by the North Pacific Fishery Management Council under authority of the Magnuson-Stevens Fishery Conservation and Management Act. Regulations governing fishing by U.S. vessels in accordance with the FMP appear at subpart H of 50 CFR part 600 and 50 CFR part 679.

The B season allowance of the 2016 total allowable catch (TAC) of pollock in Statistical Area 610 of the GOA is 4,591 metric tons (mt) as established by the final 2016 and 2017 harvest specifications for groundfish of the GOA (81 FR 14740, March 18, 2016) and inseason adjustment (81 FR 15650, March 24, 2016).

In accordance with § 679.20(d)(1)(i), the Regional Administrator has determined that the B season allowance of the 2016 TAC of pollock in Statistical Area 610 of the GOA will soon be reached. Therefore, the Regional Administrator is establishing a directed fishing allowance of 4,391 mt and is setting aside the remaining 200 mt as bycatch to support other anticipated groundfish fisheries. In accordance with § 679.20(d)(1)(iii), the Regional Administrator finds that this directed fishing allowance has been reached. Consequently, NMFS is prohibiting

directed fishing for pollock in Statistical Area 610 of the GOA.

After the effective date of this closure the maximum retainable amounts at § 679.20(e) and (f) apply at any time during a trip.

#### Classification

This action responds to the best available information recently obtained from the fishery. The Assistant Administrator for Fisheries, NOAA (AA), finds good cause to waive the requirement to provide prior notice and opportunity for public comment pursuant to the authority set forth at 5 U.S.C. 553(b)(B) as such requirement is impracticable and contrary to the public interest. This requirement is impracticable and contrary to the public interest as it would prevent NMFS from responding to the most recent fisheries data in a timely fashion and would delay the closure of directed fishing for

pollock in Statistical Area 610 of the GOA. NMFS was unable to publish a notice providing time for public comment because the most recent, relevant data only became available as of March 24, 2016.

The AA also finds good cause to waive the 30-day delay in the effective date of this action under 5 U.S.C. 553(d)(3). This finding is based upon the reasons provided above for waiver of prior notice and opportunity for public comment.

This action is required by § 679.20 and is exempt from review under Executive Order 12866.

**Authority:** 16 U.S.C. 1801 *et seq.*

Dated: March 25, 2016.

**Emily H. Menashes,**  
*Acting Director, Office of Sustainable Fisheries, National Marine Fisheries Service.*

[FR Doc. 2016-07129 Filed 3-25-16; 4:15 pm]

**BILLING CODE 3510-22-P**

# Proposed Rules

Federal Register

Vol. 81, No. 61

Wednesday, March 30, 2016

This section of the FEDERAL REGISTER contains notices to the public of the proposed issuance of rules and regulations. The purpose of these notices is to give interested persons an opportunity to participate in the rule making prior to the adoption of the final rules.

## DEPARTMENT OF TRANSPORTATION

### Federal Aviation Administration

#### 14 CFR Part 73

[Docket No. FAA-2016-4282; Airspace Docket No. 16-AWP-3]

RIN 2120-AA66

#### Proposed Establishment of Temporary Restricted Areas R-2509E, R-2509W, and R-2509N; Twentynine Palms, CA

**AGENCY:** Federal Aviation Administration (FAA), DOT.

**ACTION:** Notice of proposed rulemaking (NPRM).

**SUMMARY:** This action proposes to establish temporary restricted areas R-2509E, R-2509W, and R-2509N, Twentynine Palms, CA, to support a Marine Expeditionary Brigade level Large Scale Exercise (LSE) planned for existing and newly acquired training lands at Marine Corps Air Ground Combat Center (MCAGCC), Twentynine Palms from August 1 to August 18, 2016.

**DATES:** Comments must be received on or before May 16, 2016.

**ADDRESSES:** Send comments on this proposal to the U.S. Department of Transportation, Docket Operations, M-30, 1200 New Jersey Avenue SE., West Building Ground Floor, Room W12-140, Washington, DC 20590-0001; telephone: (202) 366-9826. You must identify FAA Docket No. FAA-2016-4282 and Airspace Docket No. 16-AWP-3, at the beginning of your comments. You may also submit comments through the Internet at [www.regulations.gov](http://www.regulations.gov). You may review the public docket containing the proposal, any comments received, and any final disposition in person in the Dockets Office between 9:00 a.m. and 5:00 p.m., Monday through Friday, except Federal holidays. The Docket Office (telephone 1-800-647-5527), is on the ground floor of the building at the above address.

Comments on environmental and land use aspects should be directed to: Mr.

Chris Proudfoot, Proposed 29 Palms Land Acquisition/Airspace Establishment Project MAGTFTC, MCAGCC, Bldg. 1554, Box 788104 Twentynine Palms, CA 92278-8104; phone: (760) 830-7926.

#### FOR FURTHER INFORMATION CONTACT:

Jason Stahl, Airspace Policy Group, Office of Airspace Services, Federal Aviation Administration, 800 Independence Avenue SW., Washington, DC 20591; telephone: (202) 267-8783.

#### SUPPLEMENTARY INFORMATION:

##### Authority for This Rulemaking

The FAA's authority to issue rules regarding aviation safety is found in Title 49 of the United States Code. Subtitle I, Section 106 describes the authority of the FAA Administrator. Subtitle VII, Aviation Programs, describes in more detail the scope of the agency's authority. This rulemaking is promulgated under the authority described in Subtitle VII, Part A, Subpart I, Section 40103. Under that section, the FAA is charged with prescribing regulations to assign the use of the airspace necessary to ensure the safety of aircraft and the efficient use of airspace. This regulation is within the scope of that authority as it would establish the temporary restricted area airspace at Twentynine Palms, CA, to enhance aviation safety and accommodate essential United States Marine Corps training requirements.

##### Comments Invited

Interested parties are invited to participate in this proposed rulemaking by submitting such written data, views, or arguments as they may desire. Comments that provide the factual basis supporting the views and suggestions presented are particularly helpful in developing reasoned regulatory decisions on the proposal. Comments are specifically invited on the overall regulatory, aeronautical, economic, environmental, and energy-related aspects of the proposal.

Communications should identify both docket numbers (FAA Docket No. FAA-2016-4282 and Airspace Docket No. 16-AWP-3) and be submitted in triplicate to the Docket Management System (see **ADDRESSES** section for address and phone number). You may also submit comments through the Internet at [www.regulations.gov](http://www.regulations.gov).

Commenters wishing the FAA to acknowledge receipt of their comments on this action must submit with those comments a self-addressed, stamped postcard on which the following statement is made: "Comments to FAA Docket No. FAA-2016-4282 and Airspace Docket No. 16-AWP-3." The postcard will be date/time stamped and returned to the commenter.

All communications received on or before the specified closing date for comments will be considered before taking action on the proposed rule. The proposal contained in this action may be changed in light of comments received. All comments submitted will be available for examination in the public docket both before and after the closing date for comments. A report summarizing each substantive public contact with FAA personnel concerned with this rulemaking will be filed in the docket.

##### Availability of NPRMs

An electronic copy of this document may be downloaded through the Internet at [www.regulations.gov](http://www.regulations.gov).

You may review the public docket containing the proposal, any comments received and any final disposition in person at the Dockets Office (see **ADDRESSES** section for address and phone number) between 9:00 a.m. and 5:00 p.m., Monday through Friday, except Federal holidays. An informal docket may also be examined during normal business hours at the office of the Operations Support Group, Western Service Center, Federal Aviation Administration, 1601 Lind Ave. SW., Renton, WA 98057.

Persons interested in being placed on a mailing list for future NPRMs should contact the FAA's Office of Rulemaking, (202) 267-9677, for a copy of Advisory Circular No. 11-2A, Notice of Proposed Rulemaking Distribution System, which describes the application procedure.

##### Background

Marine Corps combat readiness depends on the continued availability of ranges and training areas that provide realistic, mission-oriented training and exercises. Marine Corps training proceeds on a continuum, from entry-level training of individual Marines in basic military skills to large-scale exercises involving a Marine Air Ground Task Force (MAGTF). Currently, the Marine Corps does not have



sufficient range space to conduct a Marine Expeditionary Brigade (MEB) level live fire exercise. Through careful analysis and a series of studies, MCAGCC Twentynine Palms was identified as the only Marine Corps installation capable of expansion to the dimensions required to support this level of exercise. Acquisition of new lands without the requisite special use airspace (SUA) would not allow for the training events required to successfully execute this essential exercise. Consequently, a new restricted area, military operations areas (MOA) and air traffic control-assigned airspace are being developed as a critical element of the required expansion to support large scale MEB level exercises and those supporting building block training events. A prior proposal for permanent SUA received a non-concurrence from LA Center and will not be available to support the first Large Scale Exercise on new Twentynine Palms lands planned for August 1 to August 18, 2016. The establishment of temporary restricted area R-2509E, W, and N, will substantially enhance both the capability and capacity of the MCAGCC Twentynine Palms Range and Training Areas (RTA) to conduct required training for a MEB large scale exercise.

### The Proposal

This proposal would establish new temporary restricted areas R-2509E, R-2509W, and R-2509N for the period from August 1 to August 18, 2016, to accommodate live fire from pistols, rifles, machine guns, anti-tank weapons, mortars, artillery, Unmanned Aircraft Systems, fixed wing, and rotary wing training activities including close air support and live ordnance delivery. This proposed temporary restricted area is required to effectively deconflict Department of Defense and civilian air traffic from hazards associated with live fire training.

Maximum altitudes within the R-2509E would be Flight Level (FL) 400, however, impacts mitigation were coordinated with Los Angeles Air Route Traffic Control Center and will be implemented to include limiting higher airspace activations above FL220 to only 2 hours for 2 days of the exercise. R-2509W would have a ceiling of 8,000 feet MSL and R-2509N would have a ceiling of 16,000 feet MSL. Supersonic flight will not be conducted as part of the above aviation training activities.

The times of use would be by NOTAM, and activations of R-2509E above FL220 would have the NOTAM issued 48 hours in advance. Expected usage would be 12 hours per day for 10

days up to 16,000 feet and 16 hours per day for 6 days up to FL220.

The lateral boundaries of the proposed areas would be as follows:

Temporary R-2509E—Beginning at lat. 34°40'30" N., long. 116°29'43" W.; to lat. 34°39'24" N., long. 116°29'19" W.; to lat. 34°36'00" N., long. 116°28'03" W.; to lat. 34°31'30" N., long. 116°26'48" W.; to lat. 34°30'00" N., long. 116°26'23" W.; to lat. 34°21'35" N., long. 116°21'38" W.; to lat. 34°19'30" N., long. 116°20'29" W.; to lat. 34°17'38" N., long. 116°19'19" W.; to lat. 34°22'25" N., long. 116°31'10" W.; to lat. 34°34'17" N., long. 116°35'52" W.; to the point of beginning.

Temporary R-2509W—Beginning at lat. 34°35'03" N., long. 116°36'10" W.; to lat. 34°34'17" N., long. 116°35'52" W.; to lat. 34°22'25" N., long. 116°31'10" W.; to lat. 34°26'57" N., long. 116°42'51" W.; to lat. 34°29'44" N., long. 116°42'51" W.; to the point of beginning.

Temporary R-2509N—Beginning at lat. 34°35'03" N., long. 116°36'10" W.; to lat. 34°40'30" N., long. 116°29'43" W.; to lat. 34°34'17" N., long. 116°35'52" W.; to the point of beginning.

These temporary restricted areas would automatically expire on August 18, 2016.

### Regulatory Notices and Analyses

The FAA has determined that this proposed regulation only involves an established body of technical regulations for which frequent and routine amendments are necessary to keep them operationally current. It, therefore: (1) Is not a "significant regulatory action" under Executive Order 12866; (2) is not a "significant rule" under Department of Transportation (DOT) Regulatory Policies and Procedures (44 FR 11034; February 26, 1979); and (3) does not warrant preparation of a regulatory evaluation as the anticipated impact is so minimal. Since this is a routine matter that will only affect air traffic procedures and air navigation, it is certified that this proposed rule, when promulgated, will not have a significant economic impact on a substantial number of small entities under the criteria of the Regulatory Flexibility Act.

### Environmental Review

This proposal will be subjected to an environmental analysis in accordance with FAA Order 1050.1E, "Environmental Impacts: Policies and Procedures," prior to any FAA final regulatory action.

### List of Subjects in 14 CFR Part 73

Airspace, Prohibited areas, Restricted areas.

### The Proposed Amendment

In consideration of the foregoing, the Federal Aviation Administration proposes to amend 14 CFR part 73 as follows:

### PART 73—SPECIAL USE AIRSPACE

■ 1. The authority citation for part 73 continues to read as follows:

**Authority:** 49 U.S.C. 106(f), 106(g); 40103, 40113, 40120; E.O. 10854, 24 FR 9565, 3 CFR, 1959–1963 Comp., p. 389.

### § 73.25 California (Amended)

■ 2. § 73.25 is amended as follows:

\* \* \* \* \*

### R-2509E Twentynine Palms, CA [New]

**Boundaries.** Beginning at lat. 34°40'30" N; long. 116°29'43" W; to lat. 34°39'24" N; long. 116°29'19" W; to lat. 34°36'00" N; long. 116°28'03" W; to lat. 34°31'30" N; long. 116°26'48" W; to lat. 34°30'00" N; long. 116°26'23" W; to lat. 34°21'35" N; long. 116°21'38" W; to lat. 34°19'30" N; long. 116°20'29" W; to lat. 34°17'38" N; long. 116°19'19" W; to lat. 34°22'25" N; long. 116°31'10" W; to lat. 34°34'17" N; long. 116°35'52" W; to the point of beginning.

**Designated altitudes.** Surface to FL 400.

**Time of designation.** Intermittent by NOTAM during the period from August 1 to August 18, 2016.

**Controlling agency.** FAA, Los Angeles Air Route Traffic Control Center (ARTCC).

**Using agency.** Commanding General, Marine Corps Air Ground Combat Center (MCAGCC), Twentynine Palms, CA.

### R-2509W Twentynine Palms, CA [New]

**Boundaries.** Beginning at lat. 34°35'03" N., long. 116°36'10" W.; to lat. 34°34'17" N., long. 116°35'52" W.; to lat. 34°22'25" N., long. 116°31'10" W.; to lat. 34°26'57" N., long. 116°42'51" W.; to lat. 34°29'44" N., long. 116°42'51" W.; to the point of beginning.

**Designated altitudes.** Surface to 8,000 feet MSL.

**Time of designation.** Intermittent by NOTAM during the period from August 1 to August 18, 2016.

**Controlling agency.** FAA, Los Angeles Air Route Traffic Control Center (ARTCC).

**Using agency.** Commanding General, Marine Corps Air Ground Combat Center (MCAGCC), Twentynine Palms, CA.

### R-2509N Twentynine Palms, CA [New]

**Boundaries.** Beginning at lat. 34°35'03" N., long. 116°36'10" W.; to lat. 34°40'30" N., long. 116°29'43" W.; to lat. 34°34'17" N., long. 116°35'52" W.; to the point of beginning.

**Designated altitudes.** Surface to 16,000 feet MSL.

**Time of designation.** Intermittent by NOTAM during the period from August 1 to August 18, 2016.

**Controlling agency.** FAA, Los Angeles Air Route Traffic Control Center (ARTCC).

**Using agency.** Commanding General, Marine Corps Air Ground Combat Center (MCAGCC), Twentynine Palms, CA.

Issued in Washington, DC, on March 24, 2016.

Gemechu Gelgelu,

Acting Manager, Airspace Policy Group.

[FR Doc. 2016-07166 Filed 3-29-16; 8:45 am]

BILLING CODE 4910-13-P

## DEPARTMENT OF DEFENSE

### Department of the Air Force

#### 32 CFR Part 842

[Docket ID: USAF-2015-0003]

RIN 0701-AA79

#### Administrative Claims

**AGENCY:** Department of the Air Force, DoD.

**ACTION:** Proposed rule.

**SUMMARY:** This rule contains amendments for policy changes and clarification and deletions for the Air Force guidance on Administrative claims and Personnel and Carrier Recovery Claims. The rule relates to the Air Force processes for claims filed for and against the Air Force as well as Air Force processes for filing personnel and carrier recovery claims.

**DATES:** Comments must be received by May 31, 2016.

**ADDRESSES:** You may submit comments, identified by docket number and/or Regulatory Information Number (RIN) and title, by any of the following methods:

- *Federal Rulemaking Portal:* <http://www.regulations.gov>. Follow the instructions for submitting comments.
- *Mail:* Department of Defense, Office of the Deputy Chief Management Officer, Directorate of Oversight and Compliance, Regulatory and Audit Matters Office, 9010 Defense Pentagon, Washington, DC 20301-9010.

*Instructions:* All submissions received must include the agency name and docket number or RIN for this **Federal Register** document. The general policy for comments and other submissions from members of the public is to make these submissions available for public viewing on the Internet at <http://www.regulations.gov> as they are received without change, including any personal identifiers or contact information.

**FOR FURTHER INFORMATION CONTACT:** Mr. Daniel Lemieux (AFLOA/JACC), 1500 West Perimeter Rd, Ste 1700, Joint Base Andrews, MD 20762, (240) 612-4646, [daniel.g.lemieux.civ@mail.mil](mailto:daniel.g.lemieux.civ@mail.mil).

**SUPPLEMENTARY INFORMATION:**

## Executive Summary

### I. Purpose of This Regulatory Action

The purpose of this rule is to provide the public with information necessary to file a claim against the United States Air Force for money damages and to notify the public of the procedures used to collect money from the public for damages to property under the control of the United States Air Force. Additionally, it is to provide the public with information about proposed changes and deletions concerning the settlement and payment of claims under the Military Personnel and Civilian Employee's Claims Act for incident to service loss and damage to personal property.

### II. Summary of the Major Provisions of This Regulatory Action

This part describes the process and procedures by which claims against the Air Force will be addressed, including who are proper claimants, how, where and when to file a claim, what claims are payable, how the Air Force will adjudicate claims and how to appeal unfavorable decisions. It also describes the process the Air Force will use for asserting claims against persons who damage Air Force property.

**Changes:** This part has been substantially revised and should be reviewed in its entirety to determine the changes made.

**Deletions:** This part has been substantially revised and should be reviewed in its entirety to determine the deletions made.

### III. Costs and Benefits

The regulations contained herein require the public who wish to file a claim against the Air Force to substantiate their loss, which may result in minor or incidental costs to the claimant. Revised regulations pertaining to how the Air Force asserts claims for damage to Air Force property may result in increased costs to those who cause said damage. The benefits of these regulations include increased safeguards to ensure public funds are not expended for fraudulent claims and to ensure the U.S. government receives adequate compensation for damages to its property wrongfully caused by others.

#### Retrospective Review

This rule is part of DoD's retrospective plan, completed in August 2011, under Executive Order 13563, "Improving Regulation and Regulatory Review," DoD's full plan and updates can be accessed at: [http://www.regulations.gov/#!docketDetail;dc=](http://www.regulations.gov/#!docketDetail;dc=FR+PR+N+O+SR;rupp=10;po=0;D=DOD-2011-OS-0036)

*FR+PR+N+O+SR;rupp=10;po=0;D=DOD-2011-OS-0036.*

*Administrative Procedure Act:* The Air Force has determined that the Administrative Procedure Act, 5 U.S.C. 553, requires notice of proposed rulemaking and an opportunity for public participation in connection with these correction amendments and deletions. In this regard, the Air Force notes that such notice and opportunity for comment is necessary because these correction amendments and deletions are not related solely to interpretative rules, general statements of policy, rules of agency organization, procedure, or practice, nor is there good cause to find that notice and public procedure thereon are impracticable, unnecessary or contrary to the public interest.

#### Regulatory Procedures

*Executive Order 12866, "Regulatory Planning and Review" and Executive Order 13563, "Improving Regulation and Regulatory Review"*

Executive Orders 13563 and 12866 direct agencies to assess all costs and benefits of available regulatory alternatives and, if regulation is necessary, to select regulatory approaches that maximize net benefits (including potential economic, environmental, public health and safety effects, distribute impacts, and equity). Executive Order 13563 emphasizes the importance of quantifying both costs and benefits, of reducing costs, of harmonizing rules, and of promoting flexibility. The Department of Air Force has assessed this rule and determined this rule to be a "non-significant regulatory action."

*Unfunded Mandates Reform Act (Sec. 202, Pub. L. 104-4)*

Section 202 of the Unfunded Mandates Reform Act of 1995 (UMRA) (Pub. L. 104-4) requires agencies assess anticipated costs and benefits before issuing any rule whose mandates require spending in any 1 year of \$100 million in 1995 dollars, updated annually for inflation. In 2014, that threshold is approximately \$141 million. This rule will not mandate any requirements for State, local, or tribal governments, nor will it affect private sector costs.

*Public Law 96-354, "Regulatory Flexibility Act" (5 U.S.C. 601)*

It has been certified that this rule is not subject to the Regulatory Flexibility Act (5 U.S.C. 601) because it would not, if promulgated, have a significant economic impact on a substantial number of small entities. Therefore, the Regulatory Flexibility Act, as amended,

does not require us to prepare a regulatory flexibility analysis.

*Public Law 96–511, “Paperwork Reduction Act” (44 U.S.C. Chapter 35)*

This rule does not impose reporting or recordkeeping requirements under the Paperwork Reduction Act of 1995.

*Executive Order 13132, “Federalism”*

Executive Order 13132 establishes certain requirements that an agency must meet when it promulgates a proposed rule (and subsequent final rule) that imposes substantial direct requirement costs on State and local governments, preempts State law, or otherwise has Federalism implications. This rule will not have a substantial effect on State and local governments.

**List of Subjects in 32 CFR Part 842**

Administrative claims.

Accordingly, 32 CFR part 842 is proposed to be amended as follows:

**PART 842—[AMENDED]**

- 1. The authority citation for 32 CFR part 842 continues to read as follows:

**Authority:** Sec. 8013, 100 Stat. 1053, as amended; 10 U.S.C. 8013, except as otherwise noted; 28 CFR 14.11, except as otherwise noted.

- 2. The Note for part 842 is revised to read as follows:

**Note:** Air Force Regulations are available on the e-Publishing Web site at <http://www.e-publishing.af.mil/> for downloading. This part is derived from Air Force Instruction 51–501, *Tort Claims*, and Air Force Instruction 51–502, *Personnel and Carrier Recovery Claims*.

- 3. Amend part 842 by:  
 ■ a. Revising all references to “HQ USAF/JACC” to read “AFLOA/JACC.”  
 ■ b. Revising all references to “USAF/JACC” to read “AFLOA/JACC.”  
 ■ 4. Revise § 842.0 to read as follows:

**§ 842.0 Scope.**

This part establishes standard policies and procedures for all administrative claims resulting from Air Force activities and for which the Air Force has assigned responsibility.

- 5. Amend § 842.2 by:  
 ■ a. Revising paragraph (f).  
 ■ b. Removing paragraph (g).  
 ■ c. Redesignating paragraphs (h) through (o) as (g) through (n).  
 ■ d. Revising newly redesignated paragraph (g).

The revisions read as follows:

**§ 842.2 Definitions.**

(f) AFLOA/JACC. Claims and Tort Litigation Division, 1500 West Perimeter Road, Suite 1700, Joint Base Andrews, MD 20762.

(g) *Owner*. A holder of a legal title or an equitable interest in certain property. Specific examples include:

(1) *For real property*. The mortgagor, and the mortgagee if that individual can maintain a cause of action in the local courts involving a tort to that specific property.

(2) *For personal property*. A bailee, lessee, mortgagee and a conditional vendee. A mortgagor, conditional vendor, title loan company or someone else other than the owner, who has the title for purposes of security are not owners.

\* \* \* \* \*

- 6. Revise § 842.4 to read as follows:

**§ 842.4 Where to file a claim.**

File a claim at the base legal office of the unit or installation at or nearest to where the accident or incident occurred. If the accident or incident occurred in a foreign country where no Air Force unit is located, file the claim with the Defense Attache (DATT) or Military Assistance Advisory Group (MAAG) personnel authorized to receive claims (DIAM 100–1 and AFR 400–45). In a foreign country where a claimant is unable to obtain adequate assistance in filing a claim, the claimant may contact the nearest Air Force SJA. The SJA then advises AFLOA/JACC through claims channels of action taken and states why the DATT or MAAG was unable to adequately assist the claimant.

**§ 842.9 [Removed]**

- 7. Remove § 842.9.

**Subpart B—[Removed]**

- 8. Remove Subpart B, consisting of §§ 842.10 through 842.14.

**Subpart C—[Redesignated as Subpart B]**

- 9. Redesignate subpart C, consisting of §§ 842.15 through 842.20, as subpart B, consisting of §§ 842.9 through 842.14, respectively.

- 10. Amend newly redesignated § 842.10 by revising paragraphs (a), (b), and (d) to read as follows:

**§ 842.10 Definitions.**

(a) *Appointing commander*. The commander exercising special court-martial jurisdiction over the offender.

(b) *Board of officers*. One to three commissioned officers appointed to investigate a complaint of willful property damage or wrongful taking by Air Force personnel.

\* \* \* \* \*

(d) *Willful damage*. Damage or destruction caused intentionally,

knowingly, and purposely, without justifiable excuse.

\* \* \* \* \*

- 11. Amend newly redesignated § 842.12 by adding paragraphs (g) through (i) to read as follows:

**§ 842.12 Claims not payable.**

\* \* \* \* \*

(g) Claims involving wrongful taking stemming from larceny, forgery or deceit, which are not accompanied by riotous or violent action.

(h) Claims against Air National Guard members unless they are performing duty under Title 10 U.S.C.

(i) Claims for indirect, consequential or remote damages.

- 12. Revise newly redesignated § 842.13 to read as follows:

**§ 842.13 Limiting provisions.**

(a) A complaint must be submitted within 90 days of the date of the incident. The appointing commander may find good cause for the delay and accept a late claim. The appointing commander's determination of good cause is final and not reviewable.

(b) Assessment of damages in excess of \$5,000 against an offender's pay for a single incident requires AFLOA/JACC approval.

- 13. Revise newly redesignated § 842.14 to read as follows:

**§ 842.14 Filing a claim.**

Claimant complains (orally or in writing) to the commander of a military organization or unit of the alleged offending member or members or to the commander of the nearest military installation. If the claim is made orally, the individual must assist the commander to reduce the complaint to writing within a reasonable time. The complainant need not request a sum certain in writing at the time the complaint is filed, but they must present such value and evidence before settlement is made.

**Subpart D—[Redesignated as Subpart C]**

- 14. Redesignate subpart D, consisting of §§ 842.21 through 842.35, as subpart C, consisting of §§ 842.15 through 842.29.

**§ 842.16 [Amended]**

- 15. Amend newly redesignated § 842.16 by:

- a. Removing paragraphs (a), (c), (e), and (g).  
 ■ b. Redesignating paragraphs (b), (d), (f), and (h) as paragraphs (a), (b), (c), and (d).

- 16. Revise newly designated § 842.17 to read as follows:

**§ 842.17 Delegations of authority.**

(a) *Settlement authority.* The Secretary of the Air Force has delegated the authority to assign areas of responsibility and designate functional responsibility for claims under the Military Personnel and Civilian Employees' Claims Act to The Judge Advocate General (TJAG).

(b) *Reconsideration authority.* A settlement authority has the same authority specified in paragraph (a) of this section. However, with the exception of TJAG, a settlement authority may not deny a claim on reconsideration that it, or its delegate, had previously denied.

(c) *Authority to reduce, withdraw and restore delegated settlement authority.* Any superior settlement authority may reduce, withdraw, or restore delegated authority.

■ 17. Amend newly designated § 842.18 by revising paragraph (a) to read as follows:

**§ 842.18 Filing a claim.**

(a) *How and when to file a claim.* A claim is filed when a federal military agency receives from a claimant or duly authorized agent a properly completed AF Form 180, DD Form 1842 or other written and signed demand for a determinable sum of money.

(1) A claim is also filed when a federal military agency receives from a claimant or duly authorized agent an electronic submission, through a Department of Defense claims Web site, indicating that the claimant intends for the appropriate military branch to consider a digitally signed demand for a determinable sum of money.

(2) A claim is also filed when the Air Force receives from a claimant or duly authorized agent an electronic submission, through the Air Force claims Web site, a digitally signed demand for a determinable sum of money.

\* \* \* \* \*

■ 18. Revise newly designated § 842.19 introductory text to read as follows:

**§ 842.19 Partial payments.**

Upon request of a claimant, a settlement authority may make a partial payment in advance of final settlement when a claimant experiences personal hardship due to extensive property damage or loss. Partial payments are made if a claim for only part of the loss is submitted and is readily provable, up to the amount of the settlement authority. (The claimant may later amend the claim for the remainder of the loss.) If the total payable amount of the claim exceeds the payment limits of the settlement authority, send it with

recommendations to the proper settlement authority.

\* \* \* \* \*

■ 19. Revise newly designated § 842.21 to read as follows:

**§ 842.21 Who may file a claim.**

A claim may be filed by:

- (a) A proper claimant,
- (b) An authorized agent or legal representative of a proper claimant,
- (c) A survivor of a deceased proper claimant in this order:

- (1) Spouse.
- (2) Children.
- (3) Father or mother.
- (4) Brothers or sisters.

■ 20. Amend newly designated § 842.24 by revising paragraph (d) to read as follows:

**§ 842.24 General provisions.**

\* \* \* \* \*

(d) Property that is owned by the claimants, or their immediate families, or borrowed for their use, or in which the claimants or their immediate families has an enforceable ownership interest.

\* \* \* \* \*

■ 21. Amend newly designated § 842.25 by revising introductory text and paragraphs (a) and (b) to read as follows:

**§ 842.25 Claims payable.**

Claims may be payable for loss of or damage to tangible personal property when the damage occurs incident to service. For loss of or damage to property to be incident to service, it must occur at a place and time that is connected to the service of an active duty military member or employment of a civilian employee.

(a) *Authorized Location.* Claims are only payable when the claimed property is located in an authorized location. There must be some connection between the claimant's service and the location of the claimed property. Duty locations where personal property is used, stored or held because of official duties are authorized places. Other authorized places may include:

- (1) Any location on a military installation not otherwise excluded.
- (2) Any office, building, recreation area, or real estate the Air Force or any other DoD element uses or controls.
- (3) Any place a military member is required or ordered to be pursuant to their duties and while performing those duties.

(4) Assigned Government Housing or Quarters in the United States or provided in kind. The Military Personnel and Civilian Employees' Claims Act specifically prohibits payment for loss of or damage to

property in quarters within the US unless the housing or quarters are assigned or otherwise provided in kind. Base housing that has not been privatized is generally considered assigned or provided in kind wherever it is located.

(i) Privatized Housing or Quarters within the United States subject to the Military

Housing Privatization Initiative located within the fence line of a military installation or on federal land in which the DoD has an interest is considered assigned or otherwise provided in kind for the purposes of the Military Personnel and Civilian Employees' Claims Act.

(ii) Reserved.

(5) Housing or Quarters outside the United States. Outside the US, authorized off-base quarters, as well as assigned quarters, including quarters in US territories and possessions, are authorized places. The residence of a civilian employee is not an authorized location if the employee is a local inhabitant.

(6) Temporary Duty Quarters (TDY) and locations en route to the TDY destination.

Significant deviations from the direct travel route are not authorized locations.

(7) Permanent Change of Station (PCS) temporary quarters and locations enroute to the PCS destination. Significant deviations from the direct travel route are not authorized locations.

(8) Entitlement and Benefit Locations. For these locations to be authorized, the claimant must be using them for the intended purpose and the property must be reasonably linked to that purpose.

(9) Locations where Personal Property shipped or stored at government expense are found. Government facilities where property is stored at the claimant's expense or for their convenience without an entitlement are not authorized places.

(b) *Payable Causes of Loss Incident to Service.* Because the PCA is not a substitute for private insurance, loss or damage at quarters or other authorized locations may only be paid if caused by:

- (1) An unusual occurrence;
- (2) Theft, vandalism or other malfeasance;
- (3) Hostile action;
- (4) A carrier, contractor, warehouseman or other transportation service provider storing or moving goods or privately owned vehicles at government expense;
- (5) An agent of the US; or
- (6) A permanent seizure of a witness' property by the Air Force.

\* \* \* \* \*

■ 22. Amend newly designated § 842.26 by:

- a. Revising paragraphs (d), (j), (m), (n), (u), (y), and (z).
- b. Remove paragraphs (aa), (bb), (cc), and (dd).

**§ 842.26 Claims not payable.**

\* \* \* \* \*

(d) The loss is recovered or recoverable from an insurer or other source unless the settlement authority determines there is good cause for not claiming against the insurer.

\* \* \* \* \*

(j) It is an appraisal fee, unless the settlement authority requires one to adjudicate the claim.

\* \* \* \* \*

(m) It is an item acquired, possessed, shipped, or stored in violation of any U.S. Armed Force directive or regulation.

(n) It is an item fraudulently claimed.

\* \* \* \* \*

(u) It is an inconvenience expense.

\* \* \* \* \*

(y) It is damage to, or loss of a rental vehicle which TDY or PCS orders authorized.

(z) It is a cost to relocate a telephone or mobile or manufactured home due to a government ordered quarters move.

**Subpart E—[Removed]**

■ 23. Remove subpart E.

**Subpart F—[Redesignated as Subpart D]**

■ 24. Redesignate subpart F, consisting of §§ 842.40 through 842.54, as subpart D consisting of §§ 842.30 through 842.44.

■ 25. Revise newly redesignated § 842.30 to read as follows:

**§ 842.30 Scope of this subpart.**

This subpart establishes policies and procedures for all administrative claims under the Military Claims Act for which the Air Force has assigned responsibility.

■ 26. Amend newly redesignated § 842.31, by revising paragraph (b) to read as follows:

**§ 842.31 Definitions.**

\* \* \* \* \*

(b) *Final denial.* A letter mailed from the settlement authority to the claimant or authorized agent advising the claimant that the Air Force denies the claim. Final denial letters mailed from within the United States shall be sent by U.S. Mail, certified mail, return receipt requested.

\* \* \* \* \*

■ 27. Amend newly redesignated § 842.32 by:

- a. Revising paragraphs (a)(1) introductory text, (a)(3) introductory text, (a)(3)(ii) and (iii), (a)(4) and (5), (b), and (f) introductory text:
- b. Removing paragraph (f)(8) and redesignating paragraphs (f)(9) through (11) as paragraphs (f)(8) through (10).

The revisions read as follows:

**§ 842.32 Delegations of authority.**

(a) *Settlement authority:*

(1) The Secretary of the Air Force has authority to:

\* \* \* \* \*

(3) The following individuals have delegated authority to settle claims for \$25,000 or less and to deny claims in any amount:

\* \* \* \* \*

(ii) The Director, Civil Law and Litigation.

(iii) The Chief, Associate Chief and Branch Chiefs, Claims and Tort Litigation Division.

(4) SJAs of the Air Force component commander of the US Geographic combatant commands for claims arising within their respective combatant command areas of responsibility have delegated authority to settle claims payable or deny claims filed for \$25,000 or less.

(5) SJAs of GCMs in PACAF and USAFE have delegated authority to settle claims payable, or deny claims filed for \$15,000 or less.

(b) *Redelegation of authority. The Chief, Claims and Tort Litigation Division may redelegate his or her authority to Staff Judge Advocates. A settlement authority may redelegate his or her authority for claims not exceeding \$25,000, to a subordinate judge advocate or civilian attorney in writing. The Chief, AFLOA/JACC may redelegate up to \$25,000, in writing, to paralegals assigned to AFLOA/JACC and, upon request, may authorize installation Staff Judge Advocates to redelegate their settlement authority to paralegals under their supervision.*

\* \* \* \* \*

(f) *Special exceptions.* Do not settle or deny claims for the following reasons without AFLOA/JACC approval:

\* \* \* \* \*

■ 28. Amend newly redesignated § 842.33, by revising paragraph (a) to read as follows:

**§ 842.33 Filing a claim.**

(a) *Elements of a proper claim.* A claim is must be filed on a Standard Form 95 or other written document. It must be signed by the Claimant or authorized agent, be for money damages

in a sum certain, and lay out a basic statement as to the nature of the claim that will allow the Air Force to investigate the allegations contained therein.

\* \* \* \* \*

■ 29. Revise newly redesignated § 842.34 to read as follows:

**§ 842.34 Advance payments.**

Subpart P sets forth procedures for advance payments.

■ 30. Amend newly redesignated § 842.35 by revising paragraphs (a) and (c) to read as follows:

**§ 842.35 Statute of limitations.**

(a) A claim must be filed in writing within 2 years after it accrues. It is deemed to be filed upon receipt by The Judge Advocate General, AFLOA/JACC, or a Staff Judge Advocate of the Air Force. A claim accrues when the claimant discovers or reasonably should have discovered the existence of the act that resulted in the claimed loss. The same rules governing accrual pursuant to the Federal Tort Claims Act should be applied with respect to the Military Claims Act. Upon receipt of a claim that properly belongs with another military department, the claim is promptly transferred to that department.

\* \* \* \* \*

(c) A claim filed after the statute of limitations has run is considered if the U.S. is at war or in an armed conflict when the claim accrues or if the U.S. enters a war or armed conflict after the claim accrues, and if good causes shows how the war or armed conflict prevented the claimant from diligently filing the claim within the statute of limitations. But in no case will a claim be considered if filed more than two years after the war or armed conflict ends.

■ 31. Revise newly redesignated § 842.37 to read as follows:

**§ 842.37 Who are proper claimants.**

(a) Citizens and inhabitants of the United States. U.S. inhabitants includes dependents of the U.S. military personnel and federal civilian employees temporarily outside the U.S. for purposes of U.S. government service.

(b) U.S. military personnel and civilian employees. NOTE: These personnel are not proper claimants for claims for personal injury or death that occurred incident to their service.

(c) Foreign military personnel when the damage or injury occurs in the U.S. Do not pay for claims under the MCA for personal injury or death of a foreign military personnel that occurred incident to their service.

(d) States, state agencies, counties, or municipalities, or their political subdivisions.

(e) Subrogees of proper claimants to the extent they have paid for the claim in question.

■ 32. Revise newly redesignated § 842.38 to read as follows:

**§ 842.38 Who are not proper claimants.**

(a) Governments of foreign nations, their agencies, political subdivisions, or municipalities.

(b) Agencies and NAFIs of the U.S. Government.

(c) Subrogees of § 842.42(a) and (b) of this part.

(d) Inhabitants of foreign countries.

■ 33. Amend newly redesignated § 842.39 by:

■ a. Revising paragraph (a).

■ b. Removing paragraphs (c), (d) and (f).

■ c. Redesignating paragraph (e) as paragraph (c).

The revision reads as follows

**§ 842.39 Claims payable.**

(a) Claims arising from negligent or wrongful acts or omissions committed by United States military or civilian personnel while acting in the scope of their employment, subject to the exceptions listed in this subpart.

\* \* \* \* \*

■ 34. Revise newly redesignated § 842.40 to read as follows:

**§ 842.40 Claims not payable.**

(a) Is covered by the FTCA, FCA, IACA, 10 U.S.C. 2734a and 2734b, Air Force Admiralty Claims Act (AFACA), 10 U.S.C. 9801–9804, 9806, NGCA, 32 U.S.C. 715, or covered under the Military Personnel and Civilian Employees' Claims Act (MPCECA), 31 U.S.C. 3701, 3721. (1) MCA claims arising from noncombat activities in the U.S. are not covered by the FTCA because more elements are needed to state an FTCA claim than are needed to state a claim under the MCA for noncombat activities. All FTCA claims are based on elements of traditional tort liability (*i.e.*, duty, breach, causation, and damages); that is, they are fault based. Noncombat activity claims under the MCA are based solely on causation and damages. Because MCA claims for noncombat activities are not fault based, they are not covered by the FTCA.

(2) Claims for incident-to-service damage to vehicles caused by the negligence of a member or employee of the armed forces acting in the scope of employment are paid under the MCA, instead of the Military Personnel and Civilian Employees' Claims Act.

(b) Arises with respect to the assessment or collection of any customs

duty, or the detention of any goods or merchandise by any U.S. officer of customs or excise, or any other U.S. law enforcement officer. NOTE: This includes loss or damage to property detained by members of the Security Forces or Office of Special Investigation (OSI).

(c) Is cognizable under U.S. admiralty and maritime law, to include:

(1) The Suits in Admiralty Act, 46 U.S.C. 30901 and following.

(2) The Death on the High Seas Act, 46 U.S.C. 30301 and following.

(3) The Public Vessels Act, 46 U.S.C. 31101 and following.

(4) EXCEPTION: Claims arising from noncombat activities may be paid under the MCA, even if they are also cognizable under paragraphs (c)(1) through (c)(3), of this section.

(d) Arises out of assault, battery, false imprisonment, false arrest, malicious prosecution, or abuse of process.

EXCEPTION: Unless such actions were committed by an investigative or law enforcement officer of the U.S. who is empowered by law to conduct searches, seize evidence, or make arrests for violations of federal law.

(e) Arises out of libel, slander, misrepresentation, or deceit.

(f) Arises out of an interference with contract rights.

(g) Arises out of the combat activities of U.S. military forces.

(h) Is for the personal injury or death of a member of the Armed Forces of the U.S. incident to the member's service.

(i) Is for the personal injury or death of any person for workplace injuries covered by the Federal Employees' Compensation Act, 5 U.S.C. 8101, and following.

(j) Is for the personal injury or death of any employee of the U.S., including nonappropriated fund employees, for workplace injuries covered by the Longshore and Harbor Workers' Compensation Act, 33 U.S.C. 901, and following.

(k) Is for a taking of property, *e.g.*, by technical trespass or over flight of aircraft.

(l) Is for patent or copyright infringement.

(m) Results wholly from the negligent or wrongful act of the claimant.

(n) Is for the reimbursement of medical, hospital, or burial expenses furnished at the expense of the U.S., either directly or through contractual payments.

(o) Arises from contractual transactions, express or implied (including rental agreements, sales agreements, leases, and easements), that:

(1) Are payable or enforceable under oral or written contracts; or

(2) Arise out of an irregular procurement or implied contract.

(p) Is for the personal injury or death of military or civilian personnel of a foreign government incident to their service.

(q) Is based on an act or omission of an employee of the government, exercising due care, in the execution of a statute or regulation, whether or not such statute or regulation is valid. Do not deny claims solely on this exception without the prior approval of USAF/JACC. Claims under the noncombat activities provision of this subpart may be paid even if this paragraph applies.

Is based on the exercise or performance of, or the failure to exercise or perform, a discretionary function or duty on the part of a federal agency or a federal government employee, whether or not the discretion involved is abused. Do not deny claims solely on this exception without the prior approval of USAF/JACC. EXCEPTION: Claims under the noncombat activities provision may be paid even if this paragraph applies.

(r) Is not in the best interests of the U.S., is contrary to public policy, or is otherwise contrary to the basic intent of the MCA. Examples include, but are not limited to, when a claimant's criminal conduct or failure to comply with a nonpunitive regulation is a proximate cause of the loss. Prior approval must be obtained from USAF/JACC before denying claims solely on this exception.

(s) Arises out of an act or omission of any employee of the government in administering the provisions of the Trading With the Enemy Act, 50 U.S.C. app. 1–44.

(t) Is for damages caused by the imposition or establishment of a quarantine by the U.S.

(u) Arises from the fiscal operations of the Department of the Treasury or from the regulation of the monetary system.

(v) Arises from the activities of the Tennessee Valley Authority.

(w) Arises from the activities of a federal land bank, a federal intermediate credit bank, or a bank for cooperatives.

(x) Is for the personal injury or death of any government contractor employee for whom benefits are available under any worker's compensation law, or under any contract or agreement providing employee benefits through insurance, local law, or custom when the U.S. pays insurance either directly or as part of the consideration under the contract. Only USAF/JACC may act on these claims.

(y) Is for damage, injury or death from or by flood or flood waters at any place.

(z) Is for damage to property or other losses of a state, commonwealth, territory, or the District of Columbia

caused by Air National Guard personnel engaged in training or duty under 32 U.S.C. 316, 502, 503, 504, or 505 who are assigned to a unit maintained by that state, commonwealth, territory, or the District of Columbia.

(aa) Is for damage to property or for any death or personal injury arising out of activities of any federal agency or employee of the government in carrying out the provisions of the Disaster Relief Act of 1974 (42 U.S.C. 5121, *et seq.*), as amended.

(bb) Arises from activities that present a political question.

(cc) Arises from private, as distinguished from government, transactions.

(dd) Is based solely on compassionate grounds.

(ee) Is for rent, damage, or other expenses or payments involving the regular acquisition, use, possession, or disposition of real property or interests therein by and for the U.S.

(ff) Is presented by a national, or a corporation controlled by a national, of a country at war or engaged in armed conflict with the U.S., or any country allied with such enemy country unless the appropriate settlement authority determines that the claimant is, and at the time of the incident was, friendly to the U.S. A prisoner of war or an interned enemy alien is not excluded as to a claim for damage, loss, or destruction of personal property in the custody of the U.S. otherwise payable. Forward claims considered not payable under this paragraph, with recommendations for disposition, to USAF/JACC.

(gg) Arises out of the loss, miscarriage, or negligent transmission of letters or postal matter by the U.S. Postal Service or its agents or employees.

(hh) Is for damage to or loss of bailed property when the bailor specifically assumes such risk.

(ii) Is for property damage, personal injury, or death occurring in a foreign country to an inhabitant of a foreign country.

(jj) Is for interest incurred prior to the payment of a claim.

(kk) Arises out of matters which are in litigation against the U.S.

(ll) Is for attorney fees or costs in connection with pursuing an administrative or judicial remedy against the U.S. or any of its agencies.

(mm) Is for bail, interest or inconvenience expenses incurred in connection with the preparation and presentation of the claim.

(nn) Is for a failure to use a duty of care to keep premises owned or under the control of the U.S. safe for use for any recreational purpose, or for a failure

by the U.S. to give any warning of hazardous conditions on such premises to persons entering for a recreational purpose unless there is a willful or malicious failure to guard or warn against a dangerous condition, or unless consideration was paid to the U.S. (including a nonappropriated fund instrumentality) to use the premises.

■ 35. Revise newly redesignated § 842.41 to read as follows:

#### § 842.41 Applicable law.

This paragraph provides the existing law governing liability, measurement of liability and the effects of settlement upon awards.

(a) Many of the exclusions in this subpart are based upon the wording of 28 U.S.C. 2680 or other federal statutes or court decisions interpreting the Federal Tort Claims Act. Federal case law interpreting the same exclusions under the Federal Tort Claims Act is applied to the Military Claims Act. Where state law differs with federal law, federal law prevails.

(b) *Extent of liability.* Where the claim arises is important in determining the extent of liability.

(1) When a claim arises in the United States, its territories or possessions, the same law as if the claim was cognizable under the FTCA will be applied.

(2) *Claims in foreign countries.* In claims arising in a foreign country, where the claim is for personal injury, death, or damage to or loss of real or personal property caused by an act or omission alleged to be negligent, wrongful, or otherwise involving fault of military personnel or civilian officers or employees of the United States acting within the scope of their employment, liability or the United States is determined according federal case law interpreting the FTCA. Where the FTCA requires application of the law of the place where the act or omission occurred, settlement authorities will use the rules set forth in the currently adopted edition of the *Restatement of the Law*, published by the American Law Institute, to evaluate the liability of the Air Force, subject to the following rules:

(i) Foreign rules and regulations governing the operation of motor vehicles (rules of the road) are applied to the extent those rules are not specifically superseded or preempted by United States military traffic regulations.

(ii) Absolute or strict liability will not apply for claims not arising from noncombat activities.

(iii) Hedonic damages are not payable.

(iv) The collateral source doctrine does not apply.

(v) Joint and several liability does not apply. Payment will be made only upon the portion of loss, damage, injury or death attributable to the Armed Forces of the United States.

(vi) Future economic loss will be discounted to present value after deducting for federal income taxes and, in cases of wrongful death, personal consumption.

(c) Do not approve payment for:

(i) Punitive damages.

(ii) Cost of medical or hospital services furnished at the expense of the United States.

(iii) Cost of burial expenses paid by the United States.

(d) *Settlement by insurer or joint tortfeasor.* When settlement is made by an insurer or joint tortfeasor and an additional award is warranted, an award may be made if both of the following are present:

(1) The United States is not protected by the release executed by the claimant.

(2) The total amount received from such source is first deducted.

■ 36. Amend newly redesignated § 842.42, by revising paragraphs (a) and (c) to read as follows:

#### § 842.42 Appeal of final denials.

(a) A claimant may appeal the final denial of the claim. The claimant sends the request, in writing, to the settlement authority that issued the denial letter within 60 days of the date the denial letter was mailed. The settlement authority may waive the 60 day time limit for good cause.

\* \* \* \* \*

(c) Where the settlement authority does not reach a final agreement on an appealed claim, he or she sends the entire claim file to the next higher settlement authority, who is the appellate authority for that claim. Any higher settlement authority may act upon an appeal.

\* \* \* \* \*

#### Subpart G—[Redesignated as Subpart E]

■ 37. Redesignate subpart G, consisting of §§ 842.55 through 842.68, as subpart E, consisting of §§ 842.45 through 842.58, respectively.

■ 38. Revise newly redesignated § 842.47 to read as follows:

#### § 842.47 Delegations of authority.

(a) *Settlement authority.* (1) The Secretary of the Air Force has the authority to:

(i) Settle claims for payment of \$100,000 or less.

(ii) Settle claims for more than \$100,000, pay the first \$100,000, and



report the excess to the Department of the Treasury for payment.

(iii) Deny claims in any amount.

(2) The Judge Advocate General, Deputy Judge Advocate General, Director of Civil Law, and the Chief, Deputy Chief and Branch Chiefs, Claims and Tort Litigation Staff are FCCs and have delegated authority to:

(i) Settle claims for payment of \$100,000 or less.

(ii) Deny claims in any amount.

(3) The SJAs of the Air Force component commander of the U.S. geographic combatant commands are FCC for claims arising in their respective combatant command AORs and may deny claims of \$50,000 or less and will pay claims filed in any amount when payment is for \$50,000 or less.

(b) *Redelegating settlement authority.* A settlement authority appointed as a FCC in paragraph (a) of this section may appoint one or more subordinate judge advocates or civilian attorneys to act as FCC, and redelegate all or part of that settlement authority to such persons.

(c) *Settlement negotiations.* A settlement authority may settle a claim in any sum within its settlement authority, regardless of the amount claimed. Send uncompromised claims in excess of the delegated authority through claims channels to the level with settlement authority. Unsuccessful negotiations at one level do not bind higher authority.

(d) *Special exceptions.* Do not settle claims for medical malpractice without HQ USAF/JACC approval.

■ 39. Amend newly redesignated § 842.48, by revising paragraph (a) to read as follows:

**§ 842.48 Filing a claim.**

(a) *How and when filed.* A claim is filed when the Air Force receives from a claimant or authorized agent a properly completed SF 95 or other signed and written demand for money damages in a sum certain. A claim may be presented orally only if oral claims are the custom in the country where the incident occurred and the claimant is functionally illiterate. In any case where an oral claim is made, claims personnel must promptly reduce the claim to writing with all particulars carefully noted. A claim belonging to another agency is promptly transferred to the appropriate agency.

\* \* \* \* \*

■ 40. Revise newly redesignated § 842.49 to read as follows:

**§ 842.49 Advance payments.**

Subpart P outlines procedures for advance payments.

■ 41. Amend newly redesignated § 842.50, by revising paragraph (a) to read as follows:

**§ 842.50 Statute of limitations.**

(a) A claim must be presented to the Air Force within 2 years after it accrues. It accrues when the claimant discovers or reasonably should have discovered the existence of the act that resulted in the claimed loss or injury.

\* \* \* \* \*

■ 42. Amend newly redesignated § 842.52, by revising paragraphs (a) and (b) to read as follows:

**§ 842.52 Who are proper claimants.**

(a) Foreign nationals. In a wrongful death case, if the decedent is an inhabitant of a foreign country, even though his or her survivors are U.S. inhabitants, the FCA will apply.

(b) U.S. nationals residing abroad, unless the claim arises from a benefit, privilege or service provided to them by the U.S. Government, or they reside in the foreign country primarily because they are employed directly by the United States, or sponsored by or accompanying such a person, or employed by a U.S. civilian contractor in furtherance of a contract with the U.S. Government, or sponsored by or accompanying such a person.

\* \* \* \* \*

■ 43. Amend newly redesignated § 842.53 by revising paragraphs (b), (c), and (e) to read as follows:

**§ 842.53 Who are not proper claimants.**

\* \* \* \* \*

(b) Persons determined to be U.S. inhabitants. U.S. inhabitants include dependents of U.S. military personnel and U.S. Government civilian employees.

(c) Foreign military personnel suffering personal injury, or death arising incident to service or pursuant to combined and/or joint military operations. Such operations include, but are not limited to, military exercises and United Nations, NATO, and other regional peacekeeping and humanitarian missions.

\* \* \* \* \*

(e) National governments and their political subdivisions engaging in war or armed conflict with the United States or its allies. This includes factions that have not necessarily been recognized by the international community as a legitimate nation state.

\* \* \* \* \*

■ 44. Amend newly redesignated § 842.54 by:

■ a. Revising paragraph (a).

■ b. Removing paragraph (b).

■ c. Redesignating paragraph (c) as paragraph (b).

The revision reads as follows:

**§ 842.54 Payment criteria.**

The following criteria is considered before determining liability.

(a) The incident causing the damage or injury must arise in a foreign country and be caused by noncombatant activities of the U.S. Armed Forces or by the negligent or wrongful acts of civilian employees or military members of the Armed Forces.

(1) It is a prerequisite to U.S. responsibility if the employee causing the damage or injury is a local inhabitant, a prisoner of war, or an interned enemy alien. These persons are “employees” within the meaning of the Foreign Claims Act (FCA) only when in the service of the United States. Ordinarily, a slight deviation as to time or place does not constitute a departure from the scope of employment. The purpose of the activity and whether it furthers the general interest of the United States is considered. If the claim arose from the operation or use of a U.S. Armed Forces vehicle or other equipment by such a person, pay it provided local law imposes liability on the owner of the vehicle or other equipment in the circumstances involved.

(2) It is immaterial when the claim arises from the acts or omissions of any U.S. Armed Forces member or employee not listed in § 842.64(c)(1) of this part. The Act imposes responsibility on the United States when it places a US citizen or non-U.S. citizen employee in a position to cause the injury or damage. If the cause is a criminal act clearly outside the scope of employment, ordinarily pay the claim and consider disciplinary action against the offender.

\* \* \* \* \*

■ 45. Amend newly redesignated § 842.55 by:

■ a. Revising paragraphs (a), (c), (f), (h), (m), (o) and (q).

■ b. Adding paragraphs (s) and (t).

The revisions and additions read as follows:

**§ 842.55 Claims not payable.**

A claim is not payable when it:

(a) Is waived under an applicable international agreement, or pursuant to an applicable international agreement, a receiving state should adjudicate and pay the claim. However, if a foreign government subject to such an international agreement disputes its legal responsibilities under the agreement, and the claimant has no



other means of compensation, USAF/JACC may authorize payment.

\* \* \* \* \*

(c) Is for attorney fees, punitive damages, a judgment or interest on a judgment, bail, or court costs. FCC should consider providing early notice to claimants that attorney fees are not payable as an item of damage under the FCA.

\* \* \* \* \*

(f) Is a paternity claim.

\* \* \* \* \*

(h) Results wholly from the negligent or wrongful act of the claimant or agent.

\* \* \* \* \*

(m) Results from an action by an enemy, or directly or indirectly from an act of the U.S. armed forces in combat, except that a claim may be allowed if it arises from an accident or malfunction incident to the operation of an aircraft of the U.S. armed forces, including its airborne ordnance, indirectly related to combat, and occurring while preparing for or going to, or returning from a combat mission.

\* \* \* \* \*

(o) Arises out of personal activities of family members, guests, servants, or activities of the pets of members and employees of the U.S. Armed Forces.

\* \* \* \* \*

(q) Is covered under U.S. admiralty or maritime laws, unless authorized by The Judge Advocate General or Chief, Claims and Tort Litigation Staff.

\* \* \* \* \*

(s) Is not in the best interest of the United States, is contrary to public policy, or otherwise contrary to the basic intent of the FCA. Claims considered not payable on this basis will be forwarded to USAF/JACC for final decision.

(t) Is presented by a national, or a corporation controlled by a national, of a country at war or engaged in armed conflict with the United States, or any country allied with such enemy country unless the settlement authority determines the claimant is, and at the time of the incident was, friendly to the United States. EXCEPTION: A prisoner of war or interned enemy alien is not excluded from filing a claim for damage, loss, or destruction of personal property within the U.S. Armed Forces' custody if the claim is otherwise payable.

■ 46. Revise newly redesignated § 842.56 to read as follows:

#### § 842.56 Applicable law.

This section provides guidance to determine the applicable law for assessment of liability.

(a) In adjudicating FCA claims, settlement authorities will follow the

law, customs, and standards of the country where the claim arose, except:

(1) Causation is determined based upon general principles of U.S. tort law found in federal case law and standard legal publications.

(2) Joint and several liability does not apply. Payment is based solely on the portion of loss, damage, injury or death attributable to the U.S. Armed Forces.

(3) If lost income or lost profits is recoverable under the law where the claim arose, they shall be limited to net lost income or net lost profits, taking into account appropriate deductions for taxes, regular business expenditures, and in the case of wrongful death, personal consumption during the loss period.

(b) Settlement authorities will not deduct compensation from collateral sources except for:

(1) Direct payments by a member or civilian employee of the U.S. Armed Forces for damages (not solatia).

(2) Any payments recovered or recoverable from an insurance policy when premiums were paid, directly or indirectly, by the United States, or a member or civilian employee of the U.S. Armed Forces; or when the member or employee has the benefit of the insurance (such as when a U.S. member or employee borrows a vehicle of a local national, and the vehicle carries insurance for the benefit of any driver with permission to drive the vehicle).

■ 47. Revise newly redesignated § 842.57 to read as follows:

#### § 842.57 Reconsideration of final denials.

This section provides the procedures used to reconsider a final denial.

(a) An FCC has the inherent authority to reconsider a final decision. The mere fact that a request for reconsideration is received does not obligate the settlement authority to reopen the claim.

(b) The FCC does not mention a reconsideration right in the original denial letter.

(c) A settlement authority must reconsider the final action when there is:

(1) New and material evidence concerning the claim or,

(2) Obvious errors in the original decision.

(d) The FCC must document in the claim file the reason for reconsideration.

(e) A FCC above the original settlement authority may direct a claim be forwarded to a higher FCC for reconsideration.

■ 48. Revise newly redesignated § 842.58 to read as follows:

#### § 842.58 Right of subrogation, indemnity, and contribution.

The Air Force has all the rights of subrogation, indemnity and contribution, as local law permits. However, settlement authorities will not seek contribution or indemnity from U.S. military members or civilian employees whose conduct gave rise to U.S. government liability, or whenever it would be harmful to international relations.

#### Subpart H—[Redesignated as Subpart F]

■ 49. Redesignate subpart H, consisting of §§ 842.69 through 842.72, as subpart F, consisting of §§ 842.59 through 842.62, respectively.

■ 50. Revise newly redesignated § 842.59 to read as follows:

#### § 842.59 Scope of this subpart.

This subpart governs Air Force actions in investigating, processing, and settling claims under the International Agreement Claims Act.

■ 51. Amend newly redesignated § 842.60 by revising paragraphs (a), (d), (e), (f) and (g) to read as follows:

#### § 842.60 Definitions.

\* \* \* \* \*

(a) *Civilian component.* Civilian personnel accompanying and employed by an international agreement contracting force. Local employees, contractor employees, or members of the American Red Cross are not a part of the civilian component unless specifically included in the agreement.

\* \* \* \* \*

(d) *Legally responsible.* A term of art providing for settlement of claims under cost sharing international agreements in accordance with the law of the receiving state. Often, employees who are local inhabitants, not part of the civilian component of the force, could cause the sending state to be legally responsible under a respondeat superior theory.

(e) *Receiving state.* The country where the force or civilian component of another contracting party is temporarily located. It is often thought of as the "host nation."

(f) *Sending state.* The country sending the force or civilian component to the receiving State. In cases where U.S. personnel are stationed in a foreign country, the U.S. is the sending state.

(g) *Third parties.* A term of art used in International Agreements. Parties other than members of the force and civilian component of the sending or receiving States. Dependents, tourists, and other noninhabitants of a foreign country are third parties (and therefore

can generally make a claim under a SOFA) unless the international agreement, or an understanding between the countries involved, specifically excludes them.

■ 52. Revise newly redesignated § 842.61 to read as follows:

**§ 842.61 Delegations of authority.**

(a) Staff Judge Advocates of the Air Force component commands of the U.S. geographic combatant commands will, within their combatant command AORs, fulfill U.S. obligations concerning claims abroad subject to 10 U.S.C. 2734a for which the Air Force has settlement authority. Consistent with 10 U.S.C. 2734a and the international agreement, they may reimburse or pay the pro rata share of a claim as agreed, or if inconsistent with the IACA or the international agreement, they may object to a bill presented.

(b) The Secretary of the Air Force, The Judge Advocate General, the Deputy Judge Advocate General, The Director of Civil Law and Chief of the Claims and Tort Litigation Division may also exercise settlement authority under 10 U.S.C. 2734a.

(c) *Redelegation of authority.* A settlement authority may redelegate his or her authority to a subordinate judge advocate or civilian attorney in writing.

(d) Authority to reduce, withdraw, and restore settlement authority. Any superior settlement authority may reduce, withdraw, or restore delegated authority.

■ 53. Amend newly redesignated § 842.62 by revising paragraph (b) to read as follows:

**§ 842.62 Filing a claim.**

\* \* \* \* \*

(b) *Claims arising in the United States.* The claimant files tort claims arising from the act or omission of military or civilian personnel of another contracting party at any U.S. military installation. The Staff Judge Advocate for the installation where such military or civilian personnel is assigned or attached will promptly notify the Foreign Claims Branch of USAF/JACC as well as the Commander, U.S. Army Claims Service. If the files said claim at an installation other than the location where said military or civilian personnel is assigned, the Staff Judge Advocate for that installation will promptly forward the claim to the appropriate installation Staff Judge Advocate.

**Subpart I—[Redesignated as Subpart G]**

■ 54. Redesignate subpart I, consisting of §§ 842.73 through 842.81 as subpart

G, consisting of §§ 842.63 through 842.71, respectively.

■ 55. Revise newly redesignated § 842.63 to read as follows:

**§ 842.63 Scope of this subpart.**

This subpart explains how to settle and pay claims against the United States, for property damage, personal injury, or death incident to the use of a government vehicle or any other government property on a government installation which are not payable under any other statute.

■ 56. Amend newly redesignated § 842.65 by revising paragraph (a)(5) to read as follows:

**§ 842.65 Delegations of authority.**

(a) \* \* \*

(5) SJA of the Air Force component commands of the U.S. geographic combatant commands.

\* \* \* \* \*

■ 57. Amend newly redesignated § 842.68 by:

■ a. Removing the brackets in the second sentence of paragraph (a).

■ b. Revising paragraph (c).

The revision reads as follows:

**§ 842.68 Claims payable.**

\* \* \* \* \*

(c) Arose from the use of a government vehicle at any place or from the use of other government property on a government installation, and

\* \* \* \* \*

■ 58. Amend newly redesignated § 842.69 by adding paragraph (e) to read as follows:

**§ 842.69 Claims not payable.**

\* \* \* \* \*

(e) For pain and suffering or other general damages.

■ 59. Revise newly redesignated § 842.71 to read as follows:

**§ 842.71 Settlement agreement.**

Do not pay a claim unless the claimant accepts the amount offered in full satisfaction of the claim and signs a settlement agreement to that effect, in which the claimant agrees to release any and all claims against the United States, its employees and agents arising from the incident in question. Use the settlement agreement approved for use by the Department of Justice for the settlement of FTCA claims, tailored to this claim.

**Subpart J—[Redesignated as Subpart H]**

■ 60. Redesignate subpart J, consisting of §§ 842.82 through 842.85, as subpart H, consisting of §§ 842.72 through 842.75, respectively.

■ 61. Amend newly redesignated § 842.74 by:

■ a. Revising paragraph (a)(1)(i).

■ b. Removing and reserving paragraph (a)(1)(ii) and removing paragraph (a)(1)(iii).

■ c. Revising paragraph (b)(3)(iv).

The revisions read as follows:

**§ 842.74 Delegations of authority.**

(a) \* \* \*

(1) \* \* \*

(i) Settle or deny a claim in any amount. Settlements for payment of more than \$500,000 are certified to Congress for payment.

\* \* \* \* \*

(b) \* \* \*

(3) \* \* \*

(iv) The Chief and Deputy Chief, Claims and Tort Litigation Division.

■ 62. In newly redesignated § 842.75, add paragraph (c) to read as follows:

**§ 842.75 Reconsidering claims against the United States.**

\* \* \* \* \*

(c) There is no time limit for submitting a request for reconsideration, but it is within the discretion of the settlement authority to decline to reconsider a claim based on the amount of time passed since the claim was originally denied.

**Subpart K—[Removed]**

■ 63. Remove subpart K, consisting of §§ 842.86 through 842.91.

■ 64. Add new subpart I, consisting of §§ 842.76 through 842.79.

**Subpart I—Claims Under the Federal Tort Claims Act (28 U.S.C. 1346(b), 2402, 2671, 2672, 2674–2680)**

Sec.

842.76 Scope of this subpart.

842.77 Delegations of authority.

842.78 Settlement agreements.

842.79 Administrative claim; when presented.

**Subpart I—Claims Under the Federal Tort Claims Act (28 U.S.C. 1346(b), 2402, 2671, 2672, 2674–2680)**

**§ 842.76 Scope of this subpart.**

This subpart, promulgated under the authority of 28 CFR 14.11, governs claims against the United States for property damage, personal injury, or death, from the negligent or wrongful acts or omission of Air Force military or civilian personnel while acting within the scope of their employment.

**§ 842.77 Delegations of authority.**

(a) *Settlement authority.* (1) The following individuals are delegated the full authority of the Secretary of the Air Force to settle and deny claims:

- (i) The Judge Advocate General.
- (ii) The Deputy Judge Advocate General.
- (iii) The Director of Civil Law.
- (iv) The Division Chief of Claims and Tort Litigation.

(v) The Division Chief of Environmental Law and Litigation.

(b) *Redelegation of authority.* A settlement authority may be redelegated, in writing, to a subordinate judge advocate or civilian attorney. The Chief, AFLOA/JACC may redelegate up to \$25,000, in writing, to paralegals assigned to AFLOA/JACC and, upon request, may authorize installation Staff Judge Advocates to redelegate their settlement authority to paralegals under their supervision.

(c) *Authority to reduce, withdraw, and restore settlement authority.* Any superior settlement authority may reduce, withdraw, or restore delegated authority.

(d) *Settlement negotiations.* A settlement authority may settle a claim filed in any amount for a sum within the delegated authority. Unsettled claims in excess of the delegated authority will be sent to the next highest level with settlement authority. Unsuccessful negotiations at one level do not bind higher authority.

#### **§ 842.78 Settlement agreements.**

The claimant must sign a settlement agreement and general release before any payment is made.

#### **§ 842.79 Administrative claim; when presented.**

When the Air Force is the proper agency to receive a claim pursuant to 28 CFR 14.2(b), for purposes of the provisions of 28 U.S.C. 2401(b), 2672 and 2675, a claim shall be deemed to have been presented when it is received by:

- (a) The office of the Staff Judge Advocate of the Air Force installation nearest the location of the incident; or
- (b) The Claims and Tort Litigation Division, 1500 West Perimeter Road, Suite 1700, Joint Base Andrews, MD 20762.

#### **Subpart L—[Redesignated as Subpart J]**

■ 65. Redesignate subpart L, consisting of §§ 842.92 through 842.99, as subpart J, consisting of §§ 842.80 through 842.87, respectively.

■ 66. Revise newly redesignated § 842.80 to read as follows:

#### **§ 842.80 Scope of this subpart.**

This subpart describes how to assert, administer, and collect claims for damage to or loss or destruction of

government property and lost wages of Air Force servicemembers through negligent or wrongful acts. It does not cover admiralty, hospital recovery, or nonappropriated fund claims.

■ 67. Amend newly redesignated § 842.81 by revising paragraph (a) to read as follows:

#### **§ 842.81 Delegations of authority.**

(a) *Settlement authority.* (1) The following individuals have delegated authority to settle, compromise, suspend, or terminate action on claims asserted for \$100,000 or less and to accept full payment on any claim:

- (i) The Judge Advocate General.
- (ii) The Deputy Judge Advocate General.
- (iii) The Director of Civil Law.
- (iv) Chief, Deputy Chief, and Branch Chiefs, Claims and Tort Litigation Staff.

(2) Installation staff judge advocates have authority to assert claims in any amount, accept full payment on any claim and to compromise, suspend or terminate action on claims asserted for \$25,000 or less.

\* \* \* \* \*

■ 68. Amend newly redesignated § 842.82 by revising paragraphs (a)(2), (c), and (e) to read as follows:

#### **§ 842.82 Assertable claims.**

\* \* \* \* \*

(a) \* \* \*

(2) Less than \$100 but collection is practicable and economical.

\* \* \* \* \*

(c) The claim is for property damage arising from the same incident as a hospital recovery claim.

\* \* \* \* \*

(e) The claim is assertable as a counterclaim under an international agreement. (The claim should be processed under subpart G of this part).

\* \* \* \* \*

■ 69. Amend newly redesignated § 842.83 by revising paragraph (b)(2) and adding paragraph (f) to read as follows:

#### **§ 842.83 Non-assertable claims.**

\* \* \* \* \*

(b) \* \* \*

(2) Caused by a person who has accountability and responsibility for the damaged property under the Report of Survey system.

\* \* \* \* \*

(f) Loss or damage caused by an employee of another federal agency while the employee was acting in the scope of his employment.

■ 70. Revise newly redesignated § 842.85 to read as follows:

#### **§ 842.85 Referring a claim to the U.S. Attorney or the Department of Justice.**

If collection efforts are unsuccessful, AFLOA/JACC may refer a claim to the appropriate U.S. Attorney's Office or the Department of Justice for initiation of a lawsuit.

#### **Subpart M—[Redesignated as Subpart K]**

■ 71. Redesignate subpart M, consisting of §§ 842.100 through 842.114, as subpart K, consisting of §§ 842.88 through 842.102, respectively.

■ 72. Revise newly redesignated § 842.88 to read as follows:

#### **§ 842.88 Scope of this subpart.**

This subpart establishes policies and procedures for all administrative claims under the National Guard Claims Act for which the Air Force has assigned responsibility. Unless otherwise outlined in this subpart, follow procedures as outlined in Subpart E for claims arising out of noncombat activities.

■ 73. Revise newly redesignated § 842.89 to read as follows:

#### **§ 842.89 Definitions.**

(a) *Air National Guard (ANG).* The federally recognized Air National Guard of each state, the District of Columbia, the Commonwealth of Puerto Rico, the Virgin Islands, and Guam.

(b) *ANG member.* An ANG member is one who is performing duty under 32 U.S.C., section 316, 502, 503, 504, or 505 for which the member is entitled to pay from the United States or for which the member has waived pay from the United States.

(c) *ANG duty status—(1) Active federal service.* ANG members may serve on active Federal duty under 10 U.S.C. to augment the active Air Force under certain circumstances or for certain types of duty or training (e.g., overseas training exercises and ANG alert duty). Duty under 10 U.S.C. does not fall under this subpart.

(2) *Federally funded duty.* ANG members perform specified federally funded duty or training under 32 U.S.C. such as weekend drills, annual training, field exercises, range firing, military schooling, full time unit support, or recruiting duties. Duty under 32 U.S.C. falls under this subpart for noncombat activities.

(3) *State duty.* State duty is duty not authorized by federal law but required by the governor of the state and paid for from state funds. Such duty includes civil emergencies (natural or other disasters), civil disturbances (riots and strikes), and transportation requirements for official state functions,

public health, or safety. State duty does not fall under this subpart.

(d) *ANG technicians.* An ANG technician is a Federal employee employed under 32 U.S.C. 709. Tort claims arising out of his or her activity are settled under the Federal Tort Claims Act (FTCA).

■ 74. Amend newly redesignated § 842.90 by:

■ a. Removing the introductory text;

■ b. Revising paragraphs (a)(4) and (5) and (b).

■ c. Removing paragraph (f)(1) and redesignating paragraphs (f)(2) and (3) as (f)(1) and (2), respectively.

The revisions read as follows:

#### § 842.90 Delegations of authority.

(a) \* \* \*

(4) The SJAs of the Air Force component commander of the U.S. Geographic combatant commands for claims arising within their respective combatant command areas of responsibility have delegated authority to settle claims payable or to deny claims filed for \$25,000 or less.

(5) SJAs of GCMs in PACAF and USAFE have delegated authority to settle claims payable, and deny claims filed, for \$15,000 or less.

(b) *Redelegation of authority.* A settlement authority may redelegate up to \$25,000 of settlement authority to a subordinate judge advocate or civilian attorney. This redelegation must be in writing and can be for all claims or limited to a single claim. The Chief, AFLOA/JACC may redelegate up to \$25,000, in writing, to paralegals assigned to AFLOA/JACC and, upon request, may authorize installation Staff Judge Advocates to redelegate their settlement authority to paralegals under their supervision.

\* \* \* \* \*

■ 75. Revise newly redesignated § 842.91 to read as follows:

#### § 842.91 Filing a claim.

(a) *Elements of a proper claim.* A claim is must be filed on a Standard Form 95 or other written document. It must be signed by the Claimant or authorized agent, be for money damages in a sum certain, and lay out a basic statement as to the nature of the claim that will allow the Air Force to investigate the allegations contained therein.

(b) *Amending a claim.* A claimant may amend a claim at any time prior to final action. To amend a claim the claimant or his or her authorized agent must submit a written, signed demand.

■ 76. Revise newly redesignated § 842.92 to read as follows:

#### § 842.92 Advance payments.

Subpart P of this part sets forth procedures for such payments.

■ 77. Revise newly redesignated § 842.93 to read as follows:

#### § 842.93 Statute of limitations.

(a) A claim must be filed in writing within 2 years after it accrues. It is deemed to be filed upon receipt by The Judge Advocate General, USAF/JACC, or a Staff Judge Advocate of the Air Force. A claim accrues when the claimant discovers or reasonably should have discovered the existence of the act that resulted in the claimed loss. The same rules governing accrual pursuant to the Federal Tort Claims Act should be applied with respect to the National Guard Claims Act. Upon receipt of a claim that properly belongs with another military department, the claim is promptly transferred to that department.

(b) The statutory time period excludes the day of the incident and includes the day the claim was filed.

(c) A claim filed after the statute of limitations has run is considered if the U.S. is at war or in an armed conflict when the claim accrues or if the U.S. enters a war or armed conflict after the claim accrues, and if good causes shows how the war or armed conflict prevented the claimant from diligently filing the claim within the statute of limitations. But in no case will a claim be considered if filed more than two years after the war or armed conflict ends.

■ 78. Revise newly redesignated § 842.94 to read as follows:

#### § 842.94 Who may file a claim.

The following individuals may file a claim under this subpart.

(a) Owners of the property or their authorized agents may file claims for property damage.

(b) Injured persons or their duly authorized agents may file claims for personal injury.

(c) Duly appointed guardians of minor children or any other persons legally entitled to do so under applicable local law may file claims for minors' personal injuries.

(d) Executors or administrators of a decedent's estate or another person legally entitled to do so under applicable local law, may file claims based on:

(1) An individual's death.

(2) A cause of action surviving an individual's death.

(e) Insurers with subrogation rights may file claims for losses paid in full by them. The parties may file claims jointly or individually, to the extent of each

party's interest, for losses partially paid by insurers with subrogation rights.

(f) Authorized agents signing claims show their title or legal capacity and present evidence of authority to present the claims.

■ 79. Revise newly redesignated § 842.95 to read as follows:

#### § 842.95 Who are proper claimants.

(a) Citizens and inhabitants of the United States. U.S. inhabitants includes dependents of the U.S. military personnel and federal civilian employees temporarily outside the U.S. for purposes of U.S. government service.

(b) U.S. military personnel and civilian employees. NOTE: These personnel are not proper claimants for claims for personal injury or death that occurred incident to their service.

(c) Foreign military personnel when the damage or injury occurs in the U.S. Do not pay for claims under the MCA for personal injury or death of a foreign military personnel that occurred incident to their service.

(d) States, state agencies, counties, or municipalities, or their political subdivisions.

(e) Subrogees of proper claimants to the extent they have paid for the claim in question.

■ 80. Revise newly redesignated § 842.96 to read as follows:

#### § 842.96 Who are not proper claimants.

(a) Governments of foreign nations, their agencies, political subdivisions, or municipalities.

(b) Agencies and Nonappropriated fund instrumentalities of the U.S. Government including the District of Columbia government.

(c) Inhabitants of foreign countries.

(d) The state, territory and its political subdivisions whose Air National Guard member caused the loss.

(e) Subrogees of the claimants in paragraphs (a) through (d) of this section.

■ 81. Revise newly redesignated § 842.97 to read as follows:

#### § 842.97 Claims payable.

Claims arising from noncombat activities of the United States when caused by ANG members performing duty under 32 U.S.C. and acting within the scope of their employment, whether or not such injuries or damages arose out of their negligent or wrongful acts or omissions.

■ 82. In newly redesignated § 842.98, revise paragraphs (a), (b), and (c) to read as follows:

#### § 842.98 Claims not payable.

\* \* \* \* \*

(a) Is covered by the FTCA, FCA, IACA, 10 U.S.C. 2734a and 2734b, Air Force Admiralty Claims Act (AFACA), 10 U.S.C. 9801–9804, 9806, MCA, 10 U.S.C. 2733, or covered under the Military Personnel and Civilian Employees' Claims Act (MPCECA), 31 U.S.C. 3701, 3721.

(b) NGCA claims arising from noncombat activities in the U.S. are not covered by the FTCA because more elements are needed to state an FTCA claim than are needed to state a claim under the NGCA for noncombat activities. All FTCA claims are based on elements of traditional tort liability (*i.e.*, duty, breach, causation, and damages); that is, they are fault based. Noncombat activity claims under the NGCA are based solely on causation and damages. Because NGCA claims for noncombat activities are not fault based, they are not covered by the FTCA.

(c) See subpart E for other claims not payable.

\* \* \* \* \*

■ 83. Revise newly redesignated § 842.99 to read as follows:

**§ 842.99 Applicable law.**

(a) Many of the exclusions in this subpart are based upon the wording of 28 U.S.C. 2680 or other federal statutes or court decisions interpreting the Federal Tort Claims Act. Federal case law interpreting the same exclusions under the Federal Tort Claims Act is applied to the National Guard Claims Act. Where state law differs with federal law, federal law prevails.

(b) *Extent of liability.* Where the claim arises is important in determining the extent of liability.

(1) When a claim arises in the United States, its territories or possessions, the same law as if the claim was cognizable under the FTCA will be applied.

(2) *Claims in foreign countries.* In claims arising in a foreign country, where the claim is for personal injury, death, or damage to or loss of real or personal property caused by an act or omission alleged to be negligent, wrongful, or otherwise involving fault of military personnel or civilian officers or employees of the United States acting within the scope of their employment, liability or the United States is determined according federal case law interpreting the FTCA. Where the FTCA requires application of the law of the place where the act or omission occurred, settlement authorities will use the rules set forth in the currently adopted edition of the *Restatement of the Law*, published by the American Law Institute, to evaluate the liability of the Air Force, subject to the following rules:

(i) Absolute or strict liability will not apply for claims not arising from noncombat activities.

(ii) Hedonic damages are not payable

(iii) The collateral source doctrine will not apply

(iv) Joint and several liability does not apply. Payment will be made only upon the portion of loss, damage, injury or death attributable to the Armed Forces of the United States.

(v) Future economic loss will be discounted to present value after deducting for federal income taxes and, in cases of wrongful death, personal consumption.

(c) Do not approve payment for:

(1) Punitive damages.

(2) Cost of medical or hospital services furnished at U.S. expense.

(3) Cost of burial expenses paid by the United States.

(d) *Settlement by insurer or joint tortfeasor.* When settlement is made by an insurer or joint tortfeasor and an additional award is warranted, an award may be made if both of the following are present:

(1) The United States is not protected by the release executed by the claimant.

(2) The total amount received from such source is first deducted.

■ 84. In newly redesignated § 842.100, revise paragraphs (a), (b), (c), and (d) to read as follows:

**§ 842.100 Appeal of final denials.**

\* \* \* \* \*

(a) A claimant may appeal the final denial of the claim. The claimant sends the request, in writing, to the settlement authority that issued the denial letter within 60 days of the date the denial letter was mailed. The settlement authority may waive the 60 day time limit for good cause.

(b) Upon receipt of the appeal, the original settlement authority reviews the appeal.

(c) Where the settlement authority does not reach a final agreement on an appealed claim, he or she sends the entire claim file to the next higher settlement authority, who is the appellate authority for that claim. Any higher settlement authority may act upon an appeal.

(d) The decision of the appellate authority is the final administrative action on the claim.

■ 85. Revise newly redesignated § 842.101 to read as follows:

**§ 842.101 Government's right of subrogation, indemnity, and contribution.**

The Air Force becomes subrogated to the rights of the claimant upon settling a claim. The Air Force has the rights of contribution and indemnity permitted

by the law of the situs or under contract. Do not seek contribution or indemnity from ANG members whose conduct gave rise to Government liability.

■ 86. Revise newly redesignated § 842.102 to read as follows:

**§ 842.102 Attorney fees.**

In the settlement of any claim pursuant to 32 U.S.C. 715 and this subpart, attorney fees will not exceed 20 percent of any award provided that when a claim involves payment of an award over \$1,000,000, attorney fees on that part of the award exceeding \$1,000,000 may be determined by the Secretary of the Air Force. For the purposes of this paragraph, an award is deemed to be the cost to the United States at the time of purchase of a structured settlement, and not its future value.

**Subpart N—[Redesignated as Subpart L]**

■ 87. Redesignate subpart N, consisting of §§ 842.115 through §§ 842.125 as subpart L, consisting of §§ 842.103 through §§ 842.113, respectively.

■ 88. Revise newly redesignated § 842.103 to read as follows:

**§ 842.103 Scope of this subpart.**

This subpart explains how the United States asserts and settles claims for costs of medical care, against third parties under the Federal Medical Care Recovery Act (FMCRA) (10 U.S.C. 1095) and various other laws.

■ 89. Amend newly redesignated § 842.104 by revising paragraph (a) and adding paragraphs (h) and (i) to read as follows:

**§ 842.104 Definitions.**

\* \* \* \* \*

(a) *Medical Cost Reimbursement Program Regional Field Offices.* The Chief of the Medical Cost Reimbursement Program (MCRP) Branch determines and assigns geographic responsibility for all regional field offices. Each field office is responsible for investigating all potential claims and asserting claims within their jurisdiction for the cost of medical care provided by either a Medical Treatment Facility or at a civilian facility through Tricare.

\* \* \* \* \*

(h) *Accrued pay.* The total of all pay accrued to the account of an active duty member during a period when the member is unable to perform military duties. It does not include allowances.

(i) *Future care.* Medical care reasonably expected to be provided or paid for in the future treatment of an

injured party as determined during the investigative process.

■ 90. Revise newly redesignated § 842.105 to read as follows:

**§ 842.105 Delegations of authority.**

(a) *Settlement authority.* The following individuals have delegated authority to settle, compromise, or waive MCRP claims for \$300,000 or less and to accept full payment on any claim:

- (1) The Judge Advocate General.
- (2) The Deputy Judge Advocate General.
- (3) The Director of Civil Law.
- (4) Chief, Claims and Tort Litigation Staff and the Chief, MCRP.

(b) *Redelegation of authority.* The individuals described in paragraph (a) of this section may re-delegate a portion or all of their authority to subordinates, subject to the following limitations:

(1) SJAs, when given Medical Cost Reimbursement (MCR) claims jurisdiction, are granted authority to waive, compromise, or settle claims in amounts of \$25,000 or less. This authority may be re-delegated in writing with authority to re-delegate to subordinates.

(2) SJAs of numbered Air Forces, when given MCR claims jurisdiction, are granted authority to waive, compromise, or settle claims in amounts of \$40,000 or less. This authority may be re-delegated in writing with authority to re-delegate to subordinates.

(3) SJAs of single base GCMs, the SJAs of GCMs in PACAF and USAF, and the SJAs of each Air Force base, station, or fixed installation have delegated authority to compromise or waive claims for \$15,000 or less and to accept full payment on any claim.

(c) *Authority to assert a claim.* Each settlement authority has authority to assert a claim in any amount for the reasonable value of medical care.

(d) *Authority to reduce, withdraw, and restore settlement authority.* Any superior settlement authority may reduce, withdraw, or restore delegated authority.

(e) *Settlement negotiations.* A settlement authority may settle a claim filed for an amount within the delegated settlement authority. Claims in excess of the delegated authority must be approved by the next higher settlement authority. Unsuccessful negotiations at one level do not bind higher authority.

Note: Telephonic approvals, in the discretion of the higher settlement authority, are authorized.

(f) *Special exceptions.* Only the Department of Justice (DOJ) may approve claims involving:

- (1) Compromise or waiver of a claim for more than \$300,000.

(2) Settlement previously referred to DOJ.

(3) Settlement where a third party files suit against the U.S. or the injured party arising out of the same incident.

■ 91. Revise newly redesignated § 842.107 to read as follows:

**§ 842.107 Nonassertable claims.**

The following are considered nonassertable claims and should not be asserted:

(a) *Claims against any department, agency, or instrumentality of the United States.* “Agency or instrumentality” includes any self-insured nonappropriated fund activity whether revenue producing, welfare, or sundry. The term does not include private associations.

(b) *Claims for care furnished a veteran by the Department of Veterans Affairs (VA) for service connected disability.* However, claims may be asserted for the reasonable value of medical care an Air Force member receives prior to his or her discharge and transfer to the VA facility or when the Air Force has reimbursed the VA facility for the care.

(c) *Claims for care furnished a merchant seaman under 42 U.S.C. 249.* A claim against the seaman’s employer should not be filed.

(d) *Government contractors.* In claims in which the United States must reimburse the contractor for a claim according to the terms of the contract, settlement authorities investigate the circumstances surrounding the incident to determine if assertion is appropriate. If the U.S. is not required to reimburse the contractor, the MCR authority may assert a claim against the contractor.

(e) *Foreign governments.* Settlement authorities investigate any claims that might be made against foreign governments, their political subdivisions, armed forces members or civilian employees.

(f) *U.S. personnel.* Claims are not asserted against members of the uniformed services; employees of the U.S., its agencies or instrumentalities; or an individual who is a dependent of a service member or employee at the time of assertion unless they have insurance to pay the claim, they were required by law or regulation to have insurance which would have covered the Air Force, or their actions, which necessitated the medical treatment provided at government expense, constituted willful misconduct or gross negligence.

■ 92. Amend newly redesignated § 842.108 by revising paragraphs (a) and (b) to read as follows:

**§ 842.108 Asserting the claim.**

\* \* \* \* \*

(a) MCR personnel assert a claim against a tortfeasor or other third party using a formal letter on Air Force stationery. The assertion is made against all potential payers, including insurers. The demand letter should state the legal basis for recovery and sufficiently describe the facts and circumstances surrounding the incident giving rise to medical care. Applicable bases of recovery include U.S. status as a third-party beneficiary under various types of insurance policies, workers’ compensation laws, no-fault laws, or other Federal statutes, including COB or FMCRA.

(b) The MCR authority must promptly notify the injured parties or their legal representatives, in writing, that the United States will attempt to recover from the third parties the reasonable value of medical care furnished or to be furnished and that they:

(1) Should seek advice from a legal assistance officer or civilian counsel.

(2) Must cooperate in the prosecution of all actions of the United States against third parties.

(3) Must furnish a complete statement regarding the facts and circumstances surrounding the incident which caused the injury.

(4) Must not execute a release or settle any claim which exists as a result of the injury without prior notice to the MCR authority.

\* \* \* \* \*

■ 93. Revise newly redesignated § 842.109 to read as follows:

**§ 842.109 Referring a claim to the US Attorney.**

(a) All cases that require forwarding to the DOJ must be routed through the Chief, MCRP. The MCR authority ensures that personnel review all claims for possible referral not later than two years after the date of the incident for tort based cases.

(b) The United States or the injured party on behalf of the United States must file suit within 3 years after an action accrues. This is usually 3 years after the initial treatment is provided in a federal medical facility or after the initial payment is made by Tricare, whichever is first.

■ 94. Revise newly redesignated § 842.111 to read as follows:

**§ 842.111 Recovery rates in government facilities.**

The **Federal Register** contains the rates set by the Office of Management and Budget, of which judges take judicial notice. Apply the rates in effect at the time of care to claims.

■ 95. Revise newly redesignated § 842.112 to read as follows:

**§ 842.112 Waiver and compromise of United States interest.**

Waivers and compromises of government claims can be made. This paragraph lists the basic guidance for each action. (See this subpart for claims involving waiver and compromise of amounts in excess of settlement authorities' delegated amounts.)

(a) *Convenience of the Government.* When compromising or waiving a claim for convenience of the Government, settlement authorities should consider the following factors:

- (1) Risks of litigation.
- (2) Questionable liability of the third party.
- (3) Costs of litigation.
- (4) Insurance (Uninsured or Underinsured Motorist and Medical Payment Coverage) or other assets of the tortfeasor available to satisfy a judgment for the entire claim.
- (5) Potential counterclaim against the U.S.
- (6) Jury verdict expectancy amount.
- (7) Amount of settlement with proposed distribution.
- (8) Cost of any future care.
- (9) Tortfeasor cannot be located.
- (10) Tortfeasor is judgment proof.
- (11) Tortfeasor has refused to pay and the case is too weak for litigation.

(b) *Hardship on the injured party.* When compromising or waiving a claim to avoid undue hardship on the injured party, settlement authorities should consider the following factors:

- (1) Permanent disability or disfigurement of the injured party.
- (2) Decreased earning power of the injured party.
- (3) Out of pocket losses to the injured party.
- (4) Financial status of the injured party.
- (5) Pension rights of the injured party.
- (6) Other government benefits available to the injured party.
- (7) An offer of settlement from a third party which includes virtually all of the third party's assets, although the amount is considerably less than the calculation of the injured party's damages.

(8) Whether the injured party received excessive treatment.

(9) Amount of settlement with proposed distribution, including reductions in fees or damages by other parties, medical providers, or attorneys in order to reduce the hardship on the injured party.

(c) *Compromise or waiver.* A compromise or waiver can be made upon written request from the injured party or the injured party's legal representative.

■ 96. Revise newly redesignated § 842.113 to read as follows:

**§ 842.113 Reconsideration of a waiver for undue hardship.**

A settlement authority may reconsider its previous action on a request for waiver or compromise whether requested or not. Reconsideration is normally on the basis of new evidence or discovery of errors in the waiver submission or settlement, but can be based upon a re-evaluation of the claim by the settlement authority.

**Subpart O—[Removed]**

- 97. Remove subpart O, consisting of §§ 842.126 through 842.136.
- 98. Add new subpart M, consisting of §§ 842.114 through 842.117.

**Subpart M—Nonappropriated Fund Claims****§ 842.114 Scope of this subpart.**

This subpart describes how to settle claims for and against the United States for property damage, personal injury, or death arising out of the operation of Nonappropriated Fund Instrumentalities (NAFIs). Unless stated below, such claims will follow procedures outlined in other subparts of this part for the substantive law applicable to the particular claim. For example, a NAFI claim adjudicated under the Federal Tort Claims Act will follow procedures in this subpart as well as subpart K.

**§ 842.115 Definitions.**

(a) *Army and Air Force Exchange Service (AAFES).* The Army and Air Force Exchange Service is a joint command of the Army and Air Force, under the jurisdiction of the Chiefs of Staff of the Army and Air Force, which provides exchange and motion picture services to authorized patrons.

(b) *Morale, welfare, and recreation (MWR) activities.* Air Force MWR activities are activities operated directly or by contract which provide programs to promote morale and well-being of the Air Force's military and civilian personnel and their dependents. They may be funded wholly with appropriated funds, primarily with nonappropriated funds (NAF), or with a combination of appropriated funds and NAFs.

(c) *Nonappropriated funds.* Nonappropriated funds are funds generated by Department of Defense military and civilian personnel and their dependents and used to augment funds appropriated by the Congress to provide a comprehensive morale-building, welfare, religious, educational, and recreational program, designed to improve the well-being of military and civilian personnel and their dependents.

(d) *Nonappropriated funds instrumentality.* A nonappropriated fund instrumentality is a Federal government instrumentality established to generate and administer nonappropriated funds for programs and services contributing to the mental and physical well-being of personnel.

**§ 842.116 Payment of claims against NAFIs.**

Substantiated claims against NAFIs must not be paid solely from appropriated funds. Claims are sent for payment as set out in this subpart. Do not delay paying a claimant because doubt exists whether to use appropriated funds or NAFs. Pay the claim initially from appropriated funds and decide the correct funding source later.

**§ 842.117 Claims by customers, members, participants, or authorized users.**

(a) *Customer complaints.* Do not adjudicate claims complaints or claims for property loss or damage under this subpart that the local NAFI activity can satisfactorily resolve.

(b) *Claims generated by concessionaires.* Most concessionaires must have commercial insurance. Any unresolved claims or complaints against concessionaires or their insurers are sent to the appropriate contracting officers.

**Subpart P—[Redesignated as Subpart N]**

■ 99. Redesignate subpart P, consisting of §§ 842.137 through 842.143, as subpart N, consisting of §§ 842.118 through 842.124.

■ 100. Revise newly redesignated § 842.118 to read as follows:

**§ 842.118 Scope of this subpart.**

(a) This subpart explains how to process certain administrative claims:

(1) Against the United States for property damage, personal injury, or death, arising out of Air Force assigned noncombat missions performed by the Civil Air Patrol (CAP), as well as certain other Air Force authorized missions performed by the CAP in support of the Federal government.

(2) In favor of the United States for damage to US Government property caused by CAP members or third parties.

(b) Unless stated below, such claims will follow procedures outlined in other subparts of this part for the substantive law applicable to the particular claim. For example, a CAP claim adjudicated under the Military Claims Act will follow procedures in this subpart as well as subpart E.



**§§ 842.120 and 842.121 [Removed]**

- 101. Remove newly-redesignated §§ 842.120 and 842.121.

**§§ 842.122 through 842.124 [Redesignated as §§ 842.120 through 842.122]**

- 102. Newly redesignated §§ 842.122 through 842.124 are further redesignated as §§ 842.120 through 842.122, respectively.

**Subpart Q—[Redesignated as Subpart O]**

- 103. Redesignate subpart Q, consisting of §§ 842.144 through 842.150, as subpart O, consisting of §§ 842.123 through 842.129.
- 104. Revise newly redesignated § 842.123 to read as follows:

**§ 842.123 Scope of this subpart.**

This subpart tells how to make an advance payment before a claim is filed or finalized under the Military Claims, Foreign Claims and National Guard Claims Acts.

- 105. In newly redesignated § 842.124, revise paragraph (c)(4) to read as follows:

**§ 842.124 Delegation of authority.**

\* \* \* \* \*

(c) \* \* \*

\* \* \* \* \*

(4) SJAs of the Air Force component commander of the US Geographic combatant commands for claims arising within their respective combatant command areas of responsibility.

\* \* \* \* \*

- 106. In newly redesignated § 842.126, revise paragraph (b) to read as follows:

**§ 842.126 When authorized.**

\* \* \* \* \*

(b) The potential claimant has an immediate need amounting to a hardship for food, shelter, medical or burial expenses, or other necessities. In the case of a commercial enterprise, severe financial loss or bankruptcy will result if the Air Force does not make an advance payment.

\* \* \* \* \*

Henry Williams,

*Acting Air Force Federal Liaison Officer.*

[FR Doc. 2016-06896 Filed 3-29-16; 8:45 am]

BILLING CODE 5001-10-P

**DEPARTMENT OF HOMELAND SECURITY****Coast Guard****33 CFR Part 165**

[Docket Number USCG-2016-0171]

RIN 1625-AA00

**Safety Zone; Louisiana Dragon Boat Race, Red River Mile Marker, (MM) 88.0 to (MM) 88.5**

AGENCY: Coast Guard, DHS.

ACTION: Notice of Proposed Rulemaking.

**SUMMARY:** The Coast Guard proposes to establish a permanent safety zone for an annually recurring marine event in the Red River, from MM 88.0 to MM 88.5. This action is necessary to protect persons and vessels from the potential safety hazards associated with a dragon boat race taking place in early May, 2016 and recurring annually thereafter. This proposed rulemaking would prohibit persons and vessels from being in the safety zone unless specifically authorized by the Captain of the Port (COTP), Lower Mississippi River or a designated representative. We invite your comments on this proposed rulemaking.

**DATES:** Comments and related material must be received by the Coast Guard on or before April 14, 2016.

**ADDRESSES:** You may submit comments identified by docket number USCG-2016-0171 using the Federal eRulemaking Portal at <http://www.regulations.gov>. See the "Public Participation and Request for Comments" portion of the **SUPPLEMENTARY INFORMATION** section for further instructions on submitting comments.

**FOR FURTHER INFORMATION CONTACT:** If you have questions about this proposed rulemaking, call or email LT Tyrone Conner, Sector Lower Mississippi River Waterways Management Division, U.S. Coast Guard; telephone (901)521-4725, email [Tyrone.L.Conner@uscg.mil](mailto:Tyrone.L.Conner@uscg.mil).

**SUPPLEMENTARY INFORMATION:****I. Table of Abbreviations**

CFR Code of Federal Regulations  
DHS Department of Homeland Security  
E.O. Executive order  
FR Federal Register  
NPRM Notice of proposed rulemaking  
Pub. L. Public Law  
§ Section  
U.S.C. United States Code

**II. Background, Purpose, and Legal Basis**

This is the sixth annual Louisiana Dragon Boat Race, occurring each year

on the Red River during the first few weeks in May. We have established a safety zone for the race event in past years through a temporary final rulemaking each year. For this year and subsequent years, we propose to establish the safety zone as a permanent annually recurring regulation to safeguard against the hazards associated with a race event on the Red River, near Alexandria, Louisiana.

The legal basis and authorities for this rule are found in 33 U.S.C. 1231. The purpose of this proposed safety zone is to protect both spectators and participants from the hazards associated with the race event.

**III. Discussion of Proposed Rule**

The COTP Lower Mississippi River proposes to establish a safety zone approximately 7:00 a.m. to 5:00 p.m. for approximately 10 hours on the first or second Saturday in May, recurring annually. The proposed safety zone would encompass all waters of the Red River from Mile Marker (MM) 88.0 to (MM) 88.5. All persons and vessels, except those persons and vessels participating in the dragon boat race and those vessels enforcing the areas, would be prohibited from entering, transiting through, anchoring in, or remaining within the safety zone. No vessel or person would be permitted to enter the safety zone without obtaining permission from the COTP or a designated representative. The regulatory text we are proposing appears at the end of this document.

**IV. Regulatory Analyses**

We developed this proposed rule after considering numerous statutes and executive orders (E.O.s) related to rulemaking. Below we summarize our analyses based on a number of these statutes and E.O.s, and we discuss First Amendment rights of protestors.

**A. Regulatory Planning and Review**

E.O.s 12866 and 13563 direct agencies to assess the costs and benefits of available regulatory alternatives and, if regulation is necessary, to select regulatory approaches that maximize net benefits. E.O. 13563 emphasizes the importance of quantifying both costs and benefits, of reducing costs, of harmonizing rules, and of promoting flexibility. This NPRM has not been designated a "significant regulatory action," under E.O. 12866. Accordingly, the NPRM has not been reviewed by the Office of Management and Budget.

This regulatory action determination is based on the time, location and duration of the safety zone. Vessel traffic would be restricted from entering,



transiting, or anchoring within a small portion of the Red River during one day each May. Vessels may request permission from the COTP to deviate from the restriction and transit through the safety zone and notifications to the marine community will be made through local notice to mariners (LNM) and broadcast notice to mariners (BNM). Therefore, those operating on the waterway will be able to plan operations around the proposed safety zone and its enforcement times.

#### *B. Impact on Small Entities*

The Regulatory Flexibility Act of 1980, 5 U.S.C. 601–612, as amended, requires Federal agencies to consider the potential impact of regulations on small entities during rulemaking. The term “small entities” comprises small businesses, not-for-profit organizations that are independently owned and operated and are not dominant in their fields, and governmental jurisdictions with populations of less than 50,000. The Coast Guard certifies under 5 U.S.C. 605(b) that this proposed rule would not have a significant economic impact on a substantial number of small entities.

While some owners or operators of vessels intending to transit the safety zone may be small entities, for the reasons stated in section IV.A above this proposed rule would not have a significant economic impact on any vessel owner or operator.

If you think that your business, organization, or governmental jurisdiction qualifies as a small entity and that this rule would have a significant economic impact on it, please submit a comment (see **ADDRESSES**) explaining why you think it qualifies and how and to what degree this rule would economically affect it.

Under section 213(a) of the Small Business Regulatory Enforcement Fairness Act of 1996 (Pub. L. 104–121), we want to assist small entities in understanding this proposed rule. If the rule would affect your small business, organization, or governmental jurisdiction and you have questions concerning its provisions or options for compliance, please contact the person listed in the **FOR FURTHER INFORMATION CONTACT** section. The Coast Guard will not retaliate against small entities that question or complain about this proposed rule or any policy or action of the Coast Guard.

#### *C. Collection of Information*

This proposed rule would not call for a new collection of information under the Paperwork Reduction Act of 1995 (44 U.S.C. 3501–3520).

#### *D. Federalism and Indian Tribal Governments*

A rule has implications for federalism under E.O. 13132, Federalism, if it has a substantial direct effect on the States, on the relationship between the national government and the States, or on the distribution of power and responsibilities among the various levels of government. We have analyzed this proposed rule under that Order and have determined that it is consistent with the fundamental federalism principles and preemption requirements described in E.O. 13132.

Also, this proposed rule does not have tribal implications under E.O. 13175, Consultation and Coordination with Indian Tribal Governments, because it would not have a substantial direct effect on one or more Indian tribes, on the relationship between the Federal Government and Indian tribes, or on the distribution of power and responsibilities between the Federal Government and Indian tribes. If you believe this proposed rule has implications for federalism or Indian tribes, please contact the person listed in the **FOR FURTHER INFORMATION CONTACT** section above.

#### *E. Unfunded Mandates Reform Act*

The Unfunded Mandates Reform Act of 1995 (2 U.S.C. 1531–1538) requires Federal agencies to assess the effects of their discretionary regulatory actions. In particular, the Act addresses actions that may result in the expenditure by a State, local, or tribal government, in the aggregate, or by the private sector of \$100,000,000 (adjusted for inflation) or more in any one year. Though this proposed rule would not result in such an expenditure, we do discuss the effects of this rule elsewhere in this preamble.

#### *F. Environment*

We have analyzed this proposed rule under Department of Homeland Security Management Directive 023–01 and Commandant Instruction M16475.ID, which guide the Coast Guard in complying with the National Environmental Policy Act of 1969 (42 U.S.C. 4321–4370f), and have made a preliminary determination that this action is one of a category of actions that do not individually or cumulatively have a significant effect on the human environment. This proposed rule involves establishing a temporary safety zone for approximately 10 hours on one day in May each year on the Red River from (MM) 88.0 to (MM) 88.5. Normally such actions are categorically excluded from further review under paragraph

34(g) of Figure 2–1 of Commandant Instruction M16475.ID. A preliminary environmental analysis checklist and Categorical Exclusion Determination are available in the docket where indicated under **ADDRESSES**. We seek any comments or information that may lead to the discovery of a significant environmental impact from this proposed rule.

#### *G. Protest Activities*

The Coast Guard respects the First Amendment rights of protesters. Protesters are asked to contact the person listed in the **FOR FURTHER INFORMATION CONTACT** section to coordinate protest activities so that your message can be received without jeopardizing the safety or security of people, places, or vessels.

#### **V. Public Participation and Request for Comments**

We view public participation as essential to effective rulemaking, and will consider all comments and material received during the comment period. Your comment can help shape the outcome of this rulemaking. If you submit a comment, please include the docket number for this rulemaking, indicate the specific section of this document to which each comment applies, and provide a reason for each suggestion or recommendation.

We encourage you to submit comments through the Federal eRulemaking Portal at <http://www.regulations.gov>. If your material cannot be submitted using <http://www.regulations.gov>, contact the person in the **FOR FURTHER INFORMATION CONTACT** section of this document for alternate instructions.

We accept anonymous comments. All comments received will be posted without change to <http://www.regulations.gov> and will include any personal information you have provided. For more about privacy and the docket, you may review a Privacy Act notice regarding the Federal Docket Management System in the March 24, 2005, issue of the **Federal Register** (70 FR 15086).

Documents mentioned in this NPRM as being available in the docket, and all public comments, will be in our online docket at <http://www.regulations.gov> and can be viewed by following that Web site's instructions. Additionally, if you go to the online docket and sign up for email alerts, you will be notified when comments are posted or a final rule is published.

**List of Subjects in 33 CFR Part 165**

Marine safety, Navigation (water), Reporting and recordkeeping requirements, Waterways.

For the reasons discussed in the preamble, the Coast Guard proposes to amend 33 CFR part 165 as follows:

**PART 165—REGULATED NAVIGATION AREAS AND LIMITED ACCESS AREAS**

■ 1. The authority citation for part 165 continues to read as follows:

**Authority:** 33 U.S.C. 1231; 50 U.S.C. 191, 195; 33 CFR 1.05–1, 6.04–1, 6.04–6, 160.5;

Department of Homeland Security Delegation No. 0170.1

■ 2. In § 165.801, amend Table 6 by adding line 13 to read as follows:

**§ 165.801 Annual fireworks displays and other events in the Eighth Coast Guard District requiring safety zones.**

\* \* \* \* \*

TABLE 6 OF § 165.801—SECTOR LOWER MISSISSIPPI RIVER ANNUAL AND RECURRING SAFETY ZONES

Date	Sponsor/name	Sector lower MS river location	Safety zone
* * * * *	* * * * *	* * * * *	* * * * *
13. First or Second Saturday in May.	Louisiana Dragon Boat Race.	Red River, Alexandria, LA	Regulated Area: Red River mile marker 88.0 to 88.5, Alexandria, LA.
* * * * *	* * * * *	* * * * *	* * * * *

\* \* \* \* \*

Dated: March 16, 2016.

**T.J. Wendt,**

*Captain, U.S. Coast Guard, Captain of the Port, Lower Mississippi River.*

[FR Doc. 2016–06909 Filed 3–29–16; 8:45 am]

**BILLING CODE 9110–04–P**

**POSTAL SERVICE****39 CFR Part 230****Procedures Relating to the Disposition of Property Acquired by the United States Postal Service Office of Inspector General for Use as Evidence**

**AGENCY:** Postal Service.

**ACTION:** Proposed rule.

**SUMMARY:** This proposed rule establishes procedures for the disposition of abandoned property held by the United States Postal Service Office of Inspector General. The rule establishes procedures for determining the ownership of abandoned property, the advertisement of abandoned items with no apparent owner held by the Office of Inspector General, and the disposal of items declared abandoned.

**DATES:** Comments must be received on or before April 29, 2016.

**ADDRESSES:** Written comments should be directed to the Office of Inspector General, Office of General Counsel, 1735 North Lynn Street, Arlington, Virginia 22209–2013. Copies of all written comments will be available at that address for inspection and copying between 9 a.m. and 4 p.m., Monday through Friday.

**FOR FURTHER INFORMATION CONTACT:**

Gladis Griffith, Office of General Counsel, (703) 248–4683.

**SUPPLEMENTARY INFORMATION:** In the course of conducting official investigations, Special Agents of the United States Postal Service Office of Inspector General frequently recover property lost or stolen from the mail and obtain custody of property needed for use as evidence in proceedings to enforce various provisions of the United States Code. In most cases, such property is returned to the owner at the conclusion of the investigation or any resulting administrative or judicial proceedings. In some cases, however, the owners fail to claim property, and it therefore remains in the custody of the Office of Inspector General after it is no longer needed. The proposed rule would establish a fair and uniform procedure to identify the owners of such property, afford them an opportunity to claim its return, and in the event a valid claim is not received, treat such property as abandoned and direct that it be sold or put to official use. Apparent owners would be notified of their right to claim property, and where no apparent owner is known and the value of the property in question exceeds \$200, notice would be published on the Office of Inspector General's Web site inviting the owner to submit a claim for its return.

**List of Subjects in 39 CFR Part 230**

Administrative practice and procedure, Claims, Law enforcement, Property (abandoned).

For the reasons stated in the preamble, the Postal Service proposes to amend 39 CFR part 230 as follows:

**PART 230—OFFICE OF INSPECTOR GENERAL**

■ 1. The authority citation for part 230 continues to read as follows:

**Authority:** 5 U.S.C. App.3; 39 U.S.C. 401(2) and 1001.

■ 2. Add the subpart C to read as follows:

**Subpart C—Rules of Procedure Relating to the Disposition of Stolen Mail Matter and Property Acquired by the Office of Inspector General for Use as Evidence**

Sec.

230.30 Scope.

230.31 Definitions.

230.32 Disposition of property of apparent owners where property is valued over \$200.

230.33 Disposition of property of apparent owners where property is valued at \$200 or less.

230.34 Disposition of property of unknown owners where property is valued over \$200.

230.35 Disposition of property of unknown owners where property is valued at \$200 or less.

230.36 Contraband and property subject to court order.

230.37 Determination of type of property.

230.38 Disposition of abandoned property; additional period for filing claims.

230.39 Submission of claims.

230.40 Determination of claims.

230.41 Reconsideration of claims.

230.42 Disposition of property declared abandoned where title vests in the government.

**§ 230.30 Scope.**

This subpart prescribes procedures governing the disposition of any property (real, personal, tangible, or intangible) obtained by the United States Postal Service Office of Inspector General (Office of Inspector General) for possible use as evidence after the need to retain such property no longer exists.

**§ 230.31 Definitions.**

The following definitions apply to this subpart:

(a) *Apparent*. That which is clear, plain, and evident.

(b) *Owner*. The person recognized by the law as having the ultimate control over and right to use the property.

(c) *Ruling official*. The official who has the authority to grant or deny the claim for the abandoned or other unclaimed property where the property is located, typically the Executive Special Agent in Charge, or a designee. If, however, the property is a firearm or contraband, the Executive Special Agent in Charge should consult with the Office of Inspector General, Office of General Counsel prior to commencing the abandonment action.

(d) *Claimant*. The person who submitted the claim for the abandoned or other unclaimed property.

(e) *Owner*. The person recognized by the law as having the ultimate control over and right to use the property.

**§ 230.32 Disposition of property of apparent owners where property is valued over \$200.**

Where an apparent owner of property subject to this subpart is known, and the estimated value of the property exceeds \$200, the owner shall be notified by certified mail at his last known address. The written notice shall describe the property and the procedure for filing a claim for its return (*see*, §§ 230.36 and 230.39). Such claims must be filed within 30 days from the date the written notice is postmarked. If the apparent owner of the property fails to file a timely claim, the property is considered abandoned and must be disposed of as provided in § 230.38.

**§ 230.33 Disposition of property of apparent owners where property is valued at \$200 or less.**

Where an apparent owner of property subject to this subpart is known, and the estimated value of the property is \$200 or less, the Executive Special Agent in Charge, or a designee, should attempt to return the property to the owner. If successful, the Executive Special Agent in Charge shall request the owner sign a Hold Harmless Agreement. If not, the Executive Special Agent in Charge shall vest title in the Government.

**§ 230.34 Disposition of property of unknown owners where property is valued over \$200.**

(a) Where no apparent owner of property subject to this subpart is known, except property described in § 230.36, and the estimated value of the property exceeds \$200, the Executive Special Agent in Charge, or a designee,

must publish notice providing the following information:

(1) A description of the property, including model or serial numbers, if known;

(2) A statement of the location where the property was found;

(3) The name, address, and telephone number of the Executive Special Agent in Charge who has custody of the property; and

(4) A statement inviting any person who believes he or she is fully entitled to the property to submit a claim for its return with the Executive Special Agent in Charge identified in the notice. Such claim must be submitted within 30 days from the date of first publication of the notice.

(b) The notice under paragraph (a) of this section must be published for three consecutive weeks on the Office of Inspector General's Web site.

**§ 230.35 Disposition of property of unknown owners where property is valued at \$200 or less.**

Where the owner of property subject to this subpart is unknown and the estimated value of the property is \$200 or less, no notice is required, and the Executive Special Agent in Charge, or a designee, should vest title in the Government, subject to the rights of the owner to submit a valid claim as provided in § 230.38.

**§ 230.36 Contraband and property subject to court order.**

Claims submitted with respect to property subject to this subpart, possession of which is unlawful, must be denied, in writing, by certified mail, and the person submitting the claim must be accorded 45 days from the postmarked date to institute judicial proceedings to challenge the denial. If judicial proceedings are not instituted within 45 days, or any extension of time for good cause shown, the contraband property must be destroyed unless the Executive Special Agent in Charge, or a designee, determines that it should be placed in official use by the Office of Inspector General. Property subject to this part, the disposition of which is involved in litigation or is subject to an order of court, must be disposed of as determined by the court.

**§ 230.37 Determination of type of property.**

If the Office of Inspector General is unable to determine whether the personal property in its custody is abandoned or voluntarily abandoned, it shall contact the Office of Inspector General, Office of General Counsel for such a determination.

**§ 230.38 Disposition of abandoned property; additional period for filing claims.**

(a) Upon expiration of the time provided in §§ 230.32 and 230.34 for the filing of claims or any extension thereof, and without the receipt of a timely claim, the property described in the notice is considered abandoned and becomes the property of the Government. However, if the owner satisfies the requirements of paragraph (b) of this section, except for property described in § 230.36, such abandoned property must be returned to the owner if a valid claim is filed within three years from the date the property became abandoned, with the following qualifications:

(1) Where property has been placed in official use by the Office of Inspector General, a person submitting a valid claim under this section must be reimbursed the fair market value of the property at the time title vested in the Office of Inspector General, less costs incurred in returning or attempting to return such property to the owner; or

(2) Where property has been sold, a person submitting a valid claim under this section must be reimbursed the same amount as the last appraised value of the property prior to the sale of such property.

(b) In order to present a valid claim under paragraph (a) of this section, the claimant must establish he or she had no actual or constructive notice that he or she was entitled to file a claim pursuant to § 230.32 or § 230.34 prior to the date the property became abandoned. Publication of a notice pursuant to § 230.34 provides constructive notice, unless a claimant can demonstrate circumstances that reasonably precluded his or her access to the published notice.

**§ 230.39 Submission of claims.**

Claims submitted pursuant to this subpart must be submitted on Postal Service Form 1503, which may be obtained from the Executive Special Agent in Charge who has custody of the property.

**§ 230.40 Determination of claims.**

Upon receipt of a claim under this subpart, the Office of Inspector General must conduct an investigation to determine the merits of the claim. The results of the investigation must be submitted to the ruling official, who must approve or deny the claim by written decision, a copy of which must be forwarded to the claimant by certified mail. If the claim is granted, the conditions of relief and the procedures to be followed to obtain the relief shall be set forth. If the claim is

denied, the claimant shall be advised of the reason for such denial.

#### § 230.41 Reconsideration of claims.

A written request for reconsideration of denied claims must be based on evidence recently developed or not previously presented. It must be submitted within 10 days of the postmarked date of the letter denying the claim. The ruling official shall advise the Asset Forfeiture Coordinator if a timely reconsideration of the denial is made. The Office of Inspector General, Office of General Counsel shall rule on the reconsideration request.

#### § 230.42 Disposition of property declared abandoned where title vests in the government.

Property declared abandoned, including cash and proceeds from the sale of property subject to this part, may be shared with federal, state, or local agencies. Abandoned property may also be destroyed, sold, or placed into official use. However, before abandoned property can be shared with another agency, sold, or placed into official use, the Executive Special Agent in Charge must confer with the Office of Inspector General, Office of General Counsel. Unless the Executive Special Agent in Charge determines the cash or proceeds of the sale of the abandoned property are to be shared with other law enforcement agencies, such cash or proceeds shall be converted to money orders and transmitted to: United States Postal Service, Disbursing Officer, 2825 Lone Oak Parkway, Eagan, MN 55121–9640.

Stanley F. Mires,  
Attorney, Federal Compliance.

[FR Doc. 2016–07103 Filed 3–29–16; 8:45 am]

BILLING CODE 7710–12–P

## DEPARTMENT OF HEALTH AND HUMAN SERVICES

### 42 CFR Part 8

RIN 0930–AA22

### Medication Assisted Treatment for Opioid Use Disorders

**AGENCY:** Substance Abuse and Mental Health Services Administration (SAMHSA), HHS.

**ACTION:** Proposed rule.

**SUMMARY:** The Secretary of the Department of Health and Human Services (the Secretary) (HHS) proposes a rule to increase the highest patient limit for qualified physicians to treat opioid use disorder under section 303(g)(2) of the Controlled Substances

Act (CSA) from 100 to 200. The purpose of the proposed rule is to increase access to treatment for opioid use disorder while reducing the opportunity for diversion of the medication to unlawful use.

**DATES:** To be assured consideration, comments must be received at one of the addresses provided below, no later than 5 p.m. on May 31, 2016.

**ADDRESSES:** You may submit comments, identified by Regulatory Information Number (RIN) 0930–AA22, by any of the following methods:

- *Electronically: Federal eRulemaking Portal:* Go to <http://www.regulations.gov> and follow the instructions for submitting comments.

- *Regular Mail or Hand Delivery or Courier:* Written comments mailed by regular mail must be sent to the following address only: The Substance Abuse and Mental Health Services Administration, Department of Health and Human Services, Attn: Jinhee Lee, SAMHSA, 5600 Fishers Lane, Room 13E21C, Rockville, Maryland 20857. Please allow sufficient time for mailed comments to be received before the close of the comment period.

- *Express or Overnight Mail:* Written comments sent by hand delivery, or regular, express or overnight mail must be sent to the following address only: The Substance Abuse and Mental Health Services Administration, Department of Health and Human Services, Attn: Jinhee Lee, SAMHSA, 5600 Fishers Lane, Room 13E21C, Rockville, Maryland 20857.

**Instructions:** To avoid duplication, please submit only one copy of your comments by only one method. All submissions received must include the agency name and docket number or RIN for this rulemaking. All comments received will become a matter of public record and will be posted without change to <http://www.regulations.gov>, including any personal information provided. For detailed instructions on submitting comments and additional information on the rulemaking process and viewing public comments, see the “Public Participation” heading of the **SUPPLEMENTARY INFORMATION** section of this document.

**Docket:** For access to the docket to read background documents or comments received, go to <http://www.regulations.gov>.

**FOR FURTHER INFORMATION CONTACT:** Jinhee Lee, Pharm.D., Public Health Advisor, Center for Substance Abuse Treatment, 240–276–0545, Email address: [WaiverRegulations@samhsa.hhs.gov](mailto:WaiverRegulations@samhsa.hhs.gov).

**SUPPLEMENTARY INFORMATION:**

## Table of Contents

I. Executive Summary	
A. Purpose	
B. Summary of Major Provisions	
C. Summary of Impacts	
II. Public Participation	
III. Background	
A. Opioid Use Disorder	
B. Medication-Assisted Treatment	
C. Statutory and Rulemaking History	
D. Current Process for Obtaining a Practitioner Waiver Under 21 U.S.C. 823(g)(2)	
E. Evaluations of the Current System	
F. Need for Rulemaking	
IV. Summary of Proposed Rule	
A. General	
B. Scope (§ 8.1)	
C. Definitions (§ 8.2)	
D. Opioid Treatment Programs (§§ 8.3–8.4)	
E. Which practitioners are eligible for a patient limit of 200? (§ 8.610)	
F. What constitutes a qualified practice setting? (§ 8.615)	
G. What is the process to request a patient limit of 200? (§ 8.620)	
H. How will a request for patient limit increase be processed? (§ 8.625)	
I. What must practitioners do in order to maintain their approval to treat up to 200 patients under § 8.625? (§ 8.630)	
J. What are the reporting requirements for practitioners whose request for patient limit increase is approved under § 8.625? (§ 8.635)	
K. What is the process for renewing a practitioner's request for patient limit increase approval? (§ 8.640)	
L. What are the responsibilities of practitioners who do not submit a renewal request for patient limit increase or whose request is denied? (§ 8.645)	
M. Can SAMHSA suspend or revoke a practitioner's patient limit increase approval? (§ 8.650)	
N. Can a practitioner request to temporarily treat up to 200 patients in emergency situations? (§ 8.655)	
V. Collection of information requirements	
VI. Regulatory Impact Analysis	
A. Introduction	
B. Summary of the Proposed Rule	
C. Need for the Proposed Rule	
D. Analysis of Benefits and Costs	
E. Sensitivity Analysis	
F. Analysis of Regulatory Alternatives	
G. Regulatory Flexibility Analysis	
VII. Agency Questions for Comment	

## Acronyms

ASAM American Society of Addiction Medicine  
 CFR Code of Federal Regulations  
 CSA Controlled Substances Act  
 DEA Drug Enforcement Administration  
 FDA Food and Drug Administration  
 FR Federal Register  
 HHS Department of Health and Human Services  
 HIV Human Immunodeficiency Virus  
 MAT Medication-Assisted Treatment  
 NOI Notification of Intent  
 NPRM Notice of Proposed Rulemaking  
 OTP Opioid Treatment Program

QA Quality Assurance  
QI Quality Improvement  
RFA Regulatory Flexibility Act  
SAMHSA Substance Abuse and Mental  
Health Services Administration  
U.S.C. United States Code

## I. Executive Summary

### A. Purpose

The purpose of this proposed rule is to expand access to medication-assisted treatment (MAT) by allowing eligible practitioners to request approval to treat up to 200 patients under section 303(g)(2) of the Controlled Substances Act (CSA). The rulemaking also includes requirements to ensure that patients receive the full array of services that comprise evidence-based MAT and minimize the risk that the medications provided for treatment are misused or diverted. We hope that this proposed rule will stimulate broader availability of high-quality MAT both in specialized addiction treatment settings and throughout more mainstream health care delivery systems.

Section 303(g)(2) of the CSA (21 U.S.C. 823(g)(2)) allows individual practitioners to dispense or prescribe Schedule III, IV, or V controlled substances that have been approved by the Food and Drug Administration (FDA) for use in maintenance and detoxification treatment without registering as an opioid treatment program (OTP). Currently, the only FDA-approved medications that meet this standard are buprenorphine and the combination buprenorphine/naloxone (hereinafter referred to as buprenorphine). Buprenorphine is a schedule III controlled substance under the CSA. The CSA also imposes a limit on the number of patients a practitioner may treat with certain types of FDA-approved narcotic drugs, such as buprenorphine, at any one time. Pursuant to 21 U.S.C. 823(g)(2)(B)(iii), the Secretary is authorized to change this patient limit by regulation at any one time.

Section 303(g)(2)(B)(iii) of the CSA allows qualified practitioners who file an initial notification of intent (NOI) to treat a maximum of 30 patients at a time. After 1 year, the practitioner may file a second NOI indicating his/her intent to treat up to 100 patients at a time. To qualify to treat any patients with buprenorphine, the practitioner must be a physician, possess a valid license to practice medicine, be a registrant of the Drug Enforcement Administration (DEA), have the capacity to refer patients for appropriate counseling and other necessary ancillary services, and have completed

required training. As specified in the statute, the training requirement may be satisfied in several ways: One may hold subspecialty board certification in addiction psychiatry from the American Board of Medical Specialties or addiction medicine from the American Osteopathic Association; hold an addiction certification from the American Society of Addiction Medicine (ASAM); complete an 8-hour training provided by an approved organization; have participated as an investigator in one or more clinical trials leading to the approval of a medication that qualifies to be prescribed under 21 U.S.C. 823(g)(2); or complete other training or have such other experience as the State medical licensing board or the Secretary considers to demonstrate the ability of the physician to treat and manage persons with opioid use disorder.

Access to MAT has been subject to patient limits via the provisions contained in the CSA and enforced by DEA. Since 21 U.S.C. 823(g)(2) was originally modified by legislation in 2000 to allow the provision of MAT without registering as an OTP, additional modifications have been made to address the application of the patient limit in group medical practices and to create a higher patient limit for practitioners with 1 year of experience. These changes, while important, have not proven sufficient to support the development of adequate treatment capacity to keep pace with the growth of the national crisis of opioid misuse and overdose. To the extent that the current patient limit contributes to this access challenge, this proposed rule seeks to make a useful change in an effort to improve access.

### B. Summary of Major Provisions

The proposed rule would revise the highest patient limit from 100 patients per practitioner with an existing waiver (waivered practitioner) to 200 patients for practitioners who meet certain criteria. Practitioners who have a waiver to treat 100 patients for at least 1 year would be eligible to apply for a waiver to treat up to 200 patients if they possess a subspecialty board certification in addiction medicine or addiction psychiatry or practice in a qualified practice setting as defined in this proposed rule. In either case, practitioners with the higher limit of 200 would also be required to accept greater responsibility for ensuring behavioral health services and care coordination are received and for ensuring quality assurance and improvement practices, diversion control, and continuity of care in

emergencies. The higher limit would also carry with it the duty to regularly reaffirm the practitioner's ongoing eligibility and to participate in data reporting and monitoring as required by SAMHSA. In addition, practitioners in good standing with a current waiver to prescribe to up to 100 patients (*i.e.*, the practitioner has filed an NOI and satisfied all required criteria) could request the higher limit in emergency situations for a limited time period. SAMHSA would review all emergency situation requests in consultation, to the extent practicable, with appropriate governmental authorities before such requests would be granted.

### C. Summary of Impacts

The proposed rule is intended to increase access to MAT for some patients with an opioid use disorder, providing them with a path to recovery; reduce costs across different sectors (*e.g.* health care, criminal justice, and social service); and, ultimately, reduce the number of opioid-related overdose deaths. From 2016–2020, present value benefits of \$11,019 million and annualized benefits of \$2,336 million are estimated using a 3 percent discount rate; present value benefits of \$10,148 million and annualized benefits of \$2,313 million are estimated using a 7 percent discount rate. Present value costs of \$955 million and annualized costs of \$202 million are estimated using a 3 percent discount rate; present value costs of \$880 million and annualized costs of \$201 million are estimated using a 7 percent discount rate.

## II. Public Participation

### Comments Invited

HHS invites interested parties to submit comments on all aspects of the proposed rule. When submitting comments, please reference a specific portion of the proposed rule, provide an explanation for any recommended change, and include supporting data. Specific agency questions for comment are listed in section VII. Comments responding to these questions should reference them by number.

All comments received before the close of the comment period are available for viewing by the public, including any personally identifiable and/or confidential information that is included in a comment. We post all comments received as soon as possible after they have been received on the following Web site: <http://www.regulations.gov>. Follow the search instructions on that Web site to view public comments.

Comments received before the close of the comment period will also be available for public inspection, generally beginning approximately 3 weeks after publication of the proposed rule, at the headquarters of the Substance Abuse and Mental Health Services Administration, 5600 Fishers Lane, Rockville, Maryland 20857, Monday through Friday of each week from 8:30 a.m. to 4:00 p.m. To schedule an appointment to view public comments, call 240-276-1660.

We will consider all comments we receive by the date and time specified in the **DATES** section of this preamble, and will respond to the comments in the preamble of the final rule. Please allow sufficient time for mailed comments to be received before the close of the comment period.

### III. Background

#### A. Opioid Use Disorder

Substance use disorder is a treatable chronic disease caused by changes to the structure and function of the brain due to exposure to intoxicating substances.<sup>1</sup> Most of these substances alter the brain by increasing the release of the neurotransmitter dopamine, which plays an important role in the brain's reward system.<sup>2</sup> Chronic exposure to drugs disrupts the way the brain controls both life-sustaining behaviors and those related to drug use.<sup>3</sup> Opioid use disorder is a type of substance use disorder that has the added complexity of disrupting the naturally occurring function of endorphins throughout the body.<sup>4</sup> This is what underlies the rapid formation of dependence and tolerance, and the withdrawal syndrome typically observed when opioid use is discontinued.<sup>5</sup> The cycle of tolerance and withdrawal leads persons dependent on opioids to take larger doses, seek more potent opioids, or adopt methods of administration, such as injection, to intensify the opioid's effects.<sup>6,7</sup> The possibility of

experiencing euphoria, while an element of drug initiation, becomes more and more remote as the euphoric feelings experienced become less pleasurable and use of the drug becomes necessary for the user to feel "normal".<sup>8</sup> As a result, most opioid dependent persons must continue to use opioids in order to maintain function and to forestall the painful symptoms of withdrawal.<sup>9</sup>

Opioid use disorder is essentially the same phenomenon. The potential for addiction and the symptoms of tolerance and withdrawal are very similar, whether the opioid is heroin or a prescription pain reliever, such as oxycodone or hydrocodone, because the brain responds to all opioids similarly. Untreated opioid dependence is associated with adoption of high-risk opioid use behaviors.<sup>10,11,12</sup> A person who is no longer able to avoid withdrawal with the amount of opioid he or she is accustomed to or can afford to buy may transition to using opioids by injection, for example, because this route of administration can more quickly and efficiently deliver the drug to the brain via injection into the bloodstream rather than through the digestive tract.<sup>13,14</sup> However, use of opioids by injection carries additional risks of infection with hepatitis C virus and human immunodeficiency virus (HIV), local and systemic infections, cardiovascular and respiratory problems, and higher overdose risk.<sup>15,16,17</sup>

<sup>7</sup> Peavy, K.M., Banta-Green, C.J., Kingston, S., Hanrahan, M., Merrill, J.O., & Coffin, P.O. (2012). "Hooked on" prescription-type opiates prior to using heroin: Results from a survey of syringe exchange clients. *Journal of Psychoactive Drugs*, 44(3), 259–265.

<sup>8</sup> National Institute on Drug Abuse, *supra* note 2.

<sup>9</sup> *Id.*

<sup>10</sup> Peavy, *supra* note 7.

<sup>11</sup> Jones, C.M. (2013). Heroin use and heroin use risk behaviors among nonmedical users of prescription opioid pain relievers, United States, 2002–2004 and 2008–2010. *Drug and Alcohol Dependence*, 132(1–2):95–100.

<sup>12</sup> Lankenau, S.E., Teti, M., Silva, K., Bloom, J.J., Harocopos, A., & Treese, M. (2012). Initiation into prescription opioid misuse amongst young injection drug users. *International Journal of Drug Policy*, 23(1), 37–44.

<sup>13</sup> Peavy, *supra* note 7.

<sup>14</sup> Drug Delivery Methods (2015). Retrieved from <http://learn.genetics.utah.edu/content/addiction/delivery/>.

<sup>15</sup> National Institute on Drug Abuse (2014). *Heroin* (Number 15–0165). Retrieved from: [https://d14rmgtrwzf5a.cloudfront.net/sites/default/files/heroinrrs\\_11\\_14.pdf](https://d14rmgtrwzf5a.cloudfront.net/sites/default/files/heroinrrs_11_14.pdf).

<sup>16</sup> Bruneau, J., Roy, E., Arrunda, N., Zang, G., & Jutras-Aswad, D. (2012). The rising prevalence of prescription opioid injection and its association with hepatitis C incidence among street-drug users. *Addiction*, 107(7):1318–27.

<sup>17</sup> Conrad, C., Bradley, H.M., Broz, D., Buddha, S., Chapman, E.L., Galang, R.R., Duwve, J.M. (2015).

The majority of these individuals do not recognize that repeated use of opioids, albeit legitimate, may increase the risk of developing an opioid use disorder, which may lead some individuals to switch from prescription drugs to cheaper and more risky substitutes like heroin. Based on combined 2014 National Survey on Drug Use and Health data, there are 1.9 million people aged 12 or older with a past-year pain reliever use disorder and 539,000 people with a past-year heroin use disorder.

As many as 86 percent of persons who met diagnostic criteria for opioid use disorder in 2014 could be classified as dependent on opioids.<sup>18</sup> In addition to changing the structure and function of the brain, when a person has dependence, the whole body has adapted to the presence of the opioid and does not function properly when the substance is absent, thus making it extremely difficult to discontinue use without formal treatment.<sup>19</sup> Many people with opioid dependence who undergo detoxification in order to stop using opioids subsequently relapse to opioid use.<sup>20</sup> As many as 95 percent of patients who undergo detoxification only, relapse to opioid use within weeks.<sup>21,22</sup>

Community outbreak of HIV infection linked to injection drug use of oxycodone—Indiana, 2015. *Morbidity and Mortality Weekly Report*, 64(16): 443–44.

<sup>18</sup> Substance Abuse and Mental Health Services Administration (2015). *Prescription drug misuse and abuse*. Retrieved from: <http://www.samhsa.gov/prescription-drug-misuse-abuse>.

<sup>19</sup> Definition of dependence. (2007). Retrieved from: <http://www.drugabuse.gov/publications/teaching-packets/neurobiology-drug-addiction/section-iii-action-heroin-morphine/8-definition-dependence>.

<sup>20</sup> Kleber, H. D. (2007). Pharmacologic treatments for opioid dependence: detoxification and maintenance options. *Dialogues in Clinical Neuroscience*, 9(4), 455–470. National Institute on Drug Abuse. Patients Addicted to Opioid Painkillers Achieve Good Results With Outpatient Detoxification. Retrieved from: <http://www.drugabuse.gov/news-events/nida-notes/2015/02/patients-addicted-to-opioid-painkillers-achieve-good-results-outpatient-detoxification> on December 12, 2015.

<sup>21</sup> Ling, W., Amass, L., Shoptaw, S., Annon, J.J., Hillhouse, M., Babcock, D., Brigham, G., Harter, J., Reid, M., Muir, J., Buchan, B., Orr, D., Woody, G., Krejci, J., Ziedonis, D., Group, the B.S.P. (2005). A multi-center randomized trial of buprenorphine-naloxone versus clonidine for opioid detoxification: findings from the National Institute on Drug Abuse Clinical Trials Network. *Addiction (Abingdon, England)*, 100(8), 1090–1100.

<sup>22</sup> Weiss, R.D., Potter, J.S., Fiellin, D.A., Byrne, M., Connery, H.S., Dickinson, W., Gardin, J., Griffin, L.M., Gourevitch, N.M., Haller, D., Hasson, A., Huang, Z., Jacobs, P., Kosinski, S.A., Lindblad, R., McCance-Katz, F.E., Provost, E.S., Selzer, J., Somoza, C.E., Sonne, C.S., Ling, W. (2011). Adjunctive Counseling During Brief and Extended Buprenorphine-Naloxone Treatment for

Continued

<sup>1</sup> The Science of Drug Abuse and Addiction: The Basics. (2014, September 1). Retrieved from: <http://www.drugabuse.gov/publications/media-guide/science-drug-abuse-addiction-basics>.

<sup>2</sup> National Institute on Drug Abuse (2014). *Drugs, brains, and behavior: The science of addiction*. (NIH Pub No. 14–5605). Retrieved from: [https://d14rmgtrwzf5a.cloudfront.net/sites/default/files/soa\\_2014.pdf](https://d14rmgtrwzf5a.cloudfront.net/sites/default/files/soa_2014.pdf).

<sup>3</sup> *Id.*

<sup>4</sup> National Institute on Drug Abuse. Impacts of Drugs on Neurotransmission. Retrieved from: <http://www.drugabuse.gov/news-events/nida-notes/2007/10/impacts-drugs-neurotransmission>.

<sup>5</sup> *Id.*

<sup>6</sup> Kosten, T.R., & George, T.P. (2002). The Neurobiology of Opioid Dependence: Implications for Treatment. *Science & Practice Perspectives*, 1(1), 13–20.

Adverse consequences associated with prescription drug misuse have also increased. Prescription drugs, especially opioid analgesics, have increasingly been implicated in drug overdose deaths over the last decade.<sup>23</sup> The National Vital Statistics System indicated there were 18,893 opioid analgesics overdose related deaths in 2014, which is nearly 5 times greater than the number of related deaths in 1999.<sup>24</sup> Deaths related to heroin have also sharply increased, more than tripling between 2010 and 2014.<sup>25</sup> Rates of prescription drug misuse related to emergency department visits and treatment admissions have risen significantly in recent years.<sup>26</sup> The Centers for Disease Control and Prevention reports that almost 7,000 people are treated in emergency departments each day for using opioids in a manner other than as directed.<sup>27</sup> Opioids, primarily prescription pain relievers and heroin, are the main drugs associated with overdose deaths. In 2014, opioids were involved in 28,647 deaths, or 61 percent of all drug overdose deaths; the rate of opioid overdoses has tripled since 2000.<sup>28</sup>

The economic costs of illegal drug use, including the use of medications that are prescribed for others, are considerable. According to the Office of National Drug Control Policy, the economic cost of drug addiction in the United States was estimated at \$193 billion in 2007, the last available

estimate.<sup>29</sup> Indeed, opioid use disorders contribute to over \$72 billion in medical costs alone each year.<sup>30</sup> These costs—costs related to treatment and prevention services; other health care costs, such as those for individuals with co-occurring illnesses that result from or are exacerbated by use and misuse of drugs obtained illicitly; and costs associated with lost productivity, social welfare, and crime—impose burdens on the workplace, healthcare system, and communities.

#### B. Medication-Assisted Treatment (MAT)

Opioid use disorder is a treatable medical condition from which it is possible to recover.<sup>31</sup> Medication, along with other behavioral therapy, has the potential to play an important role in the successful treatment of opioid use disorder and provide a foundation for recovery.<sup>32</sup> Research indicates that medication combined with behavioral health services produces the best outcomes.<sup>33</sup> Effective treatment is comprehensive and tailored to each patient's drug use patterns; medical and psychiatric co-morbidities, and social corollaries of substance use disorder; and includes consideration of the person's vocational and legal needs.<sup>35</sup>

MAT is the use of medication in combination with behavioral health services to provide a whole-patient, individualized approach to the treatment of substance use disorder, including opioid use disorder.<sup>36</sup> MAT is a safe and effective strategy for decreasing the frequency and quantity of opioid use and reducing the risk of overdose and death.<sup>37</sup> Although MAT

has significant evidence to support it as an effective treatment, it remains highly underutilized, with only an estimated 1 million out of an estimated 2.5 million who needed treatment actually receiving it in 2012.<sup>38</sup> This gap is a function of many factors, including treatment capacity and negative attitudes, prejudice, and discrimination that prevent individuals from seeking services. A full discussion of the barriers to MAT utilization can be found in the regulatory impact analysis of this document.

Methadone, buprenorphine, and naltrexone are the three main types of active ingredients<sup>39</sup> contained in FDA approved products currently used to treat opioid use disorder in the U.S.<sup>40</sup> Treatment of opioid use disorder using methadone can only be provided in OTPs regulated by SAMHSA under 42 CFR part 8 and requires patient assessments, on-site counseling, daily monitoring and observation of the medication use, and careful control of any take-home methadone.<sup>41</sup> Also, methadone for opioid use disorder can only be dispensed in an OTP clinic setting.<sup>34</sup> Unlike methadone, medicines containing buprenorphine are permitted to be dispensed in either an office-based setting or in an OTP, significantly increasing treatment access.<sup>43</sup> Under 21 U.S.C. 823(g)(2), qualified practitioners can prescribe, administer, or dispense medicines containing buprenorphine for treatment of opioid use disorder in various settings, including in an office, community hospital, health department, or correctional facility. As with all medications used in MAT, buprenorphine is prescribed as part of a comprehensive treatment plan that includes counseling and participation in social support programs.<sup>44</sup>

#### C. Statutory and Rulemaking History

There is a long history of laws and rules to protect people from unnecessary or inappropriate exposure to opioids. Two important laws are the CSA and the Controlled Substances Import and Export Act, which became law in 1970. Together, these statutes and their implementing regulations

Prescription Opioid Dependence: A 2-Phase Randomized Controlled Trial. *Archives of General Psychiatry*, 68(12), 1238–1246.

<sup>23</sup> Macrae, J. (2015, July 27). HHS Launches Multi-pronged Effort to Combat Opioid Abuse. Retrieved from: <http://www.hhs.gov/blog/2015/07/27/hhs-launches-multi-pronged-effort-combat-opioid-abuse.html>. Centers for Disease Control and Prevention. Wide-ranging Online Data for Epidemiologic Research (WONDER), Multiple-Cause-of-Death file, 2000–2014. 2015.

<sup>24</sup> CDC/NCHS, National Vital Statistics System, Mortality File. Retrieved from: [http://www.cdc.gov/nchs/data/health\\_policy/AADR\\_drug\\_poisoning\\_involving\\_OA\\_Heroin\\_US\\_2000-2014.pdf](http://www.cdc.gov/nchs/data/health_policy/AADR_drug_poisoning_involving_OA_Heroin_US_2000-2014.pdf).

<sup>25</sup> HHS takes strong steps to address opioid-drug related overdose, death and dependence. (2015, March 26) Retrieved from: <http://www.hhs.gov/about/news/2015/03/26/hhs-takes-strong-steps-to-address-opioid-drug-related-overdose-death-and-dependence.html>.

<sup>26</sup> Substance Abuse and Mental Health Services Administration, *supra* note 18.

<sup>27</sup> Centers for Disease Control and Prevention. Wide-ranging Online Data for Epidemiologic Research (WONDER), Multiple-Cause-of-Death file, (2015, October 28). *Understanding the epidemic: When the prescription becomes the problem*. Retrieved from: <http://www.cdc.gov/drugoverdose/epidemic/>.

<sup>28</sup> Rudd RA, Aleshire N, Zibbell JE, Gladden RM. Increases in Drug and Opioid Overdose Deaths—United States, 2000–2014. *MMWR Morb Mortal Wkly Rep*. 2016;64(50):1378–82. Retrieved from: <http://www.cdc.gov/mmwr/preview/mmwrhtml/mm6450a3.htm>.

<sup>29</sup> Study Shows Illicit Drug Use Costs U.S. Economy More Than \$193 Billion. (2011, June 1). Retrieved from: [https://www.whitehouse.gov/sites/default/files/ondcp/newsletters/ondcp\\_update\\_june\\_2011.pdf](https://www.whitehouse.gov/sites/default/files/ondcp/newsletters/ondcp_update_june_2011.pdf).

<sup>30</sup> Coalition Against Insurance Fraud. (2007). Prescription for peril: how insurance fraud finances theft and abuse of addictive prescription drugs. Retrieved from: <http://www.insurancefraud.org/downloads/drugDiversion.pdf>.

<sup>31</sup> Bart, G. (2012). Maintenance Medication for Opiate Addiction: The Foundation of Recovery. *Journal of Addictive Diseases*, 31(3), 207–225. <http://doi.org/10.1080/10550887.2012.694598>.

<sup>32</sup> Medication and Counseling Treatment. (2015, September 28). Retrieved from: <http://www.samhsa.gov/medication-assisted-treatment/treatment>.

<sup>33</sup> National Institute on Drug Abuse, *supra* note 2.

<sup>34</sup> Buprenorphine. (2015, September 25). Retrieved from: <http://www.samhsa.gov/medication-assisted-treatment/treatment/buprenorphine>.

<sup>35</sup> National Institute on Drug Abuse, *supra* note 2.

<sup>36</sup> Medication and Counseling Treatment, *supra* note 32.

<sup>37</sup> Kresina, T.F., & Lubran, R.L. (2011). Improving public health through access to and utilization of medication assisted treatment. *International Journal of Environmental Research and Public Health*, 8(10):4102–17.

<sup>38</sup> Volkow, N.D., Frieden, T.R., Hyde, P.S., & Cha, S.S. (2014). Medication-assisted therapies—tackling the opioid-overdose epidemic. *New England Journal of Medicine*, 370(22):2063–6.

<sup>39</sup> Naloxone is an active ingredient in some forms of buprenorphine when used by other than the recommended sublingual (under the tongue) route.

<sup>40</sup> Volkow, *supra* note 38.

<sup>41</sup> Id.

<sup>42</sup> Methadone. (2015, September 28). Retrieved from: <http://www.samhsa.gov/medication-assisted-treatment/treatment/methadone>.

<sup>43</sup> Kresina, *supra* note 37.

<sup>44</sup> Id.



govern the manufacturing and distribution of controlled substances. Controlled substances are those medications or chemical substances that are scheduled I through V under the CSA, with Schedule I having the most relative abuse potential and likelihood of causing dependence when abused, and Schedule V having the least potential for abuse and dependence.<sup>45</sup>

In 2000, Congress amended the CSA (21 U.S.C. 801 *et seq.*) to establish “waiver authority for physicians who dispense or prescribe certain narcotic drugs for maintenance treatment or detoxification treatment” (Drug Addiction Treatment Act of 2000, Pub. L. 106–310, Title XXXV, 114 Stat. 1222, codified at 21 U.S.C. 823(g)(2)). This waiver authority established the existing 30 and 100 patient limits. Pursuant to such waiver authority, the statutory and regulatory requirement (21 U.S.C. 823(g)(1) and 21 CFR 1301.13(e)) that a practitioner obtain a separate DEA registration to prescribe buprenorphine for maintenance or detoxification treatment is waived. Prior to this amendment, practitioners who wanted to provide maintenance or detoxification treatment using opioid drugs were required to be registered as Narcotic Treatment Programs, today commonly referred to as OTPs.

Under the provisions of the CSA implementing regulations (21 CFR 1301.28(b)(1)(iii) and (iv)), the 30-patient limitation applied equally to individual practices and to group practices (*i.e.*, 30 patients per group practice), severely limiting the number of patients who could be treated by physicians in group practices. In 2005, the CSA was amended to lift the patient limitation on prescribing opioid addiction treatment medications by practitioners in group practices (Pub. L. 109–56) so that practitioners could prescribe up to 30 patients individually regardless of whether they are in a group or solo practice.<sup>46</sup> In 2006, the CSA was further amended by the Office of National Drug Control Policy Reauthorization Act of 2006 (Pub. L. 109–469) to permit the treatment of up to 100 patients by each qualifying practitioner. As a result, DEA made conforming changes their regulations.<sup>47</sup>

#### *D. Current Process for Obtaining a Practitioner Waiver Under 21 U.S.C. 823(g)(2)*

To be able to prescribe buprenorphine for the maintenance or detoxification of opioid use disorder, qualified practitioners must file a Request for Patient Limit Increase with SAMHSA. In accordance with 21 U.S.C. 823(g)(2)(D)(iii), SAMHSA processes the Request for Patient Limit Increase by verifying the practitioner's medical license and qualification to prescribe buprenorphine, and informs the DEA of whether the practitioner meets all of the statutory requirements for a waiver. If the statutory requirements for a waiver are met, the DEA verifies the practitioner's current registration and assigns an identification number to the practitioner. This information is conveyed to the practitioner by a letter issued from SAMHSA. At this point, the practitioner is considered to be a waived practitioner.

Waived practitioners must comply with all sections of the CSA regarding validity of prescriptions, recordkeeping, inventory, and medication administration or dispensing. DEA is authorized to conduct periodic on-site inspections of all registrants. As of 2013, DEA had systematically visited nearly all waived practitioners. Most inspections were uneventful, and the majority of practitioners were found to be in compliance. Problems encountered typically involved administrative issues and required practitioners to make changes to recordkeeping practices. Should DEA find violations of law, it can revoke a practitioner's right to prescribe buprenorphine and take further legal action, if necessary.

#### *E. Evaluations of the Current System*

Evaluations of the process for granting waivers under the 21 U.S.C. 823(g)(2) waiver system are limited. In 2006, SAMHSA published the results of an evaluation that examined the availability and effectiveness of treatment as well as adverse consequences.<sup>48</sup>

A number of barriers to MAT adoption using buprenorphine in an office-based setting were identified in this evaluation, with three in particular that were consistently identified amongst waived practitioners as problematic: (1) The 30-patient limit, (2) limited third-party reimbursement, and

(3) high medication/treatment costs. Additional barriers identified include a hesitation to initiate buprenorphine prescribing because of (1) a lack of a sufficient number of patients needing MAT for opioid use disorders, (2) difficult initial treatment setup and logistics, and (3) patients' reluctance around counseling as a component of treatment. A number of non-waived practitioners cited common challenges to obtaining a waiver, including lack of appropriate training or experience, concerns about recordkeeping and potential audits by DEA, and a scarcity of appropriate concomitant counseling resources in their areas.

More recently, in September 2014, SAMHSA, in partnership with the National Institute on Drug Abuse, convened a meeting of expert professionals for a Buprenorphine Summit to gather the perspectives of leaders from the field regarding the state of practice and their assessment of possible strategies for moving forward. This Summit presented an opportunity for active and collaborative discussion about caring for patients; designing, operating, and sustaining programs; supporting recovery; and training practitioners. The participants explored what is known about the adoption of MAT with buprenorphine-containing products to treat opioid use disorder; reasons why it has not been as widely prescribed as might have been expected; and ways that Federal agencies, health professionals, and concerned individuals might enable buprenorphine treatment to become more accessible.

Participants from the Summit provided some reasons waived practitioners were not prescribing buprenorphine, including but not limited to the following: Practitioners do not have practice partners with waivers or practice partners who can provide cross-coverage because of the interpretation of the patient limit; they lack institutional support; their community lacks psychosocial resources for patients; they feel that with current patient limits, they cannot treat a sufficient volume of patients to meet all of the costs of providing buprenorphine given current third-party reimbursement; the regulations and scrutiny particular to prescribing buprenorphine can make them feel as if they are doing something questionable by prescribing it; and current confidentiality rules make it difficult to integrate substance use disorder care with primary care.

Some of the ideas that came out of the Summit included strategies to expand availability of buprenorphine treatment for opioid use disorders, such as

<sup>45</sup> Controlled Substance Schedules. (2015). Retrieved from: <http://www.deadiversion.usdoj.gov/schedules/>.

<sup>46</sup> “A bill to amend the Controlled Substances Act to lift the patient limitation on prescribing drug addiction treatments by medical practitioners in group practices, and for other purposes” (Pub. L. 109–56).

<sup>47</sup> See 21 CFR 1301.28(b)(1)(iii) and (iv).

<sup>48</sup> Substance Abuse and Mental Health Services Administration. (2006). *The SAMHSA Evaluation of the Impact of the DATA Waiver Program*. Retrieved from: [http://www.buprenorphine.samhsa.gov/FOR\\_FINAL\\_summaryreport\\_colorized.pdf](http://www.buprenorphine.samhsa.gov/FOR_FINAL_summaryreport_colorized.pdf).



examining the elimination of restrictions on prescribing buprenorphine. Specific ideas included enabling non-physician practitioners to prescribe buprenorphine (which would require a legislative change); raising the cap on how many patients a practitioner can have in treatment at a time; and allowing practitioners to cross-cover one another on a short-term basis, which is a practice standard across medicine, without being in violation of the patient limit. The latter two are addressed in this Notice of Proposed Rulemaking (NPRM).

#### F. Need for Rulemaking

In the intervening 15 years since enactment of 21 U.S.C. 823(g)(2), there have been a number of changes, including the amendment that (1) allowed for practitioners in group practices to prescribe up to 30 patients individually regardless of whether they are in a group or sole practice, and (2) allowed for practitioners who had a waiver for at least 1 year to submit a second NOI to treat up to 100 patients at a time. Other changes include expansion in insurance coverage and parity protections due to passage of the Mental Health Parity and Addiction Equity Act, as well as the Affordable Care Act. Educational and training activities have also expanded, including the FDA Risk Evaluation and Mitigation Strategy (REMS) for buprenorphine and SAMHSA's Provider Clinical Support System for MAT. In addition, a new subspecialty board certification has been developed for allopathic physicians in addiction medicine, creating a pathway for more physicians to obtain broader knowledge of substance use disorders in general.

Despite this progress, the nation finds itself in the midst of a public health crisis of opioid addiction, misuse, and related morbidity and mortality.<sup>49</sup> Each day in the United States, 44 people die from overdose of prescription pain relievers.<sup>50</sup> As previously stated, in 2014, opioids were involved in 28,647 deaths, or 61 percent of all drug overdose deaths; the rate of opioid overdoses has tripled since 2000.<sup>51</sup>

There are approximately 1,400 OTPs and 31,857 practitioners waived to prescribe buprenorphine. The use of

extended-release injectable naltrexone has also made an important contribution to increasing access to MAT in the private physician office-based setting, but the number of patients receiving treatment with naltrexone in such settings is not known. Providers wishing to serve more people have the option of both office-based MAT with buprenorphine products as well as specialty addiction treatment programs that include an OTP. However, recent research has also shown that an estimated 1 million people out of 2.3 million individuals in the U.S. with opioid abuse or dependence were untreated.<sup>52</sup> This assumes that practitioners were treating patients at maximum capacity. Data from DATA-waived providers in 2008<sup>53</sup> indicate that practitioners are likely only reaching 57 percent of their total patient capacity for buprenorphine treatment. At the State level, an estimated 3 patients per 1,000 people in the U.S. had an unmet need for treatment, assuming that practitioners were treating patients at maximum potential capacity.<sup>54</sup>

While the Federal Guidelines for OTPs, published early in 2015, promote the use of both buprenorphine and naltrexone, in addition to methadone, in the approximately 1,400 OTPs, increasing access to MAT through OTPs is limited by several factors. These factors include the fact that the patient capacity of individual OTPs is typically determined by State licensing requirements, building permits, or other State or local regulations. Geography and the daily nature of methadone treatment are other factors that affect the ability to expand access to MAT via OTPs in general, but they do not directly relate to the capacity of an individual OTP to treat patients. Rather they are limitations on the expansion of access to more individuals utilizing methadone specifically.

HHS is promoting access to all forms of MAT for opioid use disorder through multiple activities included in the Secretary's Opioid Initiative. Given the Secretary's unique authority to increase the patient limit on treatment under 21 U.S.C. 823(g)(2) by rulemaking, the proposed rule is an essential element of

a comprehensive approach to increasing access to MAT.

Increasing the limits on the number of patients per waived practitioner has been requested by many individuals, organizations, and entities. In a letter to the Secretary, ASAM notes that the prescribing limit is a major barrier to patient access to care and the current limits place arbitrary limits on the number of patients a practitioner can treat. It also notes that no other medications are limited in such a manner.<sup>55</sup> The American Psychiatric Association, American Academy of Addiction Psychiatry, and the American Osteopathic Academy of Addiction Medicine also wrote to the Secretary and stated that as "the number of people addicted to these opioids increases, there continues to be a shortage of physicians who are appropriately trained to treat them. The shortage severely complicates and impairs our ability to effectively address the epidemic, particularly in many rural and underserved areas of the nation."<sup>56</sup>

In sum, given the public health crisis of opioid misuse and abuse and the treatment gap between those individuals with an opioid use disorder and those currently receiving treatment, this proposed rule is needed to raise the patient cap in an effort to increase access to MAT with buprenorphine and associated counseling and supports. In keeping with the spirit of mental health parity, we emphasize that competency in addiction care should exist throughout the healthcare continuum. To balance optimal access and safety, we strive to ensure that the credentials needed to prescribe MAT are within reach for interested physicians, programs are practical to implement, and reporting requirements are not perceived as a barrier to participation. We seek comment on whether the proposed rule appropriately strikes this balance.

#### IV. Summary of Proposed Rule

##### A. General

To date, SAMHSA has implemented the provisions of 21 U.S.C. 823(g)(2) without rulemaking due to the clear and specific provisions included in the statute. As authorized by the statute at 21 U.S.C. 823(g)(2)(B)(iii), SAMHSA is initiating rulemaking at this time to increase access to MAT with

<sup>49</sup> FACT SHEET: Obama Administration Announces Public and Private Sector Efforts to Address Prescription Drug Abuse and Heroin Use. (2015, October 21). Retrieved from: <https://www.whitehouse.gov/the-press-office/2015/10/21/fact-sheet-obama-administration-announces-public-and-private-sector>.

<sup>50</sup> Centers for Disease Control and Prevention, *supra* note 27.

<sup>51</sup> Rudd, *supra* note 28.

<sup>52</sup> Jones CM, Campopiano M, Baldwin G, McCance-Katz E. National and state treatment need and capacity for opioid agonist medication-assisted treatment. *Am J Public Health* 2015;105(8):e55–e63.

<sup>53</sup> Arfken CL, Johanson CE, Menza SD, Schuster CR. Expanding treatment capacity for opioid dependence with office-based treatment with buprenorphine: national surveys of physicians. *J Subst Abuse Treat*. 2010;39(2):96–104.

<sup>54</sup> Jones, *supra* note 53.

<sup>55</sup> Letter to Secretary Burwell from the American Society for Addiction Medicine, July 31, 2014.

<sup>56</sup> Letter to Secretary Burwell from the American Psychiatric Association, American Academy of Addiction Psychiatry, and the American Osteopathic Academy of Addiction Medicine, July 25, 2014.

buprenorphine in the office-based setting as authorized under 21 U.S.C. 823(g)(2). The proposed rule would increase the highest available patient limit for qualified practitioners to receive a waiver from 100 to 200. This new higher patient limit would significantly increase patient capacity for practitioners qualified to prescribe at this level while also ensuring that waived practitioners would be able to provide the full treatment continuum associated with MAT.

Practitioners authorized to treat up to 200 patients under 21 U.S.C. 823(g)(2) would be required to meet infrastructure, capacity, and reporting requirements that exceed those required for the lower limits. The incremental increase from 100 to 200 patients and the concomitant reporting requirements would allow the Department to monitor the quality of care being delivered, identify any changes in the rate of diversion, and improvements in health outcomes for opioid-dependent patients. It would attach additional criteria and responsibilities to practitioners who would be able to treat up to 200 patients with the specific aims of ensuring quality of care and minimizing diversion. Importantly, the additional criteria and responsibilities are not intended to be unduly burdensome to the practitioner who wishes to expand his or her MAT treatment practice and we seek comment on the associated burden. Rather, they are intended to reflect the current standard of care for the treatment of opioid use disorder while also recognizing the growing demand for opioid use disorder treatment integrated into the non-specialist practice in more mainstream settings. This proposed rule does not add these additional requirements to practitioners who have a waiver to treat 100 or fewer patients under 21 U.S.C. 823(g)(2). The proposed rule also would create an option for an increased patient limit for practitioners responding to emergency situations that require immediate, increased access to MAT pharmacotherapies. Also included in the proposed rule are key definitions.

This proposal would add subpart F to 42 CFR part 8. To accomplish this, additional changes would be made to part 8. Proposed changes to part 8 to accommodate the proposed rule include retitling the part to encompass all MAT over which the Secretary has regulatory authority. Consequently, under the proposed rule, subpart A would be entitled General Provisions. Current subparts A, B, and C would change to subparts B, C, and D, respectively. The titles of these subparts would be revised

to make it clear that they apply only to OTPs.

#### *B. Scope (§ 8.1)*

Under the proposed rule, the scope of part 8 would encompass rules that are applicable to OTPs, and to waived practitioners who seek to provide MAT to more than 100 patients. New subparts B through D under the proposed rule would contain the rules relevant to OTPs. Subpart E would be reserved and Subpart F would contain the proposed new rule. Section 8.1 would also explain that the proposed rules in the new subpart F pertain only to those practitioners using a waiver under 21 U.S.C. 823(g)(2) with a patient limit of 101 to 200.

#### *C. Definitions (§ 8.2)*

The definitions section would apply to the entirety of part 8. Definitions that would apply only to OTPs would be revised to reflect this in the specific definition. Two definitions would be eliminated: “Registered opioid treatment program” would be deleted because the term is not used anywhere in the text of the regulations; and the definition for “opiate addiction” would be renamed “opioid use disorder.”

This proposed rule also includes a definition of “patient.” At present, the definition of “patient” in § 8.2 is limited to those individuals receiving treatment at an OTP, which excludes those individuals receiving office-based opioid treatment with buprenorphine, *i.e.*, those subject to 21 U.S.C. 823(g)(2). As a result, there has been confusion among providers, insurers, pharmacists, and diversion investigators. This stems in part from the difference between formal admission and discharge practices that are customarily used in OTPs and other substance use disorder treatment programs and the more open-ended relationship between patient and practitioner in general medical and psychiatric practice. This confusion has also complicated the data collection necessary to assess access to treatment on community, state, and national levels. It has also hindered cross-coverage due to a concern that covering a patient for a short period of time keeps a practitioner accountable for that patient for an extended period of time.

The proposed rule would revise the definition of patient to make it inclusive of all persons receiving MAT with an opioid medication, consistent with the expanded scope of proposed revisions to 42 CFR part 8. By proposing that patient “means any individual who receives MAT from a practitioner or program subject to this part,” the definition would apply to the entire

period during which the eligible medication is expected to be used by the patient while under that practitioner’s care. For example, if a practitioner provides cross-coverage for another practitioner, and in the course of that coverage the covering practitioner provides a prescription for buprenorphine, the patient counts towards the cross-covering practitioner’s patient limit until the prescription has expired. However, if a cross-covering practitioner is merely available for consult but does not provide a prescription for buprenorphine while the prescribing practitioner is away, the patients being covered do not count towards the cross-covering practitioner’s patient limit at all. Therefore, this definition would be expected to help ensure consistency and clarity in how waived practitioners count patients towards the limit. We seek comments on this definition and other examples of coverage arrangements where clarity would be helpful.

The proposed rule would include the following definition of patient limit: “the maximum number of individual patients a practitioner may treat at any time using covered medications.”

Taken together, these two definitions would provide clear and fair guidance for regulatory enforcement and would be expected to reduce undercounting of patients by practitioners and, furthermore, would exclude those patients with whom a practitioner interacts as a professional courtesy or in a transitory fashion on behalf of another waived physician from being counted against the covering practitioner’s patient limit for an extended period of time. In this way it is expected that waived practitioners will be able to provide reciprocal cross-coverage of patients for brief periods, such as weekends or vacations, without implications, long-term or possibly at all, for their respective individual limits.

Other new definitions would include “behavioral health services,” “nationally recognized evidence-based guidelines” and “emergency situation.” These definitions would be in-line with definitions offered elsewhere and applied in the field. They would be minimally modified from other existing definitions to clarify the application of these terms to the unique circumstances of the practitioner providing MAT under 21 U.S.C. 823(g)(2).

In addition, this proposed rule would define “nationally recognized evidence-based guidelines” to mean a document produced by a national or international medical professional association, public health entity, or governmental body

with the aim of ensuring the appropriate use of evidence to guide individual diagnostic and therapeutic clinical decisions. Some examples include the ASAM National Practice Guidelines for the Use of Medications in the Treatment of Addiction Involving Opioid Use; SAMHSA's Treatment Improvement Protocol 40: Clinical Guidelines for the Use of Buprenorphine in the Treatment of Opioid Addiction; the World Health Organization Guidelines for the Psychosocially Assisted Pharmacological Treatment of Opioid Dependence; and the Federation of State Medical Boards' Model Policy on DATA 2000 and Treatment of Opioid Addiction in the Medical Office. SAMHSA would expect that guidelines falling into this definition may change over time but would not plan to keep a list for practitioners to consult.

#### *D. Opioid Treatment Programs (§§ 8.3 Through 8.34)*

Proposed retitled subparts B, C, and D would contain §§ 8.3 through 8.34. Proposed changes to these sections would be limited to changing the mailing address for program certification and accreditation body approval and updating terms, such as "opiate" and "opiate addiction" to "opioid" and "opioid use disorder," respectively.

#### *E. Which Practitioners Are Eligible for a Patient Limit of 200? (§ 8.610)*

This is the first proposed section of the new subpart F. Proposed § 8.610 would describe which practitioners are eligible for a patient limit of 200. Under routine conditions, a practitioner would qualify for the higher limit in one of two ways: By possessing subspecialty board certification in addiction medicine or addiction psychiatry or by practicing in a qualified practice setting as defined in the rule. In either case, practitioners with the higher limit would have to possess a waiver to treat 100 patients for at least 1 year in order to gain experience treating at a higher limit. The purpose of offering the 200 patient limit to practitioners in these two categories is to recognize the benefit offered to patients through: (1) The advanced training and maintenance of knowledge and skill associated with the acquisition of subspecialty board certification; and (2) the higher level of direct service provision and care coordination envisioned in the qualified practice setting. This approach would restrict access to the 200 patient limit to a subset of the practitioners waived to provide care to up to 100 patients. In addition to ensuring higher quality of care, the criteria for the higher limit

would be intended to minimize the risk of diversion of controlled substances to illicit use and accidental exposure that could result from increased prescribing of buprenorphine. A practitioner with board certification in an addiction subspecialty would have to have the training and experience necessary to recognize and address behaviors associated with increased risk of diversion. In the qualified practice settings, SAMHSA believes that the care team and practice systems will function to help ensure this same level of care. We seek comments on this proposed approach, including comments on whether there are other ways for SAMHSA to ensure quality and safety while encouraging practitioners to take on additional patients.

#### *F. What Constitutes a Qualified Practice Setting? (§ 8.615)*

Proposed § 8.615 would describe the necessary elements of a qualified practice setting, which can include practices with as few as one waived provider as long as these criteria are met and can include both private practices and community-based clinics. Necessary elements of a qualified practice setting would include having: (1) The ability to offer patients professional coverage for medical emergencies during hours when the practitioner's practice is closed; this does not need to involve another waived practitioner, only that coverage be available for patients experiencing an emergency even when the office is closed; (2) the ability to ensure access to patient case-management services; (3) health information technology (HIT) systems such as electronic health records, when practitioners are required to use it in the practice setting in which he or she practices; (4) participation in a prescription drug monitoring program (PDMP), where operational, and in accordance with State law. PDMP means a statewide electronic database that collects designated data on substances dispensed in the State. For practitioners providing care in their capacity as employees or contractors of a Federal government agency, participation in a PDMP would be required only when such participation is not restricted based on State law or regulation based on their state of licensure and is in accordance with Federal statutes and regulations; and (6) employment, or a contractual obligation to treat patients in a setting that has the ability to accept third-party payment for costs in providing health services, including written billing, credit and

collection policies and procedures, or Federal health benefits.

The elements were identified as common to many high-quality practice settings, which includes both private practices as well as federally qualified health centers and community mental health centers, and therefore worthy of replication. The elements would be expected to be common to OTPs, and OTPs currently in operation but not providing MAT under 21 U.S.C. 823(g)(2). Taken together, this would facilitate additional opportunities to expand access to MAT. Another consideration in the selection of these elements would be the need to limit the expansion of group practices formed for the sole purpose of pooling the individual practitioner limits to maximize revenue but which fail to offer a full continuum of services. HHS seeks comment on additional, alternate pathways by which a practitioner may become eligible to apply for a patient waiver of 200.

#### *G. What is the process to request a patient limit of 200? (§ 8.620)*

Proposed § 8.620 would describe the process to request a patient limit of 200. Similar to the waiver process for the 30 and 100 patient limits, the process would begin with filing a Request for Patient Limit Increase. A proposed draft of the Request for Patient Limit Increase is in the docket. Public comment is requested. The higher patient limit would carry with it greater responsibility for behavioral health services, care coordination, diversion control, and continuity of care in emergencies and for transfer of care in the event approval to treat up to 200 patients is not renewed or is denied. The new Request for Patient Limit Increase process would require providers to affirm that they would meet these requirements. The proposed definitions of "behavioral health services," "diversion control plan," "emergency situation," "nationally recognized evidence-based guidelines" and "practitioner incapacity" would be provided in § 8.2 to assist practitioners in understanding what is expected of them in making these attestations. These responsibilities would be aligned with the standards of ethical medical and business practice and would not be expected to be burdensome to practitioners. Resources exist to help in the development in patient placement in the event transfer to other addiction treatment would be required, for example, if a provider chose to no longer practice at the 200 patient limit. Examples of these resources would include but are not limited to: Single

State Authorities and State Opioid Treatment Authorities. Practitioners approved to treat up to 200 patients would also be required to reaffirm their ongoing eligibility to fulfill these requirements every 3 years as described in § 8.640.

*H. How will a request for patient limit increase be processed? (§ 8.625)*

Proposed § 8.625 would describe how SAMHSA will process a Request for Patient Limit increase. The process for requesting a patient limit up to 200 would be processed similarly to how the current 30 or 100 patient waiver is processed, with one difference. Whereas the lower patient limit waivers are not time limited, the waiver for the higher limit of 200 would have a term not to exceed 3 years. Thus, a practitioner would be required to submit a new Request for Patient Limit Increase every 3 years if he or she desired to continue treating up to 200 patients.

*I. What must practitioners do in order to maintain their approval to treat up to 200 patients under § 8.625? (§ 8.630)*

Proposed § 8.630 would describe the conditions for maintaining a waiver for each 3-year period for which waivers are valid, including maintenance of all eligibility requirements specified in § 8.610, and all attestations made in accordance with § 8.620(b). Compliance with the requirements specified in § 8.620 would have to be continuous. This includes compliance with reporting requirements specified in § 8.635.

*J. What are the reporting requirements for practitioners whose request for patient limit increase is approved under § 8.625? (§ 8.635)*

Proposed § 8.635 would describe the reporting requirements for practitioners whose Request for Patient Limit Increase is approved under § 8.625. Reporting would be required annually to ensure that eligibility requirements are being maintained and that waiver conditions are being fulfilled. We seek comments on whether the proposed reporting periods and deadline could be combined with other, existing reporting requirements in a way that would make reporting less burdensome for practitioners. Reporting requirements may include a request for information regarding:

- a. The average monthly caseload of patients receiving buprenorphine-based MAT, per year
- b. Percentage of active buprenorphine patients (patients in treatment as of reporting date) that received psychosocial or case management

services (either by direct provision or by referral) in the past year due to:

1. Treatment initiation
2. Change in clinical status
- c. Percentage of patients who had a prescription drug monitoring program query in the past month
- d. Number of patients at the end of the reporting year who:
  1. Have completed an appropriate course of treatment with buprenorphine in order for the patient to achieve and sustain recovery
  2. Are not being seen by the provider due to referral by the provider to a more or less intensive level of care
  3. No longer desire to continue use of buprenorphine
  4. Are no longer receiving buprenorphine for reasons other than 1–3.

We seek comment on this list.

*K. What is the process for renewing a practitioner's request for patient limit increase approval? (§ 8.640)*

Proposed § 8.640 would describe the process for a practitioner renewing his or her approval for the higher patient limit. In order for a practitioner to renew an approval, he or she would have to submit a renewal Request for Patient Limit Increase in accordance with the procedures outlined under § 8.620 at least 90 days before the expiration of the approval term.

*L. What are the responsibilities of practitioners who do not submit a renewal request for patient limit increase or whose request is denied? (§ 8.645)*

Proposed § 8.645 would describe the responsibilities of practitioners who do not submit a renewal Request for Patient Limit Increase or whose request is denied. Under § 8.620(b)(7) practitioners would notify all patients affected above the 100 patient limit, that the practitioner would no longer be able to provide MAT services using covered medications and would make every effort to transfer patients to other addiction treatment.

*M. Can SAMHSA suspend or revoke a practitioner's patient limit increase approval? (§ 8.650)*

Proposed § 8.650 would describe under what circumstances SAMHSA would suspend or revoke a practitioner's patient limit increase of 200. If SAMHSA had reason to believe that immediate action would be necessary to protect public health or safety, SAMHSA would suspend the practitioner's patient limit increase of

200. If SAMHSA determined that the practitioner had made misrepresentations in his or her Request for Patient Limit Increase, or if the practitioner no longer satisfied the requirements of this subpart, or he or she has been found to have violated the CSA pursuant to 21 U.S.C. 824(a), SAMHSA would revoke the practitioner's patient limit increase of 200.

*N. Can a practitioner request to temporarily treat up to 200 patients in emergency situations? (§ 8.655)*

Proposed § 8.655 would describe the process, including the information and documentation necessary, for a practitioner with an approved 100 patient limit, to request approval to temporarily treat up to 200 patients in an emergency situation. The intention of this provision would be to help assure continuity of care for patients whose care might otherwise be abruptly terminated due to the death or disability of their practitioner. This provision would also help communities respond rapidly to a sudden increase in demand for medication assisted treatment. Sudden increases in demand for treatment may be experienced when there is a local disease outbreak associated with drug use, or when a natural or human-caused disaster either displaces persons in treatment from their practitioner or program or destroys program infrastructure. The emergency provision generally would not be intended to correct poor resource deployment due to lack of planning. The emergency provision of the proposed rule would only be considered if other options for addressing the increased demand for medication-assisted treatment could not address the situation.

The practitioner must provide information and documentation that: (1) Describes the emergency situation in sufficient detail so as to allow a determination to be made regarding whether the emergency qualifies as an emergency situation as defined in § 8.2, and that provides a justification for an immediate increase in that practitioner's patient limit; (2) Identifies a period of time in which the higher patient limit should apply, and provides a rationale for the period of time requested; and (3) Describes an explicit and feasible plan to meet the public and individual health needs of the impacted persons once the practitioner's approval to treat up to 200 patients expires. Prior to taking action on a practitioner's request under this section, SAMHSA shall consult, to the extent practicable, with the appropriate governmental authority in order to

determine whether the emergency situation that a practitioner describes justifies an immediate increase in the higher patient limit. If, after consultation with the governmental authority, SAMHSA determines that a practitioner's request under this section should be granted, SAMHSA will notify the practitioner that his or her request has been approved. The period of such approval shall not exceed six months. A practitioner wishing to receive an extension of the approval period granted must submit a request to SAMHSA at least 30 days before the expiration of the six month period and certify that the emergency situation continues. Except as provided in this section and § 8.650, requirements in other sections under subpart F do not apply to practitioners receiving waivers in this section.

#### V. Collection of Information Requirements

Under the Paperwork Reduction Act of 1995 (PRA), agencies are required to provide 60-day notice in the **Federal Register** and solicit public comment before a collection of information requirement is submitted to the Office of Management and Budget (OMB) for review and approval. Currently, the information collection associated with the 30-patient and 100-patient limits is approved under OMB Control No. 0930-0234. In order to fairly evaluate whether changes to an information collection should be approved by the OMB, section 3506(c)(2)(A) of the PRA requires that we solicit comment on the following issues:

1. Whether the information collection is necessary and useful to carry out the proper functions of the agency;
2. The accuracy of the agency's estimate of the information collection burden;
3. The quality, utility, and clarity of the information to be collected; and
4. Recommendations to minimize the information collection burden on the affected public, including automated collection techniques.

Under the PRA, the time, effort, and financial resources necessary to meet the information collection requirements referenced in this section are to be considered in rulemaking. We explicitly seek, and will consider, public comment on our assumptions as they relate to the PRA requirements summarized in this section. This proposed rule includes changes to information collection requirements, that is, reporting, recordkeeping or third-party disclosure requirements, as defined under the PRA (5 CFR part 1320). Some of the provisions would involve changes from

the information collections set out in the previous regulations.

Information collection requirements would be:

A. Approval, 42 CFR 8.620(a) through (c): In order for a practitioner to receive approval for a patient limit of 200, a practitioner must meet all of the requirements specified in § 8.610 and submit a Request for Patient Limit Increase to SAMHSA that includes all of the following:

- Completed 3-page Request for Patient Limit Increase Form, a draft of which is available for review in the public docket;
- Statement certifying that the practitioner:
  - Will adhere to nationally recognized evidence-based guidelines for the treatment of patients with opioid use disorders;
  - Will provide patients with necessary behavioral health services as defined in § 8.2 or will provide such services through an established formal agreement with another entity to provide behavioral health services;
  - Will provide appropriate releases of information, in accordance with Federal and State laws and regulations, including the Health Information Portability and Accountability Act Privacy Rule and part 2 of this chapter, if applicable, to permit the coordination of care with behavioral health, medical, and other service practitioners;
  - Will use patient data to inform the improvement of outcomes;
  - Will adhere to a diversion control plan to manage the covered medications and reduce the possibility of diversion of covered medications from legitimate treatment use;
  - Has considered how to assure continuous access to care in the event of practitioner incapacity or an emergency situation that would impact a patient's access to care as defined in § 8.2; and
  - Will notify all patients above the 100 patient level, in the event that the request for the higher patient limit is not renewed or is denied, that the practitioner will no longer be able to provide MAT services using buprenorphine to them and make every effort to transfer patients to other addiction treatment;

B. Diversion Control Plan, 42 CFR 8.12(c)(2): Creating and maintaining a diversion control plan is one of the requirements that practitioners must attest to before they are approved to treat at the higher limit. This plan is not required to be submitted to SAMHSA.

C. Reporting, 42 CFR 8.635: Reporting will be required annually to ensure that eligibility requirements are being

maintained and that waiver conditions are being fulfilled. Reporting requirements may include a request for information regarding: (1) The average monthly caseload of patients receiving buprenorphine-based MAT, per year; (2) the percentage of active buprenorphine patients (patients in treatment as of reporting date) who received psychosocial or case management services (either by direct provision or by referral) in the past year due to treatment initiation or change in clinical status; (3) Percentage of patients who had a prescription drug monitoring program query in the past month; (4) Number of patients at the end of the reporting year who: (a) Have completed an appropriate course of treatment with buprenorphine in order for the patient to achieve and sustain recovery, (b) Are not being seen by the provider due to referral by the provider to a more or less intensive level of care, (c) No longer desire to continue use of buprenorphine, (d) Are no longer receiving buprenorphine for reasons other than (a) through (c). To facilitate public comment, we have placed a draft version of the collection template in the public docket.

D. Renewal, 42 CFR 8.640: Describes the process for a practitioner renewing his or her approval for the higher patient limit. In order for a practitioner to renew an approval, he or she must submit a renewal Request for Patient Limit Increase in accordance with the procedures outlined under § 8.620 at least 90 days before the expiration of the approval term.

E. Patient Notice, 42 CFR 8.645: Describes the responsibilities of practitioners who do not submit a renewal Request for Patient Limit Increase. Practitioners who do not renew their Request for Patient Limit Increase must notify all patients above the 100 patient limit that the practitioner will no longer be able to provide MAT services using covered medications and make every effort to transfer patients to other addiction treatment. The Patient Notice is a model notice to guide practitioners in this situation when they notify their patients.

F. Emergency Provisions, 42 CFR 8.655: Describes the process for practitioners with a current waiver to prescribe up to 100 patients, and who are not otherwise eligible to treat up to 200 patients, to request a temporary increase to treat up to 200 patients in order to address emergency situations as defined in § 8.2. To initiate this process, the practitioner shall provide information and documentation that: (1) Describes the emergency situation in

sufficient detail so as to allow a determination to be made regarding whether the situation qualifies as an emergency situation as defined in § 8.2, and that provides a justification for an immediate increase in that practitioner's patient limit; (2) Identifies a period of time, not longer than 6 months, in which the higher patient limit should

apply, and provides a rationale for the period of time requested; and (3) Describes an explicit and feasible plan to meet the public and individual health needs of the impacted persons once the practitioner's approval to treat up to 200 patients expires. If a practitioner wishes to receive an extension of the approval period granted under this section, he or

she must submit a request to SAMHSA at least 30 days before the expiration of the 6-month period, and certify that the emergency situation as defined in § 8.2 necessitating an increased patient limit continues.

Annual burden estimates for these requirements are summarized in the following table:

42 CFR Citation	Purpose of submission	Number of respondents	Responses/ respondent	Burden/ response (hour)	Total burden (hour)	Hourly wage cost (\$)	Total wage cost (\$)
8.620(a) through (c) ....	Request for Patient Limit Increase.	517	1	.5	259	\$93.74	\$24,232
8.12(c)(2) .....	Diversion Control Plan .....	517	1	.5	259	93.74	24,232
8.635 .....	Annual Report .....	1,350	1	3	4,050	64.47	261,104
8.640 .....	Renewal Request for a Patient Limit Increase.	0	1	.5	0	93.74	0
8.645 .....	Patient Notice .....	0	1	3	0	93.74	0
8.655(d) .....	Request for a Temporary Patient Increase for an Emergency.	10	1	3	30	64.47	1,934
Total .....	.....	2,394	.....	.....	4,598	.....	311,502

Note that these estimates differ from those found in the RIA because the estimates here are wage cost estimates while the estimates in the RIA are resource cost estimates which incorporate costs associated with overhead and benefits.

For more detailed estimates, please refer to the public docket, which includes a copy of the draft supporting statement associated with this information collection.

## VI. Regulatory Impact Analysis

### A. Introduction

HHS has examined the impact of this proposed rule under Executive Order 12866 on Regulatory Planning and Review (September 30, 1993), Executive Order 13563 on Improving Regulation and Regulatory Review (January 18, 2011), the Regulatory Flexibility Act of 1980 (Pub. L. 96–354, September 19, 1980), the Unfunded Mandates Reform Act of 1995 (Pub. L. 104–4, March 22, 1995), and Executive Order 13132 on Federalism (August 4, 1999).

Executive Order 12866 directs agencies to assess all costs and benefits of available regulatory alternatives and, if regulation is necessary, to select regulatory approaches that maximize net benefits (including potential economic, environmental, public health, and safety effects; distributive impacts; and equity). Executive Order 13563 is supplemental to and reaffirms the principles, structures, and definitions governing regulatory review as established in Executive Order 12866. HHS expects that this proposed rule will have an annual effect on the

economy of \$100 million or more in at least 1 year and therefore is a significant regulatory action as defined by Executive Order 12866.

The Regulatory Flexibility Act (RFA) requires agencies that issue a regulation to analyze options for regulatory relief of small businesses if a rule has a significant impact on a substantial number of small entities. The RFA generally defines a “small entity” as (1) a proprietary firm meeting the size standards of the Small Business Administration; (2) a nonprofit organization that is not dominant in its field; or (3) a small government jurisdiction with a population of less than 50,000 (States and individuals are not included in the definition of “small entity”). HHS considers a rule to have a significant economic impact on a substantial number of small entities if at least 5 percent of small entities experience an impact of more than 3 percent of revenue. HHS anticipates that the proposed rule will not have a significant economic impact on a substantial number of small entities. We provide supporting analysis in section F.

Section 202(a) of the Unfunded Mandates Reform Act of 1995 requires that agencies prepare a written statement, which includes an assessment of anticipated costs and benefits, before proposing “any rule that includes any Federal mandate that may result in the expenditure by State, local, and tribal governments, in the aggregate, or by the private sector, of \$100,000,000 or more (adjusted annually for inflation) in any one year.” The current threshold

after adjustment for inflation is \$144 million, using the most current (2014) implicit price deflator for the gross domestic product. HHS expects this proposed rule to result in expenditures that would exceed this amount.

Executive Order 13132 establishes certain requirements that an agency must meet when it promulgates a rule that imposes substantial direct requirement costs on State and local governments or has federalism implications. HHS has determined that the proposed rule, if finalized, would not contain policies that would have substantial direct effects on the States, on the relationship between the Federal Government and the States, or on the distribution of power and responsibilities among the various levels of government. The proposed changes in the rule represent the Federal Government regulating its own program. Accordingly, HHS concludes that the proposed rule does not contain policies that have federalism implications as defined in Executive Order 13132 and, consequently, a federalism summary impact statement is not required.

### B. Summary of the Proposed Rule

Section 303(g)(2) of the CSA (21 U.S.C. 823(g)(2)) allows individual practitioners to dispense and prescribe Schedule III, IV, or V controlled substances that have been approved by the FDA specifically for use in maintenance and detoxification treatment without obtaining the separate registration required by 21 CFR 1301.13(e) and imposes a limit on the

number of patients a practitioner may treat at any one time.

Section 303(g)(2)(B)(iii) of the CSA allows qualified practitioners who file an initial NOI to treat a maximum of 30 patients at a time. After one year, the practitioner may file a second NOI indicating his/her intent to treat up to 100 patients at a time. To qualify, the practitioner must be a practitioner, possess a valid license to practice medicine, be a registrant of the DEA, have the capacity to refer patients for appropriate counseling and other appropriate ancillary services, and have completed required training. The training requirement may be satisfied in several ways: One may hold subspecialty board certification in addiction psychiatry from the American Board of Medical Specialties or addiction medicine from the American Osteopathic Association; hold an addiction certification from the American Society of Addiction Medicine (ASAM); complete an 8-hour training provided by an approved organization; have participated as an investigator in one or more clinical trials leading to the approval of a medication that qualifies to be prescribed under 21 U.S.C. 823(g)(2); or complete other training or have such other experience as the state medical licensing board or Secretary of HHS considers to demonstrate the ability of the practitioner to treat and manage persons with opioid use disorder.

Pursuant to 21 U.S.C. 823(g)(2)(B)(iii), the Secretary is authorized to promulgate regulations that change the total number of patients that a practitioner may treat at any one time.

The laws pertaining to the utilization of buprenorphine were last revised approximately ten years ago at a time when the extent of the opioid public health crisis was less well-documented. The purpose of the proposed rule is to expand access to MAT with buprenorphine while encouraging practitioners administering buprenorphine to ensure their patients can receive the full array of services that comprise evidence-based MAT and to minimize the risk of drug diversion. The proposed rule would revise the highest patient limit from 100 patients per practitioner with an existing waiver (waivered practitioner) to 200 patients for practitioners who meet certain criteria in addition to those established in statute. Practitioners who have had a waiver to treat 100 patients for at least one year could obtain approval to treat up to 200 patients if they meet the requirements defined in this proposed rule and after submitting a Request for Patient Limit Increase to SAMHSA.

Practitioners approved to treat up to 200 patients will also be required to accept greater responsibility for providing behavioral health services and care coordination, and ensuring quality assurance and improvement practices, diversion control, and continuity of care in emergencies. The higher limit will also carry with it the duty to regularly reaffirm the practitioner's ongoing eligibility and to participate in data reporting and monitoring as required by SAMHSA. In addition, practitioners in good standing with a current waiver to treat up to 100 patients (*i.e.*, the practitioner has filed a NOI and satisfied all required criteria) may request approval to treat up to 200 patients in specific emergency situations for a limited time period specified in the rule. We anticipate that qualifying emergency situations will occur very infrequently. As a result, we do not anticipate that this provision will contribute significantly to the impact of this proposed rule. SAMHSA will review all emergency situation requests, to the extent practicable, in consultation with appropriate governmental authorities before such requests are granted. Finally, the proposed rule defines patient limit in such a way that firmly ties the individual patient to the prescribing practitioner of record rather than to the covering practitioner at a given moment. This will enable waived practitioners to provide reciprocal cross-coverage of patients for brief periods, such as weekends or vacations, without being considered to be in excess of their respective individual limits. Although this is a positive aspect of the proposed rule and will help to ensure continuity of care in select situations, we expect that this will primarily affect the timing of treatment rather than the quantity of treatment. As a result, we do not anticipate that this change will contribute significantly to the impact of this proposed rule, and we do not estimate the associated costs and benefits.

### C. Need for the Proposed Rule

The United States is facing an unprecedented increase in prescription opioid abuse, heroin use and opioid-related overdose deaths. In 2014, 18,893 overdose deaths involved prescription opioids and 10,574 involved heroin.<sup>57</sup>

<sup>57</sup> Center for Disease Control and Prevention, National Center for Health Statistics, National Vital Statistics System, Mortality File. (2015). Number and Age-Adjusted Rates of Drug-poisoning Deaths Involving Opioid Analgesics and Heroin: United States, 2000–2014. Atlanta, GA: Center for Disease Control and Prevention. Available at [http://www.cdc.gov/nchs/data/health\\_policy/AADR\\_](http://www.cdc.gov/nchs/data/health_policy/AADR_)

Underlying many of these deaths is an untreated opioid use disorder.<sup>58 59 60</sup> In 2014, more than 2.2 million people met diagnostic criteria for an opioid use disorder.<sup>61</sup>

Beyond the increase in overdose deaths, the health and economic consequences of opioid use disorders are substantial. In 2011, the most recent year data are available, an estimated 660,000 emergency department visits were due to the misuse or abuse of prescription opioids, heroin, or both.<sup>62</sup> A recent analysis estimated the costs associated with emergency department and hospital inpatient care for opioid abuse-related events in the United States was more than \$9 billion per year.<sup>63</sup> The societal costs of prescription opioid abuse, dependence, and misuse in the United States in 2011 were estimated at \$55.7 billion annually, not including societal costs related to heroin use.<sup>64</sup>

Beginning around 2006, the United States started to experience a significant increase in the rate of hepatitis C virus infections. The available epidemiology indicates this increase is largely due to the increased injection of prescription opioids and heroin.<sup>65 66</sup> In addition, in 2015, a large outbreak of HIV in a small rural community in Indiana was linked to injection of prescription opioids, primarily injection of the prescription opioid oxycodone. Over 80 percent

*drug\_poisoning\_involving\_OA\_Heroin\_US\_2000-2014.pdf*.

<sup>58</sup> Johnson EM, Lanier WA, Merrill RM, et al. Unintentional Prescription opioid-related overdose deaths: description of decedents by next of kin or best contact, Utah, 2008–2009. *J Gen Intern Med*. 2013;28(4):522–529.

<sup>59</sup> Hall AJ, Logan JE, Toblin RL, et al. Patterns of abuse among unintentional pharmaceutical overdose fatalities. *JAMA*. 2008;300(22):2613–2620.

<sup>60</sup> Bohnert AS, Valenstein M, Bair MJ, et al. Association between opioid prescribing patterns and opioid overdose-related deaths. *JAMA*. 2011;305(13):1315–1321.

<sup>61</sup> Jones CM. Unpublished analysis of the 2014 National Survey on Drug Use and Health Public Use File. 2015.

<sup>62</sup> *Id.*

<sup>63</sup> Chandwani HS, Strassels SA, Rascati KL, Lawson KA, Wilson JP. Estimates of charges associated with emergency department and hospital inpatient care for opioid abuse-related events. *J Pain Palliat Care Pharmacother*. 2013;27(3):206–13.

<sup>64</sup> Birnbaum HG, White AG, Schiller M, Waldman T, et al. Societal costs of prescription opioid abuse, dependence, and misuse in the United States. *Pain Med*. 2011;12(4):657–67.

<sup>65</sup> Suryaprasad AG, White JZ, Xu F, et al. Emerging epidemic of hepatitis C virus infections among young nonurban persons who inject drugs in the United States, 2006–2012. *Clin Infect Dis* 2014;59:1411–9.

<sup>66</sup> Zibbell JE, Iqbal K, Patel RC, Suryaprasad A, et al. Increases in hepatitis C virus infection related to injection drug use related to injection drug use among persons aged ≤30 years—Kentucky, Tennessee, Virginia, and West Virginia, 2006–2012. *MMWR Morb Mortal Wkly Rep*. 2015;64(17):453–8.



of the 135 cases, as of April 2015, identified in the outbreak were co-infected with hepatitis C virus.<sup>67</sup> The infectious disease consequences associated with opioid injection have been found to account for a substantial proportion of the economic burden and disability associated with opioid use disorders.<sup>68</sup>

There is robust literature documenting the effectiveness and cost-effectiveness of the use of buprenorphine in the treatment of opioid use disorder. Buprenorphine has been shown to increase treatment retention and to reduce opioid use, relapse risk, and risk behaviors that transmit HIV and hepatitis.<sup>69 70 71 72 73 74</sup> Reductions in opioid-related mortality also have been shown for buprenorphine.<sup>75 76 77</sup>

Despite these well-documented benefits, buprenorphine treatment for opioid use disorder is significantly underutilized and often does not incorporate the full scope of recommended clinical practices that

make up evidence-based MAT. Generally, there is significant unmet need for MAT treatment among individuals with opioid use disorders.<sup>78</sup> There is also substantial geographic variation in the capacity to prescribe buprenorphine. Research suggests that 10 percent of the population live in areas where there is a shortage of practitioners eligible to prescribe buprenorphine or in counties that have no practitioners with a waiver to prescribe buprenorphine.<sup>79</sup> These are primarily rural counties and areas located in the middle of the country.<sup>80</sup> Only about 5 percent of practitioners with the 100 patient limit are located in rural counties.<sup>81</sup>

Evidence suggests that utilization of buprenorphine is limited directly by the existence of treatment caps. Practitioners currently providing MAT with buprenorphine under 21 U.S.C. 823(g)(2) report that being limited to treating not more than 100 patients at a time is a barrier to expanding treatment.<sup>82 83 84</sup> A recent survey by ASAM found that among the 1,309 respondents (approximately 35 percent of ASAM's membership), comprising a range of addiction stakeholders, including those working in OTPs and outpatient or office-based practice settings, 544, or 41.6 percent, were currently treating more than 80 patients, and 796, or 60.8 percent, reported there was demand for treatment in excess of the current 100 patient limit under the Drug Addiction Treatment Act of 2000 (Pub. L. 106–310).<sup>85</sup> Increasing the number of patients that a single

practitioner can treat with buprenorphine, then, could have a direct impact on buprenorphine capacity and utilization.

In addition to direct barriers to treating additional patients imposed by the patient limit, there are indirect barriers to expanding treatment capacity. In particular, increases in a practitioner's ability to expand his or her patient base will allow the practitioner to take advantage of economies of scale to increase the practice's efficiency. For example, a practitioner with a larger practice is more likely to be able to afford to hire specialized support staff, which allows the practitioner to reduce time spent on tasks best suited for another individual. This may help to enable the provision of the full complement of ancillary services that make up evidence-based MAT. Increasing a practitioner's maximum capacity for treatment has the potential to make treating patients with buprenorphine more economically feasible, which furthers the argument that these proposed changes will increase capacity to prescribe buprenorphine.

The statutory change implemented in 2007 that increased the limit on the number of buprenorphine patients a practitioner could treat from 30 to 100, after having a 30 patient limit for 1 year, was associated with a significant increase in the use of buprenorphine.<sup>86</sup> In 2007, when practitioners were first able to treat up to 100 patients, nearly 25 percent of eligible practitioners submitted a NOI to treat 100 patients (1,937 practitioners out of 7,887 practitioners).<sup>87</sup> The findings from the ASAM survey discussed above and additional information indicate there is sufficient demand from both providers and patients to raise the patient limit. In addition, based on the experience in 2007, it is expected that some proportion of eligible practitioners will respond to the proposed rule by submitting a Request for Patient Limit Increase to treat up to 200 patients.

#### D. Analysis of Benefits and Costs

##### a. Increased Ability for Waivered Practitioners To Treat Patients With Buprenorphine-Based MAT

This proposed rule directly expands opportunities for physicians who currently treat or who may treat patients with buprenorphine, as they will now have the potential to treat up to 200 patients with buprenorphine. We believe that this may translate to a

<sup>67</sup> Conrad, *supra* note 17.

<sup>68</sup> Degenhardt L, Whiteford HA, Ferrari AJ, Charlson FJ, et al. Global burden of disease attributable to illicit drug use and dependence: findings from the Global Burden of Disease Study 2010. *Lancet* 2013;382(9904):1564–74.

<sup>69</sup> Clark RE, Baxter JD, Aweh G, O'Connell E, et al. Risk factors for relapse and higher costs among Medicaid members with opioid dependence or abuse: opioid agonists, comorbidities, and treatment history. *J Subst Abuse Treat*. 2015;57:75–80.

<sup>70</sup> Mattick RP, Breen C, Kimber J, Davoli M. Buprenorphine maintenance versus placebo or methadone maintenance for opioid dependence. *Cochrane Database Syst Rev*. 2014 Feb 6;2:CD002207. doi: 10.1002/14651858.CD002207.pub4.

<sup>71</sup> Kraus ML, Alford DP, Kotz MM, et al. Statement of the American Society of Addiction Medicine consensus panel on the use of buprenorphine in office-based treatment of opioid addiction. *J Addict Med*. 2011;5(4):254–263.

<sup>72</sup> Bonhomme J, Shim RS, Gooden R, Tyus D, Rust G. Opioid addiction and abuse in primary care practice: a comparison of methadone and buprenorphine as treatment options. *J Natl Med Assoc*. 2012;104(7–8):342–350.

<sup>73</sup> Tsui JJ, Evans JL, Lum PJ, Hahn JA, Page K. Association of opioid agonist therapy with lower incidence of hepatitis C virus infection in young adult injection drug users. *JAMA Intern Med*. 2014;174(12):1974–1981.

<sup>74</sup> Woody GE, Bruce D, Korthuis PT, Chhatre S, et al. HIV risk reduction with buprenorphine-naloxone or methadone: findings from a randomized trial. *J Acquir Immune Defic Syndr*. 2015;68(5):554–61.

<sup>75</sup> Clark RE, Samnaliev M, Baxter JD, Leung GY. The evidence doesn't justify steps by state Medicaid programs to restrict opioid addiction treatment with buprenorphine. *Health Aff (Millwood)*. 2011;30(8):1425–1433.

<sup>76</sup> Schwartz RP, Gryczynski J, O'Grady KE, et al. Opioid agonist treatments and heroin overdose deaths in Baltimore, Maryland, 1995–2009. *Am J Public Health*. 2013;103(5):917–922.

<sup>77</sup> Carrieri MP, Amass L, Lucas GM, Vlahov D, Wodak A, Woody GE. Buprenorphine use: the international experience. *Clin Infect Dis*. 2006;43(suppl 4):S197–S215.

<sup>78</sup> Jones, *supra* note 53.

<sup>79</sup> Rosenblatt RA, Andrilla CH, Catlin M, Larson EH. Geographic and specialty distribution of US physicians trained to treat opioid use disorder. *Ann Fam Med*. 2015 Jan–Feb;13(1):23–6. doi: 10.1370/afm.1735.

<sup>80</sup> Dick AW, Pacula RL, Gordon AJ, Sorbero M, et al. Growth in buprenorphine waivers for physicians increased potential access to opioid agonist treatment, 2002–11. *Health Affairs* 2015;34(6):1028–1034.

<sup>81</sup> Stein BD, Pacula RL, Gordon AJ, Burns RM, et al. Where is buprenorphine dispensed to treat opioid use disorders? The role of private offices, opioid treatment programs, and substance abuse treatment facilities in urban and rural counties. *Milbank Quarterly* 2015;93(3):56561–583.

<sup>82</sup> Molfenter T, Sherbeck C, Zehner M, Starr S. Buprenorphine Prescribing Availability in a Sample of Ohio Specialty Treatment Organizations. *J Addict Behav Ther Rehabil*. 2015;4(2). pii: 1000140.

<sup>83</sup> Molfenter T, Sherbeck C, Zehner M, Quanbeck A, et al. Implementing buprenorphine in addiction treatment: payer and provider perspectives in Ohio. *Subst Abuse Treat Prev Policy*. 2015;10:13. doi: 10.1186/s13011-015-0009-2.

<sup>84</sup> Substance Abuse and Mental Health Services Administration, *supra* note 49.

<sup>85</sup> American Society of Addiction Medicine. 2015. Available at: <http://www.asam.org/magazine/read/article/2015/12/08/addiction-specialists-weigh-in-on-the-data-2000-patient-limits>.

<sup>86</sup> Stein *supra* note 82.

<sup>87</sup> Jones, *supra* note 53.



financial opportunity for these physicians, depending on the costs associated with treating these additional patients.

Relatedly, this proposed rule may increase the value of the waiver to treat opioid use disorder under 21 U.S.C. 823(g)(2). The proposed rule would require practitioners to have a waiver to treat 100 patients for 1 year and to have a subspecialty board certification in addiction medicine, a subspecialty board certification in addiction psychiatry, or to practice in a qualified practice setting as defined in the rule in order to request approval to treat 200 patients. If getting to the 200-patient limit provides sufficient benefits to practitioners, this proposed rule may also increase incentives for other practitioners to apply for the lower patient limit waivers, insofar as they are milestones towards the 200-patient cap. In addition, this rule may also make it more valuable for practitioners to have subspecialty board certifications in addiction medicine and addiction psychiatry, or to practice in a qualified practice setting. The proposed rule, then, may increase the number of practitioners in these categories and thus the number of practitioners eligible for the 200 patient limit in the future.

#### b. Increased Treatment for Patients

Permitting practitioners to treat up to 200 patients will only be successful if it results in practitioners serving additional patients. As discussed previously, there are many reasons to expect this to happen as a result of finalization of this proposed rule. In addition, we expect that other factors could amplify the impact of the changes proposed in the rule. First, following the implementation of the Affordable Care Act, health insurance coverage has expanded dramatically in the United States. The uninsured rate among adults age 18–64 declined from 22.3 percent in 2010 to 12.7 percent during the first 6 months of 2015.<sup>88</sup> Further, the Affordable Care Act expanded coverage includes populations at high-risk for opioid use disorders that previously did not have sufficient access to health insurance coverage.<sup>89</sup> Second, parity protections from the Mental Health Parity and Addiction Equity Act and the Affordable Care Act will include coverage for mental health and substance use disorder treatment that is

comparable to medical and surgical coverage in many types of insurance policies. Insurance coverage and cost of treatment are often cited as important reasons that individuals seeking treatment have not used buprenorphine.<sup>90 91 92 93</sup> A NPRM to extend parity protections to Medicaid managed care was released in the spring of 2015. These changes in health insurance coverage should improve access to substance use disorder treatment, including buprenorphine.

#### c. Increased Time To Treat Patients

Lack of practitioner time to treat patients with opioid use disorder, which includes a patient exam, medication consultation, counseling, and other appropriate treatment services, and lack of behavioral health staff to provide these ancillary services, are additional barriers to providing MAT with buprenorphine in the office-based setting.<sup>94 95</sup> These barriers could be addressed by leveraging the time and skills of clinical support staff, such as nurses and clinical social workers. For example, in Massachusetts and Vermont, nurses provide screening, intake, education, and other ancillary services for patients treated with buprenorphine. This enables practitioners to treat additional patients and to provide the requisite psychosocial services.<sup>96 97 98</sup> However, in order to afford a nurse or other clinician dedicated to providing

evidence-based treatment for an opioid use disorder, practitioners need a minimum volume of patients. Allowing practitioners to treat up to 200 patients at a time would be a step towards supporting practitioners that seek to hire nurses and other clinical staff to reduce practitioners' time requirements and to provide the ancillary services of high-quality MAT with buprenorphine. This impact of leveraging non-physicians to facilitate expanded access to buprenorphine has been demonstrated in both Vermont and Massachusetts.<sup>99 100</sup>

Discussions with stakeholders about approaches to expanding access to MAT, including the use of buprenorphine-based MAT, suggest that expanding the patient limit in general will result in increased efficiencies in treating opioid use disorder patients. It will allow treating practitioners to provide the physician-appropriate services consistent with their waiver. It will provide more efficient supportive care, not related to prescribing or administering buprenorphine-containing products, by allowing the treating practitioner to supervise this care, which can be provided by physician assistants, nurse practitioners, nurse case managers, and other behavioral health specialists.

#### d. Federal Costs Associated With Disseminating Information About the Rule

Following publication of a final rule that builds upon this proposal and public comments, SAMHSA will work to educate providers about the requirements and opportunities for requesting and obtaining approval to treat up to 200 patients under 21 U.S.C. 823(g)(2). SAMHSA will prepare materials summarizing the changes as a result of the final rule, and provide these materials to practitioners potentially affected by the rulemaking upon publication of the final rule. SAMHSA has already established channels for disseminating information about rule changes to stakeholders, it is estimated that preparing and disseminating these materials will cost approximately \$40,000, based upon experience soliciting public comment on past rules and publications such as

<sup>90</sup> Volkow, *supra* note 38.

<sup>91</sup> Sohler NL, Weiss L, Egan JE, et al. Consumer attitudes about opioid addiction treatment: a focus group study in New York City. *J Opioid Manag.* 2013;9(2):111–119.

<sup>92</sup> Greenfield BL, Owens MD, Ley D. Opioid use in Albuquerque, New Mexico: a needs assessment of recent changes and treatment availability. *Addict Sci Clin Pract.* 2014;9:10. doi: 10.1186/1940-0640-9-10.

<sup>93</sup> American Society of Addiction Medicine. State Medicaid coverage and authorization requirements for opioid dependence medications. 2013. Available at: <http://www.asam.org/docs/advocacy/Implications-for-Opioid-Addiction-Treatment>.

<sup>94</sup> Hutchinson E, Catlin M, Andrilla CH, Baldwin LM, Rosenblatt RA. Barriers to primary care physicians prescribing buprenorphine. *Ann Fam Med.* 2014 Mar-Apr;12(2):128–33.

<sup>95</sup> DeFlavio JR, Rolin SA, Nordstrom BR, Kazal LA Jr. Analysis of barriers to adoption of buprenorphine maintenance therapy by family physicians. *Rural Remote Health.* 2015;15:3019. Epub 2015 Feb 4.

<sup>96</sup> Alford D, LaBelle C, Richardson J, O'Connell J, et al. Treating homeless opioid dependent patients with buprenorphine in an office-based setting. *Society of General Internal Medicine.* 2007; 22: 171–176.

<sup>97</sup> Labelle, C. Nurse Care Manager Model. <http://buprenorphine.samhsa.gov/presentations/LaBelle.pdf>.

<sup>98</sup> State of Vermont: Concept for Medicaid Health Home Program [http://hcr.vermont.gov/sites/hcr/files/VT\\_SPA\\_Concept\\_Paper\\_final\\_CMS\\_10\\_02\\_12.pdf](http://hcr.vermont.gov/sites/hcr/files/VT_SPA_Concept_Paper_final_CMS_10_02_12.pdf).

<sup>88</sup> Centers for Disease Control and Prevention. Health insurance coverage: early release of estimates from the National Health Interview Survey, January–June 2015. Available at: <http://www.cdc.gov/nchs/data/nhis/earlyrelease/insur201511.pdf>.

<sup>89</sup> Jones, *supra* note 53.

<sup>99</sup> LaBelle CT, Han SC, Bergeron A, Samet JH. Office-Based Opioid Treatment with Buprenorphine (OBOT-B): Statewide Implementation of the Massachusetts Collaborative Care Model in Community Health Centers. *J Subst Abuse Treat.* 2016;60:6–13.

<sup>100</sup> Vermont Department of Health. The effectiveness of Vermont's System of Opioid Addiction Treatment. 2015. Available at: <http://legislature.vermont.gov/assets/Legislative-Reports/Opioid-system-effectiveness-1.14.15.pdf>.

the Federal Opioid Treatment Program Standards.

**e. Practitioners Costs To Evaluate the Policy Change**

We expect that, if this proposed rule is finalized, practitioners potentially affected by this proposed policy change will process the information and decide how to respond. In particular, they will likely evaluate the requirements and opportunities associated with the ability to treat up to 200 patients, and decide whether or not it is advantageous to pursue approval to treat up to 200 patients and make any necessary changes to their practice, such as obtaining subspecialty board certifications in either addiction medicine or addiction psychiatry, or the ability to treat patients in a qualified practice setting.

We estimate that practitioners may spend an average of thirty minutes processing the information and deciding what action to take. According to the U.S. Bureau of Labor Statistics,<sup>101</sup> the average hourly wage for a physician is \$93.74. After adjusting upward by 100 percent to account for overhead and benefits, we estimate that the per-hour cost of a physician's time is \$187.48. Thus, the cost per practitioner to process this information and decide upon a course of action is estimated to be \$93.74. SAMHSA will disseminate

information to an estimated 50,000 practitioners, which includes practitioners with a waiver to prescribe buprenorphine (*i.e.*, approximately 30,000 practitioners as of December 2015) and those who are reached through SAMHSA's dissemination network (*i.e.*, 20,000 practitioners). For purposes of analysis we assume that 75 percent of these practitioners will review this information, and, as a result, we estimate that dissemination will result in a total cost of \$3.5 million.

**f. Practitioner Costs To Submit a Request for Patient Limit Increase**

Practitioners who want to treat up to 200 patients at a given time are required to submit a Request for Patient Limit Increase form to SAMHSA. The proposed form is three pages in length. We estimate that the form takes a practitioner an average of 1 hour to complete the first time it is completed, implying a cost of \$187.48 per submission after adjusting upward by 100 percent to account for overhead and benefits. A draft Request for Patient Limit Increase form is available in the docket. We seek comment on our assumptions regarding the time required to complete the form.

We do not have ideal information with which to estimate the number of practitioners who will submit a Request for Patient Limit Increase form in

response to this proposed rule, and we therefore acknowledge uncertainty regarding the estimate of the total associated cost. However, based on the experience with the patient limit increase from 30 to 100 implemented in 2007<sup>102 103</sup>, the results of the 2015 ASAM survey described earlier, and discussions with stakeholders, we estimate that between 500 and 1,800 practitioners will request approval to treat 200 patients within the first year of the proposed rule. We estimate that between 100 and 300 additional practitioners will request approval to treat 200 patients in each of the subsequent 4 years. This would result in 600 to 2,100 practitioners in the second year, 700 to 2,400 practitioners in the third year, 800 to 2,700 in the fourth year, and 900 to 3,000 practitioners in the fifth year. We use the midpoint of each of these ranges to estimate costs and benefits in the first 5 years following publication of the final rule. This would result in a range of \$93,740 to \$337,464 in costs related to Request for Patient Limit Increase submissions in the first year. We seek comment on information which will allow us to refine our estimate of the number of practitioners who will submit a Request for Patient Limit Increase in response to this proposed rule.

	Number of requests for patient limit increase	Cost (\$)
Year 1 .....	1,150	\$215,600
Year 2–5 .....	200	37,500
Total .....	1,950	365,600

**g. Practitioner Costs To Resubmit a Request for Patient Limit Increase**

After approval, a practitioner would need to resubmit a Request for Patient Limit Increase every 3 years to maintain his or her waiver to treat up to 200 patients. A practitioner would use the same 3-page Request for Patient Limit

Increase used for an initial waiver request. We estimate that this will take 30 minutes because practitioners will be more familiar with the Request for Patient Limit Increase. Consistent with the physician wage estimate above, we estimate that resubmissions will require a practitioner an average of 30 minutes

to complete, implying a cost of \$93.74 per resubmission. To calculate costs associated with resubmission, we assume that all physicians who submit a Request for Patient Limit Increase will submit a renewal 3 years later. Our estimates are summarized in the table below.

	Number of renewals	Cost (\$)
Year 1–3 .....	0	0
Year 4 .....	1,150	\$108,000
Year 5 .....	200	19,000
Total .....	1,350	127,000

<sup>101</sup> U.S. Bureau of Labor Statistics. National Occupational Employment and Wage Estimates.

Retrieved from: [http://www.bls.gov/oes/current/oes\\_nat.htm#29-0000](http://www.bls.gov/oes/current/oes_nat.htm#29-0000).

<sup>102</sup> Arfken, *supra* note 54.

<sup>103</sup> Jones, *supra* note 53.

#### h. Private-Sector Costs Associated With Newly Applying for Any Waiver

Practitioners may also be interested in the ability to eventually treat up to 200 patients, and may make changes toward achieving that goal. As discussed previously, these proposed changes may increase the number of practitioners who apply for a waiver to treat 30 or 100 patients. This would require practitioners to complete the required training, possess a valid license to practice medicine, be a registrant of DEA, and have the capacity to refer patients for appropriate counseling and other appropriate ancillary services. In addition, these proposed changes could increase the number of practitioners who seek subspecialty board certifications in either addiction medicine or addiction psychiatry or meet the requirements for practicing in a qualified practice setting as outlined in the proposed rule. This would likely include practice experience requirements, fees and time associated with preparing for and taking an exam, time and fees for continuing medical education requirements, and payment of certification fees.

We do not have information to estimate the number of practitioners who will change behavior along these dimensions in response to this proposed rule. We seek comment on information which will allow us to estimate the number of practitioners who would apply to treat additional patients, the number who will seek additional subspecialty board certifications, and the number who will move toward meeting the requirements for treating in a qualified practice setting in response to the proposed changes.

#### i. Federal Costs Associated With Processing New 200 Patient Limit Waivers

In addition to the costs associated with practitioners seeking approval for the higher patient limit, costs will be incurred by SAMHSA and DEA in order to process the additional Requests For Patient Limit Increase generated by the proposed rule. For purposes of analysis, and based on contractor estimates, SAMHSA estimates that it will pay a contractor \$100 to process each waiver. As discussed previously, we estimate that between 500 and 1,800 practitioners will request approval to treat 200 patients within the first year of the rule, and between 100 and 300 additional practitioners will request approval to treat 200 patients in each of the subsequent 4 years. In addition, we estimate that physicians will resubmit 500 to 1,800 renewals in year 4, and 100

to 300 renewals in year 5. As a result, we estimate costs to SAMHSA to process these waivers of \$50,000–\$180,000 in year 1, \$10,000–\$30,000 in year 2, \$10,000–\$30,000 in year 3, \$60,000–\$210,000 in year 4, and \$20,000–\$60,000 in year 5 following publication of the final rule. We estimate that DEA will allocate the equivalent of 1 FTE at the GS–11 level to process the additional requests coming to DEA for issuance of a new DEA number designating the provider as eligible to prescribe buprenorphine for the treatment of opioid use disorder as a result of this proposed rule. We estimate the associated cost is \$144,238, which we arrive at by multiplying the salary of a GS–11 employee at step 5, which is \$72,219 in 2015, by two to account for overhead and benefits.

#### j. Costs of New Treatment

Once requests to treat up to 200 patients generated by the proposed rule are processed, approved practitioners would be able to increase the number of patients they treat with buprenorphine. These patients, then, could utilize additional medical services that are consistent with the expectations for high-quality, evidence-based MAT proposed in the rule. We estimate the cost for buprenorphine and these additional medical services, including behavioral health and psychosocial services, as a result of the proposed rule to total \$4,349 per patient per year, as described below.

This estimate was derived using claims data from the 2009–2014 Truven Health MarketScan® database. According to the MarketScan® data, the annual cost of buprenorphine prescriptions and ancillary services received totaled \$3,500 for individuals with private insurance and \$3,410 for individuals with Medicaid. Specifically, the average annual cost of buprenorphine prescriptions was \$2,100 for commercial insurance based on receipt of an average of seven buprenorphine prescriptions annually and \$2,600 for Medicaid based on receipt of an average of 10 buprenorphine prescriptions annually.

According to the MarketScan® data, approximately 69 percent of Medicaid patients and 45 percent of privately insured patients received an outpatient psychosocial service related to substance use disorder in addition to their buprenorphine prescription. The average number of visits among those who received any psychosocial service was eight for privately insured patients at an average cost of \$3,000 per year and 10 for Medicaid patients at an average cost of \$1,100 per year. We assumed

that the quality of care would increase among patients treated by practitioners with the 200-patient limit due to the extra oversight and quality of care requirements in the proposed rule. Specifically, we assumed that 80 percent of patients would receive outpatient psychosocial services. This would raise the cost of providing MAT with buprenorphine to \$4,590 for commercial insurance and \$3,525 for Medicaid beneficiaries. Based on data from IMS Health, it is estimated that approximately 18 percent of individuals receiving MAT with buprenorphine are Medicaid enrollees. Thus, we arrived at the estimated average cost for individuals new to the treatment system as a result of the proposed rule to be \$4,349 per patient per year.

The total resource costs associated with additional treatment is the product of additional treatment costs per person and the number of people who will receive additional treatment as a result of the proposed rule. For purposes of analysis, we assume that each practitioner who requests approval to treat 200 patients will treat between 20 and 40 additional patients each year. This is based on our experience with the increase from the 30 patient limit to the 100 patient limit.<sup>104 105</sup> We note that in that case, there were no new costs imposed on practitioners beyond those associated with additional treatment, whereas in this proposed rule there are new costs beyond those associated with additional treatment. However, applying this assumption would result in an estimated range of 10,000 to 72,000 additional patients treated in the first year; and an additional 2,000 to 12,000 patients in each subsequent year. To estimate costs associated with this increase in the number of patients, we assume that, on average, each physician will treat the equivalent of 30 full-time patients (*i.e.*, some patients might receive fewer services and others might receive more, but for cost estimates we assume it averages out to the equivalent of 30 patients receiving the full spectrum of care). We use these ranges to estimate costs and benefits of the rule as proposed. Based on this information, we estimate the treatment costs associated with new patients receiving treatment with buprenorphine as a result of this proposed rule will be between \$43.5 million and \$313 million in the first year with a central estimate of \$150 million, and an additional \$8.7 million to \$52.2 million in each subsequent year with a central estimate of \$26.1 million. We seek comment on information which

<sup>104</sup> Arfken, *supra* note 54.

<sup>105</sup> Jones, *supra* note 53.

will allow us to refine our efforts to quantify the number of people who may receive additional treatment with buprenorphine as a result of this proposed rule.

	Additional people receiving treatment	Treatment costs (Millions)
Year 1 .....	34,500	\$150
Year 2 .....	40,500	176
Year 3 .....	46,500	202
Year 4 .....	52,500	228
Year 5 .....	58,500	254

Evidence suggests that the benefits associated with additional buprenorphine utilization are likely to exceed their cost. One study estimated the costs and Quality Adjusted Life Year (QALY) gains associated with long-term office-based treatment with buprenorphine-naloxone for clinically stable opioid-dependent patients compared to no treatment. The authors estimate total treatment costs over 2 years of \$7,700 and an associated 0.22 QALY gain compared to no treatment in their base case.<sup>106 107</sup> Following a food safety rule recently published by FDA,<sup>108</sup> we use a value of \$1,260 per quality-adjusted life day. This implies a value of \$460,215 (\$1,260 \* 365.25) per QALY, which we use to monetize the health benefits here. As a result, we estimate average annual benefits ranges of \$51,000 per person who achieves 6 months of clinical stability. In the absence of data on the percentage of patients newly receiving buprenorphine treatment who would achieve this status, we illustrate the calculation of rule-induced benefits using 100 percent as an input. We acknowledge that this approach would, all else equal, lead to overestimation of health benefits and request comment that would allow for refinement of the estimates. As a result, we estimate monetized health benefits of \$1,747 million in the first year, with estimated monetized health benefits rising by \$304 million in each subsequent year as more individuals receive treatment as a result of the rule. These monetized health benefits are

summarized below. We acknowledge that this approach may underestimate or overestimate health benefits and request comment that would allow for refinement of the estimates. We also explore the sensitivity of these results to our assumptions regarding the health benefits related to treatment in our section on sensitivity analysis.

	Additional people receiving treatment	Monetized health benefits (millions)
Year 1 .....	34,500	\$1,747
Year 2 .....	40,500	2,050
Year 3 .....	46,500	2,354
Year 4 .....	52,500	2,658
Year 5 .....	58,500	2,961

#### k. Potential for Diversion

While we expect many benefits associated with this proposed rule, it is possible that there would be unintended negative consequences. First, prior research looked at Utah statewide increases in buprenorphine use and the number of reported pediatric exposures, and found that as buprenorphine use increased between 2002 and 2011, the number of unintentional pediatric exposures in the State increased.<sup>109</sup> Thus, it is possible that the increased utilization of buprenorphine as a result of this proposed rule without appropriate patient counseling and action to ensure the safe use, storage, and disposal of buprenorphine, may lead to an increase in unintentional pediatric exposures. In addition, there has been an increase in diversion of buprenorphine as use of the product has increased. According to the National Forensic Laboratory Information System (NFLIS)—a system used to track diversion—buprenorphine is the third most common narcotic analgesic reported in NFLIS, with 15,209 cases reported in 2014. This represents 12.4 percent of all narcotic analgesic cases in NFLIS in 2014.<sup>110</sup>

It is important to note that studies have found that the motivation to divert buprenorphine is often associated with lack of access to treatment or using the medication to manage withdrawal—as opposed to diversion for the medication's psychoactive effect.<sup>111 112</sup>

<sup>109</sup> Centers for Disease Control and Prevention. Buprenorphine prescribing practices and exposures reported to a poison center—Utah, 2002–2011. *MMWR* 2012;61:997–1001.

<sup>110</sup> Drug Enforcement Administration. National Forensic Laboratory Information System. 2014 Annual Report. Available at: <https://www.nflis.deadiversion.usdoj.gov/Reports.aspx>.

<sup>111</sup> Lofwall MR, Havens JR. Inability to access buprenorphine treatment as a risk factor for using diverted buprenorphine. *Drug Alcohol Depend.* 2012;126(3):379–83.

Thus, the overall effect of this rulemaking on diversion is not clear given that the increased utilization of buprenorphine could affect the opportunity for diversion, but also could, in some cases, reduce diversion because of improved access to high-quality, evidence-based buprenorphine treatment.

Moreover, to reduce the risk of diversion, one of the additional requirements placed on providers who seek the 200 patient limit is implementation of a diversion control plan. However, it is possible that State and local law enforcement could incur additional costs if diversion increases as a result of this proposed rule. We do not have sufficient information to estimate the extent to which these unintended consequences could occur.

#### l. Practitioner Reporting Requirements

Under this proposed rule, as outlined earlier, practitioners approved to treat up to 200 patients would have to submit information about their practice annually to SAMHSA for purposes of monitoring regulatory compliance. The goal of the reporting requirement is to ensure that practitioners are providing high-quality, evidence-based buprenorphine treatment. It is anticipated that the data for the reporting requirement can be pulled directly from an electronic or paper health record, and that practitioners would not have to update their record-keeping practices after receiving approval to treat 200 patients. We estimate that compiling and submitting the report would require approximately 1 hour of physician time and 2 hours of administrative time. According to the U.S. Bureau of Labor Statistics<sup>89</sup>, the average medical and health services manager's hourly pay in 2014 was \$49.84, which corresponds to a cost of \$99.68 per hour after adjusting upward by 100 percent to account for overhead and benefits. Therefore, the cost of this reporting requirement per practitioner approved for the 200 patient limit is estimated to be the cost of 1 hour of a practitioner's time plus an hour of an administrator's time.

As noted above, using the mid-point estimate, we estimate that 1,150 practitioners will request a 200-patient waiver in year 1 and 200 practitioners will request a 200-patient waiver in subsequent years. We assume that all of these requests will be approved. The costs associated with this reporting

<sup>112</sup> Genberg BL, Gillespie M, Schuster CR, Johanson CE, et al. Prevalence and correlates of street-obtained buprenorphine use among current and former injectors in Baltimore, Maryland. *Addict Behav.* 2013;38(12):2868–73.

<sup>106</sup> Schackman BR, Leff JA, Polsky D, Moore BA, Fiellin DA. Cost-Effectiveness of Long-Term Outpatient Buprenorphine-Naloxone Treatment for Opioid Dependence in Primary Care. *Journal of General Internal Medicine.* 2012;27(6):669–676. doi:10.1007/s11606-011-1962-8.

<sup>107</sup> These results omit lost utility associated with the illegal consumption of heroin or other opioids. Such omission is consistent with Zerbe, R.O. Is Cost-Benefit Analysis Legal? Three Rules. *Journal of Policy Analysis and Management* 17(3): 419–456, 1998.

<sup>108</sup> This RIA can be found here: <http://www.fda.gov/downloads/AboutFDA/ReportsManualsForms/Reports/EconomicAnalyses/UCM472330.pdf>

requirement are reported below. In addition, it is estimated that SAMHSA will incur a cost of \$100 per practitioner approved for the 200 patient limit to process the practitioner data reporting

requirement. These costs are reported below as well.

DEA may also incur costs in association with this proposed rule if, for example, DEA increases the number of site visits they conduct because

providers are treating more than 100 patients. We tentatively assume that DEA will incur no costs as a result of these reporting requirements, and we seek comment on this assumption.

	Number of physician reports	Physician costs	SAMHSA costs
Year 1 .....	1,150	\$445,000	\$115,000
Year 2 .....	1,350	522,000	135,000
Year 3 .....	1,550	600,000	155,000
Year 4 .....	1,750	677,000	175,000
Year 5 .....	1,950	754,000	195,000

#### m. Costs Associated With Waiver Requests in Emergencies

Under the proposed rule, practitioners in good standing with a current waiver to treat up to 100 patients may request temporary approval to treat up to 200 patients in specific emergency situations. As discussed previously, we anticipate that qualifying emergency situations will occur very infrequently. We estimate that practitioners will request ten of these waivers in each year. We estimate that requesting this waiver would require approximately 1 hour of physician time and 2 hours of administrative time, and responding to the request would require resources approximately equivalent to responding

the three Requests for Patient Limit Increase submissions, which is \$300. As a result, we estimate that this requirement is associated with costs of approximately \$7,000 in each year following publication of the final rule. We seek comment on the assumptions in this section.

#### n. Summary of Impacts

The proposed rule's impacts will take place over a long period of time. As discussed previously, we expect the existence of the waiver to treat 200 patients will increase the desirability of waivers to treat 30 and 100 patients. This implies that more practitioners will work toward fulfilling the requirements associated with receiving these waivers.

Further, this may make practitioners early in their career more likely to choose addiction medicine or addiction psychiatry as their specialty. All of this implies that the proposed rule will have a growing impact on capacity to prescribe buprenorphine as time passes. Since the lack of capacity to treat patients using buprenorphine is a barrier to its utilization, this suggests that the proposed rule will lead to growing increases in the utilization of buprenorphine, and growing increases in the associated positive health and economic effects.

The following table presents these costs and benefits over the first 5 years of the proposed rule.

ACCOUNTING TABLE OF BENEFITS AND COSTS OF ALL PROPOSED CHANGES

BENEFITS	Present value over 5 years by discount rate (millions of 2014 dollars)		Annualized value over 5 years by discount rate (millions of 2014 dollars)	
	3 Percent	7 Percent	3 Percent	7 Percent
Quantified Benefits .....	11,019	10,148	2,336	2,313
COSTS	3 Percent		7 Percent	
	3 Percent	7 Percent	3 Percent	7 Percent
Quantified Costs .....	955	880	203	201

#### E. Sensitivity Analysis

The total estimated benefits of the changes proposed here are sensitive to assumptions regarding the number of practitioners who will seek a waiver to treat 200 patients as a result of the proposed rule, the number of individuals who will receive MAT as a result of the proposed rule, the average per-person health benefits associated with this additional treatment, and the dollar value of these health improvements. We estimate that 500 to 1,800 practitioners will apply for a waiver to treat up to 200 patients in the first year, and 100 to 300 practitioners will apply for a waiver to treat up to 200

patients in subsequent years following publication of the final rule, with central estimates at the midpoint of each range. For alternative estimates in these ranges using a 3 percent discount rate, all else equal, we estimate annualized benefits ranging from \$1,054 million to \$3,618 million and annualized costs ranging from \$92 million to \$313 million.

We estimate that practitioners who receive a waiver to treat 200 patients will treat between 20 and 40 additional patients each year, with a central estimate of an average of 30 additional patients. For alternative estimates of 20 to 40 additional patients per year, all else equal, we estimate annualized

benefits using a 3 percent discount rate ranging from \$1,557 million to \$3,115 million over the 5 years following implementation.

We estimate that individuals who receive MAT as a result of the proposed rule will experience average health improvements equivalent to 0.11 QALYs. For alternative estimates of these health improvements between 0.06 and 0.16 QALYs, all else equal, we estimate annualized benefits using a 3 percent discount rate ranging from \$1,274 million to \$3,398 million over the 5 years following implementation. To estimate the dollar value of health benefits, we use a value of approximately \$460,000 per QALY. For

alternative values per QALY between \$300,000 and \$600,000, all else equal, we estimate annualized benefits using a 3 percent discount rate ranging from \$1,523 million to \$3,046 million over the 5 years following implementation.

Alternative assumptions along these four dimensions, when varied together,

using a 3 percent discount rate, imply annualized benefit estimates ranging from \$250 million to \$9,148 million and annualized cost estimates ranging from \$62 million to \$417 million. We note that, in all scenarios discussed in this section, annualized benefits

substantially exceed annualized costs. There are, however, uncertainties not reflected in this sensitivity analysis, which might lead to net benefits results that are smaller or larger than the range of estimates summarized in the following table.

#### LOW, HIGH, AND PRIMARY BENEFIT AND COST ESTIMATES

BENEFITS	Annualized Value over 5 Years 3% Discount Rate (Millions of 2014 Dollars)		
	Low	Primary	High
Quantified Benefits .....	250	2,336	9,148
Quantified Costs .....	62	203	417

#### F. Analysis of Regulatory Alternatives

We carefully considered the option of not pursuing regulatory action. However, existing evidence indicates that opioid use disorder and its related health consequences is a substantial and increasing public health problem in the United States, and it can be addressed by increasing access to effective treatment. As discussed previously, the lack of sufficient access to treatment is directly affected by the existing limit on the number of patients each practitioner with a waiver can currently treat using buprenorphine, and removing this barrier to access is very likely to increase the provision of this treatment. Finally, the provision of MAT with buprenorphine provides tremendous benefits to the individual who experiences health gains associated with treatment, as well as to society which bears smaller costs associated with the negative effects of opioid use disorders. These benefits are expected to greatly exceed the costs associated with increases in treatment. As a result, we expect the benefits of the proposed regulatory action to exceed its costs.

We also considered allowing practitioners waived to treat up to 100 patients to apply for the higher prescribing limit without having to meet the specialty board certification or qualified practice setting requirements as defined in the proposed rule. One important objective of this proposed rule is to expand access while mitigating the risks associated with expanded access. In addition, the effects of this rule are difficult to project, leading us to adopt a conservative approach to increasing access. Given the complexity of the condition, the increased potential for diversion associated with a higher prescribing limit, and the need to ensure high quality care, it was determined that

addiction specialist physicians and those with the infrastructure and capacity to deliver the full complement of services recommended by clinical practice guidelines would be best suited to balance these concerns.

Finally, we considered the alternative of having no reporting requirement for physicians with the 200-patient limit. Although this alternative would reduce the 1 hour of physician time and 2 hours of administrative time estimated for data reporting in our analysis, we did not pursue this alternative. The reporting requirements are intended to reinforce recommendations included in clinical practice guidelines on the delivery of high quality, effective, and safe patient care. Specifically, nationally-recognized clinical guidelines on office-based opioid treatment with buprenorphine suggest that optimal care include administration of the medication and the use of psychotherapeutic support services. They also recommend that physicians and practices prescribing buprenorphine for the treatment of opioid use disorder in the outpatient setting take steps to reduce the likelihood of buprenorphine diversion. Each of these tenets is reflected in the proposed reporting requirements.

#### G. Regulatory Flexibility Analysis

As discussed above, the RFA requires agencies that issue a regulation to analyze options for regulatory relief of small entities if a rule has a significant impact on a substantial number of small entities. The categories of entities affected most by this proposed rule will be offices of practitioners and hospitals. We expect that the vast majority of these entities will be considered small based on the Small Business Administration size standards or non-profit status, and assume here that all affected entities are small. According to SAMHSA data, as of

March 2016 there were 32,123 practitioners with a waiver to prescribe buprenorphine for the treatment of opioid use disorder. This group of practitioners is most likely to be impacted by the proposed rule, but we lack information on the total number of associated entities. We acknowledge that some practitioners with a waiver may provide services at multiple entities, many entities may employ multiple practitioners with a waiver, and some entities currently unaffiliated with these practitioners will be impacted by this proposed rule. As a result, we estimate that approximately 32,123 small entities will be affected by this proposed rule.

HHS considers a rule to have a significant economic impact on a substantial number of small entities if at least 5 percent of small entities experience an impact of more than 3 percent of revenue. As discussed above, the proposed rule imposes a small burden on entities. This burden is primarily associated with processing information disseminated by SAMHSA, opting to completing the waiver process to treat additional patients, and submitting information after receiving a waiver to treat 200 patients, which are estimated to take a maximum of 4 hours per practitioner in any given year. This represents less than 1 percent of hours worked for an individual working full-time. Further, this proposed rule does not require practitioners to undertake these burdens, as this rulemaking does not require practitioners to seek a waiver to treat 200 patients. As a result, we anticipate that this proposed rule will not have a significant impact on a substantial number of small entities. We seek comment on the assumptions used in this section, and on the proposed rule's burden on small entities.

## VII. Agency Questions for Comment

If any of the comments fall under any of the following questions, please indicate the question and number with your response.

(1) *Evidence Supporting an Optimal Patient Prescribing Limit*—This proposed rule is intended to improve patient access to buprenorphine for the treatment of opioid use disorder while also minimizing the risk of diversion and patient safety concerns. Based on the available information, including clinical guideline recommendations and expert stakeholder input, HHS is proposing a new 200-patient prescribing limit. HHS seeks comment that provides evidence that an alternate prescribing limit would be more appropriate than the one proposed in this rulemaking.

(2) *Potential New Formulations*—The Secretary shall establish a process by which patients who are treated with medications covered under 21 U.S.C. 823(g)(2)(C), and that have features that enhance safety or reduce diversion, as determined by the Secretary, may be counted differently toward the prescribing limit established in this proposed rule. The criteria for determining which if any of these medications or reformulations of existing medications may be considered, and how these patients will be counted toward the patient limit, will be based on the following principles:

a. Relative risk of diversion associated with medications that become covered under 21 U.S.C. 823(g)(2)(C) after the effective date of this proposed rule; and

b. Time required to monitor patient safety, assure medication compliance and effectiveness, and deliver or coordinate behavioral health services. HHS seeks comment on the principles by which the Secretary would determine which new medications would qualify.

(3) *Practitioner Training for 200 Patient Limit*—HHS is seeking specific comment related to the level of training necessary to request a patient limit increase to 200 patients outside of a qualified practice setting. Specifically, under the current rule for the patient limit of 30 and 100, the training requirement may be satisfied at the time of initial NOI through a number of pathways, but the most common ways are via a subspecialty board certification in addiction psychiatry or addiction medicine, an addiction certification from ASAM, or completion of an 8-hour training provided by an approved organization. In this NPRM, SAMHSA would require board certification in addiction psychiatry or addiction medicine, but would not require

additional training to progress to the 200-patient limit. However, this means that only practitioners with subspecialty board certifications will be eligible to apply for a patient waiver of 200 and practitioners satisfying training requirements via the other pathways for the 30 and 100 patients will not be eligible. SAMHSA is seeking comment on whether the range of provider qualifications is too broad or too narrow to expand access to high quality medication-assisted treatment for opioid use disorder. If commenters assert that opportunity to qualify should be broadened, we also welcome recommendations regarding alternate pathways that would affirm competence without necessitating specialty board certification.

(4) *Alternate pathways to qualify for 200-patient prescribing limit*—Under this proposal, only practitioners with current 100-patient waivers who are either board-certified in addiction medicine or addiction psychiatry or who practice in “qualified practice settings” or who request a temporary increase to treat up to 200 patients in order to address emergency situations may apply for the higher limit. HHS seeks comment on additional, alternate pathways by which a practitioner may become eligible to apply for a patient waiver of 200.

(5) *Process to request a patient limit of 200*—HHS is seeking specific comment related to the requirements as defined in § 8.620(a) through (c). Specifically, how much cost will be associated with each requirement and what fraction of practitioners practicing in qualified practice settings will be able to fulfill such requirements.

(6) *Patient Volume Necessary*—We are not aware of data that indicate what patient volume per practitioner is necessary in order to make the provision of buprenorphine to patients not cost prohibitive. We seek data on how many patients a physician would need to treat in order to make the training requirements, administrative requirements, and other requirements not cost prohibitive to the practitioner by type of clinical environment type (e.g., large group practice, small physician-owned practice, hospitals, Medicaid-accepting addiction treatment centers, etc.).

(7) *Frequency of Renewal Request for Patient Limit Increase to 200 Patients*—Currently, to be able to prescribe/dispense buprenorphine for the maintenance or detoxification of opioid use disorder, qualified practitioners must file a NOI with SAMHSA. Under this proposal, qualified practitioners in good standing with a current waiver to

dispense to up to 100 patients may file a Request for Patient Limit Increase to treat up to 200 patients for a term of 3 years. SAMHSA is seeking comment on whether requiring the renewal for qualified practitioners seeking to treat up to 200 patients every 3 years is sufficient or whether practitioners should renew the waiver every year or every 2 years, instead of every 3 years.

(8) *Synchronization of Renewal Request with DEA Practitioner Registration Renewal*—We seek comment on whether SAMHSA should synchronize the 3-year Request for Patient Limit Increase renewal with the renewal of the DEA practitioner registration to reduce practitioner burden.

(9) *Estimation of the Time Required to Seek Approval to Treat up to 200 Patients*—As stated in the Regulatory Impact Analysis, SAMHSA is seeking comment on the assumptions regarding the time required to complete the request for the higher patient limit.

(10) *Estimation of the Change in Practitioner Behavior*—As stated in the Regulatory Impact Analysis, SAMHSA does not have information to estimate the number of practitioners who would change behavior in response to this proposed rule. SAMHSA is seeking comment on the estimation of the number of practitioners who are not currently eligible to submit a Request for Patient Limit Increase to treat up to 200 patients but as a result of the proposed rule would take steps, such as obtain subspecialty board certification, or change practice settings, in order to qualify to treat up to 200 patients.

(11) *Estimation of the Number of Practitioners who are Eligible to Submit a Request for Patient Limit Increase to Treat up to 200 Patients*—As stated in the Regulatory Impact Analysis, SAMHSA seeks comment on an estimation of the number of practitioners who, based on the proposed rule, would be eligible to submit a Request for Patient Limit Increase to treat up to 200 patients, and, as a result of the proposed rule, would do so.

(12) *Estimation of the Number of People who will Receive MAT with Buprenorphine*—As stated in the Regulatory Impact Analysis, SAMHSA seeks comment in order to refine the estimation of the number of people who will receive MAT with buprenorphine as a result of the proposed rule.

(13) *Reporting Periods*—SAMHSA seeks comment on whether the reporting periods and deadline could be combined with other, existing reporting requirements in a way that would make

reporting less burdensome for practitioners.

(14) *Balance of Access and Safety*—SAMHSA seeks comment on whether the proposed rule appropriately strikes the balance between ensuring that the credentials needed to prescribe MAT are within reach for interested practitioners, programs are practical to implement, and reporting requirements are not perceived as a barrier to participation.

#### List of Subjects in 42 CFR Part 8

Health professions, Methadone, Reporting and recordkeeping requirements.

For the reasons stated in the preamble, HHS proposes to amend 42 CFR part 8 as follows:

### PART 8—MEDICATION ASSISTED TREATMENT FOR OPIOID USE DISORDERS

- 1. The authority citation for part 8 continues to read as follows:

**Authority:** 21 U.S.C. 823; 42 U.S.C. 257a, 290bb–2a, 290aa(d), 290dd–2, 300x–23, 300x–27(a), 300y–11.

- 2. Revise the heading of part 8 as set forth above.
- 3. Amend part 8 as follows:
  - a. Remove the word “opiate” and add the word “opioid” in its place wherever it appears; and
  - b. Remove the phrases “opioid addiction” and “Opioid addiction” and add their places the phrases “opioid use disorder” and “Opioid use disorder”, respectively, wherever they appear.
- 4. Redesignate subpart C, consisting of §§ 8.21 through 8.34, as subpart D and revise the heading as follows:

#### Subpart D—Procedures for Review of Suspension or Proposed Revocation of OTP Certification, and of Adverse Action Regarding Withdrawal of Approval of an Accreditation Body

- 5. Redesignate subpart B, consisting of §§ 8.11 through 8.15, as subpart C and revise the heading as follows:

#### Subpart C—Certification and Treatment Standards for Opioid Treatment Programs

- 6. Add subpart B, redesignate §§ 8.3, 8.4, 8.5, and 8.6 to the new subpart B, and revise the heading to read as follows:

#### Subpart B—Accreditation of Opioid Treatment Programs

- 7. Revise the heading to subpart A to read as follows:

#### Subpart A—General Provisions

- 8. Revise § 8.1 to read as follows:

#### § 8.1 Scope.

(a) Subparts A through C of this part establish the procedures by which the Secretary of Health and Human Services (the Secretary) will determine whether a practitioner is qualified under section 303(g) of the Controlled Substances Act (CSA) (21 U.S.C. 823(g)) to dispense opioid drugs in the treatment of opioid use disorders. The regulations also establish the Secretary’s standards regarding the appropriate quantities of opioid drugs that may be provided for unsupervised use by individuals undergoing such treatment (21 U.S.C. 823(g)(1)). Under these regulations, a practitioner who intends to dispense opioid drugs in the treatment of opioid use disorder must first obtain from the Secretary or, by delegation, from the Administrator, Substance Abuse and Mental Health Services Administration (SAMHSA), a certification that the practitioner is qualified under the Secretary’s standards and will comply with such standards. Eligibility for certification will depend upon the practitioner obtaining accreditation from an accreditation body that has been approved by SAMHSA. These regulations establish the procedures whereby an entity can apply to become an approved accreditation body. This part also establishes requirements and general standards for accreditation bodies to ensure that practitioners are consistently evaluated for compliance with the Secretary’s standards for treatment of opioid use disorder with an opioid agonist treatment medication.

(b) The regulations in subpart F of this part establish the procedures and requirements that practitioners who are authorized to treat up to 100 patients pursuant to a waiver obtained under section 303(g)(2) of the CSA (21 U.S.C. 823(g)(2)), must satisfy in order to treat up to 200 patients with medications covered under section 303(g)(2)(C) of the CSA.

- 9. Amend § 8.2 as follows:

- a. Revise the definitions of “Accreditation body” and “Accreditation body application”;
- b. Add, in alphabetical order, the definitions of “Approval term”, “Behavioral health services”, and “Board certification”;
- c. Revise the definition of “Certification”;
- d. Add, in alphabetical order, the definitions of “Covered medications”, “Dispense”, “Diversion control plan”, and “Emergency situation”;
- e. Revise the definition of “Interim maintenance treatment”;
- f. Add, in alphabetical order, the definition of “Nationally recognized evidence-based guidelines”;

- g. Add, in alphabetical order, the definition of “Opioid dependence”;
  - h. Remove the definition of “Opioid treatment”;
  - i. Revise the definitions of “Opioid treatment program” and “Opioid use disorder”;
  - j. Add, in alphabetical order, the definition of “Opioid use disorder treatment”;
  - k. Revise the definition of “Patient”;
  - l. Add, in alphabetical order, the definitions of “Patient limit” and “Practitioner incapacity”;
  - m. Remove the definition of “Registered opioid treatment program”; and
  - n. Add, in alphabetical order, the definition of “Waivered practitioner”.
- The revisions and additions read as follows:

#### § 8.2 Definitions.

\* \* \* \* \*

*Accreditation body* means a body that has been approved by SAMHSA in this part to accredit opioid treatment programs using opioid agonist treatment medications.

*Accreditation body application* means the application filed with SAMHSA for purposes of obtaining approval as an accreditation body.

\* \* \* \* \*

*Approval term* means the 3 year period in which a practitioner is approved to treat up to 200 patients that commences when a practitioner’s Request for Patient Limit Increase is approved in accordance with § 8.625.

*Behavioral health services* means any non-pharmacological intervention carried out in a therapeutic context at an individual, family, or group level. Interventions may include structured, professionally administered interventions (e.g., cognitive behavior therapy or insight oriented psychotherapy) delivered in person, remotely via telemedicine shown in clinical trials to facilitate MAT outcomes or non-professional interventions.

*Board certification* in addiction medicine or psychiatry means the receipt of board certification in a particular addiction medicine or psychiatry specialty and/or subspecialty of medical practice (e.g., subspecialty board certification in addiction medicine or psychiatry) from the American Board of Medical Specialties, a subspecialty board certification in addiction medicine from the American Osteopathic Association (AOA) or American Board of Addiction Medicine (ABAM), or an addiction certification from the American Society of Addiction Medicine (ASAM).



*Certification* means the process by which SAMHSA determines that an opioid treatment program is qualified to provide opioid treatment under the Federal opioid treatment standards described in § 8.12.

\* \* \* \* \*

*Covered medications* means the drugs or combinations of drugs that are covered under 21 U.S.C. 823(g)(2)(C).

\* \* \* \* \*

*Dispense* means to deliver a controlled substance to an ultimate user by, or pursuant to the lawful order of, a practitioner, including the prescribing and administering of a controlled substance.

*Diversion control plan* means a set of documented procedures that reduce the possibility that controlled substances will be transferred or used illicitly.

*Emergency situation* means that an existing State, Tribal, or local system for substance use disorder services is overwhelmed or unable to meet the existing need for medication-assisted treatment as a direct consequence of a clear precipitating event. This precipitating event must have an abrupt onset such as practitioner incapacity, natural or human-caused disaster; an outbreak associated with drug use; and result in significant death, injury, exposure to life-threatening circumstances, hardship, suffering, loss of property, or loss of community infrastructure

\* \* \* \* \*

*Interim maintenance treatment* means maintenance treatment provided in an opioid treatment program in conjunction with appropriate medical services while a patient is awaiting transfer to a program that provides comprehensive maintenance treatment.

\* \* \* \* \*

*Nationally recognized evidence-based guidelines* means a document produced by a national or international medical professional association, public health agency, such as the World Health Organization, or governmental body with the aim of assuring the appropriate use of evidence to guide individual diagnostic and therapeutic clinical decisions.

\* \* \* \* \*

*Opioid dependence* means repeated self-administration that usually results in opioid tolerance, withdrawal symptoms, and compulsive drug-taking. Dependence may occur with or without the physiological symptoms of tolerance and withdrawal.

\* \* \* \* \*

*Opioid treatment program* or “OTP” means a program or practitioner

engaged in opioid treatment of individuals with an opioid agonist treatment medication registered under 21 U.S.C. 823(g)(1).

*Opioid use disorder* means a cluster of cognitive, behavioral, and physiological symptoms in which the individual continues use of opioids despite significant opioid-induced problems.

*Opioid use disorder treatment* means the dispensing of an opioid agonist treatment medication, along with a comprehensive range of medical and rehabilitative services, when clinically necessary, to an individual to alleviate the adverse medical, psychological, or physical effects incident to an opioid use disorder. This term includes a range of services including detoxification treatment, short-term detoxification treatment, long-term detoxification treatment, maintenance treatment, comprehensive maintenance treatment, and interim maintenance treatment.

*Patient* means any individual who receives MAT from a practitioner or program subject to this part.

*Patient limit* means the maximum number of individual patients a practitioner may treat at any one time using covered medications.

*Practitioner incapacity* means the inability of a waived practitioner as a result of an involuntary event to physically or mentally perform the tasks and duties required to provide medication-assisted treatment in accordance with nationally recognized evidence-based guidelines.

\* \* \* \* \*

*Waived practitioner* means a physician who is appropriately licensed by the State to dispense covered medications and who possesses a waiver under 21 U.S.C. 823(g)(2).

■ 10. Amend § 8.3 by revising the introductory text of paragraph (b) to read as follows:

**§ 8.3 Application for approval as an accreditation body.**

\* \* \* \* \*

(b) *Application for initial approval.* Electronic copies of an accreditation body application form [SMA-167] shall be submitted to: <http://buprenorphine.samhsa.gov/pls/bwns/waiver>. Accreditation body applications shall include the following information and supporting documentation:

\* \* \* \* \*

**Subpart E [Reserved]**

■ 11. Reserve subpart E.

■ 12. Add subpart F, consisting of §§ 8.610 through 8.655, to read as follows:

**Subpart F—Authorization to Increase Patient Limit to 200 Patients**

Sec.

8.610 Which practitioners are eligible for a patient limit of 200?

8.615 What constitutes a qualified practice setting?

8.620 What is the process to request a patient limit of 200?

8.625 How will a Request for Patient Limit Increase be processed?

8.630 What must practitioners do in order to maintain their approval to treat up to 200 patients?

8.635 What are the reporting requirements for practitioners whose Request for Patient Limit Increase is approved?

8.640 What is the process for renewing a practitioner's Request for Patient Limit Increase approval?

8.645 What are the responsibilities of practitioners who do not submit a renewal Request for Patient Limit Increase, or whose request is denied?

8.650 Can SAMHSA's approval of a practitioner's Request for Patient Limit Increase be suspended or revoked?

8.655 Can a practitioner request to temporarily treat up to 200 patients in emergency situations?

**Subpart F—Authorization to Increase Patient Limit to 200 Patients**

**§ 8.610 Which practitioners are eligible for a patient limit of 200?**

A practitioner is eligible for a patient limit of 200 if:

(a) The practitioner possesses a current waiver to treat up to 100 patients under section 303(g)(2) of the Controlled Substances Act (21 U.S.C. 823(g)(2)) and has maintained the waiver in accordance with applicable statutory requirements without interruption for at least one year since the practitioner's notification of intent (NOI) under section 303(g)(2)(B) to treat up to 100 patients was approved;

(b) The practitioner:

(1) Holds a subspecialty board certification in addiction psychiatry or addiction medicine; or

(2) Provides MAT utilizing covered medications in a qualified practice setting as defined in § 8.615;

(c) The practitioner has not had his or her enrollment and billing privileges in the Medicare program revoked under § 424.535 of this title; and

(d) The practitioner has not been found to have violated the Controlled Substances Act pursuant to 21 U.S.C. 824(a).

**§ 8.615 What constitutes a qualified practice setting?**

A qualified practice setting is a practice setting which:

(a) Provides professional coverage for patient medical emergencies during hours when the practitioner's practice is closed;

(b) Provides access to case-management services for patients including referral and follow-up services for programs that provide, or financially support, the provision of services such as medical, behavioral, social, housing, employment, educational, or other related services;

(c) Uses health information technology (HIT) systems such as electronic health records, if otherwise required to use it in the practice setting. HIT means the electronic systems that healthcare professionals and patients use to store, share, and analyze health information;

(d) Is registered for their State prescription drug monitoring program (PDMP) where operational and in accordance with federal and State law. PDMP means a statewide electronic database that collects designated data on substances dispensed in the State. For practitioners providing care in their capacity as employees or contractors of a Federal government agency, participation in a PDMP is required only when such participation is not restricted based on their state of licensure and is in accordance with Federal statutes and regulations;

(e) Accepts third-party payment for costs in providing health services, including written billing, credit and collection policies and procedures, or Federal health benefits.

#### **§ 8.620 What is the process to request a patient limit of 200?**

In order for a practitioner to receive approval for a patient limit of 200, a practitioner must meet all of the requirements specified in § 8.610 and submit a Request for Patient Limit Increase to SAMHSA that includes all of the following:

(a) Completed Request for Patient Limit Increase form;

(b) Statement certifying that the practitioner:

(1) Will adhere to nationally recognized evidence-based guidelines for the treatment of patients with opioid use disorders;

(2) Will provide patients with necessary behavioral health services as defined in § 8.2 or through an established formal agreement with another entity to provide behavioral health services;

(3) Will provide appropriate releases of information, in accordance with Federal and State laws and regulations, including the Health Information Portability and Accountability Act Privacy Rule and part 2 of this chapter, if applicable, to permit the coordination of care with behavioral health, medical, and other service practitioners;

(4) Will use patient data to inform the improvement of outcomes;

(5) Will adhere to a diversion control plan to manage the covered medications and reduce the possibility of diversion of covered medications from legitimate treatment use;

(6) Has considered how to assure continuous access to care in the event of practitioner incapacity or an emergency situation that would impact a patient's access to care as defined in § 8.2; and

(7) Will notify all patients above the 100 patient level, in the event that the request for the higher patient limit is not renewed or is denied, that the practitioner will no longer be able to provide MAT services using buprenorphine to them and make every effort to transfer patients to other addiction treatment;

(c) Any additional documentation to demonstrate compliance with § 8.610 as requested by SAMHSA.

#### **§ 8.625 How will a Request for Patient Limit Increase be processed?**

(a) Not later than 45 days after the date on which SAMHSA receives a practitioner's Request for Patient Limit Increase as described in § 8.620, or renewal Request for Patient Limit Increase as described in § 8.640, SAMHSA shall approve or deny the request.

(1) A practitioner's Request for Patient Limit Increase will be approved if the practitioner satisfies all applicable requirements under §§ 8.610 and 8.620. SAMHSA will thereafter notify the practitioner who requested the patient limit increase, and the Drug Enforcement Administration (DEA), that the practitioner has been approved to treat up to 200 patients using covered medications. A practitioner's approval to treat up to 200 patients under this section will extend for a term not to exceed 3 years.

(2) SAMHSA may deny a practitioner's Request for Patient Limit Increase if SAMHSA determines that:

(i) The Request for Patient Limit Increase is deficient in any respect; or

(ii) The practitioner has knowingly submitted false statements or made misrepresentations of fact in the practitioner's Request for Patient Limit Increase.

(b) If SAMHSA denies a practitioner's Request for Patient Limit Increase (or renewal), SAMHSA shall notify the practitioner of the reasons for the denial.

(c) If SAMHSA denies a practitioner's Request for Patient Limit Increase (or renewal) based solely on deficiencies that can be resolved, and the

deficiencies are resolved to the satisfaction of SAMHSA in a manner and time period approved by SAMHSA, the practitioner's Request for Patient Limit Increase will be approved. If the deficiencies have not been resolved to the satisfaction of SAMHSA within the designated time period, the Request for Patient Limit Increase will be denied.

#### **§ 8.630 What must practitioners do in order to maintain their approval to treat up to 200 patients?**

(a) A practitioner whose Request for Patient Limit Increase is approved in accordance with § 8.625 shall maintain all eligibility requirements specified in § 8.610, and all attestations made in accordance with § 8.620(b), during the practitioner's 3-year approval term. Failure to do so may result in SAMHSA withdrawing its approval of a practitioner's Request for Patient Limit Increase.

(b) All practitioners whose Request for Patient Limit Increase has been approved under § 8.625 must provide reports to SAMHSA as specified in § 8.635.

#### **§ 8.635 What are the reporting requirements for practitioners whose Request for Patient Limit Increase is approved?**

(a) All practitioners whose Request for Patient Limit Increase is approved under § 8.625 must submit reports to SAMHSA, along with documentation and data, as requested by SAMHSA, to demonstrate compliance with § 8.620, applicable eligibility requirements specified in § 8.610, and all attestation requirements in § 8.620(b).

(b) Reporting requirements may include a request for information regarding:

(1) The average monthly caseload of patients receiving buprenorphine-based MAT, per year.

(2) Percentage of active buprenorphine patients (patients in treatment as of reporting date) that received psychosocial or case management services (either by direct provision or by referral) in the past year due to:

(i) Treatment initiation.

(ii) Change in clinical status.

(3) Percentage of patients who had a prescription drug monitoring program query in the past month; and

(4) Number of patients at the end of the reporting year who:

(i) Have completed an appropriate course of treatment with buprenorphine in order for the patient to achieve and sustain recovery.

(ii) Are not being seen by the provider due to referral by the provider to a more or less intensive level of care.

(iii) No longer desire to continue use of buprenorphine.

(iv) Are no longer receiving buprenorphine for reasons other than paragraph (b)(4)(i) through (iii) of this section.

(c) The report must be submitted within twelve months after the date that a practitioner's Request for Patient Limit Increase is approved under § 8.625, and annually thereafter.

(d) SAMHSA may check reports from practitioners prescribing under the higher patient limit against other existing data sources, such as PDMPs. If discrepancies between reported information and other existing data are identified, SAMHSA may require additional documentation from practitioners whose reports are identified as including these discrepancies.

(e) Failure to submit reports under this section, or deficient reports, may be deemed a failure to satisfy the requirements for a patient limit increase, and may result in the withdrawal of SAMHSA's approval of the practitioner's Request for Patient Limit Increase.

**§ 8.640 What is the process for renewing a practitioner's Request for Patient Limit Increase approval?**

(a) Practitioners who intend to continue to treat up to 200 patients beyond their current 3 year approval term must submit a renewal Request for Patient Limit Increase in accordance with the procedures outlined under § 8.620 at least 90 days before the expiration of their approval term.

(b) If SAMHSA does not reach a final decision on a renewal Request for Patient Limit Increase before the expiration of a practitioner's approval term, the practitioner's existing approval term will be deemed extended until SAMHSA reaches a final decision.

**§ 8.645 What are the responsibilities of practitioners who do not submit a renewal Request for Patient Limit Increase or whose request is denied?**

Practitioners who are approved to treat up to 200 patients in accordance with § 8.625, but who do not renew

their Request for Patient Limit Increase, or whose request is denied, shall notify, under § 8.620(b)(7) in a time period specified by SAMHSA, all patients affected above the 100 patient limit, that the practitioner will no longer be able to provide MAT services using covered medications and make every effort to transfer patients to other addiction treatment.

**§ 8.650 Can SAMHSA's approval of a practitioner's Request for Patient Limit Increase be suspended or revoked?**

(a) *Suspension.* SAMHSA may suspend its approval of a practitioner's Request for Patient Limit Increase under § 8.625 if it has reason to believe that immediate action is necessary to protect public health or safety.

(b) *Revocation.* SAMHSA may revoke its approval of a practitioner's Request for Patient Limit Increase under § 8.625 at any time during the 3 year approval term if SAMHSA determines that the practitioner made any misrepresentations in the practitioner's Request for Patient Limit Increase, or if SAMHSA determines that the practitioner no longer satisfies the requirements of this subpart, or has been found to have violated the CSA pursuant to 21 U.S.C. 824(a).

**§ 8.655 Can a practitioner request to temporarily treat up to 200 patients in emergency situations?**

(a) Practitioners with a current waiver to prescribe up to 100 patients and who are not otherwise eligible to treat up to 200 patients under § 8.610 may request a temporary increase to treat up to 200 patients in order to address emergency situations as defined in § 8.2 if the practitioner provides information and documentation that:

(1) Describes the emergency situation in sufficient detail so as to allow a determination to be made regarding whether the situation qualifies as an emergency situation as defined in § 8.2, and that provides a justification for an immediate increase in that practitioner's patient limit;

(2) Identifies a period of time, not longer than 6 months, in which the higher patient limit should apply, and

provides a rationale for the period of time requested; and

(3) Describes an explicit and feasible plan to meet the public and individual health needs of the impacted persons once the practitioner's approval to treat up to 200 patients expires.

(b) Prior to taking action on a practitioner's request under this section, SAMHSA shall consult, to the extent practicable, with the appropriate governmental authority in order to determine whether the emergency situation that a practitioner describes justifies an immediate increase in the higher patient limit.

(c) If SAMHSA determines that a practitioner's request under this section should be granted, SAMHSA will notify the practitioner that his or her request has been approved. The period of such approval shall not exceed six months.

(d) If a practitioner wishes to receive an extension of the approval period granted under this section, he or she must submit a request to SAMHSA at least 30 days before the expiration of the six month period, and certify that the emergency situation as defined in § 8.2 necessitating an increased patient limit continues. Prior to taking action on a practitioner's extension request under this section, SAMHSA shall consult, to the extent practicable, with the appropriate governmental authority in order to determine whether the emergency situation that a practitioner describes justifies an extension of an increase in the higher patient limit.

(e) Except as provided in this section and § 8.650, requirements in other sections under subpart F of this part do not apply to practitioners receiving waivers in this section.

Dated: March 23, 2016.

**Kana Enomoto,**

*Principal Deputy Administrator, Substance Abuse and Mental Health Services Administration.*

Approved: March 24, 2016.

**Sylvia M. Burwell,**

*Secretary, Department of Health and Human Services.*

[FR Doc. 2016-07128 Filed 3-29-16; 8:45 am]

**BILLING CODE 4162-20-P**

# Notices

Federal Register

Vol. 81, No. 61

Wednesday, March 30, 2016

This section of the FEDERAL REGISTER contains documents other than rules or proposed rules that are applicable to the public. Notices of hearings and investigations, committee meetings, agency decisions and rulings, delegations of authority, filing of petitions and applications and agency statements of organization and functions are examples of documents appearing in this section.

## DEPARTMENT OF AGRICULTURE

### Forest Service

#### Pacific Northwest National Scenic Trail Advisory Council

**AGENCY:** Forest Service, USDA.

**ACTION:** Notice of meeting.

**SUMMARY:** The Pacific Northwest National Scenic Trail Advisory Council (Council) will meet in Port Townsend, Washington. The Council is authorized under Section 5(d) of the National Trails System Act of 1968 (Act) and operates in compliance with the Federal Advisory Committee Act (FACA). Additional information concerning the Council, including the meeting summary/minutes, can be found by visiting the Council's Web site at: <http://www.fs.usda.gov/main/pnt/working-together/advisory-committees>.

**DATES:** The meeting will be held on the following dates and times:

- Wednesday, May 4, 2016 from 8:00 a.m. to 5:00 p.m. PDT.
- Thursday, May 5, 2016 from 8:00 a.m. to 5:00 p.m. PDT.
- Friday, May 6, 2016 from 8:00 a.m. to 5:00 p.m. PDT (optional field trip).

All meetings are subject to cancellation. For updated status of meeting prior to attendance, please contact the person listed under **FOR FURTHER INFORMATION CONTACT**.

**ADDRESSES:** The meeting will be held at the Northwest Maritime Center, 431 Water Street, Port Townsend, WA 98368. Written comments may be submitted as described under **SUPPLEMENTARY INFORMATION**. All comments, including names and addresses, when provided, are placed in the record and available for public inspection and copying. The public may inspect comments received at the Pacific Northwest Regional Office of the United States Forest Service: 1220 SW 3rd Avenue, Portland, OR 97204. Please

call ahead at 503-808-2468 to facilitate entry into the building.

**FOR FURTHER INFORMATION CONTACT:** Matt McGrath, Pacific Northwest National Scenic Trail Program Manager, by phone at 425-583-9304, or by email at [mtmcgrath@fs.fed.us](mailto:mtmcgrath@fs.fed.us).

Individuals who use telecommunication devices for the deaf (TDD) may call the Federal Information Relay Service (FIRS) at 1-800-877-8339 between 8:00 a.m. and 8:00 p.m., Eastern Standard Time, Monday through Friday.

**SUPPLEMENTARY INFORMATION:** The purpose of the meeting is to provide:

1. Review significant resources and current trail uses along the PNNST;
2. Provide recommendations on the Nature and Purposes of the PNNST, including trail uses; and
3. Discuss potential interpretive themes and strategies for youth and community engagement on the PNNST.

The meeting is open to the public. The agenda will include time for people to make oral statements of three minutes or less. Individuals wishing to make an oral statement should submit a request in writing by May 19, 2016, to be scheduled on the agenda. Anyone who would like to bring related matters to the attention of the Council may file written statements with the Council's staff before or after the meeting. Written comments and time requests for oral comments must be sent to Matt McGrath, Pacific Northwest National Scenic Trail Program Manager, 2930 Wetmore Avenue, Suite 3A, Everett, Washington 98201, or by email to [mtmcgrath@fs.fed.us](mailto:mtmcgrath@fs.fed.us).

**Meeting Accommodations:** If you are a person requiring reasonable accommodation, please make requests in advance for sign language interpreting, assistive listening devices or other reasonable accommodation for access to the facility or proceedings by contacting the person listed in the section titled **FOR FURTHER INFORMATION CONTACT**. All reasonable accommodation requests are managed on a case by case basis.

Dated: March 23, 2016.

**Dianne C. Guidry,**  
Deputy Regional Forester.

[FR Doc. 2016-07137 Filed 3-29-16; 8:45 am]

**BILLING CODE 3411-15-P**

## DEPARTMENT OF AGRICULTURE

### Forest Service

#### Shasta County Resource Advisory Committee

**AGENCY:** Forest Service, USDA.

**ACTION:** Notice of meeting.

**SUMMARY:** The Shasta County Resource Advisory Committee (RAC) will meet in Redding, California. The committee is authorized under the Secure Rural Schools and Community Self-Determination Act (the Act) and operates in compliance with the Federal Advisory Committee Act. The purpose of the committee is to improve collaborative relationships and to provide advice and recommendations to the Forest Service concerning projects and funding consistent with Title II of the Act. Additional RAC information, including the meeting agenda and the meeting summary/minutes can be found at the following Web site: [www.fs.usda.gov/main/stnf/workingtogether/advisorycommittees](http://www.fs.usda.gov/main/stnf/workingtogether/advisorycommittees).

**DATES:** The meeting will be held from 9:00 a.m. to 3:00 p.m. on May 3 and 4, 2016.

All RAC meetings are subject to cancellation. For status of meeting prior to attendance, please contact the person listed under **FOR FURTHER INFORMATION CONTACT**.

**ADDRESSES:** The meeting will be held at USDA Service Center, Shasta-Trinity National Forest Headquarters, 3644 Avtech Parkway, Redding, California.

Written comments may be submitted as described under **SUPPLEMENTARY INFORMATION**. All comments, including names and addresses when provided, are placed in the record and are available for public inspection and copying. The public may inspect comments received at USDA Service Center, Shasta-Trinity National Forest Headquarters, 3644 Avtech Parkway, Redding, California. Please call ahead to facilitate entry into the building.

**FOR FURTHER INFORMATION CONTACT:** Lesley Yen, Designated Federal Officer, by phone at 530-275-1587 or via email at [lyen@fs.fed.us](mailto:lyen@fs.fed.us).

Individuals who use telecommunication devices for the deaf (TDD) may call the Federal Information Relay Service (FIRS) at 1-800-877-8339 between 8:00 a.m. and 8:00 p.m.,

Eastern Standard Time, Monday through Friday.

**SUPPLEMENTARY INFORMATION:** The purpose of the meeting is to:

1. Review proposals for Secure Rural Schools Title II funding, and
2. Vote on proposals to recommend to the Shasta-Trinity National Forest Supervisor for approval.

The meeting is open to the public. The agenda will include time for people to make oral statements of three minutes or less. Individuals wishing to make an oral statement should request in writing by May 2, 2016, to be scheduled on the agenda. Anyone who would like to bring related matters to the attention of the committee may file written statements with the committee staff before or after the meeting. Written comments and requests for time for oral comments must be sent to Lesley Yen, Designated Federal Officer, 14225 Holiday Road, Redding, California 96003; by email to [lyen@fs.fed.us](mailto:lyen@fs.fed.us), or via facsimile to 530-275-1512.

**Meeting Accommodations:** If you are a person requiring reasonable accommodation, please make requests in advance for sign language interpreting, assistive listening devices or other reasonable accommodation for access to the facility or proceedings by contacting the person listed in the section titled **FOR FURTHER INFORMATION CONTACT**. All reasonable accommodation requests are managed on a case by case basis.

Dated: March 16, 2016.

**David R. Myers,**

*Shasta-Trinity National Forest Supervisor.*

[FR Doc. 2016-07136 Filed 3-29-16; 8:45 am]

**BILLING CODE 3411-15-P**

## COMMISSION ON CIVIL RIGHTS

### Notice of Public Meeting of the Kansas Advisory Committee To Review Testimony Regarding Civil Rights and Voting Requirements in the State

**AGENCY:** U.S. Commission on Civil Rights.

**ACTION:** Announcement of meeting.

**SUMMARY:** Notice is hereby given, pursuant to the provisions of the rules and regulations of the U.S. Commission on Civil Rights (Commission) and the Federal Advisory Committee Act that the Kansas Advisory Committee (Committee) will hold a meeting on Friday, April 29, 2016, at 12:00 p.m. CDT for the purpose of reviewing and discussing testimony regarding voting rights in the State.

This meeting is available to the public through the following toll-free call-in

number: 888-587-0615, conference ID: 4700573. Any interested member of the public may call this number and listen to the meeting. The conference call operator will ask callers to identify themselves, the organization they are affiliated with (if any), and an email address prior to placing callers into the conference room. Callers can expect to incur regular charges for calls they initiate over wireless lines, according to their wireless plan. The Commission will not refund any incurred charges. Callers will incur no charge for calls they initiate over land-line connections to the toll-free telephone number. Persons with hearing impairments may also follow the proceedings by first calling the Federal Relay Service at 1-800-977-8339 and providing the Service with the conference call number and conference ID number.

Members of the public are invited to make statements at the end of the conference call. In addition, members of the public may submit written comments; the comments must be received in the regional office within 30 days after the meeting. Written comments may be mailed to the Regional Programs Unit, U.S. Commission on Civil Rights, 55 W. Monroe St., Suite 410, Chicago, IL 60615. They may also be faxed to the Commission at (312) 353-8324, or emailed to Administrative Assistant, Corrine Sanders at [csanders@usccr.gov](mailto:csanders@usccr.gov). Persons who desire additional information may contact the Regional Programs Unit at (312) 353-8311.

Records and documents discussed during the meeting will be available for public viewing prior to and after the meeting at the following link: <https://database.faca.gov/committee/meetings.aspx?cid=249>. Click on the "Meeting Details" and "Documents" link to download. Records generated from this meeting may also be inspected and reproduced at the Regional Programs Unit, as they become available, both before and after the meeting. Persons interested in the work of this Committee are directed to the Commission's Web site, <http://www.usccr.gov>, or may contact the Regional Programs Unit at the above email or street address.

#### Agenda

Welcome and Introductions  
Discussion of Public Testimony on Voting Rights in Kansas  
Open Comment  
Adjournment

**DATES:** The meeting will be held on Friday, April 29, 2016, at 12:00 p.m. CDT.

**Public Call Information:** Dial: 888-587-0615; Conference ID: 4700573.

**FOR FURTHER INFORMATION CONTACT:** Melissa Wojnaroski, DFO, at 312-353-8311 or [mwojnaroski@usccr.gov](mailto:mwojnaroski@usccr.gov).

Dated: March 25, 2016.

**David Mussatt,**

*Chief, Regional Programs Unit.*

[FR Doc. 2016-07125 Filed 3-29-16; 8:45 am]

**BILLING CODE 6335-01-P**

## COMMISSION ON CIVIL RIGHTS

### Notice of Public Meeting of the Oklahoma Advisory Committee To Discuss a Draft Report Regarding the Civil Rights Impact of School Disciplinary Policies That May Contribute to High Rates of Juvenile Incarceration in Oklahoma

**AGENCY:** U.S. Commission on Civil Rights.

**ACTION:** Announcement of meeting.

**SUMMARY:** Notice is hereby given, pursuant to the provisions of the rules and regulations of the U.S. Commission on Civil Rights (Commission) and the Federal Advisory Committee Act that the Oklahoma Advisory Committee (Committee) will hold a meeting on Monday, May 02, 2016, from 12:00-1:00 p.m. CDT for the purpose of discussing a draft report regarding the civil rights impact of the "school to prison pipeline" in Oklahoma.

Members of the public may listen to the discussion. This meeting is available to the public through the following toll-free call-in number: 888-389-5988, conference ID: 4893967. Any interested member of the public may call this number and listen to the meeting. The conference call operator will ask callers to identify themselves, the organization they are affiliated with (if any), and an email address prior to placing callers into the conference room. Callers can expect to incur regular charges for calls they initiate over wireless lines according to their wireless plan, and the Commission will not refund any incurred charges. Callers will incur no charge for calls they initiate over land-line connections to the toll-free telephone number. Persons with hearing impairments may also follow the proceedings by first calling the Federal Relay Service at 1-800-977-8339 and providing the Service with the conference call number and conference ID number.

Members of the public are also invited to make statements at the end of the conference call. In addition, members of the public may submit written comments; the comments must be

received in the regional office within 30 days following the meeting. Written comments may be mailed to the Regional Programs Unit, U.S. Commission on Civil Rights, 55 W. Monroe St., Suite 410, Chicago, IL 60615. They may also be faxed to the Commission at (312) 353-8324, or emailed to Administrative Assistant, Corrine Sanders at [csanders@usccr.gov](mailto:csanders@usccr.gov). Persons who desire additional information may contact the Regional Programs Unit at (312) 353-8311.

Records and documents discussed during the meeting will be available for public viewing prior to and after the meeting at: <https://database.faca.gov/committee/meetings.aspx?cid=269>. Clicking on the "Meeting Details" and "Documents" links to download. Records generated from this meeting may also be inspected and reproduced at the Regional Programs Unit, as they become available, both before and after the meeting. Persons interested in the work of this Committee are directed to the Commission's Web site, <http://www.usccr.gov>, or may contact the Regional Programs Unit at the above email or street address.

## Agenda

Welcome and Roll Call

Discussion of draft Committee Report:  
*"Civil Rights and the School to Prison Pipeline in Oklahoma"*

- Committee Comments/amendments
- Public Comment
- Vote for approval

Future Projects

Open Comment

Adjournment

**DATES:** The meeting will be held on Monday, May 02, 2016, from 12:00–1:00 p.m. CDT.

*Public Call Information:* Dial: 888–389–5988; Conference ID: 4893967.

**FOR FURTHER INFORMATION CONTACT:** Melissa Wojnaroski, DFO, at 312–353–8311 or [mwojnaroski@usccr.gov](mailto:mwojnaroski@usccr.gov).

Dated: March 25, 2016.

**David Mussatt,**

*Chief, Regional Programs Unit.*

[FR Doc. 2016-07126 Filed 3-29-16; 8:45 am]

**BILLING CODE 6335-01-P**

## DEPARTMENT OF COMMERCE

### International Trade Administration

[A–570–504]

#### Certain Petroleum Wax Candles From the People's Republic of China: Final Results of Expedited Fourth Sunset Review of the Antidumping Duty Order

**AGENCY:** Enforcement and Compliance, International Trade Administration, Department of Commerce.

**SUMMARY:** On December 1, 2015, the Department of Commerce (the "Department") published the notice of initiation of the first five-year ("sunset") review of the antidumping duty order on certain petroleum wax candles ("candles") from the People's Republic of China ("PRC") pursuant to section 751(c) of the Tariff Act of 1930, as amended (the "Act").<sup>1</sup> As a result of this sunset review, the Department finds that revocation of the antidumping duty order on candles from the PRC would be likely to lead to continuation or recurrence of dumping. The magnitude of the dumping margins likely to prevail is indicated in the "Final Results of Review" section of this notice.

**DATES:** *Effective Date:* March 30, 2016.

**FOR FURTHER INFORMATION CONTACT:** Katie Marksberry, AD/CVD Operations, Enforcement and Compliance, International Trade Administration, U.S. Department of Commerce, 14th Street and Constitution Avenue NW., Washington, DC 20230; telephone: (202) 482-7906.

#### SUPPLEMENTARY INFORMATION:

#### Background

As noted above, on December 1, 2015, the Department published the initiation of the fourth sunset review of candles from the PRC.<sup>2</sup> On December 7, 2015, National Candle Association ("NCA") ("Petitioner") timely notified the Department of its intent to participate within the deadline specified in 19 CFR 351.218(d)(1)(i), claiming domestic interested party status under section 771(9)(C) of the Act.<sup>3</sup> On December 31, 2015, the Department received an adequate substantive response from Petitioner within the deadline specified in 19 CFR 351.218(d)(3)(i).<sup>4</sup> We received no responses from respondent interested parties. As a result, the Department conducted an expedited (120-day) sunset review of the order, pursuant to

section 751(c)(3)(B) of the Act and 19 CFR 351.218(e)(1)(ii)(C)(2).

#### Scope of the Order

The products covered by the order are certain scented or unscented petroleum wax candles made from petroleum wax and having fiber or paper-cored wicks. They are sold in the following shapes: Tapers, spirals and straight-sided dinner candles; rounds, columns, pillars, votives; and various wax-filled containers. The products were originally classifiable under the Tariff Schedules of the United States item 755.25, Candles and Tapers. The products are currently classifiable under the Harmonized Tariff Schedule ("HTS") item number 3406.00.00. The HTS item number is provided for convenience and customs purposes. The written description remains dispositive.

#### Analysis of Comments Received

All issues raised in this sunset review are addressed in the Issues and Decision Memorandum. The issues discussed in the Issues and Decision Memorandum include the likelihood of continuation or recurrence of dumping and the magnitude of the margins likely to prevail if the order were to be revoked. Parties may find a complete discussion of all issues raised in the review and the corresponding recommendations in this public memorandum which is on file electronically via Enforcement and Compliance's Antidumping and Countervailing Duty Centralized Electronic Service System ("ACCESS"). ACCESS is available to registered users at <http://access.trade.gov>, and is available to all parties in the Central Records Unit, room 7046 of the main Department of Commerce building. In addition, a complete version of the Decision Memorandum can be accessed directly on the Internet at <http://enforcement.trade.gov/frn/index.html>. The signed and electronic versions of the Issues and Decision Memorandum are identical in content.

#### Final Results of Review

Pursuant to section 752(c) of the Act, the Department determines that revocation of the order would be likely to lead to continuation or recurrence of dumping at weighted-average margins up to 95.86 percent.

#### Administrative Protective Order

This notice also serves as the only reminder to parties subject to administrative protective order ("APO") of their responsibility concerning the return or destruction of proprietary information disclosed under APO in accordance with 19 CFR 351.305.

<sup>1</sup> See *Initiation of Five-Year ("Sunset") Review*, 80 FR 75064 (December 1, 2015).

<sup>2</sup> *Id.*

<sup>3</sup> See Petitioners' December 7, 2015, submission.

<sup>4</sup> See Petitioners' December 31, 2015, submission.

Timely notification of the return of destruction of APO materials or conversion to judicial protective order is hereby requested. Failure to comply with the regulations and terms of an APO is a violation which is subject to sanction.

We are publishing these final results and notice in accordance with sections 751(c), 752(c), and 777(i)(1) of the Act.

Dated: March 17, 2016.

**Paul Piquado,**

*Assistant Secretary for Enforcement and Compliance.*

[FR Doc. 2016-07186 Filed 3-29-16; 8:45 am]

**BILLING CODE 3510-DS-P**

## DEPARTMENT OF COMMERCE

### National Oceanic and Atmospheric Administration

**RIN 0648-XE442**

#### **Takes of Marine Mammals Incidental to Specified Activities; Taking Marine Mammals Incidental to Subsea Cable-Laying Operations in the Bering, Chukchi, and Beaufort Seas**

**AGENCY:** National Marine Fisheries Service (NMFS), National Oceanic and Atmospheric Administration (NOAA), Commerce.

**ACTION:** Notice; proposed incidental harassment authorization; request for comments.

**SUMMARY:** NMFS has received an application from Quintillion Subsea Operations, LLC (Quintillion) for an Incidental Harassment Authorization (IHA) to take marine mammals, by harassment, incidental to a subsea cable-laying operation in the state and federal waters of the Bering, Chukchi, and Beaufort seas, Alaska, during the open-water season of 2016. Pursuant to the Marine Mammal Protection Act (MMPA), NMFS is requesting comments on its proposal to issue an IHA to Quintillion to incidentally take, by Level B Harassments, marine mammals during the specified activity.

**DATES:** Comments and information must be received no later than April 29, 2016.

**ADDRESSES:** Comments on the application should be addressed to Jolie Harrison, Chief, Permits and Conservation Division, Office of Protected Resources, National Marine Fisheries Service, 1315 East-West Highway, Silver Spring, MD 20910. The mailbox address for providing email comments is [itp.guan@noaa.gov](mailto:itp.guan@noaa.gov). Comments sent via email, including all attachments, must not exceed a 25-megabyte file size. NMFS is not

responsible for comments sent to addresses other than those provided here.

**Instructions:** All comments received are a part of the public record and will generally be posted to <http://www.nmfs.noaa.gov/pr/permits/incidental.htm> without change. All Personal Identifying Information (for example, name, address, etc.) voluntarily submitted by the commenter may be publicly accessible. Do not submit Confidential Business Information or otherwise sensitive or protected information.

An electronic copy of the application may be obtained by writing to the address specified above, telephoning the contact listed below (see **FOR FURTHER INFORMATION CONTACT**), or visiting the Internet at: <http://www.nmfs.noaa.gov/pr/permits/incidental.htm>. The following associated documents are also available at the same Internet address: Plan of Cooperation. Documents cited in this notice may also be viewed, by appointment, during regular business hours, at the aforementioned address.

NMFS is also preparing a draft Environmental Assessment (EA) in accordance with the National Environmental Policy Act (NEPA) and will consider comments submitted in response to this notice as part of that process. The draft EA will be posted at the foregoing internet site.

**FOR FURTHER INFORMATION CONTACT:** Shane Guan, Office of Protected Resources, NMFS, (301) 427-8401.

#### **SUPPLEMENTARY INFORMATION:**

##### **Background**

Sections 101(a)(5)(A) and (D) of the MMPA (16 U.S.C. 1361 *et seq.*) direct the Secretary of Commerce to allow, upon request, the incidental, but not intentional, taking of small numbers of marine mammals by U.S. citizens who engage in a specified activity (other than commercial fishing) within a specified geographical region if certain findings are made and either regulations are issued or, if the taking is limited to harassment, a notice of a proposed authorization is provided to the public for review.

An authorization for incidental takings shall be granted if NMFS finds that the taking will have a negligible impact on the species or stock(s), will not have an unmitigable adverse impact on the availability of the species or stock(s) for subsistence uses (where relevant), and if the permissible methods of taking and requirements pertaining to the mitigation, monitoring, and reporting of such takings are set forth. NMFS has defined “negligible

impact” in 50 CFR 216.103 as “an impact resulting from the specified activity that cannot be reasonably expected to, and is not reasonably likely to, adversely affect the species or stock through effects on annual rates of recruitment or survival.”

Except with respect to certain activities not pertinent here, the MMPA defines “harassment” as: Any act of pursuit, torment, or annoyance which (i) has the potential to injure a marine mammal or marine mammal stock in the wild [Level A harassment]; or (ii) has the potential to disturb a marine mammal or marine mammal stock in the wild by causing disruption of behavioral patterns, including, but not limited to, migration, breathing, nursing, breeding, feeding, or sheltering [Level B harassment].

#### **Summary of Request**

On October 29, 2015, NMFS received an IHA application and marine mammal mitigation and monitoring plan (4MP) from Quintillion for the taking of marine mammals incidental to conducting subsea cable laying activities in the U.S. Bering, Chukchi, and Beaufort seas. After receiving NMFS comments on the initial application, Quintillion made revisions and updated its IHA application and 4MP on February 3, 2016. NMFS determined that the application and the 4MP were adequate and complete on February 5, 2016.

Quintillion proposes to install a subsea fiber optic network cable along the northern and western coasts of Alaska in the U.S. Bering, Chukchi, and Beaufort seas during the 2016 Arctic open-water season. The proposed activity would occur between June 1 and October 31, 2016. Noise generated from cable vessel’s dynamic positioning thruster could impact marine mammals in the vicinity of the activities. Take, by Level B harassments, of individuals of 8 species of marine mammals is proposed to be authorized from the specified activity.

#### **Description of the Specified Activity**

##### *Overview*

On October 29, 2015, NMFS received an application from Quintillion requesting an authorization for the harassment of small numbers of marine mammals incidental to subsea cable-laying operations in the Bering, Chukchi, and Beaufort seas off Alaska. After addressing comments from NMFS, Quintillion modified its application and submitted revised applications and 4MP on February 3, 2016. Quintillion’s proposed activities discussed here are



based on its February 3, 2016, IHA application and 4MP.

#### Dates and Duration

The proposed subsea cable-laying operation is planned for the 2016 open-water season (June 1 to October 31). All associated activities, including mobilization, pre-lay grapnel run (PLGR), cable-laying, post lay inspection and burial (PLIB), and demobilization of survey and support crews, would occur inclusive of the above seasonal dates. It is expected that the operations may last all season (approximately 150 days).

#### Specified Geographic Region

The planned fiber optic cable-laying project will occur in the offshore waters of the Bering, Chukchi, and Beaufort seas between Nome and Oliktok Point (the latter located 260 km [162 mi] southeast of Barrow). The specific area is provided in Figure 1 of Quintillion's IHA application.

#### Detailed Description of Activities

##### I. Cable Network

The proposed subsea cable network is shown in Figure 1 of the IHA

application. The cable network includes the main trunk line and six branch lines. The main trunk line is 1,317 km (818 mi) in length, and will run from the tail of the Nome branch line to the tail of the Oliktok Point branch line (Table 1). The branch lines range between 27 km (17 mi) and 233 km (145 mi) long. The branch lines connect to the main trunk line at the branching unit (BU), which is a piece of hardware that allows the interconnection of the branch cable from the main trunk line to the shore end facility. The cable is also "repeated" in that approximately every 60 km (37 mi) a repeater is attached to the cable that amplifies the signal. Collectively, the cable, BUs, and repeaters make up the "submerged plant." Depending on bottom substrate, water depth, and distance from shore, the cable would either lay on the ocean floor or will be buried using a plough or a remote operating vehicle (ROV) equipped for burial jetting.

##### II. Vessels

The cable-laying operations will be conducted from two ships, the *Ile de Brehat* and the *Ile de Sein*, and a large

cable-laying barge. Both ships are 140 m (460 ft) in length, 23 m (77 ft) in breadth, with berths for a crew of 70. The ships are propelled by two 4,000 kW fixed-pitch propellers. Dynamic positioning is maintained by two 1,500 kW bow thrusters, two 1,500 kW aft thrusters, and one 1,500 kW fore thruster.

Support vessels include a tug and barge that will remain in the vicinity of the main lay vessel. During cable laying activities occurring in nearshore waters too shallow of the *Ile de Brehat*, the tug and barge (using a dive team) will lay the final shore ends of the cable.

The branch line segment between Oliktok Point and BU Oliktok crosses a hard seafloor that poses a more unique challenge to burying the cable in the ice scour zone. For this segment the *CB Networker*, a 60-m (197-ft) powered cable-lay barge, will be used because it includes a vertical injector powerful enough to cut a cable trench through the hard sediments found off Oliktok Point. The *CB Networker* is also large enough to operate offshore and will lay the full 75 km cable length between Oliktok Point and BU Oliktok.

TABLE 1—CABLE NETWORK ROUTE LENGTHS FOR EACH SEGMENT

	Segment (km)							Total
	Main	Branch lines						
		Oliktok	Barrow	Wainwright	Point Hope	Kotzebue	Nome	
Route Length .....	1,317	74	27	31	27	233	195	1,904

##### III. Pre-Lay Grapnel Run

Before cable is laid, a pre-lay grapnel run (PLGR) will be carried out along the proposed cable route where burial is required. The objective of the PLGR operation is the identification and clearance of any seabed debris, for example wires, hawsers, wrecks, or fishing gear, which may have been deposited along the route. Any debris recovered during these operations would be discharged ashore on completion of the operations and disposed of in accordance with local regulations. If any debris cannot be recovered, then a local reroute would be planned to avoid the debris. The PLGR operation would be to industry standards employing towed grapnels; the type of grapnel being determined by the nature of the seabed. The PLGR operation would be conducted by a local tug boat ahead of the cable-laying.

##### IV. Cable-Laying

The objective of the surface laying operation is to install the cable as close

as possible to the planned route with the correct amount of cable slack to enable the cable to conform to the contours of the seabed without loops or suspensions. A slack plan would be developed that uses direct bathymetric data and a catenary modeling system to control the ship and the cable pay out speeds to ensure the cable is accurately placed in its planned physical position.

Where the BAS has determined that cable burial is possible, the cable would be buried using various methods. In water depths greater than about 12 m (about 40 ft), the cable would be buried using an SMD Heavy Duty HD3 Plough. The plough has a submerged weight of 25 tonnes (27.6 tons). The plough is pulled by the tow wire and the cable fed through a cable depressor that pushes it into the trench. Burial depth is controlled by adjusting the front skids. The normal tow speed is approximately 600 m/hr (approximately 0.37 mph).

In water depths less than 12 m (40 ft), burial would be by jet burial using a towed sled, tracked ROV, or by diver jet

burial, subject to seabed conditions in the area. The ROV would be used in areas accessible to the main lay vessel. The planned ROV, the ROVJET 400 series, is 5.8 m (19.0 ft) long and 3.4 m (11.2 ft) wide and weighs 9.1 tonnes (10 tons) in air, and has both a main and forward jet tool cable of trenching to 2 m (6.6 ft) depth.

Nearer to shore, where seasonal ice scouring occurs, the cable with be floated on the surface and then pulled through an existing horizontal directional drilling (HDD) bore pipe to the beach man hole (BMH) where it would be anchor-clamped and spliced to the terrestrial cable. The floated cable portion is then lowered to the seabed by divers and buried (using a post-lay burial method as described above) from the HDD Bore pipe seaward.

##### V. Post Lay Inspection and Burial

While it is expected that the cable trench would fill back in by natural current processes, it is important to ensure that cable splices and BUs are



fully buried, and that there are no unnecessary plough skips at locations where burial is critical. To ensure proper burial, a post lay inspection and burial (PLIB) would be conducted using the ROVJET 400 series mentioned above. It is expected that PLIB would be

necessary for no more than about 10 km (6.2 mi) of the cumulative planned burial routes.

#### Description of Marine Mammals in the Area of the Specified Activity

The Bering, Chukchi, and Beaufort seas support a diverse assemblage of

marine mammals. Table 2 lists the 12 marine mammal species under NMFS jurisdiction with confirmed or possible occurrence in the proposed project area.

TABLE 2—MARINE MAMMAL SPECIES WITH CONFIRMED OR POSSIBLE OCCURRENCE IN THE PROPOSED ACTION AREA

Common name	Scientific name	Status	Occurrence	Seasonality	Range	Abundance
Odontocetes:						
Beluga whale (Beaufort Sea stock).	<i>Delphinapterus leucas</i>	.....	Common .....	Mostly spring and fall with some in summer.	Mostly Beaufort Sea ..	39,258
Beluga whale (eastern Chukchi Sea stock).	.....	.....	Common .....	Mostly spring and fall with some in summer.	Mostly Chukchi Sea ...	3,710
Beluga whale (eastern Bering Sea stock).	.....	.....	Common .....	Year round .....	Bering Sea .....	19,186
Killer whale (Alaska resident stock).	<i>Orcinus orca</i> .....	.....	Occasional/Extralimital	Mostly summer and early fall.	California to Alaska ....	2,347
Harbor porpoise (Bering Sea stock).	<i>Phocoena phocoena</i> ..	.....	Occasional/Extralimital	Mostly summer and early fall.	California to Alaska ....	48,215
Mysticetes:						
* Bowhead whale (W. Arctic stock).	<i>Balaena mysticetus</i> ....	Endangered; Depleted	Common .....	Mostly spring and fall with some in summer.	Russia to Canada .....	19,534
Gray whale (E. North Pacific stock).	<i>Eschrichtius robustus</i>	.....	Somewhat common ...	Mostly summer .....	Mexico to the U.S. Arctic Ocean.	20,990
* Fin whale (N. East Pacific).	<i>Balaenoptera physalus</i> .	Endangered; Depleted	Rare .....	Mostly summer .....	N.E. Pacific Ocean ...	1,650
* Humpback whale (Central North Pacific stock).	<i>Megaptera novaeangliae</i> .	Endangered; Depleted	Rare .....	Mostly summer .....	North Pacific Ocean ...	10,103
* Humpback whale (western North Pacific stock).	<i>Megaptera novaeangliae</i> .	Endangered; Depleted	Rare .....	Mostly summer .....	North Pacific Ocean ...	1,107
Pinnipeds:						
* Bearded seal (Alaska stock).	<i>Erignathus barbatus</i> .....	Threatened; Depleted	Common .....	Spring and summer ...	Bering, Chukchi, and Beaufort Seas.	155,000
* Ringed seal (Alaska stock).	<i>Phoca hispida</i> .....	Threatened; Depleted	Common .....	Year round .....	Bering, Chukchi, and Beaufort Seas.	249,000
Spotted seal (Alaska stock).	<i>Phoca largha</i> .....	.....	Common .....	Summer .....	Japan to U.S. Arctic Ocean.	460,268
Ribbon seal (Alaska stock).	<i>Histiophoca fasciata</i>	.....	Occasional .....	Summer .....	Russia to U.S. Arctic Ocean.	49,000

\* Endangered, threatened, or species of concern under the Endangered Species Act (ESA); Depleted under the MMPA.

Among these species, bowhead, humpback, and fin whales, and ringed and bearded are listed as endangered or threatened species under the Endangered Species Act (ESA). In addition, walrus and the polar bear could also occur in the Bering, Chukchi, and Beaufort seas; however, these species are managed by the U.S. Fish and Wildlife Service (USFWS) and are not considered in this Notice of Proposed IHA.

Of all these species, bowhead and beluga whales and ringed, bearded, and spotted seals are the species most frequently sighted in the proposed activity area. The proposed action area in the Bering, Chukchi, and Beaufort seas also includes areas that have been identified as important for bowhead whale reproduction during summer and fall and for beluga whale feeding and reproduction in summer.

Most bowheads fall migrate through the Alaskan Beaufort in water depths between 15 and 200 m (50 and 656 ft) deep (Miller et al. 2002), with annual variability depending on ice conditions. Hauser et al. (2008) conducted surveys for bowhead whales near the Colville River Delta (near Oliktok Point) during August and September 2008, and found most bowheads between 25 and 30 km (15.5 and 18.6 mi) north of the barrier islands (Jones Islands), with the nearest in 18 m (60 ft) of water about 25 km (16 mi) north of the Colville River Delta. No bowheads were observed inside the 18-m (60-ft) isobath. Most of the cable-lay activity planned for the Beaufort Sea will occur in water deeper than 15 m (50 ft) where migrating bowhead whales could most likely be encountered.

Three stocks of beluga whale inhabit the waters where cable-lay is planned to occur: Beaufort Sea, Eastern Chukchi

Sea, and Eastern Bering Sea (O'Corry-Crowe et al. 1997). All three stocks winter in the open leads and polynyas of the Bering Sea (Hazard 1988). In spring, the Beaufort Sea stock migrates through coastal leads more than 2,000 km (1,200 mi) to their summering grounds in the Mackenzie River delta where they molt, feed, and calve in the warmer estuarine waters (Braham et al. 1977). In late summer, these belugas move into offshore northern waters to feed (Davis and Evans 1982, Harwood et al. 1996, Richard et al. 2001). In the fall, they begin their migration back to their wintering grounds generally following an offshore route as they pass through the western Beaufort Sea (Richard et al. 2001).

The Beaufort Sea stock beluga whales take a more coastal route during their fall migration, but compared to the vanguard of population and the survey

effort expended, nearshore travel appears to be relatively rare. Most belugas recorded during aerial surveys conducted in the Alaskan Beaufort Sea in the last two decades were found more than 65 km (40 mi) from shore (Miller et al. 1999, Funk et al. 2008, Christie et al. 2010, Clarke and Ferguson 2010, Brandon et al. 2011). For the most part, beluga whales from this stock are expected to occur well north of the proposed cable route through the Beaufort Sea at the time of cable-lay activity.

The Eastern Chukchi Sea beluga whale stock summers in Kotzebue Sound and Kasegaluk Lagoon where they breed and molt, and then in late summer and fall they also move in the Beaufort Sea (Suydam et al. 2005). Suydam et al. (2005) satellite-tagged 23 beluga whales in Kasegaluk Lagoon and found nearly all the whales move into the deeper waters of the Beaufort Sea post-tagging. However, virtually none of the whales were found in continental shelf waters (<200 m deep) of the Beaufort Sea, and all were in waters at least 65 km (40 mi) north of the northern Alaska coastline. The most recent stock estimate is 3,710 animals (Allen and Angliss 2015). The planned cable-lay activity is most likely to encounter this stock whale laying the Kotzebue and Wainwright branch lines, but the routes do avoid the Kasegaluk Lagoon breeding and molting area.

There is little information on movements of the East Bering stock of beluga whales, although two whales were satellite tagged in 2012 near Nome wintered in Bristol Bay (Allen and Angliss 2015). These whales might be encountered while laying the Nome branch line.

In addition, a few gray whales are expected to be encountered along the main trunk line route through the north Bering and Chukchi seas. However, they are expected to be commonly observed along the nearshore segments of the branch lines, especially the Wainwright branch where they are commonly found in large feeding groups.

Three of the ice seal species—ringed, bearded, and spotted seals—are fairly common in the proposed subsea cable laying areas. However, there are no pinnipeds haulouts in the vicinity of the action area.

Further information on the biology and local distribution of these species can be found in Quintillion's application (see **ADDRESSES**) and the NMFS Marine Mammal Stock Assessment Reports, which are available online at: <http://www.nmfs.noaa.gov/pr/sars/species.htm>.

### Potential Effects of the Specified Activity on Marine Mammals

This section includes a summary and discussion of the ways that the types of stressors associated with the specified activity (e.g., operation of dynamic positioning thrusters) have been observed to or are thought to impact marine mammals. This section may include a discussion of known effects that do not rise to the level of an MMPA take (for example, with acoustics, we may include a discussion of studies that showed animals not reacting at all to sound or exhibiting barely measurable avoidance). The discussion may also include reactions that we consider to rise to the level of a take and those that we do not consider to rise to the level of a take. This section is intended as a background of potential effects and does not consider either the specific manner in which this activity will be carried out or the mitigation that will be implemented or how either of those will shape the anticipated impacts from this specific activity. The "Estimated Take by Incidental Harassment" section later in this document will include a quantitative analysis of the number of individuals that are expected to be taken by this activity. The "Negligible Impact Analysis" section will include the analysis of how this specific activity will impact marine mammals and will consider the content of this section, the "Estimated Take by Incidental Harassment" section, the "Proposed Mitigation" section, and the "Anticipated Effects on Marine Mammal Habitat" section to draw conclusions regarding the likely impacts of this activity on the reproductive success or survivorship of individuals and from that on the affected marine mammal populations or stocks.

When considering the influence of various kinds of sound on the marine environment, it is necessary to understand that different kinds of marine life are sensitive to different frequencies of sound. Based on available behavioral data, audiograms have been derived using auditory evoked potentials, anatomical modeling, and other data. Southall *et al.* (2007) designate "functional hearing groups" for marine mammals and estimate the lower and upper frequencies of functional hearing of the groups. The functional groups and the associated frequencies are indicated below (though animals are less sensitive to sounds at the outer edge of their functional range and most sensitive to sounds of frequencies within a smaller range somewhere in the middle of their functional hearing range):

- Low frequency cetaceans (13 species of mysticetes): Functional hearing is estimated to occur between approximately 7 Hz and 25 kHz;
- Mid-frequency cetaceans (32 species of dolphins, six species of larger toothed whales, and 19 species of beaked and bottlenose whales): Functional hearing is estimated to occur between approximately 150 Hz and 160 kHz;
- High frequency cetaceans (eight species of true porpoises, six species of river dolphins, *Kogia*, the franciscana, and four species of cephalarhynchids): Functional hearing is estimated to occur between approximately 200 Hz and 180 kHz;
- Phocid pinnipeds (true seals): Functional hearing is estimated between 75 Hz to 100 kHz; and
- Otariid pinnipeds (sea lions and fur seals): Functional hearing is estimated between 100 Hz to 48 kHz.

Species found in the vicinity of Quintillion subsea cable-laying operation area include four low-frequency cetacean species (Bowhead whale, gray whale, humpback whale, and fin whale), two mid-frequency cetacean species (beluga whale and killer whale), one high-frequency cetacean species (harbor porpoise), and four pinniped species (ringed seal, spotted seal, bearded seal, and ribbon seal).

The proposed Quintillion subsea cable-laying operation could adversely affect marine mammal species and stocks by exposing them to elevated noise levels in the vicinity of the activity area.

Exposure to high intensity sound for a sufficient duration may result in auditory effects such as a noise-induced threshold shift—an increase in the auditory threshold after exposure to noise (Finneran *et al.*, 2005). Factors that influence the amount of threshold shift include the amplitude, duration, frequency content, temporal pattern, and energy distribution of noise exposure. The magnitude of hearing threshold shift normally decreases over time following cessation of the noise exposure. The amount of threshold shift just after exposure is the initial threshold shift. If the threshold shift eventually returns to zero (*i.e.*, the threshold returns to the pre-exposure value), it is a temporary threshold shift (Southall *et al.*, 2007).

**Threshold Shift (noise-induced loss of hearing)**—When animals exhibit reduced hearing sensitivity (*i.e.*, sounds must be louder for an animal to detect them) following exposure to an intense sound or sound for long duration, it is referred to as a noise-induced threshold

shift (TS). An animal can experience temporary threshold shift (TTS) or permanent threshold shift (PTS). TTS can last from minutes or hours to days (*i.e.*, there is complete recovery), can occur in specific frequency ranges (*i.e.*, an animal might only have a temporary loss of hearing sensitivity between the frequencies of 1 and 10 kHz), and can be of varying amounts (for example, an animal's hearing sensitivity might be reduced initially by only 6 dB or reduced by 30 dB). PTS is permanent, but some recovery is possible. PTS can also occur in a specific frequency range and amount as mentioned above for TTS.

The following physiological mechanisms are thought to play a role in inducing auditory TS: Effects to sensory hair cells in the inner ear that reduce their sensitivity, modification of the chemical environment within the sensory cells, residual muscular activity in the middle ear, displacement of certain inner ear membranes, increased blood flow, and post-stimulatory reduction in both efferent and sensory neural output (Southall *et al.*, 2007). The amplitude, duration, frequency, temporal pattern, and energy distribution of sound exposure all can affect the amount of associated TS and the frequency range in which it occurs. As amplitude and duration of sound exposure increase, so, generally, does the amount of TS, along with the recovery time. For intermittent sounds, less TS could occur than compared to a continuous exposure with the same energy (some recovery could occur between intermittent exposures depending on the duty cycle between sounds) (Kryter *et al.*, 1966; Ward, 1997). For example, one short but loud (higher SPL) sound exposure may induce the same impairment as one longer but softer sound, which in turn may cause more impairment than a series of several intermittent softer sounds with the same total energy (Ward, 1997). Additionally, though TTS is temporary, prolonged exposure to sounds strong enough to elicit TTS, or shorter-term exposure to sound levels well above the TTS threshold, can cause PTS, at least in terrestrial mammals (Kryter, 1985). Although in the case of Quintillion's subsea cable laying operation, NMFS does not expect that animals would experience levels high enough or durations long enough to result in TS given that the noise levels from the operation are very low.

For marine mammals, published data are limited to the captive bottlenose dolphin, beluga, harbor porpoise, and Yangtze finless porpoise (Finneran *et al.*, 2000, 2002, 2003, 2005, 2007, 2010a,

2010b; Finneran and Schlundt, 2010; Lucke *et al.*, 2009; Mooney *et al.*, 2009a, 2009b; Popov *et al.*, 2011a, 2011b; Kastelein *et al.*, 2012a; Schlundt *et al.*, 2000; Nachtigall *et al.*, 2003, 2004). For pinnipeds in water, data are limited to measurements of TTS in harbor seals, an elephant seal, and California sea lions (Kastak *et al.*, 1999, 2005; Kastelein *et al.*, 2012b).

Lucke *et al.* (2009) found a threshold shift (TS) of a harbor porpoise after exposing it to airgun noise with a received sound pressure level (SPL) at 200.2 dB (peak-to-peak) re: 1  $\mu$ Pa, which corresponds to a sound exposure level of 164.5 dB re: 1  $\mu$ Pa<sup>2</sup> s after integrating exposure. NMFS currently uses the root-mean-square (rms) of received SPL at 180 dB and 190 dB re: 1  $\mu$ Pa as the threshold above which permanent threshold shift (PTS) could occur for cetaceans and pinnipeds, respectively. Because the airgun noise is a broadband impulse, one cannot directly determine the equivalent of rms SPL from the reported peak-to-peak SPLs. However, applying a conservative conversion factor of 16 dB for broadband signals from seismic surveys (McCauley, *et al.*, 2000) to correct for the difference between peak-to-peak levels reported in Lucke *et al.* (2009) and rms SPLs, the rms SPL for TTS would be approximately 184 dB re: 1  $\mu$ Pa, and the received levels associated with PTS (Level A harassment) would be higher. This is still above NMFS' current 180 dB rms re: 1  $\mu$ Pa threshold for injury. However, NMFS recognizes that TTS of harbor porpoises is lower than other cetacean species empirically tested (Finneran & Schlundt, 2010; Finneran *et al.*, 2002; Kastelein and Jennings, 2012).

Marine mammal hearing plays a critical role in communication with conspecifics, and interpretation of environmental cues for purposes such as predator avoidance and prey capture. Depending on the degree (elevation of threshold in dB), duration (*i.e.*, recovery time), and frequency range of TTS, and the context in which it is experienced, TTS can have effects on marine mammals ranging from discountable to serious (similar to those discussed in auditory masking, below). For example, a marine mammal may be able to readily compensate for a brief, relatively small amount of TTS in a non-critical frequency range that occurs during a time where ambient noise is lower and there are not as many competing sounds present. Alternatively, a larger amount and longer duration of TTS sustained during time when communication is critical for successful mother/calf interactions could have more serious impacts. Also, depending on the degree

and frequency range, the effects of PTS on an animal could range in severity, although it is considered generally more serious because it is a permanent condition. Of note, reduced hearing sensitivity as a simple function of aging has been observed in marine mammals, as well as humans and other taxa (Southall *et al.*, 2007), so one can infer that strategies exist for coping with this condition to some degree, though likely not without cost.

In addition, chronic exposure to excessive, though not high-intensity, noise could cause masking at particular frequencies for marine mammals that utilize sound for vital biological functions (Clark *et al.* 2009). Acoustic masking is when other noises such as from human sources interfere with animal detection of acoustic signals such as communication calls, echolocation sounds, and environmental sounds important to marine mammals. Therefore, under certain circumstances, marine mammals whose acoustical sensors or environment are being severely masked could also be impaired from maximizing their performance fitness in survival and reproduction.

Masking occurs at the frequency band which the animals utilize. Therefore, since noise generated from vessels dynamic positioning activity is mostly concentrated at low frequency ranges, it may have less effect on high frequency echolocation sounds by odontocetes (toothed whales). However, lower frequency man-made noises are more likely to affect detection of communication calls and other potentially important natural sounds such as surf and prey noise. It may also affect communication signals when they occur near the noise band and thus reduce the communication space of animals (*e.g.*, Clark *et al.* 2009) and cause increased stress levels (*e.g.*, Foote *et al.* 2004; Holt *et al.* 2009).

Unlike TS, masking, which can occur over large temporal and spatial scales, can potentially affect the species at population, community, or even ecosystem levels, as well as individual levels. Masking affects both senders and receivers of the signals and could have long-term chronic effects on marine mammal species and populations. Recent science suggests that low frequency ambient sound levels have increased by as much as 20 dB (more than 3 times in terms of sound pressure level) in the world's ocean from pre-industrial periods, and most of these increases are from distant shipping (Hildebrand 2009). All anthropogenic noise sources, such as those from vessel traffic and cable-laying while operating

dynamic positioning (DP) thrusters contribute to the elevated ambient noise levels, thus increasing potential for or severity of masking.

Finally, exposure of marine mammals to certain sounds could lead to behavioral disturbance (Richardson *et al.* 1995), such as: Changing durations of surfacing and dives, number of blows per surfacing, or moving direction and/or speed; reduced/increased vocal activities; changing/cessation of certain behavioral activities (such as socializing or feeding); visible startle response or aggressive behavior (such as tail/fluke slapping or jaw clapping); avoidance of areas where noise sources are located; and/or flight responses (*e.g.*, pinnipeds flushing into water from haulouts or rookeries).

The onset of behavioral disturbance from anthropogenic noise depends on both external factors (characteristics of noise sources and their paths) and the receiving animals (hearing, motivation, experience, demography) and is also difficult to predict (Southall *et al.* 2007). Currently NMFS uses a received level of 160 dB re 1  $\mu$ Pa (rms) to predict the onset of behavioral harassment from impulse noises (such as impact pile driving), and 120 dB re 1  $\mu$ Pa (rms) for continuous noises (such as operating DP thrusters). No impulse noise is expected from the Quintillion subsea cable-laying operation. For the Quintillion subsea cable-laying operation, only the 120 dB re 1  $\mu$ Pa (rms) threshold is considered because only continuous noise sources would be generated.

The biological significance of many of these behavioral disturbances is difficult to predict, especially if the detected disturbances appear minor. However, the consequences of behavioral modification could be biologically significant if the change affects growth, survival, and/or reproduction, which depends on the severity, duration, and context of the effects.

#### Anticipated Effects on Marine Mammal Habitat

Project activities that could potentially impact marine mammal habitats include acoustical impacts to prey resources associated with laying cable on sea bottom. Regarding the former, however, acoustical injury from thruster noise is unlikely. Previous noise studies (*e.g.*, Greenlaw *et al.* 1988, Davis *et al.* 1998, Christian *et al.* 2004) with cod, crab, and schooling fish found little or no injury to adults, larvae, or eggs when exposed to impulsive noises exceeding 220 dB. Continuous noise levels from ship thrusters are generally below 180 dB, and do not create great

enough pressures to cause tissue or organ injury.

Nedwell *et al.* (2003) measured noise associated with cable trenching operations offshore of Wales, and found that levels (178 dB at source) did not exceed those where significant avoidance reactions of fish would occur. Cable burial operations involve the use of ploughs or jets to cut trenches in the sea floor sediment. Cable ploughs are generally used where the substrate is cohesive enough to be “cut” and laid alongside the trench long enough for the cable to be laid at depth. In less cohesive substrates, where the sediment would immediately settle back into the trench before the cable could be laid, jetting is used to scour a more lasting furrow. The objective of both is to excavate a temporary trench of sufficient depth to fully bury the cable. The plough blade is 0.2 m (0.7 ft) wide producing a trench of approximately the same width. Jetted trenches are somewhat wider depending on the sediment type. Potential impacts to marine mammal habitat and prey include (1) crushing of benthic and epibenthic invertebrates with the plough blade, plough skid, or ROV track, (2) dislodgement of benthic invertebrates onto the surface where they may die, and (3) the settlement of suspended sediments away from the trench where they may clog gills or feeding structures of sessile invertebrates or smother sensitive species (BERR 2008). However, the footprint of cable trenching is generally restricted to 2 to 3 m (7–10 ft) width (BERR 2008), and the displaced wedge or berm is expected to naturally backfill into the trench. Jetting results in more suspension of sediments, which may take days to settle during which currents may transport it well away (up to several kilometers) from its source. Suspended sand particles generally settle within about 20 m (66 ft). BERR (2008) reviewed the effect of offshore wind farm construction, including laying of power and communication cables, on the environment. Based on a rating of 1 to 10, they concluded that sediment disturbance from plough operations rated the lowest at 1, with jetting rating from 2 to 4, depending on substrate. Dredging rated the highest (6) relative sediment disturbance.

The maximum amount of trenching possible is about 1,900 km (1,180 mi), but the width of primary effect is only about 3 m (10 ft). Thus, the maximum impact footprint is less than 6 km<sup>2</sup> (2.3 mi<sup>2</sup>), an insignificantly small area given the Chukchi Sea area alone is 595,000 km<sup>2</sup> (230,000 mi<sup>2</sup>). Overall, cable-laying effects to marine mammal habitat and

prey resources are considered not significant.

#### Proposed Mitigation

In order to issue an incidental take authorization (ITA) under section 101(a)(5)(D) of the MMPA, NMFS must set forth the permissible methods of taking pursuant to such activity, and other means of effecting the least practicable impact on such species or stock and its habitat, paying particular attention to rookeries, mating grounds, and areas of similar significance, and on the availability of such species or stock for taking for certain subsistence uses (where relevant).

For the proposed Quintillion open-water subsea cable-laying operations in the Bering, Chukchi, and Beaufort seas, NMFS worked with Quintillion and its contractor to propose the following mitigation measures to minimize the potential impacts to marine mammals in the project vicinity as a result of the activities. The primary purpose of these mitigation measures is to detect marine mammals and avoid vessel interactions during the pre- and post-cable-laying activities. Due to the nature of the activities, the vessel will not be able to engage direction alternation during cable-laying operations. However, since the cable-laying vessel will be moving at a slow speed of 600 meter/hour (0.37 mile per hour or 0.32 knot) during cable-laying operation, it is highly unlikely that the cable vessel would have physical interaction with marine mammals. The following are mitigation measures proposed to be included in the IHA (if issued).

##### (a) Establishing Zone of Influence (ZOI)

Protected species observers (PSOs) would establish a ZOI where the received level is 120 dB during Quintillion's subsea cable-laying operation and conduct marine mammal monitoring during the operation.

##### (b) Vessel Movement Mitigation During Pre- and Post-Cable-Laying Activities

When the cable-lay fleet is traveling in Alaskan waters to and from the project area (before and after completion of cable-laying), the fleet vessels would:

- Not approach concentrations or groups of whales (an aggregation of 6 or more whales) within 1.6 km (1 mi) by all vessels under the direction of Quintillion.
- Take reasonable precautions to avoid potential interaction with the bowhead whales observed within 1.6 km (1 mi) of a vessel.
- Reduce speed to less than 5 knots when visibility drops to avoid the likelihood of collision with whales. The

normal vessel travel speeds when laying cable is well less than 5 knots.

### *Mitigation Conclusions*

NMFS has carefully evaluated Quintillion's proposed mitigation measures and considered a range of other measures in the context of ensuring that NMFS prescribes the means of effecting the least practicable impact on the affected marine mammal species and stocks and their habitat. Our evaluation of potential measures included consideration of the following factors in relation to one another:

- The manner in which, and the degree to which, the successful implementation of the measures are expected to minimize adverse impacts to marine mammals;
- The proven or likely efficacy of the specific measure to minimize adverse impacts as planned; and
- The practicability of the measure for applicant implementation.

Any mitigation measure(s) prescribed by NMFS should be able to accomplish, have a reasonable likelihood of accomplishing (based on current science), or contribute to the accomplishment of one or more of the general goals listed below:

1. Avoidance or minimization of injury or death of marine mammals wherever possible (goals 2, 3, and 4 may contribute to this goal).

2. A reduction in the numbers of marine mammals (total number or number at biologically important time or location) exposed to received levels of activities expected to result in the take of marine mammals (this goal may contribute to 1, above, or to reducing harassment takes only).

3. A reduction in the number of times (total number or number at biologically important time or location) individuals would be exposed to received levels of activities expected to result in the take of marine mammals (this goal may contribute to 1, above, or to reducing harassment takes only).

4. A reduction in the intensity of exposures (either total number or number at biologically important time or location) to received levels of activities expected to result in the take of marine mammals (this goal may contribute to 1, above, or to reducing the severity of harassment takes only).

5. Avoidance or minimization of adverse effects to marine mammal habitat, paying special attention to the food base, activities that block or limit passage to or from biologically important areas, permanent destruction of habitat, or temporary destruction/disturbance of habitat during a biologically important time.

6. For monitoring directly related to mitigation—an increase in the probability of detecting marine mammals, thus allowing for more effective implementation of the mitigation.

Based on our evaluation of the applicant's proposed measures, as well as other measures considered by NMFS, NMFS has preliminarily determined that the proposed mitigation measures provide the means of effecting the least practicable impact on marine mammals species or stocks and their habitat, paying particular attention to rookeries, mating grounds, and areas of similar significance. Proposed measures to ensure availability of such species or stock for taking for certain subsistence uses are discussed later in this document (see "Impact on Availability of Affected Species or Stock for Taking for Subsistence Uses" section).

### **Proposed Monitoring and Reporting**

In order to issue an ITA for an activity, section 101(a)(5)(D) of the MMPA states that NMFS must set forth, "requirements pertaining to the monitoring and reporting of such taking." The MMPA implementing regulations at 50 CFR 216.104 (a)(13) indicate that requests for ITAs must include the suggested means of accomplishing the necessary monitoring and reporting that will result in increased knowledge of the species and of the level of taking or impacts on populations of marine mammals that are expected to be present in the proposed action area. Quintillion submitted a marine mammal monitoring plan as part of the IHA application. The plan may be modified or supplemented based on comments or new information received from the public during the public comment period or from the peer review panel (see the "Monitoring Plan Peer Review" section later in this document).

Monitoring measures prescribed by NMFS should accomplish one or more of the following general goals:

1. An increase in our understanding of the likely occurrence of marine mammal species in the vicinity of the action, *i.e.*, presence, abundance, distribution, and/or density of species.

2. An increase in our understanding of the nature, scope, or context of the likely exposure of marine mammal species to any of the potential stressor(s) associated with the action (*e.g.*, sound or visual stimuli), through better understanding of one or more of the following: The action itself and its environment (*e.g.*, sound source characterization, propagation, and ambient noise levels); the affected species (*e.g.*, life history or dive

pattern); the likely co-occurrence of marine mammal species with the action (in whole or part) associated with specific adverse effects; and/or the likely biological or behavioral context of exposure to the stressor for the marine mammal (*e.g.*, age class of exposed animals or known pupping, calving or feeding areas).

3. An increase in our understanding of how individual marine mammals respond (behaviorally or physiologically) to the specific stressors associated with the action (in specific contexts, where possible, *e.g.*, at what distance or received level).

4. An increase in our understanding of how anticipated individual responses, to individual stressors or anticipated combinations of stressors, may impact either: The long-term fitness and survival of an individual; or the population, species, or stock (*e.g.*, through effects on annual rates of recruitment or survival).

5. An increase in our understanding of how the activity affects marine mammal habitat, such as through effects on prey sources or acoustic habitat (*e.g.*, through characterization of longer-term contributions of multiple sound sources to rising ambient noise levels and assessment of the potential chronic effects on marine mammals).

6. An increase in understanding of the impacts of the activity on marine mammals in combination with the impacts of other anthropogenic activities or natural factors occurring in the region.

7. An increase in our understanding of the effectiveness of mitigation and monitoring measures.

8. An increase in the probability of detecting marine mammals (through improved technology or methodology), both specifically within the safety zone (thus allowing for more effective implementation of the mitigation) and in general, to better achieve the above goals.

### *Proposed Monitoring Measures*

Monitoring will provide information on the numbers of marine mammals potentially affected by the subsea cable-laying operation and facilitate real-time mitigation to prevent injury of marine mammals by vessel traffic. These goals will be accomplished in the Bering, Chukchi, and Beaufort seas during 2016 by conducting vessel-based monitoring and passive acoustic monitoring to document marine mammal presence and distribution in the vicinity of the operation area.

Visual monitoring by Protected Species Observers (PSOs) during subsea cable-laying operation, and periods

when the operation is not occurring, will provide information on the numbers of marine mammals potentially affected by the activity. Vessel-based PSOs onboard the vessels will record the numbers and species of marine mammals observed in the area and any observable reaction of marine mammals to the cable-laying operation in the Bering, Chukchi, and Beaufort seas.

#### *Vessel-Based PSOs*

Vessel-based monitoring for marine mammals would be done by trained protected species observers (PSOs) throughout the period of subsea cable-laying operation. The observers would monitor the occurrence of marine mammals near the cable-laying vessel during all daylight periods during operation. PSO duties would include watching for and identifying marine mammals; recording their numbers, distances, and reactions to the survey operations; and documenting "take by harassment."

A sufficient number of PSOs would be required onboard each survey vessel to meet the following criteria:

- 100% monitoring coverage during all periods of cable-laying operations in daylight;
- Maximum of 4 consecutive hours on watch per PSO; and
- Maximum of 12 hours of watch time per day per PSO.

PSO teams will consist of Inupiat observers and experienced field biologists. Each vessel will have an experienced field crew leader to supervise the PSO team. The total number of PSOs may decrease later in the season as the duration of daylight decreases.

#### *(1) PSOs Qualification and Training*

Lead PSOs and most PSOs would be individuals with experience as observers during marine mammal monitoring projects in Alaska or other offshore areas in recent years. New or inexperienced PSOs would be paired with an experienced PSO or experienced field biologist so that the quality of marine mammal observations and data recording is kept consistent.

Resumes for candidate PSOs would be provided to NMFS for review and acceptance of their qualifications. Inupiat observers would be experienced in the region and familiar with the marine mammals of the area. All observers would complete a NMFS-approved observer training course designed to familiarize individuals with monitoring and data collection procedures.

#### *(2) Specialized Field Equipment*

The PSOs shall be provided with Fujinon 7 × 50 or equivalent binoculars for visual based monitoring onboard all vessels.

Laser range finders (Leica LRF 1200 laser rangefinder or equivalent) would be available to assist with distance estimation.

#### *Acoustic Monitoring*

##### *(1) Sound Source Measurements*

Quintillion plans to conduct a sound source verification (SSV) on one of the cable-lay ships and the anchor-handling tugs when both are operating near Nome (early in the season).

##### *(2) Passive Acoustic Monitoring*

After consulting with NMFS Office of Protected Resources, the National Marine Mammal Laboratory (NMML), and the North Slope Borough Department of Wildlife, Quintillion proposes to contribute to the 2016 joint Arctic Whale Ecology Study (ARCWEST)/Chukchi Acoustics, Oceanography, and Zooplankton Study-extension (CHAOZ-X).

The summer minimum extent of sea ice in the northern Bering Sea, Chukchi Sea, and western Beaufort Sea has diminished by more than 50% over the past two decades. This loss of ice has sparked concerns for long-term survival of ice-dependent species like polar bears, Pacific walrus, bearded seals, and ringed seals. In contrast, populations of some Arctic species such as bowhead and gray whales have increased in abundance, while subarctic species such as humpback, fin, and minke whales have expanded their ranges into the Arctic in response to warmer water and increased zooplankton production. The joint ARCWEST/CHAOZ-X program has been monitoring climate change and anthropogenic activity in the Arctic waters of Alaska since 2010 by tracking satellite tagged animals, sampling lower trophic levels and physical oceanography, and passively acoustically monitoring marine mammal and vessel activity. The current mooring locations for the passive acoustical monitoring (PAM) portion of the joint program align closely with the proposed Quintillion cable-lay route. Operating passive acoustic recorders at these locations in 2016 would provide information not only on the distribution and composition of the marine mammal community along the proposed cable-lay route at the time cable-lay activities would be occurring, but they could also record the contribution of the cable-lay activity on local acoustical environment

where the route passes close to these stations.

#### *Monitoring Plan Peer Review*

The MMPA requires that monitoring plans be independently peer reviewed "where the proposed activity may affect the availability of a species or stock for taking for subsistence uses" (16 U.S.C. 1371(a)(5)(D)(ii)(III)). Regarding this requirement, NMFS' implementing regulations state, "Upon receipt of a complete monitoring plan, and at its discretion, [NMFS] will either submit the plan to members of a peer review panel for review or within 60 days of receipt of the proposed monitoring plan, schedule a workshop to review the plan" (50 CFR 216.108(d)).

NMFS has established an independent peer review panel to review Quintillion's 4MP for the proposed subsea cable-laying operation in the Bering, Chukchi, and Beaufort seas. The panel is scheduled to meet via web conference in early March 2016, and will provide comments to NMFS in April 2016. After completion of the peer review, NMFS will consider all recommendations made by the panel, incorporate appropriate changes into the monitoring requirements of the IHA (if issued), and publish the panel's findings and recommendations in the final IHA notice of issuance or denial document.

#### *Reporting Measures*

##### *(1) Final Report*

The results of Quintillion's subsea cable laying activities monitoring reports would be presented in the "90-day" final reports, as required by NMFS under the proposed IHA. The initial final reports are due to NMFS within 90 days after the expiration of the IHA (if issued). The reports will include:

- Summaries of monitoring effort (e.g., total hours, total distances, and marine mammal distribution through the study period, accounting for sea state and other factors affecting visibility and detectability of marine mammals);
- Summaries of initial analyses of the datasets that interpret the efficacy, measurements, and observations, rather than raw data, fully processed analyses, or a summary of operations and important observations;
- Analyses of the effects of various factors influencing detectability of marine mammals (e.g., sea state, number of observers, and fog/glare);
- Species composition, occurrence, and distribution of marine mammal sightings, including date, water depth, numbers, age/size/gender categories (if determinable), group sizes, and ice cover;

- Estimates of uncertainty in all take estimates, with uncertainty expressed by the presentation of confidence limits, a minimum-maximum, posterior probability distribution, or another applicable method, with the exact approach to be selected based on the sampling method and data available;
- A clear comparison of authorized takes and the level of actual estimated takes; and
- A complete characterization of the acoustic footprint resulting from various activity states.

The “90-day” reports will be subject to review and comment by NMFS. Any recommendations made by NMFS must be addressed in the final report prior to acceptance by NMFS.

## (2) Notification of Injured or Dead Marine Mammals

In the unanticipated event that the specified activity clearly causes the take of a marine mammal in a manner prohibited by the IHA, such as a serious injury, or mortality (e.g., ship-strike, gear interaction, and/or entanglement), Quintillion would immediately cease the specified activities and immediately report the incident to the Chief of the Permits and Conservation Division, Office of Protected Resources, NMFS, and the Alaska Regional Stranding Coordinators. The report would include the following information:

- Time, date, and location (latitude/longitude) of the incident;
- Name and type of vessel involved;
- Vessel’s speed during and leading up to the incident;
- Description of the incident;
- Status of all sound source use in the 24 hours preceding the incident;
- Water depth;
- Environmental conditions (e.g., wind speed and direction, Beaufort sea state, cloud cover, and visibility);
- Description of all marine mammal observations in the 24 hours preceding the incident;
- Species identification or description of the animal(s) involved;
- Fate of the animal(s); and
- Photographs or video footage of the animal(s) (if equipment is available).

Activities would not resume until NMFS is able to review the circumstances of the prohibited take. NMFS would work with Quintillion to determine what is necessary to minimize the likelihood of further prohibited take and ensure MMPA compliance. Quintillion would not be able to resume its activities until notified by NMFS via letter, email, or telephone.

In the event that Quintillion discovers a dead marine mammal, and the lead

PSO determines that the cause of the death is unknown and the death is relatively recent (i.e., in less than a moderate state of decomposition as described in the next paragraph), Quintillion would immediately report the incident to the Chief of the Permits and Conservation Division, Office of Protected Resources, NMFS, and the NMFS Alaska Stranding Hotline and/or by email to the Alaska Regional Stranding Coordinators. The report would include the same information identified in the paragraph above. Activities would be able to continue while NMFS reviews the circumstances of the incident. NMFS would work with Quintillion to determine whether modifications in the activities are appropriate.

In the event that Quintillion discovers a dead marine mammal, and the lead PSO determines that the death is not associated with or related to the activities authorized in the IHA (e.g., previously wounded animal, carcass with moderate to advanced decomposition, or scavenger damage), Quintillion would report the incident to the Chief of the Permits and Conservation Division, Office of Protected Resources, NMFS, and the NMFS Alaska Stranding Hotline and/or by email to the Alaska Regional Stranding Coordinators, within 24 hours of the discovery. Quintillion would provide photographs or video footage (if available) or other documentation of the stranded animal sighting to NMFS and the Marine Mammal Stranding Network. Quintillion can continue its operations under such a case.

## Estimated Take by Incidental Harassment

Except with respect to certain activities not pertinent here, the MMPA defines “harassment” as: Any act of pursuit, torment, or annoyance which (i) has the potential to injure a marine mammal or marine mammal stock in the wild [Level A harassment]; or (ii) has the potential to disturb a marine mammal or marine mammal stock in the wild by causing disruption of behavioral patterns, including, but not limited to, migration, breathing, nursing, breeding, feeding, or sheltering [Level B harassment].

Takes by Level B harassments of some species are anticipated as a result of Quintillion’s proposed subsea cable-laying operation. NMFS expects marine mammal takes could result from noise propagation from dynamic position thrusters during cable-laying operation. NMFS does not expect marine mammals would be taken by collision with cable and support vessels, because the vessels

will be moving at low speeds, and PSOs on the vessels will be monitoring for marine mammals and will be able to alert the vessels to avoid any marine mammals in the area.

For non-impulse sounds, such as those produced by the dynamic positioning thrusters during Quintillion’s subsea cable-laying operation, NMFS uses the 180 and 190 dB (rms) re 1  $\mu$ Pa isopleth to indicate the onset of Level A harassment for cetaceans and pinnipeds, respectively; and the 120 dB (rms) re 1  $\mu$ Pa isopleth for Level B harassment of all marine mammals. Quintillion provided calculations of the 120-dB isopleths expected to be produced by the dynamic positioning thrusters during the proposed cable-laying operation to estimate takes by harassment. NMFS used those calculations to make the necessary MMPA findings. Quintillion provided a full description of the methodology used to estimate takes by harassment in its IHA application, which is also provided in the following sections. There is no 180 or 190-dB zone from the proposed activities.

## Noise Sources

The proposed cable-laying activity is expected to generate underwater noises from several sources, including thrusters, plows, jets, ROVs, echo sounders, and positioning beacons. The predominant noise source and the only underwater noise that is likely to result in take of marine mammals during cable laying operations is the cavitating noise produced by the thrusters during dynamic positioning of the vessel (Tetra Tech 2014). Cavitation is random collapsing of bubbles produced by the blades. The *C/S Ile de Brehat* maintains dynamic positioning during cable-laying operations by using two 1,500 kW bow thrusters, two 1,500 kW aft thrusters, and one 1,500 kW fore thruster. Sound source measurements have not been conducted specific to the *C/S Ile de Brehat* but other acoustical studies have shown thruster noise measurements ranging between 171 and 180 dB re 1  $\mu$ Pa (rms) at 1 m (Nedwell et al. 2003, MacGillivray 2006, Samsung 2009, Hartin et al. 2011, Deepwater Wind 2013, Tetra Tech 2014).

Various acoustical investigations in the Atlantic Ocean have modeled distances to the 120 dB isopleth with results ranging between 1.4 and 3.575 km (Samsung 2009, Deepwater Wind 2013, Tetra Tech 2014) for water depths similar to where Quintillion would be operating in the Arctic Ocean. However, all these ranges were based on conservative modeling that included



maximum parameters and worst-case assumptions.

Hartin et al. (2011) physically measured dynamic positioning noise from the 104-m (341-ft) *Fugro Synergy* operating in the Chukchi Sea while it was using thrusters (2,500 kW) more powerful than those used on the *C/S Ile de Brehat* (1,500 kW). Measured dominant frequencies were 110 to 140 Hz, and the measured (90th percentile) radius to the 120-dB isopleth was 2.3 km (1.4 mi). Because this radius is a measured value from the same water body where Quintillion's cable-laying operation would occur, as opposed to a conservatively modeled value from the Atlantic Ocean, it is the value used in calculating marine mammal exposure estimates. Sound source levels from the *Fugro Synergy* during dynamic positioning did not exceed 180 dB, thus there are no Level A harassment or injury concerns.

#### Acoustic Footprint

The acoustical footprint (total ensonified area) was determined by assuming that dynamic position would occur along all trunk and branch lines within the proposed fiber optics cable network, regardless of the cable-lay vessel used. The sum total of submerged cable length is 1,902.7 km (1,182.3 mi).

Assuming that the radius to the 120 dB isopleth is 2.3 km (1.4 mi) (Hartin et al. 2011), then the total ensonified area represents a swath that is 1,902.7 km (1,182.3 mi) in length and 4.6 km (2.8 mi) in width (2 x 2.3 km) or 8,752.4 km<sup>2</sup> (3,379.3 mi<sup>2</sup>). The Nome branch (194.7 km [121.0 mi]) and 87.1 km (54.1 mi) of the trunk line between BU Nome and BU Kotzebue fall within the Bering Sea. The combined length is 281.8 km (175.1 mi) and the total ensonified area is 1,296.3 km<sup>2</sup> (500.5 mi<sup>2</sup>). The Oliktok branch (73.9 km [45.9 mi]) and 254.1 km (157.9 mi) of the trunk line between Barrow and Oliktok are found in the Beaufort Sea. Here the combined length is 328 km (203.8 mi) and total ensonified area is 1,508.8 km<sup>2</sup> (582.6 mi<sup>2</sup>). The remaining area 5,947.3 km<sup>2</sup> (2,296.3 mi<sup>2</sup>) falls within the Chukchi Sea.

#### Marine Mammal Densities

Density estimates for bowhead, gray, and beluga whales were derived from aerial survey data collected in the Chukchi and Beaufort seas during the 2011 to 2013 Aerial Surveys of Arctic Marine Mammals (ASAMM) program (Clarke et al. 2012, 2013, 2014, 2015). The proposed cable routes cross ASAMM survey blocks 2, 11, and 12 in the Beaufort Sea, and blocks 13, 14, 18,

21, and 22 in the Chukchi Sea. Only data collected in these blocks were used to estimate densities for bowhead and gray whales. Beluga densities were derived from ASAMM data collected depth zones between 36 and 50 m (118 and 164 ft) within the Chukchi Sea between longitudes 157° and 169° W., and the depth zones between 21 and 200 m (68.9 and 656.2 ft) in the Beaufort Sea between longitudes 154° and 157° W. These depth zones reflect the depths where most of the cable-lay will occur. Harbor porpoise densities (Chukchi Sea only) are from Hartin et al. (2013), and ringed seal densities from Aerts et al. (2014; Chukchi Sea) and Moulton and Lawson (2002; Beaufort Sea). Spotted and bearded seal densities in the Chukchi Sea are also from Aerts et al. (2014), while spotted and bearded seal densities in the Beaufort Sea were developed by assuming both represented 5% of ringed seal densities. Too few sightings have been made in the Chukchi and Beaufort seas for all other marine mammal species to develop credible density estimates.

The density estimates for the seven species are presented in Table 3 (Chukchi/Bering) and Table 4 (Beaufort) below. The specific parameters used in deriving these estimates are provided in the discussions that follow.

TABLE 3—MARINE MAMMAL DENSITIES (#/km<sup>2</sup>) IN THE CHUKCHI AND BERING SEAS

Species	Summer	Fall
Bowhead Whale .....	0.0025	0.0438
Gray Whale .....	0.0680	0.0230
Beluga Whale .....	0.0894	0.0632
Harbor Porpoise .....	0.0022	0.0022
Ringed Seal .....	0.0846	0.0507
Spotted Seal .....	0.0423	0.0253
Bearded Seal .....	0.0630	0.0440

TABLE 4—MARINE MAMMAL DENSITIES (#/km<sup>2</sup>) IN THE BEAUFORT SEA

Species	Summer	Fall
Bowhead Whale .....	0.0444	0.0742
Gray Whale .....	0.0179	0.0524
Beluga Whale .....	0.0021	0.0142
Ringed Seal .....	0.3547	0.2510
Spotted Seal .....	0.0177	0.0125
Bearded Seal .....	0.0177	0.0125

**Bowhead Whale:** The summer density estimate for bowhead whales was derived from June, July, and August aerial survey data collected in the Chukchi and Beaufort Sea during the 2011 to 2014 ASAMM program (Clarke et al. 2012, 2013, 2014, 2015). Fall data were collected during September and October. Data only from the survey blocks that will be crossed by the

proposed cable route were used in the calculations, and included blocks 3, 11, and 12 in the Beaufort Sea and 13, 14, 18, 21, and 22 in the Chukchi Sea. ASAMM surveys did not extend more than about 25 km (15.5 mi) south of Point Hope, and there are no other systematic survey data for bowhead whales south of the point. During these three years, 87 bowhead whales were

recorded in the three Beaufort Sea blocks during 12,161 km (7,556 mi) of summer survey effort (0.0072/km), and 201 whales during 16,829 km (10,457 mi) of fall effort (0.0019/km). In the five Chukchi Sea survey blocks, 11 bowheads were recorded during 27,183 km (16,891 mi) of summer effort (0.0004/km), and 160 during 22,678 km (14,091 mi) of fall survey (0.0071/km).



Applying an effective strip half-width (ESW) of 1.15 (Ferguson and Clarke 2013), and a 0.07 correction factor for whales missed during the surveys, results in corrected densities of 0.0444 (Beaufort summer), 0.0742 (Beaufort fall), 0.0025 (Chukchi summer), and 0.0438 (Chukchi fall) whales per km<sup>2</sup> (Tables 3 and 4).

*Gray whale:* Gray whale density estimates were derived from the same ASAMM transect data used to determine bowhead whale densities. During the four years of aerial survey, 35 gray whales were recorded in the three Beaufort Sea blocks during 12,161 km (7,557 mi) of summer survey effort (0.0029/km), and 142 gray whales during 16,829 km (10,457 mi) of fall effort (0.0084/km). In the five Chukchi Sea survey blocks, 298 gray whales were recorded during 27,183 km (16,891 mi) of summer effort (0.0084/km), and 84 during 22,678 km (14,091 mi) of fall survey (0.0037/km). Applying an effective strip half-width (ESW) of 1.15 (Ferguson and Clarke 2013), and a correction factor of 0.07, results in corrected densities of 0.0179 (Beaufort summer), 0.0524 (Beaufort fall), 0.0680 (Chukchi summer), and 0.0230 (Chukchi fall) whales per km<sup>2</sup> (Tables 3 and 4).

*Beluga Whale:* Beluga whale density estimates were derived from the ASAMM transect data collected from 2011 to 2014 (Clarke et al. 2012, 2013, 2014, 2015). During the summer aerial surveys (June–August) there were 248 beluga whale observed along 3,894 km (2,420 mi) of transect in waters between 21 to 200 m (13–124 ft) deep and between longitudes 154° W. and 157° W. This equates to 0.0637 whales/km of trackline and a corrected density of 0.0894 whales per km<sup>2</sup>, assuming an ESW of 0.614 km and a 0.58 correction factor. Fall density estimates (September–October) for this region were based on 192 beluga whales seen along 4,267 km (2,651 mi). This equates to 0.0449 whales/km of trackline and a corrected density of 0.0632 whales per km<sup>2</sup>, assuming an ESW of 0.614 km and a 0.58 correction factor.

During the summer aerial surveys (June–August) there were 30 beluga whale observed along 20,240 km (12,577 mi) of transect in waters less than 36 to 50 m (22–31 ft) deep and between longitudes 157° W. and 169° W. This equates to 0.0015 whales/km of trackline and a corrected density of 0.0021 whales per km<sup>2</sup>, assuming an ESW of 0.614 km and a 0.58 correction factor. Calculated fall beluga densities for the same region was based on 231 beluga whales seen during 22,887 km of transect (1,794 mi). This equates to 0.0101 whales/km and a corrected

density of 0.142 whales per km<sup>2</sup>, again assuming an ESW of 0.614 km and a 0.58 correction factor.

*Harbor Porpoise:* Although harbor porpoise are known to occur in low numbers in the Chukchi Sea (Aerts et al. 2014), no harbor porpoise were positively identified during COMIDA and ASAMM aerial surveys conducted in the Chukchi Sea from 2006 to 2013 (Clarke et al. 2011, 2012, 2013, 2014). A few small unidentified cetaceans that were observed may have been harbor porpoise. Hartin et al. (2013) conducted vessel-based surveys in the Chukchi Sea while monitoring oil and gas activities between 2006 and 2010 and recorded several harbor porpoise throughout the summer and early fall. Vessel-based surveys may be more conducive to sighting these small, cryptic porpoise than the aerial-based COMIDA/ASAMM surveys. Hartin et al.'s (2013) three-year average summer densities (0.0022/km<sup>2</sup>) and fall densities (0.0021/km<sup>2</sup>) were very similar, and are included in Table 3.

*Ringed and Spotted Seals:* Aerts et al. (2014) conducted a marine mammal monitoring program in the northeastern Chukchi Sea in association with oil & gas exploration activities between 2008 and 2013. For seal sightings that were either ringed or spotted seals, the highest summer density was 0.127 seals/km<sup>2</sup> (2008) and the highest fall density was 0.076 seals/km<sup>2</sup> (2013). Where seals could be identified to species, they found the ratio of ringed to spotted seals to be 2:1. Applying this ratio to the combined densities results in species densities of 0.0846 seals/km<sup>2</sup> (summer) and 0.0507 seals/km<sup>2</sup> (fall) for ringed seals, and 0.0423 seals/km<sup>2</sup> (summer) and 0.0253 seals/km<sup>2</sup> (fall) for spotted seals. These are the densities used in the exposure calculations (Table 3) and to represent ringed and spotted seal densities for both the northern Bering and Chukchi seas.

Moulton and Lawson (2002) conducted summer shipboard-based surveys for pinnipeds along the nearshore Alaskan Beaufort Sea coast, while the Kingsley (1986) conducted surveys here along the ice margin representing fall conditions. The ringed seal results from these surveys were used in the exposure estimates (Table 3). Neither survey provided a good estimate of spotted seal densities. Green and Negri (2005) and Green et al. (2006, 2007) recorded pinnipeds during barging activity between West Dock and Cape Simpson, and found high numbers of ringed seal in Harrison Bay, and peaks in spotted seal numbers off the Colville River Delta where a haulout site is located. Approximately 5% of all

phocid sightings recorded by Green and Negri (2005) and Green et al. (2006, 2007) were spotted seals, which provide a suitable estimate of the proportion of ringed seals versus spotted seals in the Colville River Delta and Harrison Bay, both areas close to the proposed Oliktok branch line. Thus, the estimated densities of spotted seals in the cable-lay survey area were derived by multiplying the ringed seal densities from Moulton and Lawson (2002) and Kingsley (1986) by 5%.

Spotted seals are a summer resident in the Beaufort Sea and are generally found in nearshore waters, especially in association with haulout sites at or near river mouths. Their summer density in the Beaufort Sea is a function of distance from these haul out sites. Near Oliktok Point (Hauser et al. 2008, Lomac-McNair et al. 2014) where the Oliktok cable branch will reach shore, they are more common than ringed seals, but they are very uncommon farther offshore where most of the Beaufort Sea cable-lay activity will occur. This distribution of density is taken into account in the take authorization request.

*Bearded Seal:* The most representative estimates of summer and fall density of bearded seals in the northern Bering and Chukchi seas come from Aerts et al. (2014) monitoring program that ran from 2008 to 2013 in the northeastern Chukchi Sea. During this period the highest summer estimate was 0.063 seals/km<sup>2</sup> (2013) and the highest fall estimate was 0.044 seals/km<sup>2</sup> (2010). These are the values that were used in developing exposure estimates for this species for the northern Bering and Chukchi sea cable-lay areas (Table 3).

There are no accurate density estimates for bearded seals in the Beaufort Sea based on survey data. However, Stirling et al. (1982) noted that the proportion of eastern Beaufort Sea bearded seals is 5% that of ringed seals. Further, Clarke et al. (2013, 2014) recorded 82 bearded seals in both the Chukchi and Beaufort seas during the 2012 and 2013 ASAMM surveys, which represented 5.1% of all their ringed seal and small unidentified pinniped sightings (1,586). Bengtson et al. (2005) noted a similar ratio (6%) during spring surveys of ice seals in the Chukchi Sea. Therefore, the density values in Table 3 (/km<sup>2</sup>) were determined by multiplying ringed seal density from Moulton and Lawson (2002) and Kingsley (1986) by 5% as was done with spotted seals.

#### Level B Exposure Calculations

The estimated potential harassment take of local marine mammals by QSO's fiber optics cable-lay project was

determined by multiplying the seasonal animal densities in Tables 3 and 4 with the seasonal area that would be ensonified by thruster noise greater than 120 dB re 1  $\mu$ Pa (rms). The total area that would be ensonified in the Chukchi Sea is 5,947 km<sup>2</sup> (2,296 mi<sup>2</sup>), and for the Bering Sea 1,296 km<sup>2</sup> (500 mi<sup>2</sup>). Since there are no marine mammal density

estimates for the northern Bering Sea, the ensonified area was combined with the Chukchi Sea for a total ZOI of 7,243 km<sup>2</sup> (2,796 mi<sup>2</sup>). The ensonified area for the Beaufort Sea is 1,509 km<sup>2</sup> (583 mi<sup>2</sup>).

Because the cable laying plan is to begin in the south as soon as ice conditions allow and work northward, the intention is to complete the Bering

and Chukchi seas portion of the network (1,575 km, [979 mi]) during the summer (June to August), and Beaufort Sea portion (328 km [204 mi]) during the fall (September and October). Thus, summer exposure estimates apply for the Bering and Chukchi areas and the fall exposure estimates for the Beaufort (Table 5).

TABLE 5—THE ESTIMATED NUMBER OF LEVEL B HARASSMENT EXPOSURES TO MARINE MAMMALS

Species	Exposures Bering/ Chukchi	Exposures Beaufort	Exposures total
Bowhead Whale .....	18	112	130
Gray Whale .....	493	79	572
Beluga Whale .....	648	21	669
Harbor Porpoise .....	16	0	16
Ringed Seal .....	613	379	992
Spotted Seal .....	306	19	325
Bearded Seal .....	451	19	470

The estimated takes of marine mammals are based on the estimated exposures for marine mammals with known density information. For marine mammals whose estimated number of exposures were not calculated due to a

lack of reasonably accurate density estimates, but for which occurrence records within the project area exist (*i.e.*, humpback whale, fin whale, minke whale, killer whale, and ribbon seal), a small number of takes relatively based

on group size and site fidelity have been requested in case they are encountered. A summary of estimated takes is provided in Table 6.

TABLE 6—LEVEL B TAKE REQUEST AS PERCENTAGE OF STOCK

Species	Stock abundance	Level B take requested	Request Level B take by stock (percent)
Bowhead whale .....	19,534	130	0.8
Beluga whale (Beaufort Sea stock) .....	39,258	669	1.7
Beluga whale (E. Chukchi Sea stock) .....	3,710	669	18.0
Beluga whale (E. Bering Sea stock) .....	19,186	669	3.5
Gray whale .....	20,990	572	2.7
Humpback whale (W.N. Pacific stock) .....	1,107	15	1.36
Humpback whale (Cent. N. Pacific stock) .....	10,103	15	0.14
Fin whale .....	1,652	15	0.91
Minke whale .....	1,233	5	0.40
Killer whale .....	2,347	5	0.21
Harbor porpoise .....	48,215	16	0.03
Ringed seal .....	249,000	992	0.49
Spotted seal .....	460,268	325	0.07
Bearded seal .....	155,000	470	0.08
Ribbon seal .....	61,100	5	0.01

The estimated Level B takes as a percentage of the marine mammal stock are less than 1.72% in all cases (Table 6). The highest percent of population estimated to be taken is 18% for Level B harassments of the East Chukchi Sea stock of beluga whale. However, that percentage assumes that all beluga whales taken are from that population. Most likely, some beluga whales would be taken from each of the three stocks, meaning fewer than 669 beluga whales would be taken from either individual stock. The Level B takes of beluga whales as a percentage of populations

would likely be below 1.7, 18, and 3.5% for the Beaufort Sea, East Chukchi Sea, and East Bering Sea stocks, respectively.

#### Analysis and Preliminary Determinations

##### Negligible Impact

Negligible impact is “an impact resulting from the specified activity that cannot be reasonably expected to, and is not reasonably likely to, adversely affect the species or stock through effects on annual rates of recruitment or survival” (50 CFR 216.103). A negligible impact finding is based on the lack of likely

adverse effects on annual rates of recruitment or survival (*i.e.*, population-level effects). An estimate of the number of Level B harassment takes, alone, is not enough information on which to base an impact determination. In addition to considering estimates of the number of marine mammals that might be “taken” through behavioral harassment, NMFS must consider other factors, such as the likely nature of any responses (their intensity, duration, etc.), the context of any responses (critical reproductive time or location, migration, etc.), as well as the number

and nature of estimated Level A harassment takes, the number of estimated mortalities, effects on habitat, and the status of the species.

To avoid repetition, this introductory discussion of our analyses applies to all the species listed in Table 6, given that the anticipated effects of Quintillion's subsea cable-laying operation on marine mammals (taking into account the proposed mitigation) are expected to be relatively similar in nature. Where there are meaningful differences between species or stocks, or groups of species, in anticipated individual responses to activities, impact of expected take on the population due to differences in population status, or impacts on habitat, they are described separately in the analysis below.

No injuries or mortalities are anticipated to occur as a result of Quintillion's subsea cable-laying operation, and none are authorized. Additionally, animals in the area are not expected to incur hearing impairment (*i.e.*, TTS or PTS) or non-auditory physiological effects. The takes that are anticipated and authorized are expected to be limited to short-term Level B behavioral harassment in the form of brief startling reaction and/or temporary vacating the area.

Any effects on marine mammals are generally expected to be restricted to avoidance of a limited area around Quintillion's proposed activities and short-term changes in behavior, falling within the MMPA definition of "Level B harassment." Mitigation measures, such as controlled vessel speed and dedicated marine mammal observers, will ensure that takes are within the level being analyzed. In all cases, the effects are expected to be short-term, with no lasting biological consequence.

Of the 11 marine mammal species likely to occur in the proposed cable-laying area, bowhead, humpback, and fin whales, and ringed and bearded seals are listed as endangered or threatened under the ESA. These species are also designated as "depleted" under the MMPA. None of the other species that may occur in the project area are listed as threatened or endangered under the ESA or designated as depleted under the MMPA.

The project area of the Quintillion's proposed activities is within areas that have been identified as biologically important areas (BIAs) for feeding for the gray and bowhead whales and for reproduction for gray whale during the summer and fall months (Clarke et al. 2015). In addition, the coastal Beaufort Sea also serves as a migratory corridor during bowhead whale spring

migration, as well as for their feeding and breeding activities. Additionally, the coastal area of Chukchi and Beaufort seas also serve as BIAs for beluga whales for their feeding and migration. However, the Quintillion's proposed cable laying operation would briefly transit through the area in a slow speed (600 meters per hour). As discussed earlier, the Level B behavioral harassment on marine mammals from the proposed activity is expected to be brief startling reaction and temporary vacating of the area. There is no long-term biologically significant impact to marine mammals expected from the proposed subsea cable-laying activity.

Based on the analysis contained herein of the likely effects of the specified activity on marine mammals and their habitat, and taking into consideration the implementation of the proposed monitoring and mitigation measures, NMFS preliminarily finds that the total marine mammal take from Quintillion's proposed subsea cable-laying operation in the Bering, Chukchi, and Beaufort seas is not expected to adversely affect the affected species or stocks through impacts on annual rates of recruitment or survival, and therefore will have a negligible impact on the affected marine mammal species or stocks.

#### *Small Numbers*

The requested takes represent less than 18% of all populations or stocks potentially impacted (see Table 6 in this document). These take estimates represent the percentage of each species or stock that could be taken by Level B behavioral harassment. The numbers of marine mammals estimated to be taken are small proportions of the total populations of the affected species or stocks.

Based on the analysis contained herein of the likely effects of the specified activity on marine mammals and their habitat, NMFS finds that small numbers of marine mammals will be taken relative to the populations of the affected species or stocks.

#### **Impact on Availability of Affected Species for Taking for Subsistence Uses**

The proposed cable-lay activities will occur within the marine subsistence areas used by the villages of Nome, Wales, Kotzebue, Little Diomed, Kivalina, Point Hope, Wainwright, Barrow, and Nuiqsut. Subsistence use varies considerably by season and location. Seven of the villages hunt bowhead whales (Suydam and George 2004). The small villages of Wales, Little Diomedes, and Kivalina take a bowhead whale about once every five years. Point

Hope and Nuiqsut each harvest three to four whales annually, and Wainwright five to six. Harvest from Barrow is by far the highest with about 25 whales taken each year generally split between spring and fall hunts. Point Hope and Wainwright harvest occurs largely during the spring hunt, and Nuiqsut's during the fall. Nuiqsut whalers base from Cross Island, located 70 km (44 mi) east of Oliktok.

Beluga are also annually harvested by the above villages. Beluga harvest is most important to Point Hope. For example, the village harvested 84 beluga whales during the spring of 2012, and averaged 31 whales a year from 1987 to 2006 (Frost and Suydam 2010). Beluga are also important to Wainwright villages. They harvested 34 beluga whales in 2012, and averaged 11 annually from 1987 to 2006 (Frost and Suydam 2010). All the other villages—Nome, Kotzebue, Wales, Kivalina, Little Diomed, and Barrow—averaged less than 10 whales a year (Frost and Suydam 2010).

All villages utilize seals to one degree or another as well. Ringed seal harvest mostly occurs in the winter and spring when they are hauled out on ice near leads or at breathing holes. Bearded seals are taken from boats during the early summer as they migrate northward in the Chukchi Sea and eastward in the Beaufort Sea. Bearded seals are a staple for villages like Kotzebue and Kivalina that have limited access to bowhead and beluga whales (Georgette and Loon 1993). Thetis Island, located just off the Colville River Delta, is an important base from which villagers from Nuiqsut hunt bearded seals each summer after ice breakup. Spotted seals are an important summer resource for Wainwright and Nuiqsut, but other villages will avoid them because the meat is less appealing than other available marine mammals.

The proposed cable-lay activity will occur in the summer after the spring bowhead and beluga whale hunts have ended, and will avoid the ice period when ringed seals are harvested. The Oliktok branch will pass within 4 km (2 mi) of Thetis Island, but the laying of cable along that branch would occur in late summer or early fall, long after the bearded seal hunt is over. Based on the proposed cable-lay time table relative to the seasonal timing of the various subsistence harvests, cable-lay activities into Kotzebue (bearded seal), Wainwright (beluga whale), and around Point Barrow (bowhead whale) could overlap with important harvest periods. Quintillion will work closely with the AEWG, the Alaska Beluga Whale Committee, the Ice Seal Committee, and

the North Slope Borough to minimize any effects cable-lay activities might have on subsistence harvest.

*Plan of Cooperation or Measures To Minimize Impacts to Subsistence Hunts*

Regulations at 50 CFR 216.104(a)(12) require IHA applicants for activities that take place in Arctic waters to provide a Plan of Cooperation (POC) or information that identifies what measures have been taken and/or will be taken to minimize adverse effects on the availability of marine mammals for subsistence purposes.

Quintillion has prepared a draft POC, which was developed by identifying and evaluating any potential effects the proposed cable-laying operation might have on seasonal abundance that is relied upon for subsistence use.

Specifically, Quintillion has contracted with Alcatel-Lucent Submarine Networks to furnish and install the cable system. Alcatel-Lucent's vessel, *Ile de Brehat*, participates in the Automatic Identification System (AIS) vessel tracking system allowing the vessel to be tracked and located in real time. The accuracy and real time availability of AIS information via the web for the Bering, Chukchi, and Beaufort Seas will not be fully known until the vessels are in the project area. If access to the information is limited, Quintillion will provide alternate vessel information to the public on a regular basis. Quintillion can aid and support the AIS data with additional information provided to the local search and rescue, or other source nominated during the community outreach program.

In addition, Quintillion will communicate closely with the communities of Pt. Hope, Pt. Lay, and Wainwright should activities progress far enough north in late June to mid-July when the villages are still engaged with their annual beluga whale hunt. Quintillion will also communicate closely with the communities of Wainwright, Barrow, and Nuiqsut to minimize impacts on the communities' fall bowhead whale subsistence hunts, which typically occur during late September and into October.

Prior to starting offshore activities, Quintillion will consult with Kotzebue, Point Hope, Wainwright, Barrow, and Nuiqsut as well as the North Slope Borough, the Northwest Arctic Borough, and other stakeholders such as the EWC, the Alaska Eskimo Whaling Commission (AEWC), the Alaska Beluga Whale Committee (ABWC), and the Alaska Nanuq Commission (ANC). Quintillion will also engage in consultations with additional groups on request.

The draft POC is attached to Quintillion's IHA application.

**Endangered Species Act (ESA)**

Within the project area, the bowhead, humpback, and fin whales are listed as endangered and the ringed and bearded seals are listed as threatened under the ESA. NMFS' Permits and Conservation Division has initiated consultation with staff in NMFS' Alaska Region Protected Resources Division under section 7 of the ESA on the issuance of an IHA to Quintillion under section 101(a)(5)(D) of the MMPA for this activity. Consultation will be concluded prior to a determination on the issuance of an IHA.

**National Environmental Policy Act (NEPA)**

NMFS is preparing an Environmental Assessment (EA), pursuant to NEPA, to determine whether the issuance of an IHA to Quintillion for its subsea cable-laying operation in the Bering, Chukchi, and Beaufort seas during the 2016 Arctic open-water season may have a significant impact on the human environment. NMFS has released a draft of the EA for public comment along with this proposed IHA.

**Proposed Authorization**

As a result of these preliminary determinations, NMFS proposes to issue an IHA to Quintillion for subsea cable-laying operation in the Bering, Chukchi, and Beaufort Sea during the 2016 Arctic open-water season, provided the previously mentioned mitigation, monitoring, and reporting requirements are incorporated. The proposed IHA language is provided next.

This section contains a draft of the IHA itself. The wording contained in this section is proposed for inclusion in the IHA (if issued).

(1) This Authorization is valid from June 1, 2016, through October 31, 2016.

(2) This Authorization is valid only for activities associated with subsea cable-laying related activities in the Bering, Chukchi, and Beaufort seas. The specific areas where Quintillion's operations will be conducted are within the Bering, Chukchi, and Beaufort seas, Alaska, as shown in Figure 1 of Quintillion's IHA application.

(3)(a) The species authorized for incidental harassment takings by Level B harassment are: Beluga whales (*Delphinapterus leucas*); bowhead whales (*Balaena mysticetus*); gray whales (*Eschrichtius robustus*), humpback whale (*Megaptera novaeangliae*), fin whale (*Balaenoptera physalus*), killer whale, (*Orcinus orca*), harbor porpoise (*Phocoena phocoena*),

ringed seal (*Phoca hispida*), bearded seals (*Erignathus barbatus*); and spotted seals (*Phoca largha*) (Table 6).

(3)(b) The authorization for taking by harassment is limited to the following acoustic sources and from the following activities:

(i) Operating dynamic positioning thrusters during subsea cable-laying activities; and

(ii) Vessel activities related to subsea cable-laying activities.

(3)(c) The taking of any marine mammal in a manner prohibited under this Authorization must be reported within 24 hours of the taking to the Alaska Regional Administrator (907-586-7221) or his designee in Anchorage (907-271-3023), National Marine Fisheries Service (NMFS) and the Chief of the Permits and Conservation Division, Office of Protected Resources, NMFS, at (301) 427-8401, or her designee (301-427-8418).

(4) The holder of this Authorization must notify the Chief of the Permits and Conservation Division, Office of Protected Resources, at least 48 hours prior to the start of subsea cable-laying activities (unless constrained by the date of issuance of this Authorization in which case notification shall be made as soon as possible).

(5) Prohibitions

(a) The taking, by incidental harassment only, is limited to the species listed under condition 3(a) above and by the numbers listed in Table 6. The taking by serious injury or death of these species or the taking by harassment, injury or death of any other species of marine mammal is prohibited and may result in the modification, suspension, or revocation of this Authorization.

(b) The taking of any marine mammal is prohibited whenever the required source vessel protected species observers (PSOs), required by condition 7(a)(i), are not onboard in conformance with condition 7(a)(i) of this Authorization.

(6) Mitigation

(a) Establishing Disturbance Zones:

(i) Establish zones of influence (ZOIs) surrounding the cable-laying vessel where the received level would be 120 dB (rms) re 1  $\mu$ Pa. The size of the modeled distance to the 120 dB (rms) re 1  $\mu$ Pa is 2.3 km.

(ii) Immediately upon completion of data analysis of the field verification measurements required under condition 7(e)(i) below, the new 120 dB (rms) re 1  $\mu$ Pa ZOI shall be established based on the sound source verification.

(b) Vessel Movement Mitigation:

(i) When the cable-lay fleet is traveling in Alaskan waters to and from

the project area (before and after completion of cable-laying), the fleet vessels would:

(A) Not approach within 1.6 km (1 m) distance from concentrations or groups of whales (aggregation of six or more whales) by all vessels under the direction of Quintillion.

(B) Take reasonable precautions to avoid potential interaction with the bowhead whales observed within 1.6 km (1 mi) of a vessel.

(C) Reduce speed to less than 5 knots when weather conditions require, such as when visibility drops, to avoid the likelihood of collision with whales. The normal vessel travel speeds when laying cable is well less than 5 knots; however vessels laying cable cannot change course and cable-laying operations will not cease until the end of cable is reached.

(c) Mitigation Measures for Subsistence Activities:

(i) For the purposes of reducing or eliminating conflicts between subsistence whaling activities and Quintillion's subsea cable-laying program, Quintillion will provide a daily report of all Quintillion activities and locations to the subsistence communities (see reporting below).

(ii) Quintillion will provide the Alaska Eskimo Whaling Association (Barrow), Kawerak, Inc. (Nome), and Maniilaq Association (Kotzebue) memberships with the Marine Exchange of Alaska so that subsistence communities can track all vessel operations via the vessels' autonomous information system.

(iii) Quintillion will prepare a daily report of project activities, sea conditions, and subsistence interactions, and send to all interested community leaders.

(iv) The daily reports will include a contact address and phone number where interested community leaders can convey any subsistence concerns.

(v) Quintillion shall monitor the positions of all of its vessels and will schedule timing and location of cable-laying segments to avoid any areas where subsistence activity is normally planned.

(vi) Barge and ship transiting to and from the project area:

(A) Vessels transiting in the Beaufort Sea east of Bullen Point to the Canadian border shall remain at least 5 miles offshore during transit along the coast, provided ice and sea conditions allow. During transit in the Chukchi Sea, vessels shall remain as far offshore as weather and ice conditions allow, and at all times at least 5 miles offshore.

(B) From August 31 to October 31, transiting vessels in the Chukchi Sea or

Beaufort Sea shall remain at least 20 miles offshore of the coast of Alaska from Icy Cape in the Chukchi Sea to Pitt Point on the east side of Smith Bay in the Beaufort Sea, unless ice conditions or an emergency that threatens the safety of the vessel or crew prevents compliance with this requirement. This condition shall not apply to vessels actively engaged in transit to or from a coastal community to conduct crew changes or logistical support operations.

(C) Vessels shall be operated at speeds necessary to ensure no physical contact with whales occurs, and to make any other potential conflicts with bowheads or whalers unlikely. Vessel speeds shall be less than 10 knots when within 1.6 kilometers (1 mile) of feeding whales or whale aggregations (6 or more whales in a group).

(D) If any vessel inadvertently approaches within 1.6 kilometers (1 mile) of observed bowhead whales, except when providing emergency assistance to whalers or in other emergency situations, the vessel operator will take reasonable precautions to avoid potential interaction with the bowhead whales by taking one or more of the following actions, as appropriate:

- Reducing vessel speed to less than 5 knots within 900 feet of the whale(s);
- Steering around the whale(s) if possible;
- Operating the vessel(s) in such a way as to avoid separating members of a group of whales from other members of the group;
- Operating the vessel(s) to avoid causing a whale to make multiple changes in direction; and
- Checking the waters immediately adjacent to the vessel(s) to ensure that no whales will be injured when the propellers are engaged.

(vii) Quintillion shall complete operations in time to ensure that vessels associated with the project complete transit through the Bering Strait to a point south of 59 degrees North latitude no later than November 15, 2016. Any vessel that encounters weather or ice that will prevent compliance with this date shall coordinate its transit through the Bering Strait to a point south of 59 degrees North latitude with the appropriate Com-Centers. Quintillion vessels shall, weather and ice permitting, transit east of St. Lawrence Island and no closer than 10 miles from the shore of St. Lawrence Island.

(7) Monitoring:

(a) Vessel-based Visual Monitoring:

(i) Vessel-based visual monitoring for marine mammals shall be conducted by NMFS-approved protected species

observers (PSOs) throughout the period of survey activities.

(ii) PSOs shall be stationed aboard the cable-laying vessels and the Oliktok cable-laying barge through the duration of the subsea cable-laying operation. PSOs will not be aboard the smaller barge in waters of depths less than 12 m.

(iii) A sufficient number of PSOs shall be onboard the survey vessel to meet the following criteria:

(A) 100% Monitoring coverage during all periods of cable-laying operations in daylight;

(B) Maximum of 4 consecutive hours on watch per PSO, with a minimum 1-hour break between shifts; and

(C) Maximum of 12 hours of watch time in any 24-hour period per PSO.

(iv) The vessel-based marine mammal monitoring shall provide the basis for real-time mitigation measures as described in (6)(b) above.

(b) Protected Species Observers and Training

(i) PSO teams shall consist of Inupiat observers capable of carrying out requirements of the IHA and NMFS-approved field biologists.

(ii) Experienced field crew leaders shall supervise the PSO teams in the field. New PSOs shall be paired with experienced observers to avoid situations where lack of experience impairs the quality of observations.

(iii) Crew leaders and most other biologists serving as observers in 2016 shall be individuals with experience as observers during recent marine mammal monitoring projects in Alaska, the Canadian Beaufort, or other offshore areas in recent years.

(iv) Resumes for PSO candidates shall be provided to NMFS for review and acceptance of their qualifications.

Inupiat observers shall be experienced (as hunters or have previous PSO experience) in the region and familiar with the marine mammals of the area.

(v) All observers shall complete an observer training course designed to familiarize individuals with monitoring and data collection procedures. The training course shall be completed before the anticipated start of the 2016 open-water season. The training session(s) shall be conducted by qualified marine mammalogists with extensive crew-leader experience during previous vessel-based monitoring programs.

(vi) Training for both Alaska native PSOs and biologist PSOs shall be conducted at the same time in the same room. There shall not be separate training courses for the different PSOs.

(vii) Crew members should not be used as primary PSOs because they have

other duties and generally do not have the same level of expertise, experience, or training as PSOs, but they could be stationed on the fantail of the vessel to observe the near field, especially the area around the airgun array, and implement a power-down or shutdown if a marine mammal enters the safety zone (or exclusion zone).

(viii) If crew members are to be used in addition to PSOs, they shall go through some basic training consistent with the functions they will be asked to perform. The best approach would be for crew members and PSOs to go through the same training together.

(ix) PSOs shall be trained using visual aids (e.g., videos, photos), to help them identify the species that they are likely to encounter in the conditions under which the animals will likely be seen.

(x) Quintillion shall train its PSOs to follow a scanning schedule that consistently distributes scanning effort appropriate for each type of activity being monitored. All PSOs should follow the same schedule to ensure consistency in their scanning efforts.

(xi) PSOs shall be trained in documenting the behaviors of marine mammals. PSOs should record the primary behavioral state (i.e., traveling, socializing, feeding, resting, approaching or moving away from vessels) and relative location of the observed marine mammals.

#### (c) Marine Mammal Observation Protocol

(i) PSOs shall watch for marine mammals from the best available vantage point on the survey vessels, typically the bridge.

(ii) PSOs shall scan systematically with the unaided eye and 7 × 50 reticle binoculars, and night-vision equipment when needed.

(iii) Personnel on the bridge shall assist the marine mammal observer(s) in watching for marine mammals; however, bridge crew observations will not be used in lieu of PSO observation efforts.

(iv) Monitoring shall consist of recording of the following information:

(A) The species, group size, age/size/sex categories (if determinable), the general behavioral activity, heading (if consistent), bearing and distance from vessel, sighting cue, behavioral pace, and apparent reaction of all marine mammals seen near the vessel (e.g., none, avoidance, approach, paralleling, etc.);

(B) The time, location, heading, speed, and activity of the vessel, along with sea state, visibility, cloud cover and sun glare at (I) any time a marine mammal is sighted, (II) at the start and

end of each watch, and (III) during a watch (whenever there is a change in one or more variable);

(C) The identification of all vessels that are visible within 5 km of the vessel from which observation is conducted whenever a marine mammal is sighted and the time observed;

(D) Any identifiable marine mammal behavioral response (sighting data should be collected in a manner that will not detract from the PSO's ability to detect marine mammals);

(E) Any adjustments made to operating procedures; and

(F) Visibility during observation periods so that total estimates of take can be corrected accordingly.

(vii) Distances to nearby marine mammals will be estimated with binoculars (7 × 50 binoculars) containing a reticle to measure the vertical angle of the line of sight to the animal relative to the horizon. Observers may use a laser rangefinder to test and improve their abilities for visually estimating distances to objects in the water.

(viii) PSOs shall understand the importance of classifying marine mammals as "unknown" or "unidentified" if they cannot identify the animals to species with confidence. In those cases, they shall note any information that might aid in the identification of the marine mammal sighted. For example, for an unidentified mysticete whale, the observers should record whether the animal had a dorsal fin.

(ix) Additional details about unidentified marine mammal sightings, such as "blow only," mysticete with (or without) a dorsal fin, "seal splash," etc., shall be recorded.

(x) Quintillion shall use the best available technology to improve detection capability during periods of fog and other types of inclement weather. Such technology might include night-vision goggles or binoculars as well as other instruments that incorporate infrared technology.

#### (d) Field Data-Recording and Verification

(i) PSOs shall utilize a standardized format to record all marine mammal observations.

(ii) Information collected during marine mammal observations shall include the following:

(A) Vessel speed, position, and activity

(B) Date, time, and location of each marine mammal sighting

(C) Marine mammal information under (c)(iv)(A)

(D) Observer's name and contact information

(E) Weather, visibility, and ice conditions at the time of observation

(F) Estimated distance of marine mammals at closest approach

(G) Activity at the time of observation, including possible attractants present

(H) Animal behavior

(I) Description of the encounter

(J) Duration of encounter

(K) Mitigation action taken

(iii) Data shall be recorded directly into handheld computers or as a back-up, transferred from hard-copy data sheets into an electronic database.

(iv) A system for quality control and verification of data shall be facilitated by the pre-season training, supervision by the lead PSOs, and in-season data checks, and shall be built into the software.

(v) Computerized data validity checks shall also be conducted, and the data shall be managed in such a way that it is easily summarized during and after the field program and transferred into statistical, graphical, or other programs for further processing.

#### (e) Passive Acoustic Monitoring

(i) Sound Source Measurements:

(a) Using a hydrophone system, the holder of this Authorization is required to conduct sound source verification test for the dynamic positioning thrusters of the cable-laying vessel early in the season.

(b) The test results shall be reported to NMFS within 5 days of completing the test.

#### (ii) Marine Mammal Passive Acoustic Monitoring

(a) Quintillion would support the 2016 joint Arctic Whale Ecology Study (ARCWEST)/Chukchi Acoustics, Oceanography, and Zooplankton Study-extension (CHAOZ-X).

(9) Reporting:

(a) Sound Source Verification Report: A report on the preliminary results of the sound source verification measurements, including the measured source level, shall be submitted within 14 days after collection of those measurements at the start of the field season. This report will specify the distances of the ZOI that were adopted for the survey.

(b) Technical Report (90-day Report): A draft report will be submitted to the Director, Office of Protected Resources, NMFS, within 90 days after the end of Quintillion's subsea cable-laying operation in the Bering, Chukchi, and Beaufort seas. The report will describe in detail:

(i) Summaries of monitoring effort (e.g., total hours, total distances, and

marine mammal distribution through the project period, accounting for sea state and other factors affecting visibility and detectability of marine mammals);

(ii) Summaries that represent an initial level of interpretation of the efficacy, measurements, and observations, rather than raw data, fully processed analyses, or a summary of operations and important observations;

(iii) Analyses of the effects of various factors influencing detectability of marine mammals (*e.g.*, sea state, number of observers, and fog/glare);

(iv) Species composition, occurrence, and distribution of marine mammal sightings, including date, water depth, numbers, age/size/gender categories (if determinable), group sizes, and ice cover;

(v) Estimates of uncertainty in all take estimates, with uncertainty expressed by the presentation of confidence limits, a minimum-maximum, posterior probability distribution, or another applicable method, with the exact approach to be selected based on the sampling method and data available; and

(vi) A clear comparison of authorized takes and the level of actual estimated takes.

(d) The draft report shall be subject to review and comment by NMFS. Any recommendations made by NMFS must be addressed in the final report prior to acceptance by NMFS. The draft report will be considered the final report for this activity under this Authorization if NMFS has not provided comments and recommendations within 90 days of receipt of the draft report.

(10)(a) In the unanticipated event that survey operations clearly cause the take of a marine mammal in a manner prohibited by this Authorization, such as a serious injury or mortality (*e.g.*, ship-strike, gear interaction, and/or entanglement), Quintillion shall immediately cease cable-laying operations and immediately report the incident to the Chief, Permits and Conservation Division, Office of Protected Resources, NMFS, at 301-427-8401. The report must include the following information:

(i) Time, date, and location (latitude/longitude) of the incident;

(ii) The name and type of vessel involved;

(iii) The vessel's speed during and leading up to the incident;

(iv) Description of the incident;

(v) Status of all sound source use in the 24 hours preceding the incident;

(vi) Water depth;

(vii) Environmental conditions (*e.g.*, wind speed and direction, Beaufort sea state, cloud cover, and visibility);

(viii) Description of marine mammal observations in the 24 hours preceding the incident;

(ix) Species identification or description of the animal(s) involved;

(x) The fate of the animal(s); and

(xi) Photographs or video footage of the animal (if equipment is available).

(b) Activities shall not resume until NMFS is able to review the circumstances of the prohibited take. NMFS shall work with Quintillion to determine what is necessary to minimize the likelihood of further prohibited take and ensure MMPA compliance. Quintillion may not resume their activities until notified by NMFS via letter, email, or telephone.

(c) In the event that Quintillion discovers an injured or dead marine mammal, and the lead PSO determines that the cause of the injury or death is unknown and the death is relatively recent (*i.e.*, in less than a moderate state of decomposition as described in the next paragraph), Quintillion will immediately report the incident to the Chief, Permits and Conservation Division, Office of Protected Resources, NMFS, at 301-427-8401 and the NMFS Alaska Stranding Hotline (1-877-925-7773). The report must include the same information identified in Condition 10(a) above. Activities may continue while NMFS reviews the circumstances of the incident. NMFS will work with Quintillion to determine whether modifications in the activities are appropriate.

(d) In the event that Quintillion discovers an injured or dead marine mammal, and the lead PSO determines that the injury or death is not associated with or related to the activities authorized in Condition 3 of this Authorization (*e.g.*, previously wounded animal, carcass with moderate to advanced decomposition, or scavenger damage), Quintillion shall report the incident to the Chief, Permits and Conservation Division, Office of Protected Resources, NMFS, at 301-427-8401 and the NMFS Alaska Stranding Hotline (1-877-925-7773) within 24 hours of the discovery. Quintillion shall provide photographs or video footage (if available) or other documentation of the stranded animal sighting to NMFS and the Marine Mammal Stranding Network. Quintillion can continue its operations under such a case.

(11) The Plan of Cooperation outlining the steps that will be taken to cooperate and communicate with the native communities to ensure the

availability of marine mammals for subsistence uses, must be implemented.

(12) This Authorization may be modified, suspended, or withdrawn if the holder fails to abide by the conditions prescribed herein or if the authorized taking is having more than a negligible impact on the species or stock of affected marine mammals, or if there is an unmitigable adverse impact on the availability of such species or stocks for subsistence uses.

(13) A copy of this Authorization and the Incidental Take Statement must be in the possession of each vessel operator taking marine mammals under the authority of this Incidental Harassment Authorization.

(14) Quintillion is required to comply with the Terms and Conditions of the Incidental Take Statement corresponding to NMFS' Biological Opinion.

#### Request for Public Comments

NMFS requests comment on our analysis, the draft authorization, and any other aspect of the Notice of Proposed IHA for Quintillion's proposed subsea cable-laying operation in the Bering, Chukchi, and Beaufort seas. Please include with your comments any supporting data or literature citations to help inform our final decision on Quintillion's request for an MMPA authorization.

Dated: March 24, 2016.

**Donna S. Wieting,**

*Director, Office of Protected Resources,  
National Marine Fisheries Service.*

[FR Doc. 2016-07109 Filed 3-29-16; 8:45 am]

**BILLING CODE 3510-22-P**

## COMMODITY FUTURES TRADING COMMISSION

### Market Risk Advisory Committee

**AGENCY:** Commodity Futures Trading Commission.

**ACTION:** Notice of meeting.

**SUMMARY:** The Commodity Futures Trading Commission (CFTC) announces that on April 26, 2016, from 10:00 a.m. to 1:30 p.m., the Market Risk Advisory Committee (MRAC) will hold a public meeting at the CFTC's Washington, DC, headquarters. The MRAC will describe and discuss how well the derivatives markets are currently functioning, including the impact and implications of the evolving structure of these markets on the movement of risk across market participants. Specific topics to be covered are listed in this Notice.

**DATES:** The meeting will be held on April 26, 2016, from 10:00 a.m. to 1:30



p.m. Members of the public who wish to submit written statements in connection with the meeting should submit them by May 10, 2016.

**ADDRESSES:** The meeting will take place in the Conference Center at the CFTC's headquarters, Three Lafayette Centre, 1155 21st Street NW., Washington, DC 20581. Written statements should be submitted by mail to: Commodity Futures Trading Commission, Three Lafayette Centre, 1155 21st Street NW., Washington, DC 20581, attention: Secretary of the Commission; or by electronic mail to: [secretary@cftc.gov](mailto:secretary@cftc.gov). Please use the title "Market Risk Advisory Committee" in any written statement you submit. Any statements submitted in connection with the committee meeting will be made available to the public, including by publication on the CFTC Web site, [www.cftc.gov](http://www.cftc.gov).

**FOR FURTHER INFORMATION CONTACT:** Petal Walker, MRAC Designated Federal Officer, Commodity Futures Trading Commission, Three Lafayette Centre, 1155 21st Street NW., Washington, DC 20581; (202) 418-5794.

**SUPPLEMENTARY INFORMATION:** The MRAC will describe and discuss how well the derivatives markets are currently functioning, including the impact and implications of the evolving structure of these markets on the movement of risk across market participants. Specifically, the MRAC will describe and discuss:

(a) How effectively end-users and other market participants, in different asset classes (e.g., energy, rates), are able to find counterparties for transactions, receive accurate pricing and volume information, and otherwise access the markets; and

(b) The extent and nature of the current use of portfolio compression and related services, and the benefits and challenges posed by portfolio compression activity in the derivatives markets.

The meeting will be open to the public with seating on a first-come, first-served basis. Members of the public may also listen to the meeting by telephone by calling a domestic toll-free telephone or international toll or toll-free number to connect to a live, listen-only audio feed. Call-in participants should be prepared to provide their first name, last name, and affiliation.

Domestic Toll Free: 1-866-844-9416.

International Toll and Toll Free: Will be posted on the CFTC's Web site, [www.cftc.gov](http://www.cftc.gov), on the page for the meeting, under Related Documents.

Pass Code/Pin Code: CFTC.

After the meeting, a transcript of the meeting will be published through a link on the CFTC's Web site, [www.cftc.gov](http://www.cftc.gov). All written submissions provided to the CFTC in any form will also be published on the CFTC's Web site. Persons requiring special accommodations to attend the meeting because of a disability should notify the contact person listed in this Notice.

**Authority:** 5 U.S.C. app. 2 § 10(a)(2)).

Dated: March 25, 2016.

**Christopher J. Kirkpatrick,**  
*Secretary of the Commission.*

[FR Doc. 2016-07131 Filed 3-29-16; 8:45 am]

**BILLING CODE 6351-01-P**

## CONSUMER PRODUCT SAFETY COMMISSION

[CPSC Docket No. 16-C0002]

**Gree Electric Appliances, Inc. of Zhuhai, Hong Kong Gree Electric Appliances Sales Co., Ltd., and Gree USA Sales, Ltd., Provisional Acceptance of a Settlement Agreement and Order**

**AGENCY:** Consumer Product Safety Commission.

**ACTION:** Notice.

**SUMMARY:** It is the policy of the Commission to publish settlements which it provisionally accepts under the Consumer Product Safety Act in the **Federal Register** in accordance with the terms of 16 CFR 1118.20(e). Published below is a provisionally-accepted Settlement Agreement with Gree Electric Appliances, Inc. of Zhuhai, Hong Kong Gree Electric Appliances Sales Co., Ltd., and Gree USA Sales, Ltd. containing a civil penalty in the amount of fifteen million four hundred fifty thousand dollars (US\$15,450,000) within thirty (30) days of service of the Commission's final Order accepting the Settlement Agreement.<sup>1</sup>

**DATES:** Any interested person may ask the Commission not to accept this agreement or otherwise comment on its contents by filing a written request with the Office of the Secretary by April 14, 2016.

<sup>1</sup> The Commission voted (4-1) to provisionally accept the Settlement Agreement and Order regarding Gree Electric Appliances, Inc. of Zhuhai, Hong Kong Gree Electric Appliances Sales Co., Ltd., and Gree USA Sales, Ltd. Chairman Kaye, Commissioner Adler, Commissioner Robinson and Commissioner Mohorovic voted to provisionally accept the Settlement Agreement and Order. Commissioner Buerkle voted to reject the Settlement Agreement and Order. Commissioner Mohorovic and Commissioner Robinson filed statements regarding this matter. The statements are available at the Office of the Secretary or the CPSC Web site, [www.cpsc.gov](http://www.cpsc.gov).

**ADDRESSES:** Persons wishing to comment on this Settlement Agreement should send written comments to the Comment 16-C0002, Office of the Secretary, Consumer Product Safety Commission, 4330 East West Highway, Room 820, Bethesda, Maryland 20814-4408.

**FOR FURTHER INFORMATION CONTACT:** Daniel R. Vice, Trial Attorney, Division of Compliance, Office of the General Counsel, Consumer Product Safety Commission, 4330 East West Highway, Bethesda, Maryland 20814-4408; telephone (301) 504-6996.

**SUPPLEMENTARY INFORMATION:** The text of the Agreement and Order appears below.

Dated: March 25, 2016.

**Todd A. Stevenson,**  
*Secretary.*

## UNITED STATES OF AMERICA CONSUMER PRODUCT SAFETY COMMISSION

In the Matter of: GREE ELECTRIC APPLIANCES, INC., OF ZHUHAI, HONG KONG GREE ELECTRIC APPLIANCES SALES CO., LTD., AND GREE USA SALES, LTD.

CPSC Docket No.: 16-C0002

### SETTLEMENT AGREEMENT

1. In accordance with the Consumer Product Safety Act, 15 U.S.C. 2051-2089 ("CPSA") and 16 CFR 1118.20, Gree Electric Appliances, Inc., of Zhuhai, Hong Kong Gree Electric Appliances Sales Co., Ltd., and Gree USA Sales, Ltd. (collectively "Gree"), and the United States Consumer Product Safety Commission ("Commission"), through its staff, hereby enter into this Settlement Agreement ("Agreement"). The Agreement, and the incorporated attached Order, resolve staff's charges that Gree is subject to civil penalties in this matter, under section 20 of the CPSA, 15 U.S.C. 2069, as set forth below.

### THE PARTIES

2. The Commission is an independent federal regulatory agency, established pursuant to, and responsible for the enforcement of, the CPSA, 15 U.S.C. 2051-2089. By executing the Agreement, staff is acting on behalf of the Commission, pursuant to 16 CFR 1118.20(b). The Commission issues the Order under the provisions of the CPSA.

3. Gree Electric Appliances, Inc., of Zhuhai, is incorporated in China, and its principal place of business is in China. Hong Kong Gree Electric Appliances Sales Co., Ltd., is incorporated in Hong Kong, and its



principal place of business is in Hong Kong. Gree USA Sales, Ltd., is incorporated in California, and its principal place of business is in City of Industry, CA.

#### STAFF CHARGES

4. Between January 2005 and August 2013, Gree manufactured, imported, and sold approximately 2.5 million dehumidifiers manufactured before December 2012 ("Dehumidifiers") in the United States.

5. The Dehumidifiers are a "consumer product" that was "distributed in commerce," as those terms are defined or used in sections 3(a)(5) and (8) of the CPSA, 15 U.S.C. 2052(a)(5) and (8). Gree was a "manufacturer" and "distributor" of the Dehumidifiers, as such terms are defined in sections 3(a)(7) and (11) of the CPSA, 15 U.S.C. 2052(a)(7) and (11).

#### *Violation of CPSA Section 19(a)(4)*

6. The Dehumidifiers are defective and create an unreasonable risk of serious injury or death because they can overheat, smoke and catch fire, posing smoke and burn hazards to consumers.

7. In July 2012, Gree began receiving reports of smoking, sparking and fires involving the Dehumidifiers. Gree received reports of property damage due to these fires.

8. In response to reports of smoking, sparking and fires, Gree implemented design changes to remedy the defect and unreasonable risk of injury or death associated with the Dehumidifiers.

9. Despite having information reasonably supporting the conclusion of a defect or the creation of an unreasonable risk of serious injury or death associated with the Dehumidifiers, Gree did not notify the Commission immediately of such defect or risk, as required by sections 15(b)(3) and (4) of the CPSA, 15 U.S.C. 2064(b)(3) and (4).

10. Because the information in Gree's possession constituted actual and presumed knowledge, Gree knowingly violated section 19(a)(4) of the CPSA, 15 U.S.C. 2068(a)(4), as the term "knowingly" is defined in section 20(d) of the CPSA, 15 U.S.C. 2069(d).

#### *Violation of CPSA Section 19(a)(12)*

11. Although Gree knew that the Dehumidifiers were not compliant with UL flammability standards, Gree sold, offered for sale, distributed in commerce, and imported the Dehumidifiers bearing the UL mark.

12. The UL mark is a registered safety certification mark owned by UL, which is an accredited conformity assessment body.

13. Because Gree knew, or should have known, that the sale, offer for sale, distribution, and importation of Dehumidifiers that were not compliant with UL standards was not authorized by UL, Gree knowingly violated section 19(a)(12) of the CPSA, 15 U.S.C. 2068(a)(12), as the term "knowingly" is defined in section 20(d) of the CPSA, 15 U.S.C. 2069(d).

#### *Violation of CPSA Section 19(a)(13)*

14. Gree made material misrepresentations to Commission staff that the Dehumidifiers met UL flammability standards, knowing such representations to be false.

15. Gree also made material misrepresentations to Commission staff concerning the date when Gree became aware that the Dehumidifiers were not compliant with UL standards, knowing such representations to be false.

16. By knowingly making material misrepresentations to Commission staff during the course of an investigation, Gree knowingly violated section 19(a)(13) of the CPSA, 15 U.S.C. 2068(a)(13), as the term "knowingly" is defined in section 20(d) of the CPSA, 15 U.S.C. 2069(d).

#### *Civil Penalties Pursuant to CPSA Section 20*

17. Pursuant to section 20 of the CPSA, 15 U.S.C. 2069, Gree is subject to civil penalties for its knowing violations of sections 19(a)(4), (12), and (13) of the CPSA, 15 U.S.C. 2068(a)(4), (12) and (13).

#### RESPONSE OF GREE

18. The signing of this Agreement does not constitute an admission by Gree that either reportable information or a substantial product hazard exists.

19. Gree enters into this Agreement to settle this matter without the delay and expense of litigation. Gree enters into this Agreement and agrees to pay the amount referenced below in compromise of the staff's charges.

20. Gree voluntarily notified the Commission in connection with the dehumidifiers in March 2013. Gree carried out a voluntary recall in cooperation with the Commission and acted to reduce the potential risk of injury.

#### AGREEMENT OF THE PARTIES

21. Gree submits to the jurisdiction of the Commission in the matter involving the Dehumidifiers.

22. The parties enter into the Agreement for settlement purposes only. The Agreement does not constitute an admission by Gree or a determination by

the Commission that Gree violated the CPSA's reporting requirements.

23. In settlement of staff's charges, and to avoid the cost, distraction, delay, uncertainty, and inconvenience of protracted litigation, Gree shall pay a civil penalty in the amount of fifteen million four hundred fifty thousand dollars (US\$15,450,000) within thirty (30) calendar days after receiving service of the Commission's final Order accepting the Agreement. All payments to be made under the Agreement shall constitute debts owing to the United States and shall be made by electronic wire transfer to the United States via: <http://www.pay.gov> for allocation to and credit against the payment obligations of Gree under this Agreement. Failure to make such payment by the date specified in the Commission's final Order shall constitute Default.

24. All unpaid amounts, if any, due and owing under the Agreement shall constitute a debt due and immediately owing by Gree to the United States, and interest shall accrue and be paid by Gree at the federal legal rate of interest set forth at 28 U.S.C. 1961(a) and (b) from the date of Default until all amounts due have been paid in full (hereinafter "Default Payment Amount" and "Default Interest Balance"). Gree shall consent to a Consent Judgment in the amount of the Default Payment Amount and Default Interest Balance, and the United States, at its sole option, may collect the entire Default Payment Amount and Default Interest Balance or exercise any other rights granted by law or in equity, including but not limited to referring such matters for private collection, and Gree agrees not to contest, and hereby waives and discharges any defenses to, any collection action undertaken by the United States or its agents or contractors pursuant to this paragraph. Gree shall pay the United States all reasonable costs of collection and enforcement under this paragraph, respectively, including reasonable attorney's fees and expenses.

25. After staff receives this Agreement executed on behalf of Gree, staff shall promptly submit the Agreement to the Commission for provisional acceptance. Promptly following provisional acceptance of the Agreement by the Commission, the Agreement shall be placed on the public record and published in the **Federal Register**, in accordance with the procedures set forth in 16 CFR 1118.20(e). If the Commission does not receive any written request not to accept the Agreement within fifteen (15) calendar days, the Agreement shall be deemed finally accepted on the 16th calendar

day after the date the Agreement is published in the **Federal Register**, in accordance with 16 CFR 1118.20(f).

26. This Agreement is conditioned upon, and subject to, the Commission's final acceptance, as set forth above, and it is subject to the provisions of 16 CFR 1118.20(h). Upon the later of: (i) Commission's final acceptance of this Agreement and service of the accepted Agreement upon Gree, and (ii) the date of issuance of the final Order, this Agreement shall be in full force and effect and shall be binding upon the parties.

27. Effective upon the later of: (i) the Commission's final acceptance of the Agreement and service of the accepted Agreement upon Gree, and (ii) and the date of issuance of the final Order, for good and valuable consideration, Gree hereby expressly and irrevocably waives and agrees not to assert any past, present, or future rights to the following, in connection with the matter described in this Agreement: (i) an administrative or judicial hearing; (ii) judicial review or other challenge or contest of the Commission's actions; (iii) a determination by the Commission of whether Gree failed to comply with the CPSA and the underlying regulations; (iv) a statement of findings of fact and conclusions of law; and (v) any claims under the Equal Access to Justice Act.

28. Gree shall implement and maintain a compliance program designed to ensure compliance with the CPSA and regulations enforced by the Commission with respect to any consumer product manufactured, imported, distributed, or sold by Gree, and which, at a minimum, shall contain the following elements:

a. written standards and policies;

b. written procedures that provide for the appropriate forwarding to compliance personnel of all information that may relate to, or impact, CPSA compliance, including all reports and complaints involving consumer products, whether an injury is referenced or not;

c. a mechanism for confidential employee reporting of compliance-related questions or concerns to either a compliance officer or to another senior manager with authority to act as necessary;

d. effective communication of company compliance-related policies and procedures regarding the CPSA to all applicable employees through training programs or otherwise;

e. Gree senior management responsibility for CPSA compliance and accountability for violations of the statutes and regulations enforced by the Commission;

f. Gree governing body oversight of CPSA compliance; and

g. retention of all CPSA compliance-related records for at least five (5) years, and availability of such records to staff upon reasonable request.

29. Gree shall implement, maintain, and enforce a system of internal controls and procedures designed to ensure that, with respect to all consumer products manufactured, imported, distributed, or sold by Gree:

a. information required to be disclosed by Gree to the Commission is recorded, processed, and reported in accordance with applicable law;

b. all reporting made to the Commission is timely, truthful, complete, accurate, and in accordance with applicable law; and

c. prompt disclosure is made to Gree's management of any significant deficiencies or material weaknesses in the design or operation of such internal controls that are reasonably likely to affect adversely, in any material respect, Gree's ability to record, process, and report to the Commission in accordance with applicable law.

30. Upon reasonable request of staff, Gree shall provide written documentation of its improvements, processes and controls, including, but not limited to, the effective dates of such improvements, processes and controls as set forth in paragraphs 28 through 29 above. Upon reasonable request, Gree shall cooperate fully and truthfully with staff and shall make available, in a manner agreed to by the parties, all non-privileged information and materials, and personnel deemed necessary by staff to evaluate Gree's compliance with the terms of the Agreement.

31. The parties acknowledge and agree that the Commission may publicize the terms of the Agreement and the Order.

32. Gree represents that the Agreement: (i) is entered into freely and voluntarily, without any degree of duress or compulsion whatsoever; (ii) has been duly authorized; and (iii) constitutes the valid and binding obligation of Gree, enforceable against Gree in accordance with its terms. Gree will not directly or indirectly receive any reimbursement, indemnification, insurance-related payment, or other payment in connection with the civil penalty to be paid by Gree pursuant to the Agreement and Order. The individuals signing the Agreement on behalf of Gree represent and warrant that they are duly authorized by Gree to execute the Agreement.

33. The signatories represent that they are authorized to execute this Agreement.

34. The Agreement is governed by the laws of the United States.

35. The Agreement and the Order shall apply to, and be binding upon, Gree and each of its successors, transferees, and assigns, and a violation of the Agreement or Order may subject Gree, and each of its successors, transferees, and assigns, to appropriate legal action.

36. Nothing herein shall preclude the Commission from initiating any other proceedings to enforce the Order.

37. The Agreement and the Order constitute the complete agreement between the parties on the subject matter contained therein.

38. The Agreement may be used in interpreting the Order. Understandings, agreements, representations, or interpretations apart from those contained in the Agreement and the Order may not be used to vary or contradict their terms. For purposes of construction, the Agreement shall be deemed to have been drafted by both of the parties and shall not, therefore, be construed against any party for that reason in any subsequent dispute.

39. The Agreement may not be waived, amended, modified, or otherwise altered, except as in accordance with the provisions of 16 CFR 1118.20(h). The Agreement may be executed in counterparts.

40. If any provision of the Agreement or the Order is held to be illegal, invalid, or unenforceable under present or future laws effective during the terms of the Agreement and the Order, such provision shall be fully severable. The balance of the Agreement and the Order shall remain in full force and effect, unless the Commission and Gree agree in writing that severing the provision materially affects the purpose of the Agreement and the Order.

GREE ELECTRIC APPLIANCES, INC., OF ZHUHAI, HONG KONG GREE ELECTRIC APPLIANCES SALES CO., LTD., AND GREE USA SALES, LTD.

Dated: March 12, 2016

By:

Li Mingjing

Counsel, Securities and Legal Affairs Department, Gree Electric Appliances, Inc., of Zhuhai, Hong Kong Gree Electric Appliances Sales Co., Ltd., and Gree USA Sales, Ltd.

Dated: March 14, 2016

By:

Ellen Nudelman Adler

Morrison and Foerster LLP  
12531 High Bluff Drive  
San Diego, CA 92130-2040

Counsel to Gree Electric Appliances, Inc., of Zhuhai, Hong Kong Gree Electric Appliances Sales Co., Ltd., and Gree USA Sales, Ltd.  
U.S. CONSUMER PRODUCT SAFETY COMMISSION

Stephanie Tsacoumis  
General Counsel

Mary T. Boyle

Deputy General Counsel

Mary B. Murphy

Assistant General Counsel

Dated: March 14, 2016

By:

Daniel R. Vice

Trial Attorney, Division of Compliance,  
Office of the General Counsel

## UNITED STATES OF AMERICA CONSUMER PRODUCT SAFETY COMMISSION

In the Matter of: GREE ELECTRIC APPLIANCES, INC., OF ZHUHAI, HONG KONG GREE ELECTRIC APPLIANCES SALES CO., LTD., AND GREE USA SALES, LTD.

CPSC Docket No.: 16-C0002

### ORDER

Upon consideration of the Settlement Agreement entered into between Gree Electric Appliances, Inc. of Zhuhai, Hong Kong Gree Electric Appliances Sales Co., Ltd., and Gree USA Sales, Ltd. (collectively "Gree"), and the U.S. Consumer Product Safety Commission ("Commission"), and Gree having submitted to the jurisdiction of the Commission with respect to the subject matter, and it appearing that the Settlement Agreement and the Order are in the public interest, it is:

**ORDERED** that the Settlement Agreement be, and is, hereby, accepted; and it is

**FURTHER ORDERED** that Gree shall comply with the terms of the Settlement Agreement and shall pay a civil penalty in the amount of fifteen million four hundred fifty thousand dollars (US\$15,450,000) within thirty (30) days after service of the Commission's final Order accepting the Settlement Agreement. The payment shall be made by electronic wire transfer to the Commission via: <http://www.pay.gov>. Upon the failure of Gree to make the foregoing payment when due, interest on the unpaid amount shall accrue and be paid by Gree at the federal legal rate of interest set forth at 28 U.S.C. 1961(a) and (b). If Gree fails to make such payment or to comply in full with any other provision of the Settlement Agreement, such conduct will be considered a violation of the Settlement Agreement and Order.

Provisionally accepted and provisional Order issued on the 25th day of March, 2016.

### BY ORDER OF THE COMMISSION:

Todd A. Stevenson, Secretary

U.S. Consumer Product Safety Commission

[FR Doc. 2016-07124 Filed 3-29-16; 8:45 am]

**BILLING CODE 6355-01-P**

## CORPORATION FOR NATIONAL AND COMMUNITY SERVICE

### Proposed Information Collection; Comment Request

**AGENCY:** Corporation for National and Community Service.

**ACTION:** Notice.

**SUMMARY:** The Corporation for National and Community Service (CNCS), as part of its continuing effort to reduce paperwork and respondent burden, conducts a pre-clearance consultation program to provide the general public and federal agencies with an opportunity to comment on proposed and/or continuing collections of information in accordance with the Paperwork Reduction Act of 1995 (PRA95) (44 U.S.C. Sec. 3506(c)(2)(A)). This program helps to ensure that requested data can be provided in the desired format, reporting burden (time and financial resources) is minimized, collection instruments are clearly understood, and the impact of collection requirement on respondents can be properly assessed.

Currently, CNCS is soliciting comments concerning its proposed AmeriCorps NCCC's (National Civilian Community Corps) Member Experience Survey. This survey was developed to support NCCC performance measurement for use in program development, funding, and evaluation. The survey instrument will be completed by NCCC Members following the completion of their service term. In particular, this survey will be administered to NCCC Members who are exiting early or have already exited early from the AmeriCorps NCCC program. Completion of this information collection is not required for the completion of a service term with NCCC.

Copies of the information collection request can be obtained by contacting the office listed in the Addresses section of this Notice.

**DATES:** Written comments must be submitted to the individual and office listed in the **ADDRESSES** section by May 31, 2016.

**ADDRESSES:** You may submit comments, identified by the title of the information collection activity, by any of the following methods:

(1) By mail sent to: Corporation for National and Community Service, National Civilian Community Corps; Attention Barbara Lane, Director Projects and Partnerships, Room 3240, 250 E. Street SW., Washington, DC 20525.

(2) By hand delivery or by courier to the CNCS mailroom at Room 4200 at the mail address given in paragraph (1) above, between 9:00 a.m. and 4:00 p.m. Eastern Time, Monday through Friday, except federal holidays.

(3) Electronically through [www.regulations.gov](http://www.regulations.gov).

Individuals who use a telecommunications device for the deaf (TTY-TDD) may call 1-800-833-3722 between 8:00 a.m. and 8:00 p.m. Eastern Time, Monday through Friday.

**FOR FURTHER INFORMATION CONTACT:** Barbara Lane, 202-606-6867, or by email at [blane@cns.gov](mailto:blane@cns.gov).

### SUPPLEMENTARY INFORMATION:

CNCS is particularly interested in comments that:

- Evaluate whether the proposed collection of information is necessary for the proper performance of the functions of CNCS, including whether the information will have practical utility;
- Evaluate the accuracy of the agency's estimate of the burden of the proposed collection of information, including the validity of the methodology and assumptions used;
- Enhance the quality, utility, and clarity of the information to be collected; and
- Minimize the burden of the collection of information on those who are expected to respond, including the use of appropriate automated, electronic, mechanical, or other technological collection techniques or other forms of information technology (e.g., permitting electronic submissions of responses).

### Background

This information collection serves as part of an overall AmeriCorps NCCC logic model to help measure the degree to which the program is addressing the statutory areas of national and community needs in a way that strengthens communities and builds leaders. The survey will be administered electronically to all members departing early from the program.

### Current Action

This is a new information collection request. The NCCC Member Experience Survey consists of between 29 and 30 questions, depending on which

responses the respondents specify. All Members departing early from AmeriCorps NCCC will receive their survey as a single instrument. Each NCCC Member will receive an individual survey. The exact same survey, not part of this information collection request, is administered to all graduating Members while they are in service and closed for completion prior to the completion of the program.

*Type of Review:* New.

*Agency:* Corporation for National and Community Service.

*Title:* NCCC Member Experience Survey.

*OMB Number:* None.

*Agency Number:* None.

*Affected Public:* The NCCC Member Experience Survey will be administered to the former NCCC Member for their most recent NCCC service term. These Members will have served with AmeriCorps NCCC for any length of time, without graduating. There are approximately 400 Members that depart the program early each year. The early exiting and former Members are uniquely able to provide the information sought in the NCCC Member Experience Survey.

*Total Respondents:* Based on the number of Members who have departed the program early over the last five annual years, NCCC expects to administer 450 surveys each fiscal year to Members who departed the program early. These may not be unique responders as a few Members may have served with NCCC in a prior service term.

*Frequency:* Biweekly. Each early departed Member will complete only one survey for their most recent service term.

*Average Time per Response:* Averages 25 minutes.

*Estimated Total Burden Hours:* 167 hours.

*Total Burden Cost (capital/startup):* None.

*Total Burden Cost (operating/maintenance):* None.

Comments submitted in response to this Notice will be summarized and/or included in the request for Office of Management and Budget approval of the information collection request; they will also become a matter of public record.

Dated: March 23, 2016.

**Gina Cross,**

*Acting Director, National Civilian Community Corps.*

[FR Doc. 2016-07160 Filed 3-29-16; 8:45 am]

BILLING CODE 6050-28-P

## DEPARTMENT OF DEFENSE

### Office of the Secretary

[Docket ID: DoD-2016-OS-0031]

### Proposed Collection; Comment Request

**AGENCY:** Defense Finance and Accounting Service (DFAS), DoD.

**ACTION:** Notice.

**SUMMARY:** In compliance with the *Paperwork Reduction Act of 1995*, the DFAS announces a proposed public information collection and seeks public comment on the provisions thereof. Comments are invited on: (a) Whether the proposed collection of information is necessary for the proper performance of the functions of the agency, including whether the information shall have practical utility; (b) the accuracy of the agency's estimate of the burden of the proposed information collection; (c) ways to enhance the quality, utility, and clarity of the information to be collected; and (d) ways to minimize the burden of the information collection on respondents, including through the use of automated collection techniques or other forms of information technology.

**DATES:** Consideration will be given to all comments received by May 31, 2016.

**ADDRESSES:** You may submit comments, identified by docket number and title, by any of the following methods:

- *Federal eRulemaking Portal:* <http://www.regulations.gov>. Follow the instructions for submitting comments.

- *Mail:* Department of Defense, Office of the Deputy Chief Management Officer, Directorate of Oversight and Compliance, Regulatory and Audit Matters Office, 9010 Defense Pentagon, Washington, DC 20301-9010.

**Instructions:** All submissions received must include the agency name, docket number and title for this **Federal Register** document. The general policy for comments and other submissions from members of the public is to make these submissions available for public viewing on the Internet at <http://www.regulations.gov> as they are received without change, including any personal identifiers or contact information.

Any associated form(s) for this collection may be located within this same electronic docket and downloaded for review/testing. Follow the instructions at <http://www.regulations.gov> for submitting comments. Please submit comments on any given form identified by docket number, form number, and title.

**FOR FURTHER INFORMATION CONTACT:** To request more information on this

proposed information collection or to obtain a copy of the proposal and associated collection instruments, please write to the Defense Finance and Accounting Services, 1240 East 9th Street, Enterprise Solutions and Standards Code JFFJB, Cleveland, Ohio 44199, ATTN: Stuart Kran, or email: [stuart.a.kran.civ@mail.mil](mailto:stuart.a.kran.civ@mail.mil), or call (216) 204-4377.

**SUPPLEMENTARY INFORMATION:** *Title; Associated Form; and OMB Number:* Application for Pay in Arrears; DD Form 827; OMB Control Number 0730-XXXX.

*Needs and Uses:* The information collected is provided by service members, former service members, or legal representatives of incapacitated members in claiming arrears of pay believed to be due the service member. The authority for this form is 5 U.S.C. Section 301 which states in part that the head of a military department may prescribe regulations for the government of his/her department and the custody, use and preservation of its records, papers and property. However, it does not authorize withholding information from the public or limiting the availability of records to the public.

*Affected Public:* Individuals or households.

*Annual Burden Hours:* 832.

*Number of Respondents:* 3328.

*Responses per Respondent:* 1.

*Annual Responses:* 3328.

*Average Burden per Response:* 15 Minutes.

*Frequency:* On occasion.

When the Disbursing Officer/Finance Officer is not authorized to make payment due to lapsed appropriations, more than the current and previous five years, the claim is forwarded to the appropriate DFAS site for settlements. Claims are to be submitted on a DD 827. All necessary documentation must be attached to the claim. If the member is on active duty or separated for less than one year, the claim will be sent to the site servicing that branch of service. Army and Air Force claims will be sent to DFAS-IN, Navy and Marine Corps claims will be sent to DFAS-CL. For members separated over one year, the claim will be sent to DFAS-IN, Debts and Claims Management Office.

Dated: March 25, 2016.

**Aaron Siegel,**

*Alternate OSD*

*Federal Register Liaison Officer, Department of Defense.*

[FR Doc. 2016-07162 Filed 3-29-16; 8:45 am]

BILLING CODE 5001-06-P

**DEPARTMENT OF DEFENSE****Department of the Navy****Notice of Public Meetings for the Draft Environmental Impact Statement for the Disposal and Reuse of Surplus Property at Naval Station Newport, Rhode Island**

**AGENCY:** Department of the Navy, Department of Defense.

**ACTION:** Notice.

**SUMMARY:** Pursuant to the National Environmental Policy Act (NEPA) of 1969 (Public Law [Pub. L.] 91–190, 42 United States Code [U.S.C.] 4321–4347), as implemented by the Council on Environmental Quality (CEQ) regulations implementing NEPA (40 Code of Federal Regulations [CFR] Parts 1500–1508), the Department of the Navy (DoN) has prepared and filed the Draft Environmental Impact Statement (EIS) to evaluate the potential human and natural environmental consequences of the disposal of surplus property at Naval Station (NAVSTA) Newport, Rhode Island, by the Navy and its subsequent redevelopment by the respective municipalities in which the surplus property is geographically located. Public Law 101–510, the Defense Base Closure and Realignment Act of 1990, as amended in 2005 (BRAC Law), has directed the Navy to realign NAVSTA Newport. As a result of this action, the Navy has declared approximately 158 acres of land area at NAVSTA Newport to be surplus to the needs of the federal government.

With the filing of the Draft EIS, the DoN is initiating a 45-day public comment period and has scheduled two public open house meetings to provide information and receive written comments on the Draft EIS. Federal, state, and local elected officials and agencies and the public are encouraged to provide written comments.

**DATES AND ADDRESSES:** The Navy will hold two open house public meetings at the locations listed below and will allow individuals to review and comment on the information presented in the Draft EIS. DoN representatives will be available during the open house to clarify information presented in the Draft EIS, as necessary. There will not be a formal presentation.

Thursday, April 14, 2016; 4:00 p.m. to 8:00 p.m.; Joseph H. Gaudet Middle School Cafeteria; 1113 Aquidneck Ave. (Turner Rd entrance); Middletown, Rhode Island 02842.

Friday, April 15, 2016; 10:00 a.m. to 2:00 p.m.; Newport Police Department

Assembly Room; 120 Broadway; Newport, Rhode Island 02840.

**FOR FURTHER INFORMATION CONTACT:**

Director, BRAC Program Management Office (PMO) East, Attn: Newport EIS, 4911 South Broad Street, Building 679, Philadelphia, PA 19112–1303, telephone 215–897–4900, fax: 215–897–4902; email: [james.e.anderson1.ctr@navy.mil](mailto:james.e.anderson1.ctr@navy.mil). For more information on the NAVSTA Newport BRAC Draft EIS, visit the Navy BRAC PMO Web site (<http://www.bracpmo.navy.mil>) or the project Web site <http://www.newporteis.com/>.

**SUPPLEMENTARY INFORMATION:** The Draft EIS was prepared in accordance with the requirements of the BRAC Law; NEPA; the CEQ regulations implementing NEPA (40 CFR 1500–1508); Navy procedures for implementing NEPA (32 CFR 775), Office of the Chief of Naval Operations (OPNAV) Manual M–5090.1; and other applicable Department of Defense (DoD) and Navy policies and guidance. A Notice of Intent (NOI) to prepare this Draft EIS was published in the **Federal Register** on October 31, 2012 (**Federal Register**, Vol. 77, No. 211/Wednesday, October 31, 2012/Notices). The Navy is the lead agency for the proposed action.

The purpose of the proposed action is to comply with the BRAC Law and provide for the disposal and reuse of surplus property at NAVSTA Newport in a manner consistent with the Aquidneck Island Reuse Planning Authority's (AIRPA) Redevelopment Plan for Surplus Properties at NAVSTA Newport (Redevelopment Plan). The proposed action is needed to provide the local community an opportunity for economic development and job creation.

The Draft EIS has considered two redevelopment alternatives. Alternative 1, the preferred alternative, is the disposal of the surplus property and reuse in accordance with the Redevelopment Plan, which has been prepared and approved by the AIRPA. Alternative 1 includes mixed land use types and densities for each of four non-contiguous surplus properties as well as open space and natural areas.

Alternative 2 provides for the disposal of the surplus property at NAVSTA Newport and redevelopment at a higher density and with a different mix of uses than Alternative 1. A No Action alternative was also considered, as required by NEPA and to provide a point of comparison for assessing impacts of the redevelopment alternatives.

The four surplus properties to be redeveloped are located in three separate municipalities on Aquidneck Island: Former Navy Lodge

(approximately 3 acres located in the Town of Middletown), Former Naval Hospital (approximately 15.2 acres, consisting of 8.3 acres of land and 6.9 acres of offshore riparian rights, located in the City of Newport), Tank Farms 1 and 2 (approximately 136 acres located in the Town of Portsmouth), and Midway Pier/Greene Lane (approximately 10.7 acres located in the Town of Middletown).

Federal, state, and local agencies, as well as interested members of the public, are invited and encouraged to review and comment on the Draft EIS. The Draft EIS is available for viewing at the following locations: Newport Public Library (300 Spring Street, Newport, RI 02840), Town of Portsmouth Town Hall (2200 East Main Road, Portsmouth, RI 02871), City of Newport, City Hall (43 Broadway, Newport, RI 02840), and Town of Middletown Planning Department (350 East Main Road, Middletown, RI 02842).

An electronic version of the Draft EIS can be viewed or downloaded at the following Web sites—<http://www.bracpmo.navy.mil> and <http://www.newporteis.com/>. A limited number of hard copies are available by contacting BRAC PMO East at the address in this notice.

Comments can be made in the following ways: (1) Written statements can be submitted to a DoN representative at the public meeting; (2) written comments can be mailed to Director, BRAC PMO East, Attn: Newport EIS, 4911 South Broad Street, Building 679, Philadelphia, PA 19112–1303; (3) written comments can be emailed to [james.e.anderson1.ctr@navy.mil](mailto:james.e.anderson1.ctr@navy.mil); or (4) comments can be faxed to 215–897–4902, Attn: Mr. James Anderson. Comments may be submitted without attending the public meeting. All comments postmarked or emailed no later than midnight, May 2, 2016, will become part of the public record and will be responded to in the Final EIS.

Requests for special assistance, sign language interpretation for the hearing impaired, language interpreters, or other auxiliary aids for the scheduled public meetings must be sent by mail or email to Mr. Matthew Butwin, Ecology and Environment, Inc., 368 Pleasant View Drive, Lancaster, NY 14086, telephone: 716–684–8060, email: [mbutwin@ene.com](mailto:mbutwin@ene.com) no later than April 1, 2016.

Dated: March 24, 2016.

**C. Pan,**

*Lieutenant, Judge Advocate General's Corps,  
U.S. Navy, Alternate Federal Register Liaison  
Officer.*

[FR Doc. 2016-07141 Filed 3-29-16; 8:45 am]

**BILLING CODE 3810-FF-P**

## ELECTION ASSISTANCE COMMISSION

### Sunshine Act Notice

**AGENCY:** U.S. Election Assistance Commission.

**TIME AND DATE:** Thursday, April 14, 2016, 9 a.m.–5 p.m. and Friday, April 15, 2016, 8:10 a.m.–12 p.m. (Executive Board Session: Thursday, April 14, 2016, 7:30 p.m.).

**PLACE:** The Sheraton Carlsbad Hotel, 5480 Grand Pacific Drive, Carlsbad, CA 92008, Phone: (760) 827-2400.

**STATUS:** This meeting will be open to the public.

**MATTERS TO BE CONSIDERED:** The U.S. Election Assistance Commission (EAC) Standards Board will meet to address its responsibilities under the Help America Vote Act of 2002 (HAVA), to present its views on issues in the administration of Federal elections, formulate recommendations to the EAC, and receive updates on EAC activities.

The Standards Board will receive an overview of EAC Agency Operations, and will receive updates on EAC Grants and Audits, EAC Testing and Certification, and EAC's New Web site Rollout. The Board will receive an update on the Status of State Testing and Certification Consortium. The Board will receive an update on the work of EAC's Technical Guidelines Development Committee (TGDC). The Board will discuss and vote on recommendations from the TGDC. The Board will receive briefings from the National Association of Secretaries of State (NASS), the Federal Voting Assistance Program (FVAP), and the United States Postal Service (USPS).

The Standards Board will conduct committee breakout sessions and hear committee reports. The Board will discuss and vote on proposed Bylaws amendments, and will fill vacancies on the Executive Board of the Standards Board. The Executive Board will elect new officers, appoint Standards Board committee members and chairs, and consider other administrative matters.

**CONTACT PERSON FOR MORE INFORMATION:** Bryan Whitener, Telephone: (301) 563-3961.

**Bryan Whitener,**

*Director of Communications and  
Clearinghouse, U.S. Election Assistance  
Commission.*

[FR Doc. 2016-07287 Filed 3-28-16; 4:15 pm]

**BILLING CODE 6820-KF-P**

## DEPARTMENT OF ENERGY

### Notice of Public Meeting To Inform the Design of a Consent-Based Siting Process for Nuclear Waste Storage and Disposal Facilities

**AGENCY:** Fuel Cycle Technologies, Office of Nuclear Energy, Department of Energy.

**ACTION:** Notice of public meeting.

**SUMMARY:** The U.S. Department of Energy (DOE) is implementing a consent-based siting process to establish an integrated waste management system to transport, store, and dispose of spent nuclear fuel and high-level radioactive waste. In a consent-based siting approach, DOE will work with communities, tribal governments and states across the country that express interest in hosting any of the facilities identified as part of an integrated waste management system. As part of this process, the Department is hosting a series of public meetings to engage communities and individuals and discuss the development of a consent-based approach to managing our nation's nuclear waste. A public meeting will be held in Tempe, AZ on June 23, 2016.

**DATES:** The meeting will take place on Thursday, June 23, 2016 from 5:00 p.m. to 9:30 p.m. MST. Informal poster sessions will be held from 4:00 p.m. until 5:00 p.m. MST and again after 9:30 p.m. MST. Department officials will be available to discuss consent-based siting during the poster sessions.

**ADDRESSES:** The meeting will be held at Marriott Phoenix Tempe at the Buttes, 2000 W Westcourt Way, Tempe, AZ 85282. To register for this meeting and to review the agenda for the meeting, please go to [energy.gov/consentbasedsiting](http://energy.gov/consentbasedsiting).

**FOR FURTHER INFORMATION CONTACT:** Requests for further information should be sent to [consentbasedsiting@hq.doe.gov](mailto:consentbasedsiting@hq.doe.gov) or to Michael Reim at 202-586-2981. Updated information on this and other planned public meetings on consent based siting will be posted at [energy.gov/consentbasedsiting](http://energy.gov/consentbasedsiting).

If you are unable to attend a public meeting or would like to further discuss ideas for consent-based siting, please request an opportunity for us to speak with you. The Department will do its best to accommodate such requests and help arrange additional opportunities to engage. To learn more about nuclear energy, nuclear waste, and ongoing technical work please go to [energy.gov/consentbasedsiting](http://energy.gov/consentbasedsiting).

*Privacy Act:* Data collected via the mechanisms listed above will not be protected from the public view in any way.

Issued in Washington, DC, on March 24, 2016.

**Andrew Griffith,**

*Associate Deputy Assistant Secretary, Office of Nuclear Energy, Department of Energy.*

[FR Doc. 2016-07155 Filed 3-29-16; 8:45 am]

**BILLING CODE 6450-01-P**

## DEPARTMENT OF ENERGY

### Notice of Public Meeting To Inform the Design of a Consent-Based Siting Process for Nuclear Waste Storage and Disposal Facilities

**AGENCY:** Fuel Cycle Technologies, Office of Nuclear Energy, Department of Energy.

**ACTION:** Notice of public meeting.

**SUMMARY:** The U.S. Department of Energy (DOE) is implementing a consent-based siting process to establish an integrated waste management system to transport, store, and dispose of spent nuclear fuel and high-level radioactive waste. In a consent-based siting approach, DOE will work with communities, tribal governments and states across the country that express interest in hosting any of the facilities identified as part of an integrated waste management system. As part of this process, the Department is hosting a series of public meetings to engage communities and individuals and discuss the development of a consent-based approach to managing our nation's nuclear waste. A public meeting will be held in Denver, CO on May 24, 2016.

**DATES:** The meeting will take place on Tuesday, May 24, 2016 from 5:00 p.m. to 9:30 p.m. MDT. Informal poster sessions will be held from 4:00 p.m. until 5:00 p.m. MDT and again after 9:30 p.m. MDT. Department officials will be available to discuss consent-based siting during the poster sessions.

**ADDRESSES:** The meeting will be held at Embassy Suites Denver—Stapleton, 4444 N Havana Street, Denver, CO 80239. To register for this meeting and

to review the agenda for the meeting, please go to [energy.gov/consentbasedsiting](http://energy.gov/consentbasedsiting).

**FOR FURTHER INFORMATION CONTACT:**

Requests for further information should be sent to [consentbasedsiting@hq.doe.gov](mailto:consentbasedsiting@hq.doe.gov) or to Michael Reim at 202-586-2981. Updated information on this and other planned public meetings on consent based siting will be posted at [energy.gov/consentbasedsiting](http://energy.gov/consentbasedsiting).

If you are unable to attend a public meeting or would like to further discuss ideas for consent-based siting, please request an opportunity for us to speak with you. The Department will do its best to accommodate such requests and help arrange additional opportunities to engage. To learn more about nuclear energy, nuclear waste, and ongoing technical work please go to [energy.gov/consentbasedsiting](http://energy.gov/consentbasedsiting).

**Privacy Act:** Data collected via the mechanisms listed above will not be protected from the public view in any way.

Issued in Washington, DC, on March 24, 2016.

**Andrew Griffith,**

*Associate Deputy Assistant Secretary, Office of Nuclear Energy, Department of Energy.*

[FR Doc. 2016-07153 Filed 3-29-16; 8:45 am]

**BILLING CODE 6450-01-P**

## DEPARTMENT OF ENERGY

### Notice of Public Meeting To Inform the Design of a Consent-Based Siting Process for Nuclear Waste Storage and Disposal Facilities

**AGENCY:** Fuel Cycle Technologies, Office of Nuclear Energy, Department of Energy.

**ACTION:** Notice of public meeting.

**SUMMARY:** The U.S. Department of Energy (DOE) is implementing a consent-based siting process to establish an integrated waste management system to transport, store, and dispose of spent nuclear fuel and high-level radioactive waste. In a consent-based siting approach, DOE will work with communities, tribal governments and states across the country that express interest in hosting any of the facilities identified as part of an integrated waste management system. As part of this process, the Department is hosting a series of public meetings to engage communities and individuals and discuss the development of a consent-based approach to managing our nation's nuclear waste. A public meeting will be held in Boston, MA on June 2, 2016.

**DATES:** The meeting will take place on Thursday, June 2, 2016 from 5:00 p.m. to 9:30 p.m. EDT. Informal poster sessions will be held from 4:00 p.m. until 5:00 p.m. EDT and again after 9:30 p.m. EDT. Department officials will be available to discuss consent-based siting during the poster sessions.

**ADDRESSES:** The meeting will be held at Hyatt Regency Boston, One Avenue De Lafayette, Boston, MA 02111. To register for this meeting and to review the agenda for the meeting, please go to [energy.gov/consentbasedsiting](http://energy.gov/consentbasedsiting).

**FOR FURTHER INFORMATION CONTACT:**

Requests for further information should be sent to [consentbasedsiting@hq.doe.gov](mailto:consentbasedsiting@hq.doe.gov) or to Michael Reim at 202-586-2981. Updated information on this and other planned public meetings on consent based siting will be posted at [energy.gov/consentbasedsiting](http://energy.gov/consentbasedsiting).

If you are unable to attend a public meeting or would like to further discuss ideas for consent-based siting, please request an opportunity for us to speak with you. The Department will do its best to accommodate such requests and help arrange additional opportunities to engage. To learn more about nuclear energy, nuclear waste, and ongoing technical work please go to [energy.gov/consentbasedsiting](http://energy.gov/consentbasedsiting).

**Privacy Act:** Data collected via the mechanisms listed above will not be protected from the public view in any way.

Issued in Washington, DC, on March 24, 2016.

**Andrew Griffith,**

*Associate Deputy Assistant Secretary, Office of Nuclear Energy, Department of Energy.*

[FR Doc. 2016-07154 Filed 3-29-16; 8:45 am]

**BILLING CODE 6450-01-P**

## DEPARTMENT OF ENERGY

### Quadrennial Energy Review: Notice of Public Meeting

**AGENCY:** Office of Energy Policy and Systems Analysis, Secretariat, Quadrennial Energy Review Task Force, Department of Energy.

**ACTION:** Notice of public meetings and updated meeting locations.

**SUMMARY:** At the direction of the President, the U.S. Department of Energy (DOE or Department), as the Secretariat for the Quadrennial Energy Review Task Force (QER Task Force), will convene public meetings for the second installment of the Quadrennial Energy Review, an integrated study of the U.S. electricity system from generation through end use. A mixture of panel discussions and a public

comment period will frame multi-stakeholder discourse around deliberative analytical questions relating to the intersection of electricity and its role in promoting economic competitiveness, energy security, and environmental responsibility. This document announces that the Atlanta meeting which was originally scheduled for March 31 will now be held on May 24.

**DATES:** The public meetings will be held on April 15, 2016 in Boston, Massachusetts at 9:30 a.m.; April 25, 2016 in Salt Lake City, Utah at 8:30 a.m.; May 6, 2016 in Des Moines, Iowa; May 9, 2016 in Austin, Texas; May 10, 2016 in Los Angeles, California; and May 24, 2016 in Atlanta, Georgia. Written comments are welcome, especially following the public meetings, and should be submitted within 60 days of the meetings, but no later than July 1, 2016.

**ADDRESSES:** The April 15, 2016, QER meeting in Boston will take place at the Marriott Long Wharf, Salons DEFL, 296 State Street, Boston, Massachusetts. The April 25 QER meeting in Salt Lake City will take place at Western Electricity Coordinating Council, 155 North 400 West, Suite 200, Salt Lake City, Utah. Additional QER meeting locations and addresses will be announced when they are available, in **Federal Register** notices and at [energy.gov/qer](http://energy.gov/qer).

Between February 4, 2016 and July 1, 2016, you may submit written comments online at <http://energy.gov/qer> or by U.S. mail to the Office of Energy Policy and Systems Analysis, EPSA-60, QER Meeting Comments, U.S. Department of Energy, 1000 Independence Avenue SW., Washington, DC 20585-0121.

**FOR FURTHER INFORMATION CONTACT:** John Richards, EPSA-60, U.S. Department of Energy, Office of Energy Policy and Systems Analysis, 1000 Independence Avenue SW., Washington, DC 20585-0121. Telephone: 202-586-0507 Email: [John.Richards@Hq.Doe.Gov](mailto:John.Richards@Hq.Doe.Gov)

**SUPPLEMENTARY INFORMATION:** On January 9, 2014, President Obama issued a *Presidential Memorandum—Establishing a Quadrennial Energy Review*. To accomplish this review, the Presidential Memorandum establishes a Quadrennial Energy Review Task Force to be co-chaired by the Director of the Office of Science and Technology Policy, and the Director of the Domestic Policy Council. Under the Presidential Memorandum, the Secretary of Energy shall provide support to the Task Force, including support for coordination activities related to the preparation of the Quadrennial Energy Review (QER)



Report, policy analysis and modeling, and stakeholder engagement.

The Quadrennial Energy Review process itself involves robust engagement of federal agencies and outside stakeholders, and further enables the federal government to translate policy goals into a set of analytically based, integrated actions for proposed investments over a four year planning horizon. Unlike traditional federal Quadrennial Review processes, the QER is conducted in a multi-year installment series to allow for more focused analysis on particular sub-sectors of the energy system. The initial focus for the Quadrennial Energy Review was our Nation's transmission, storage and distribution infrastructures that link energy supplies to intermediate and end users, because these capital-intensive infrastructures tend to set supply and end use patterns, investments and practices in place for decades. On April 21, 2015, the Quadrennial Energy Review Task Force released its first Quadrennial Energy Review installment report entitled, "Energy Transmission, Storage, and Distribution Infrastructure". Among the issues highlighted by the analysis in the first installment of the QER were the growing dependencies of all critical infrastructures and economic sectors on electricity, as well as, the increasing interdependence of the various energy subsectors. In response to these findings, and to provide an appropriate consideration of an energy sector undergoing significant technological and regulatory change, the second installment of the QER will conduct a comprehensive review of the nation's electricity system, from generation to end use, including a more comprehensive look at electricity transmission, storage, and distribution infrastructure covered in installment one. The electricity system encompasses not just physical structures, but also a range of actors and institutions. Under this broad framing, the second installment intends to consider the roles and activities of all relevant actors, industries, and institutions integral to continuing to supply reliable and affordable electricity at a time of dramatic change in technology development. Issues to be considered in QER analyses include fuel choices, distributed and centralized generation, physical and cyber vulnerabilities, federal, state, and local policy direction, expectations of residential and commercial consumers, and a review of existing and evolving business models for a range of entities throughout the system.

Significant changes will be required to meet the transformational opportunities and challenges posed by our evolving electricity system. The Administration is seeking public input on key questions relating to possible federal actions that would address the challenges and take full advantage of the opportunities of this changing system to meet the Nation's objectives of reliable, affordable and clean electricity. Over the course of 2016, the Secretariat for the Quadrennial Energy Review Task Force will hold a series of public meetings to discuss and receive comments on the issues outlined above, and well as, others, as they relate to the second installment of the Quadrennial Energy Review.

The Department of Energy has a broad role in energy policy development and the largest role in implementing the Federal Government's energy research and development portfolio. Many other executive departments and agencies also play key roles in developing and implementing policies governing energy resources and consumption, as well as, associated environmental impacts. In addition, non-Federal actors are crucial contributors to energy policies. Because most energy and related infrastructure is owned by private entities, investment by and engagement of, input from the private sector is necessary to develop and implement effective policies. State and local policies, the views of non-governmental, environmental, faith-based, labor, and other social organizations, and contributions from the academic and non-profit sectors are also critical to the development and implementation of effective Federal energy policies.

The interagency Quadrennial Energy Review Task Force, which includes members from all relevant executive departments and agencies, will develop an integrated review of energy policy that integrates all of these perspectives. It will build on the foundation provided in the Administration's *Blueprint for a Secure Energy Future* of March 30, 2011, and *Climate Action Plan* released on June 25, 2013. The Task Force will offer recommendations on what additional actions it believes would be appropriate. These may include recommendations on additional executive or legislative actions to address the energy challenges and opportunities facing the Nation.

#### **Quadrennial Energy Review Public Meetings**

This document announces that the Atlanta meeting which was originally scheduled (81 FR 12885, March 11, 2016) for March 31 will now be held on May 24. The DOE will hold public

meetings on electricity from generation through end use, in the following cities:

Boston, Massachusetts, April 15, 2016  
Salt Lake City, Utah, April 25, 2016  
Des Moines, Iowa, May 6, 2016  
Austin, Texas, May 9, 2016  
Los Angeles, California, May 10, 2016  
Atlanta, Georgia, May 24 2016

Each meeting will feature facilitated panel discussions, followed by an open microphone session. People who would like to speak during the open microphone session at the public meeting should come prepared to speak for no more than five minutes and will be accommodated on a first-come, first-served basis, according to the order in which they register to speak on a sign-in sheet available at the meeting location, on the morning of the meeting. In advance of the meetings, DOE anticipates making publicly available a briefing memorandum providing useful background information regarding the topics under discussion at the meeting. DOE will post this memorandum on its Web site: <http://energy.gov/qer>.

**Submitting comments online.** DOE will accept public comments on the QER from February 4, 2016, to July 1, 2016, at [energy.gov/qer](http://energy.gov/qer). Submitting comments online to the DOE Web site will require you to provide your name and contact information. Your contact information will be viewable to DOE staff only. Your contact information will not be publicly viewable except for your first and last names, organization name (if any), and submitter representative name (if any). Your contact information will be publicly viewable if you include it in the comment itself or in any documents attached to your comment. Any information that you do not want to be publicly viewable should not be included in your comment, nor in any document attached to your comment. Otherwise, persons viewing comments will see only first and last names, organization names, correspondence containing comments, and any documents submitted with the comments.

Do not submit information for which disclosure is restricted by statute, such as trade secrets and commercial or financial information (hereinafter referred to as Confidential Business Information (CBI)). Comments submitted through the DOE Web site cannot be claimed as CBI. Comments received through the Web site will waive any CBI claims for the information submitted. For information on submitting CBI, see the Confidential Business Information section, below.

If you do not want your personal contact information to be publicly



viewable, do not include it in your comment or any accompanying documents. Instead, provide your contact information in a cover letter. Include your first and last names, email address, telephone number, and optional mailing address. The cover letter will not be publicly viewable as long as it does not include any comments.

Include contact information each time you submit comments, data, documents, and other information to DOE. If you submit via mail or hand delivery/courier, please provide all items on a CD, if feasible, in which case it is not necessary to submit printed copies. No telefacsimiles (faxes) will be accepted.

Comments, data, and other information submitted to DOE electronically should be provided in PDF (preferred), Microsoft Word or Excel, WordPerfect, or text (ASCII) file format. Provide documents that are not secured, written in English, and are free of any defects or viruses. Documents should not contain special characters or any form of encryption and, if possible, they should carry the electronic signature of the author.

**Confidential Business Information.** Pursuant to 10 CFR 1004.11, any person submitting information that he or she believes to be confidential and exempt by law from public disclosure should submit via email, postal mail, or hand delivery/courier two well-marked copies: One copy of the document marked "confidential" including all the information believed to be confidential, and one copy of the document marked "non-confidential" with the information believed to be confidential deleted. Submit these documents via email or on a CD, if feasible. DOE will make its own determination about the confidential status of the information and treat it according to its determination. Confidential information should be submitted to the Confidential QER email address: [QERConfidential@hq.doe.gov](mailto:QERConfidential@hq.doe.gov).

Factors of interest to DOE when evaluating requests to treat submitted information as confidential include: (1) A description of the items; (2) whether and why such items are customarily treated as confidential within the industry; (3) whether the information is generally known by or available from other sources; (4) whether the information has previously been made available to others without obligation concerning its confidentiality; (5) an explanation of the competitive injury to the submitting person which would result from public disclosure; (6) when such information might lose its confidential character due to the passage of time; and (7) why disclosure

of the information would be contrary to the public interest. It is DOE's policy that all comments may be included in the public docket, without change and as received, including any personal information provided in the comments (except information deemed to be exempt from public disclosure).

Issued in Washington, DC, on March 25, 2016.

**April Salas,**

*QER Secretariat Director, Quadrennial Energy Review Task Force, U.S. Department of Energy.*

[FR Doc. 2016-07170 Filed 3-29-16; 8:45 am]

**BILLING CODE 6450-01-P**

## DEPARTMENT OF ENERGY

[OE Docket No. EA-378-A]

### Application To Export Electric Energy; Cargill Power Markets, LLC

**AGENCY:** Office of Electricity Delivery and Energy Reliability, DOE.

**ACTION:** Notice of application.

**SUMMARY:** Cargill Power Markets, LLC (Applicant or CPM) has applied to renew its authority to transmit electric energy from the United States to Mexico pursuant to section 202(e) of the Federal Power Act.

**DATES:** Comments, protests, or motions to intervene must be submitted on or before April 29, 2016.

**ADDRESSES:** Comments, protests, motions to intervene, or requests for more information should be addressed to: Office of Electricity Delivery and Energy Reliability, Mail Code: OE-20, U.S. Department of Energy, 1000 Independence Avenue SW., Washington, DC 20585-0350. Because of delays in handling conventional mail, it is recommended that documents be transmitted by overnight mail, by electronic mail to [Electricity.Exports@hq.doe.gov](mailto:Electricity.Exports@hq.doe.gov), or by facsimile to 202-586-8008.

**SUPPLEMENTARY INFORMATION:** Exports of electricity from the United States to a foreign country are regulated by the Department of Energy (DOE) pursuant to sections 301(b) and 402(f) of the Department of Energy Organization Act (42 U.S.C. 7151(b), 7172(f)) and require authorization under section 202(e) of the Federal Power Act (16 U.S.C. 824a(e)).

On June 1, 2011, DOE issued Order No. EA-378 to CPM, which authorized the Applicant to transmit electric energy from the United States to Mexico as a power marketer for a five-year term using existing international transmission facilities. That authority

expires on June 1, 2016. On March 16, 2016, the Applicant filed an application with DOE for renewal of the export authority contained in Order No. EA-378 for an additional five-year term.

In its application, CPM states that it does not own or operate any electric generation or transmission facilities, and it does not have a franchised service area. The electric energy that CPM proposes to export to Mexico would be surplus energy purchased from third parties such as electric utilities and Federal power marketing agencies pursuant to voluntary agreements. The existing international transmission facilities to be utilized by CPM have previously been authorized by Presidential permits issued pursuant to Executive Order 10485, as amended, and are appropriate for open access transmission by third parties.

**Procedural Matters:** Any person desiring to be heard in this proceeding should file a comment or protest to the application at the address provided above. Protests should be filed in accordance with Rule 211 of the Federal Energy Regulatory Commission's (FERC) Rules of Practice and Procedures (18 CFR 385.211). Any person desiring to become a party to these proceedings should file a motion to intervene at the above address in accordance with FERC Rule 214 (18 CFR 385.214). Five copies of such comments, protests, or motions to intervene should be sent to the address provided above on or before the date listed above.

Comments and other filings concerning CPM's application to export electric energy to Mexico should be clearly marked with OE Docket No. EA-378-A. An additional copy is to be provided directly to Stephen Dvorske, Cargill Power Markets, LLC, 9350 Excelsior Blvd. MS 150, Hopkins, MN 55343.

A final decision will be made on this application after the environmental impacts have been evaluated pursuant to DOE's National Environmental Policy Act Implementing Procedures (10 CFR part 1021) and after a determination is made by DOE that the proposed action will not have an adverse impact on the sufficiency of supply or reliability of the U.S. electric power supply system.

Copies of this application will be made available, upon request, for public inspection and copying at the address provided above, by accessing the program Web site at <http://energy.gov/node/11845>, or by emailing Angela Troy at [Angela.Troy@hq.doe.gov](mailto:Angela.Troy@hq.doe.gov).

Issued in Washington, DC, on March 24, 2016.

**Christopher Lawrence,**

*Electricity Policy Analyst, Office of Electricity Delivery and Energy Reliability.*

[FR Doc. 2016-07156 Filed 3-29-16; 8:45 am]

**BILLING CODE 6450-01-P**

## DEPARTMENT OF ENERGY

[OE Docket No. EA-209-D]

### Application To Export Electric Energy; Cargill Power Markets, LLC

**AGENCY:** Office of Electricity Delivery and Energy Reliability, DOE.

**ACTION:** Notice of application.

**SUMMARY:** Cargill Power Markets, LLC (Applicant or CPM) has applied to renew its authority to transmit electric energy from the United States to Canada pursuant to section 202(e) of the Federal Power Act.

**DATES:** Comments, protests, or motions to intervene must be submitted on or before April 29, 2016.

**ADDRESSES:** Comments, protests, motions to intervene, or requests for more information should be addressed to: Office of Electricity Delivery and Energy Reliability, Mail Code: OE-20, U.S. Department of Energy, 1000 Independence Avenue SW., Washington, DC 20585-0350. Because of delays in handling conventional mail, it is recommended that documents be transmitted by overnight mail, by electronic mail to [Electricity.Exports@hq.doe.gov](mailto:Electricity.Exports@hq.doe.gov), or by facsimile to 202-586-8008.

**SUPPLEMENTARY INFORMATION:** Exports of electricity from the United States to a foreign country are regulated by the Department of Energy (DOE) pursuant to sections 301(b) and 402(f) of the Department of Energy Organization Act (42 U.S.C. 7151(b), 7172(f)) and require authorization under section 202(e) of the Federal Power Act (16 U.S.C. 824a(e)).

On June 1, 2011, DOE issued Order No. EA-209-C to CPM, which authorized the Applicant to transmit electric energy from the United States to Canada as a power marketer for a five-year term using existing international transmission facilities. That authority expires on June 1, 2016. On March 16, 2016, CPM filed an application with DOE for renewal of the export authority contained in Order No. EA-216 for an additional five-year term.

In its application, CPM states that it does not own or operate any electric generation or transmission facilities, and it does not have a franchised service

area. The electric energy that CPM proposes to export to Canada would be surplus energy purchased from third parties such as electric utilities and Federal power marketing agencies pursuant to voluntary agreements. The existing international transmission facilities to be utilized by CPM have previously been authorized by Presidential permits issued pursuant to Executive Order 10485, as amended, and are appropriate for open access transmission by third parties.

**Procedural Matters:** Any person desiring to be heard in this proceeding should file a comment or protest to the application at the address provided above. Protests should be filed in accordance with Rule 211 of the Federal Energy Regulatory Commission's (FERC) Rules of Practice and Procedures (18 CFR 385.211). Any person desiring to become a party to these proceedings should file a motion to intervene at the above address in accordance with FERC Rule 214 (18 CFR 385.214). Five copies of such comments, protests, or motions to intervene should be sent to the address provided above on or before the date listed above.

Comments and other filings concerning CPM's application to export electric energy to Canada should be clearly marked with OE Docket No. EA-209-D. An additional copy is to be provided directly to Stephen Dvorske, Cargill Power Markets, LLC, 9350 Excelsior Blvd., MS 150, Hopkins, MN 55343.

A final decision will be made on this application after the environmental impacts have been evaluated pursuant to DOE's National Environmental Policy Act Implementing Procedures (10 CFR part 1021) and after a determination is made by DOE that the proposed action will not have an adverse impact on the sufficiency of supply or reliability of the U.S. electric power supply system.

Copies of this application will be made available, upon request, for public inspection and copying at the address provided above, by accessing the program Web site at <http://energy.gov/node/11845>, or by emailing Angela Troy at [Angela.Troy@hq.doe.gov](mailto:Angela.Troy@hq.doe.gov).

Issued in Washington, DC, on March 24, 2016.

**Christopher Lawrence,**

*Electricity Policy Analyst, Office of Electricity Delivery and Energy Reliability.*

[FR Doc. 2016-07157 Filed 3-29-16; 8:45 am]

**BILLING CODE 6450-01-P**

## DEPARTMENT OF ENERGY

[OE Docket No. EA-289-C]

### Application To Export Electric Energy; Intercom Energy, Inc.

**AGENCY:** Office of Electricity Delivery and Energy Reliability, DOE.

**ACTION:** Notice of application.

**SUMMARY:** Intercom Energy, Inc. (Applicant or Intercom) has applied to renew its authority to transmit electric energy from the United States to Mexico pursuant to section 202(e) of the Federal Power Act.

**DATES:** Comments, protests, or motions to intervene must be submitted on or before April 29, 2016.

**ADDRESSES:** Comments, protests, motions to intervene, or requests for more information should be addressed to: Office of Electricity Delivery and Energy Reliability, Mail Code: OE-20, U.S. Department of Energy, 1000 Independence Avenue SW., Washington, DC 20585-0350. Because of delays in handling conventional mail, it is recommended that documents be transmitted by overnight mail, by electronic mail to [Electricity.Exports@hq.doe.gov](mailto:Electricity.Exports@hq.doe.gov), or by facsimile to 202-586-8008.

**SUPPLEMENTARY INFORMATION:** Exports of electricity from the United States to a foreign country are regulated by the Department of Energy (DOE) pursuant to sections 301(b) and 402(f) of the Department of Energy Organization Act (42 U.S.C. 7151(b), 7172(f)) and require authorization under section 202(e) of the Federal Power Act (16 U.S.C. 824a(e)).

On May 17, 2011, DOE issued Order No. EA-289-B to Intercom, which authorized the Applicant to transmit electric energy from the United States to Mexico as a power marketer for a five-year term using existing international transmission facilities. That authority expires on May 17, 2016. On March 22, 2016, Intercom filed an application with DOE for renewal of the export authority contained in Order No. EA-289 for an additional five-year term.

In its application, Intercom states that it does not own or operate any electric generation or transmission facilities, and it does not have a franchised service area. The electric energy that Intercom proposes to export to Mexico would be surplus energy purchased from third parties such as electric utilities and Federal power marketing agencies pursuant to voluntary agreements. The existing international transmission facilities to be utilized by the Applicant have previously been authorized by

Presidential permits issued pursuant to Executive Order 10485, as amended, and are appropriate for open access transmission by third parties.

**Procedural Matters:** Any person desiring to be heard in this proceeding should file a comment or protest to the application at the address provided above. Protests should be filed in accordance with Rule 211 of the Federal Energy Regulatory Commission's (FERC) Rules of Practice and Procedures (18 CFR 385.211). Any person desiring to become a party to these proceedings should file a motion to intervene at the above address in accordance with FERC Rule 214 (18 CFR 385.214). Five copies of such comments, protests, or motions to intervene should be sent to the address provided above on or before the date listed above.

Comments and other filings concerning Intercom's application to export electric energy to Mexico should be clearly marked with OE Docket No. EA-289-C. An additional copy is to be provided directly to Ernesto Pallares, Intercom Energy, Inc., 1224 Tenth Avenue, Suite 202, Coronado, CA 92118 and to William DeGrandis, Paul Hastings, LLP, 875 15th Street NW., Washington, DC 20005.

A final decision will be made on this application after the environmental impacts have been evaluated pursuant to DOE's National Environmental Policy Act Implementing Procedures (10 CFR part 1021) and after a determination is made by DOE that the proposed action will not have an adverse impact on the sufficiency of supply or reliability of the U.S. electric power supply system.

Copies of this application will be made available, upon request, for public inspection and copying at the address provided above, by accessing the program Web site at <http://energy.gov/node/11845>, or by emailing Angela Troy at [Angela.Troy@hq.doe.gov](mailto:Angela.Troy@hq.doe.gov).

Issued in Washington, DC, on March 24, 2016.

**Christopher Lawrence,**  
*Electricity Policy Analyst, Office of Electricity Delivery and Energy Reliability.*

[FR Doc. 2016-07159 Filed 3-29-16; 8:45 am]

**BILLING CODE 6450-01-P**

## DEPARTMENT OF ENERGY

### Notice of Public Meeting To Inform the Design of a Consent-Based Siting Process for Nuclear Waste Storage and Disposal Facilities

**AGENCY:** Fuel Cycle Technologies, Office of Nuclear Energy, Department of Energy.

**ACTION:** Notice of public meeting.

**SUMMARY:** The U.S. Department of Energy (DOE) is implementing a consent-based siting process to establish an integrated waste management system to transport, store, and dispose of spent nuclear fuel and high-level radioactive waste. In a consent-based siting approach, DOE will work with communities, tribal governments and states across the country that express interest in hosting any of the facilities identified as part of an integrated waste management system. As part of this process, the Department is hosting a series of public meetings to engage communities and individuals and discuss the development of a consent-based approach to managing our nation's nuclear waste. A public meeting will be held in Sacramento, CA on April 26, 2016.

**DATES:** The meeting will take place on Tuesday April 26, 2016 from 5:00 p.m. to 9:30 p.m. PDT. Informal poster sessions will be held from 4:00 p.m. until 5:00 p.m. PDT and again after 9:30 p.m. PDT. Department officials will be available to discuss consent-based siting during the poster sessions.

**ADDRESSES:** The meeting will be held at Holiday Inn Capitol Plaza—Sacramento, 300 J Street, Sacramento, CA 95814. To register for this meeting and to review the agenda for the meeting, please go to [energy.gov/consentbasedsiting](http://energy.gov/consentbasedsiting).

**FOR FURTHER INFORMATION CONTACT:** Requests for further information should be sent to [consentbasedsiting@hq.doe.gov](mailto:consentbasedsiting@hq.doe.gov) or to Michael Reim at 202-586-2981. Updated information on this and other planned public meetings on consent based siting will be posted at [energy.gov/consentbasedsiting](http://energy.gov/consentbasedsiting).

If you are unable to attend a public meeting or would like to further discuss ideas for consent-based siting, please request an opportunity for us to speak with you. The Department will do its best to accommodate such requests and help arrange additional opportunities to engage. To learn more about nuclear energy, nuclear waste, and ongoing technical work please go to [energy.gov/consentbasedsiting](http://energy.gov/consentbasedsiting).

**Privacy Act:** Data collected via the mechanisms listed above will not be protected from the public view in any way.

Issued in Washington, DC, on March 24, 2016.

**Andrew Griffith,**  
*Associate Deputy Assistant Secretary, Office of Nuclear Energy, Department of Energy.*

[FR Doc. 2016-07152 Filed 3-29-16; 8:45 am]

**BILLING CODE 6450-01-P**

## ENVIRONMENTAL PROTECTION AGENCY

[EPA-HQ-OPPT-2016-0125; FRL-9943-74]

### Agency Information Collection Activities; Proposed New Collection (EPA ICR No. 2532.01); Comment Request

**AGENCY:** Environmental Protection Agency (EPA).

**ACTION:** Notice.

**SUMMARY:** In compliance with the Paperwork Reduction Act (PRA), this document announces that EPA is planning to submit an Information Collection Request (ICR) to the Office of Management and Budget (OMB). The ICR, entitled: "Use of Mercury and Mercury Compounds in Products and Processes" and identified by EPA ICR No. 2532.01 and OMB Control No. 2070-NEW, represents a new request. Before submitting the ICR to OMB for review and approval, EPA is soliciting comments on specific aspects of the proposed information collection that is summarized in this document. The ICR and accompanying material are available in the docket for public review and comment.

**DATES:** Comments must be received on or before May 31, 2016.

**ADDRESSES:** Submit your comments, identified by docket identification (ID) number EPA-HQ-OPPT-2016-0125, by one of the following methods:

- **Federal eRulemaking Portal:** <http://www.regulations.gov>. Follow the online instructions for submitting comments. Do not submit electronically any information you consider to be Confidential Business Information (CBI) or other information whose disclosure is restricted by statute.

- **Mail:** Document Control Office (7407M), Office of Pollution Prevention and Toxics (OPPT), Environmental Protection Agency, 1200 Pennsylvania Ave. NW., Washington, DC 20460-0001.

- **Hand Delivery:** To make special arrangements for hand delivery or delivery of boxed information, please follow the instructions at <http://www.epa.gov/dockets/contacts.html>.

Additional instructions on commenting or visiting the docket, along with more information about dockets generally, is available at <http://www.epa.gov/dockets>.

**FOR FURTHER INFORMATION CONTACT:** For technical information contact: Sue Slotnick, National Program Chemicals Division (7404T), Office of Pollution Prevention and Toxics, Environmental Protection Agency, 1200 Pennsylvania Ave. NW., Washington, DC 20460-0001;

telephone number: (202) 566–1973;  
email address: [slotnick.sue@epa.gov](mailto:slotnick.sue@epa.gov).

*For general information contact:* The TSCA-Hotline, ABVI-Goodwill, 422 South Clinton Ave., Rochester, NY 14620; telephone number: (202) 554–1404; email address: [TSCA-Hotline@epa.gov](mailto:TSCA-Hotline@epa.gov).

#### SUPPLEMENTARY INFORMATION:

#### I. What information is EPA particularly interested in?

Pursuant to PRA section 3506(c)(2)(A) (44 U.S.C. 3506(c)(2)(A)), EPA specifically solicits comments and information to enable it to:

1. Evaluate whether the proposed collection of information is necessary for the proper performance of the functions of the Agency, including whether the information will have practical utility.
2. Evaluate the accuracy of the Agency's estimates of the burden of the proposed collection of information, including the validity of the methodology and assumptions used.
3. Enhance the quality, utility, and clarity of the information to be collected. In particular, EPA seeks comment on these aspects of the questionnaire:

- Are there additional products or product categories that should be included in the questionnaire?
- Are there additional products or product categories that should be eliminated from the questionnaire?
- Should the questionnaire ask respondents to identify which products are intended solely as replacement parts?

4. Minimize the burden of the collection of information on those who are to respond, including through the use of appropriate automated electronic, mechanical, or other technological collection techniques or other forms of information technology, *e.g.*, permitting electronic submission of responses. In particular, EPA is requesting comments from very small businesses (those that employ less than 25) on examples of specific additional efforts that EPA could make to reduce the paperwork burden for very small businesses affected by this collection.

#### II. What information collection activity or ICR does this action apply to?

*Title:* Use of Mercury and Mercury Compounds in Products and Processes.

*ICR number:* EPA ICR No. 2532.01.

*OMB control number:* OMB Control No. 2070–NEW.

*ICR status:* This ICR is for a new information collection activity. An Agency may not conduct or sponsor,

and a person is not required to respond to, a collection of information, unless it displays a currently valid OMB control number. The OMB control numbers for EPA's regulations in title 40 of the Code of Federal Regulations (CFR), after appearing in the **Federal Register** when approved, are listed in 40 CFR part 9, and are displayed either by publication in the **Federal Register** or by other appropriate means, such as on the related collection instrument or form, if applicable. The display of OMB control numbers for certain EPA regulations is consolidated in 40 CFR part 9.

*Abstract:* The U.S. EPA is making efforts to reduce the non-essential use of mercury and mercury compounds in products and certain manufacturing processes to prevent future releases of mercury to the environment. After negotiating and joining a global agreement called the Minamata Convention on Mercury, EPA continues to pursue measures to reduce the use of mercury in various media. EPA has determined that significant data gaps exist that prevent the Agency from taking systematic, strategic, and effective actions to reduce the use of mercury and mercury compounds in order to prevent potential releases to the environment.

To close such data gaps, EPA will collect information from persons who process, import, and/or export mercury or mercury-added products. In addition, EPA will request information from persons who process mercury or mercury compounds for use in certain industrial processes. EPA is particularly interested in the amount of mercury or mercury compounds used in mercury-added products as a whole and among various categories of products, including mercury or mercury compounds that are added during domestic manufacture, as well as contained in imported and exported products.

Initially this will be a one-time information collection, but EPA may request subsequent renewals of OMB approval of the information collection as necessary. Information will be collected from companies that manufacture, import, or export a product or products containing mercury or mercury compounds, or companies that use mercury or mercury compounds in a manufacturing process or processes. EPA will request that companies voluntarily submit responses to a questionnaire during a period of 60 days after OMB approves the proposed collection. Thereafter, EPA will issue formal measures under section 11 of the Toxic Substances Control Act (TSCA) to obtain the information if appropriate.

EPA anticipates that the information collection activity will involve 250 private entities, although the number of entities may be as high as 646. The years of interest are 2010, 2013, and 2016.

EPA will use the collected information to determine whether and if so what type of actions, including voluntary and/or mandatory measures, are needed to reduce non-essential use of mercury or mercury compounds. The Agency will also use such information to prioritize where and how EPA applies measures in order to help prevent potential risks of mercury exposure to human health and the environment. In addition, this information will be used to facilitate compliance with obligations of the United States under the Minamata Convention to continue to reduce the use of mercury in products and processes and to report on actions taken to do so.

Responses to the collection of information are voluntary. However, should EPA initiate TSCA section 11 actions to compel submission of information, those responses would be mandatory. Respondents may claim all or part of a notice confidential. EPA will disclose information that is covered by a claim of confidentiality only to the extent permitted by, and in accordance with, the procedures in TSCA section 14 and 40 CFR part 2.

*Burden statement:* The annual public reporting and recordkeeping burden for this collection of information is estimated to average 9.9 hours per response. Burden is defined in 5 CFR 1320.3(b).

The ICR, which is available in the docket along with other related materials, provides a detailed explanation of the collection activities and the burden estimate that is only briefly summarized here:

*Respondents/Affected Entities:* Entities potentially affected by this ICR are persons who process mercury or mercury compounds for use in the production of mercury-added products, import mercury for use in the production of mercury-added products, import mercury-added products, export mercury-added products, and/or process mercury or mercury compounds for use in certain industrial processes.

*Estimated total number of potential respondents:* 646.

*Frequency of response:* One time.

*Estimated total average number of responses for each respondent:* 1.0.

*Estimated total annual burden hours:* 6,399 hours.

*Estimated total annual costs:* \$444,430. This includes an estimated burden cost of \$444,430 and an

estimated cost of \$0 for capital investment or maintenance and operational costs.

### III. What is the next step in the process for this ICR?

EPA will consider the comments received and amend the ICR as appropriate. The final ICR package will then be submitted to OMB for review and approval pursuant to 5 CFR 1320.12. EPA will issue another **Federal Register** document pursuant to 5 CFR 1320.5(a)(1)(iv) to announce the submission of the ICR to OMB and the opportunity to submit additional comments to OMB. If you have any questions about this ICR or the approval process, please contact the technical person listed under **FOR FURTHER INFORMATION CONTACT**.

**Authority:** 44 U.S.C. 3501 *et seq.*

Dated: March 23, 2016.

**James Jones,**

*Assistant Administrator, Office of Chemical Safety and Pollution Prevention.*

[FR Doc. 2016-07174 Filed 3-29-16; 8:45 am]

**BILLING CODE 6560-50-P**

## ENVIRONMENTAL PROTECTION AGENCY

[EPA-HQ-OAR-2003-0162; FRL-9943-22-OEI]

### Information Collection Request Submitted to OMB for Review and Approval; Comment Request; Regional Haze Regulations (Renewal)

**AGENCY:** Environmental Protection Agency (EPA).

**ACTION:** Notice.

**SUMMARY:** The Environmental Protection Agency has submitted an information collection request (ICR), "Regional Haze Regulations (Renewal)" (EPA ICR No. 1813.09, OMB Control No. 2060-0421) to the Office of Management and Budget (OMB) for review and approval in accordance with the Paperwork Reduction Act (44 U.S.C. 3501 *et seq.*). This is a proposed extension of the ICR, which is currently approved through March 31, 2016. Public comments were previously requested via the **Federal Register** (80 FR 58473) on September 29, 2015 during a 60-day comment period. This notice allows for an additional 30 days for public comments. A fuller description of the ICR is given below, including its estimated burden and cost to the public. An Agency may not conduct or sponsor and a person is not required to respond to a collection of information unless it displays a currently valid OMB control number.

**DATES:** Additional comments may be submitted on or before April 29, 2016.

**ADDRESSES:** Submit your comments, referencing Docket ID Number EPA-HQ-OAR-2003-0162, to (1) EPA online using [www.regulations.gov](http://www.regulations.gov) (our preferred method), or by mail to: EPA Docket Center, Environmental Protection Agency, Mail Code 28221T, 1200 Pennsylvania Ave. NW., Washington, DC 20460, and (2) OMB via email to [oira\\_submission@omb.eop.gov](mailto:oira_submission@omb.eop.gov). Address comments to OMB Desk Officer for EPA.

EPA's policy is that all comments received will be included in the public docket without change including any personal information provided, unless the comment includes profanity, threats, information claimed to be Confidential Business Information (CBI) or other information whose disclosure is restricted by statute.

### FOR FURTHER INFORMATION CONTACT:

Chris Werner, Air Quality Policy Division, Office of Air Quality Planning and Standards, C539-04, Environmental Protection Agency, Research Triangle Park, NC 27711; telephone number: (919) 541-5133; fax number: (919) 541-5315; email address: [werner.christopher@epa.gov](mailto:werner.christopher@epa.gov).

### SUPPLEMENTARY INFORMATION:

Supporting documents which explain in detail the information that the EPA will be collecting are available in the public docket for this ICR. The docket can be viewed online at [www.regulations.gov](http://www.regulations.gov) or in person at the EPA Docket Center, WJC West, Room 3334, 1301 Constitution Ave. NW., Washington, DC. The telephone number for the Docket Center is 202-566-1744. For additional information about EPA's public docket, visit <http://www.epa.gov/dockets>.

**Abstract:** This ICR is for activities related to the implementation of the EPA's regional haze rule, for the time period between March 31, 2016, and March 31, 2019, and renews the previous ICR. The regional haze rule codified at 40 CFR parts 308 and 309, as authorized by sections 169A and 169B of the Clean Air Act, requires states to develop implementation plans to protect visibility in 156 federally-protected Class I areas. Tribes may choose to develop implementation plans. For this time period, states will primarily be developing and submitting periodic comprehensive implementation plan revisions (or initial implementation plans) and progress reports to comply with the regulations.

**Form Numbers:** None.

**Respondents/affected entities:** Entities potentially affected by this action are state, local and tribal air quality agencies, regional planning organizations and facilities potentially regulated under the regional haze rule.

**Respondent's obligation to respond:** Mandatory [see 40 CFR 51.308(b), (f) and (g) and 40 CFR 51.309(d)(10)].

**Estimated number of respondents:** 52 (total); 52 state agencies.

**Frequency of response:**

Approximately every 5 years.

**Total estimated burden:** 10,307 hours (per year). Burden is defined at 5 CFR 1320.03(b).

**Total estimated cost:** \$510,489 (per year). There are no annualized capital or operation and maintenance costs.

**Changes in the Estimates:** There is an increase of 4,259 hours in the total estimated respondent burden compared with the ICR currently approved by OMB. This increase is due to this ICR renewal period covering different task elements than the previous renewal (EPA ICR No. 1813.08). These differences reflect the requirements of the current regional haze rule with respect to the scheduled events and activities in the implementation process. The last collection request anticipated the program consisting mainly of submission of 5-year progress reports. The change in burden reflects changes in labor rates and changes in the activities conducted due to the normal progression of the program, especially the fact that states will be working on and submitting periodic comprehensive State Implementation Plan (SIP) revisions (or initial SIPs).

**Courtney Kerwin,**

*Acting Director, Collection Strategies Division.*

[FR Doc. 2016-07087 Filed 3-29-16; 8:45 am]

**BILLING CODE 6560-50-P**

## ENVIRONMENTAL PROTECTION AGENCY

[FRL-9944-40-OW]

### Notice of a Public Meeting and Webinar: Managing Cyanotoxins in Drinking Water

**AGENCY:** Environmental Protection Agency (EPA).

**ACTION:** Notice of a public meeting.

**SUMMARY:** The U.S. Environmental Protection Agency (EPA) announces an opportunity for public input on the EPA's tools and information related to drinking water cyanotoxin management. The EPA is holding a public meeting for interested parties to provide input either

in person or online via a webinar on lessons learned after the release of the June 2015 *Recommendations for Public Water Systems to Manage Cyanotoxins in Drinking Water*. The agency plans to use this information to inform development of additional tools to support states and/or utilities. The EPA seeks to engage with stakeholders on information the agency can provide to support states and public water systems in addressing cyanotoxin public health concerns in drinking water.

**DATES:** The public meeting will be held on April 29, 2016, from 9:15 a.m. to 12:30 p.m., Central Standard Time. Registration and check-in begins at 8:45 a.m. Persons wishing to attend the meeting in person or online via webinar must register by April 28, 2016, as described in the **SUPPLEMENTARY INFORMATION** section.

**ADDRESSES:** The public meeting will be held at 77 West Jackson Blvd., Chicago, Illinois, Lake Michigan conference room on the 12th floor. All attendees must show government-issued photo identification (e.g., a driver's license) when signing in. Please arrive at least 15 minutes early to allow time to clear security. This meeting will also be simultaneously broadcast as a webinar, available on the Internet.

**FOR FURTHER INFORMATION CONTACT:** Members of the public who wish to receive further information about the public meeting or have questions about this notice should contact Hannah Holsinger at (202) 564-0403 or [holsinger.hannah@epa.gov](mailto:holsinger.hannah@epa.gov).

#### **SUPPLEMENTARY INFORMATION:**

##### **I. General Information**

a. *How may I participate in this meeting/webinar?* Persons wishing to attend the meeting in person or online via the webinar must register in advance no later than 5:00 p.m., Eastern Daylight Savings Time, on April 28, 2016. To register, go online to: [https://www.eventbrite.com/e/us-epa-public-meeting-managing-cyanotoxins-in-drinking-water-tickets-22748127261?utm\\_term=eventurl\\_text](https://www.eventbrite.com/e/us-epa-public-meeting-managing-cyanotoxins-in-drinking-water-tickets-22748127261?utm_term=eventurl_text). Teleconferencing will be available for individuals participating via the webinar. The number of seats and webinar connections available for the meeting is limited and will be available on a first-come, first-served basis. Early registration is encouraged to ensure proper accommodations. The EPA will do its best to include all those interested in either meeting in person or via the webinar.

b. *How can I get a copy of the meeting/webinar materials?* Prior to the public meeting, a link to the meeting

materials will be sent by email to the registered attendees; copies will also be available for attendees at the meeting. For persons unable to attend the meeting, please contact Katie Foreman at [foreman.katherine@epa.gov](mailto:foreman.katherine@epa.gov) to request meeting materials.

c. *Special Accommodations:* Individuals with disabilities who wish to attend the meeting in person can request special accommodations by contacting Hannah Holsinger at [holsinger.hannah@epa.gov](mailto:holsinger.hannah@epa.gov) no later than April 22, 2016.

##### **II. Background**

Cyanobacteria are naturally occurring organisms similar to algae. These organisms can occur in fresh water and may rapidly multiply causing "blooms" under favorable conditions. Conditions that enhance bloom formation and persistence include light intensity and duration, nutrient availability (such as nitrogen and phosphorus), water temperature, pH and water column stability. Some blooms produce cyanotoxins such as microcystin, cylindrospermopsin and anatoxin-a, which can be a health concern. For additional background information on cyanotoxins in drinking water, please go to: [http://www2.epa.gov/sites/production/files/2014-08/documents/cyanobacteria\\_factsheet.pdf](http://www2.epa.gov/sites/production/files/2014-08/documents/cyanobacteria_factsheet.pdf).

The EPA released health advisories in June 2015 for two cyanotoxins: Microcystin and cylindrospermopsin. In June 2015, the EPA also released recommendations for public water systems on managing risks from cyanotoxins in drinking water. For additional background information on the health advisories and recommendations, please go to: <http://www.epa.gov/nutrient-policy-data/guidelines-and-recommendations>. The EPA's goal for this meeting is to obtain information on state, utility and public experiences in managing risks from cyanotoxins in drinking water. The EPA is seeking to get input on lessons learned after the release of the June 2015 recommendations document, *Recommendations for Public Water Systems to Manage Cyanotoxins in Drinking Water*. The EPA plans to use this information to develop additional tools or make modifications to the current recommendations document.

Dated: March 24, 2016.

**Rebecca Clark,**

*Acting Director, Office of Ground Water and Drinking Water.*

[FR Doc. 2016-07173 Filed 3-29-16; 8:45 am]

**BILLING CODE 6560-50-P**

## **ENVIRONMENTAL PROTECTION AGENCY**

[FRL-9944-39-OA]

### **Applicability Determination Index (ADI) Data System Recent Posting: Agency Applicability Determinations, Alternative Monitoring Decisions, and Regulatory Interpretations Pertaining to Standards of Performance for New Stationary Sources, National Emission Standards for Hazardous Air Pollutants, and the Stratospheric Ozone Protection Program**

**AGENCY:** Environmental Protection Agency (EPA).

**ACTION:** Notice of availability.

**SUMMARY:** This notice announces applicability determinations, alternative monitoring decisions, and regulatory interpretations that the Environmental Protection Agency (EPA) has made under the New Source Performance Standards (NSPS); the National Emission Standards for Hazardous Air Pollutants (NESHAP); and/or the Stratospheric Ozone Protection Program.

**FOR FURTHER INFORMATION CONTACT:** An electronic copy of each complete document posted on the Applicability Determination Index (ADI) data system is available on the Internet through the Resources and Guidance Documents for Compliance Assistance page of the Clean Air Act Compliance Monitoring Web site under "Air" at: <https://www2.epa.gov/compliance/resources-and-guidance-documents-compliance-assistance>. The letters and memoranda on the ADI may be located by date, office of issuance, subpart, citation, control number, or by string word searches. For questions about the ADI or this notice, contact Maria Malave at EPA by phone at: (202) 564-7027, or by email at: [malave.maria@epa.gov](mailto:malave.maria@epa.gov). For technical questions about individual applicability determinations, monitoring decisions or regulatory interpretations, refer to the contact person identified in the individual documents, or in the absence of a contact person, refer to the author of the document.

#### **SUPPLEMENTARY INFORMATION:**

##### **Background**

The General Provisions of the NSPS in 40 Code of Federal Regulations (CFR) part 60 and the General Provisions of the NESHAP in 40 CFR part 61 provide that a source owner or operator may request a determination of whether certain intended actions constitute the commencement of construction,

reconstruction, or modification. EPA's written responses to these inquiries are commonly referred to as applicability determinations. See 40 CFR 60.5 and 61.06. Although the NESHAP part 63 regulations [which include Maximum Achievable Control Technology (MACT) standards and/or Generally Available Control Technology (GACT) standards] and Section 111(d) of the Clean Air Act (CAA) contain no specific regulatory provision providing that sources may request applicability determinations, EPA also responds to written inquiries regarding applicability for the part 63 and Section 111(d) programs. The NSPS and NESHAP also allow sources to seek permission to use monitoring or recordkeeping that is different from the promulgated requirements. See 40 CFR 60.13(i), 61.14(g), 63.8(b)(1), 63.8(f), and 63.10(f). EPA's written responses to these inquiries are commonly referred to as alternative monitoring decisions. Furthermore, EPA responds to written inquiries about the broad range of NSPS and NESHAP regulatory requirements as they pertain to a whole source category. These inquiries may pertain, for example, to the type of sources to which the regulation applies, or to the testing, monitoring, recordkeeping, or reporting requirements contained in the

regulation. EPA's written responses to these inquiries are commonly referred to as regulatory interpretations.

EPA currently compiles EPA-issued NSPS and NESHAP applicability determinations, alternative monitoring decisions, and regulatory interpretations, and posts them to the ADI on a regular basis. In addition, the ADI contains EPA-issued responses to requests pursuant to the stratospheric ozone regulations, contained in 40 CFR part 82. The ADI is a data system on the Internet with over three thousand EPA letters and memoranda pertaining to the applicability, monitoring, recordkeeping, and reporting requirements of the NSPS, NESHAP, and stratospheric ozone regulations. Users can search for letters and memoranda by date, office of issuance, subpart, citation, control number, or by string word searches.

Today's notice comprises a summary of 66 such documents added to the ADI on March 22, 2016. This notice lists the subject and header of each letter and memorandum, as well as a brief abstract of the letter or memorandum. Complete copies of these documents may be obtained from the ADI on the Internet through the Resources and Guidance Documents for Compliance Assistance

page of the Clean Air Act Compliance Monitoring Web site under "Air" at: <https://www2.epa.gov/compliance/resources-and-guidance-documents-compliance-assistance>.

#### Summary of Headers and Abstracts

The following table identifies the control number for each document posted on the ADI data system on March 22, 2016; the applicable category; the section(s) and/or subpart(s) of 40 CFR part 60, 61, or 63 (as applicable) addressed in the document; and the title of the document, which provides a brief description of the subject matter.

We have also included an abstract of each document identified with its control number after the table. These abstracts are provided solely to alert the public to possible items of interest and are not intended as substitutes for the full text of the documents. This notice does not change the status of any document with respect to whether it is "of nationwide scope or effect" for purposes of CAA section 307(b)(1). For example, this notice does not convert an applicability determination for a particular source into a nationwide rule. Neither does it purport to make a previously non-binding document binding.

#### ADI DETERMINATIONS UPLOADED ON MARCH 22, 2016

Control No.	Categories	Subparts	Title
1500021 .....	NSPS .....	J .....	Change to Alternative Sulfur Monitoring Plan for Flare System.
1500022 .....	NSPS .....	J .....	Alternative to Hydrogen Sulfide Monitoring for Flare System.
1500023 .....	NSPS .....	EEEE .....	Applicability Determination for a Rural Institutional Waste Incinerator.
1500024 .....	NSPS .....	DD .....	Regulatory Interpretation for Grain Elevators with Expanded Capacity.
1500025 .....	NSPS .....	AAAA .....	Applicability Determination for a Small Municipal Waste Combustor.
1500026 .....	NSPS .....	Y .....	NSPS Source Test Plan Approval.
1500027 .....	NSPS .....	A, DD .....	Performance Test Waivers for New Design and Identical Units at Grain Elevators.
1500028 .....	NSPS .....	A, JJJJ .....	Test Waiver for Identical Biogas-fueled Generators.
1500029 .....	NSPS .....	A, JJJJ .....	30-Day Advance Test Notice Waiver for Generators.
1500030 .....	NSPS .....	CCCC, EEEE .....	Applicability Determination for Incinerator Burning MSW or RDF.
1500031 .....	NSPS .....	Dc .....	Applicability Determination for Boiler De-rating.
1500033 .....	NSPS .....	KKKK .....	Request for Performance Test Waiver at Combustion Turbine.
1500034 .....	NSPS .....	Ec .....	Alternative Monitoring of Waste Combusted.
1500035 .....	NSPS .....	CCCC .....	Applicability Determination for Incinerator Burning MSW or RDF.
1500036 .....	NSPS .....	GG .....	Monitoring at Turbines During Non-Operational Periods.
1500038 .....	NSPS .....	A, JJJJ .....	30-Day Advance Test Notice Waiver for Generators.
1500039 .....	NSPS .....	Cb, Eb .....	Carbon Feed Rate Monitoring Waiver Request.
1500049 .....	NSPS .....	KKKK .....	Performance Test Waiver for Identical Turbines.
1500051 .....	NSPS .....	J, Ja .....	Alternative Monitoring Plan for Tank Degassing and Vapor Control Projects at Petroleum Refineries.
1500054 .....	NSPS .....	NNN .....	Alternative Monitoring for an Absorber on a Distillation Unit.
1500056 .....	NSPS .....	OOO .....	Applicability Determination for Nonmetallic Mineral Processing Loading Station Enclosed in a Building.
1500057 .....	NSPS .....	Ce, Ec .....	Alternative Monitoring for Wet Scrubber at a Waste Incinerator.
1500058 .....	NSPS .....	J .....	Alternative Monitoring for Wet Gas Scrubber In Lieu of COMS at an FCCU.
1500059 .....	NSPS .....	IIII .....	Emergency Generator Applicability with Respect to Readiness Testing and Commissioning.
1500060 .....	MACT, NESHAP, NSPS.	IIII, ZZZZ .....	Regulatory Interpretation of NSPS and NESHAP Emergency Internal Combustion Engine Provisions.



## ADI DETERMINATIONS UPLOADED ON MARCH 22, 2016—Continued

Control No.	Categories	Subparts	Title
1500062 .....	NSPS .....	Ja .....	Alternative Monitoring of Hydrogen Sulfide and TRS in Sour Gas Routed to Flares.
1500063 .....	NSPS .....	J .....	Alternative Monitoring Plan for Wet Gas Scrubber at a Refinery.
1500064 .....	NSPS .....	OOOO .....	Alternate Reporting Schedule for Gas Plant.
1500065 .....	NSPS .....	JJJJ .....	Applicability Determination and Testing Waiver Request for Spark Ignition Engines.
1500066 .....	NSPS .....	JJJJ .....	Alternative Testing for Spark Ignition Engines.
1500067 .....	NSPS .....	IIII .....	Alternative Test Method Request for Compression Ignition Engines Switching to Biodiesel.
1500068 .....	NSPS .....	J, Ja .....	Alternative Monitoring of Hydrogen Sulfide from Portable Thermal Oxidizers at Multiple Refineries.
1500069 .....	NSPS .....	JJJJ .....	Alternative Test Method to Cutter Analyzers for Emissions from an Internal Combustion Engine.
1500071 .....	NSPS .....	JJJJ .....	Alternative Test Method for Non-methane Organic Emissions from Stationary Spark Ignition Combustion Engines.
1500072 .....	NSPS .....	J .....	Alternative Monitoring Plan for Hydrogen Sulfide Content of Refinery Fuel Gas.
1500073 .....	MACT, NSPS .....	ZZZZ, JJJJ .....	Alternative Test Method for Non-methane Organic Emissions from Stationary Spark Ignition Combustion Engines.
1500074 .....	NSPS .....	Ec .....	Deadline for Initial Compliance Testing of a Waste Incinerator.
1600004 .....	NSPS .....	DD .....	Clarification of the Definition of Permanent Storage Facilities.
A150001 .....	Asbestos .....	M .....	Standard Practice for Comprehensive Building Asbestos Surveys.
C150001 .....	CFC .....	C .....	Regulatory Interpretation of Evaporator Coil Leak Repair Requirement.
M150010 .....	MACT, NESHAP, NSPS.	A, PPPPPP, KK .....	Request for Opacity Test Waiver.
M150011 .....	MACT, NSPS .....	ZZZZ, IIII .....	Applicability of Emergency and Certified Engines to NSPS and NESHAP.
M150012 .....	MACT .....	ZZZZ .....	Applicability Determination for Nonroad versus Stationary Engine.
M150013 .....	MACT, NESHAP .....	HHHHHH .....	Applicability Determination for Vehicle Undercoating.
M150015 .....	MACT, NESHAP .....	A, PPPPPP .....	Alternative Visible Emission Monitoring at a Lead Acid Battery Plant.
M150016 .....	MACT, NESHAP .....	MMMMMM, YY .....	Applicability of Tire Reclamation Facility to Carbon Black Production NESHAP.
M150017 .....	MACT, NESHAP .....	HHHHHH .....	Regulatory Interpretation of Applicability of Truck Bed Lining Operations to Area Source NESHAP for Paint Stripping and Miscellaneous Surface Coating.
M150023 .....	MACT .....	LLL .....	Alternative Monitoring for Particulate Matter on a Common Stack at a Portland Cement Plant.
M150024 .....	MACT .....	S .....	Alternative Averaging Time for Inlet Flow Monitoring as a Surrogate for Methanol Destruction at a Pulp and Paper Facility.
M150025 .....	MACT .....	ZZZZ .....	Alternative Load Level for Pressure Drop Measurement at Internal Combustion Engines.
M150026 .....	MACT, NSPS .....	ZZZZ, IIII .....	Applicability Determination for Internal Combustion Engine to NSPS and NESHAP.
M150027 .....	MACT .....	ZZZZ .....	Applicability Determination for Remote Reciprocating Internal Combustion Engine.
M150028 .....	MACT .....	DDDD, DDDDD .....	Applicability Determination for Rotary Gasifiers as Process Heaters to the Boiler MACT.
M150029 .....	MACT .....	ZZZZ .....	Performance Test Waiver for Reciprocating Internal Combustion Engines.
M150030 .....	MACT .....	DDDDD .....	Applicability Determination for a Hybrid Suspension Grate Biomass Boiler under the Boiler MACT.
M150031 .....	MACT .....	JJJJJJ .....	Applicability Determination for Electric Generating Units under the Boiler Area Source NESHAP.
M150034 .....	MACT .....	ZZZZ .....	Applicability Determination for Backup Power Generator under RICE NESHAP.
M150036 .....	MACT, NESHAP .....	A .....	60-day Advance Test Notice Waiver.
Z150002 .....	NESHAP .....	N .....	Applicability Determination for Manufacture of Colored Art Glass.
Z150004 .....	MACT, NESHAP, NSPS.	ZZZZ, Db, IIII, JJJJ ....	Applicability Determination for Offshore Gas Port Emission Units.
Z150005 .....	MACT, NESHAP .....	ZZZZ .....	Applicability Determination for Emergency Stationary Internal Combustion Engines at an Institutional Facility.
Z150006 .....	MACT, NESHAP .....	ZZZZ .....	Regulatory Interpretation on Minimizing Engine Idle Time for Internal Combustion Engines.
Z150009 .....	MACT, NESHAP .....	ZZZZ .....	Regulatory Interpretation of Emergency Generator Provisions under NESHAP Subpart ZZZZ.
Z150010 .....	MACT, NESHAP .....	ZZZZ .....	Regulatory Interpretation on Rule Applicability to Stationary Engines.
Z150011 .....	MACT, NESHAP .....	ZZZZ .....	Applicability Determination for Emergency Engines to RICE NESHAP.



**Abstracts***Abstract for [1500021]*

Q: Will EPA approve a change to the previously approved March 22, 2011 alternative monitoring plan (AMP) for Shell Oil Products Puget Sound Refinery (PSR) in Anacortes, Washington?

A: Yes. EPA conditionally approves Shell's revision to the PSR 2011 AMP. For the monitoring of H<sub>2</sub>S, PSR is requesting to monitor as required by NSPS subpart J, rather than the alternative monitoring method that was specified in the 2011 AMP. PSR requests that certain portions of the approved AMP stay in place to maintain approval of an alternative means for demonstrating compliance for three interconnected flares. The conditions that must be satisfied to allow PSR to rely on the AMP instead of utilizing an H<sub>2</sub>S continuous monitoring system according to subpart J are stated in the EPA approval letter.

*Abstract for [1500022]*

Q: Will EPA approve an alternative monitoring plan (AMP) for the Shell Oil Anacortes, Washington facility to install, maintain, and operate a total sulfur continuous monitoring system (CMS) as an alternative to a hydrogen sulfide (H<sub>2</sub>S) CMS, and to use sulfur data collected at the east flare to represent the sulfur content at the north and south flares?

A: Yes. EPA conditionally approves Shell's AMP for utilizing a H<sub>2</sub>S CMS. The conditions to allow Shell to rely on the AMP instead of utilizing an H<sub>2</sub>S CMS are stated in the EPA approval letter.

*Abstract for [1500023]*

Q: Will EPA grant approval of exempted status under 40 CFR 60.2887(h) of the NSPS subpart EEEE as a rural institutional waste incinerator for an incineration unit that Glacier Bay National Park and Preserve (the Park) in Alaska intends to purchase and install?

A: Yes. EPA determines that the proposed incinerator meets the exclusion for rural institutional waste incinerators because the unit is located more than 50 miles from the boundary of the nearest Metropolitan Statistical Area, alternative disposal options are not available or are economically infeasible, and the Park has submitted this request prior to initial startup of the incinerator.

*Abstract for [1500024]*

Q: Are all on-site units at Kalama Export located in Kalama, Washington that were constructed after August 3,

1978, subject to NSPS subpart DD for Grain Elevators when applicability is triggered due to expanded capacity?

A: No. In its response to the Southwest Clean Air Agency in Vancouver, Washington, EPA explains that the rule applies to each individual affected facility at a grain elevator. Therefore, only the units that are constructed, modified, or reconstructed when and after the NSPS is triggered because of expanded capacity become subject to the rule.

*Abstract for [1500025]*

Q1: Does NSPS subpart AAAA for Small Municipal Waste Combustion (MWC) Units apply to gas combustion turbine that combust a small amount of non-condensable hydrocarbon gases, which is located at the Green Power facility in Pasco, Washington?

A1: Yes. In a response to the Washington State Department of Ecology and the counsel to the source, EPA indicates that the NSPS subpart AAAA applies to the gas combustion turbine it is considered to be within the MWC unit boundaries and based on the capacity of the MWC. Based on the MWC definition at 40 CFR 60.1465, the catalytic pressure-less de-polymerization process (CDP) begins the MWC since it is used to convert municipal solid waste into synthetic liquid petroleum fuel, which includes a small amount of non-condensable hydrocarbon gases. Since the non-condensable hydrocarbon gas generated by the CDP is combusted in the turbine, the compressor section and combustor section of the turbine at the facility are within the MWC boundaries. In addition, it is determined that the combustion capacity of the MWC, which would not include the capacity attributable to the flare since it is a control device, is within the applicable range of subpart AAAA. Furthermore, the Green Power operation does not combust landfill gases and the landfill gas exemption, therefore, is not applicable.

Q2: Does NSPS subpart AAAA apply to the Green Power CDP if it operates in an anaerobic environment, exposed only to inert gases, due to explosion hazard?

A2: No. EPA determines that the Green Power CDP would not be subject to Subpart AAAA due to the absence of combustion if the plant is constructed such that there is no combustion of the synthetic fuel product.

Q3: Does NSPS subpart AAAA apply to the Green Power proposed Algae Production Alternative whereby the non-condensable hydrocarbon gases produced in the reactor are routed to a biological treatment unit as a nutrient in

the production of algae which would subsequently be harvested and reintroduced as a feedstock for the CDP process?

A3: No. EPA determines that in this scenario Subpart AAAA would not apply due to the absence of combustion.

*Abstract for [1500026]*

Q: Will EPA approve a source test plan submitted by Eielson Air Force Base in Alaska for a particulate matter source test on six bin vent filters for a new mechanical coal tipper subject to NSPS subpart Y?

A: Yes. EPA approves the Eielson source test plan under subpart Y. Eielson has incorporated the guidance received by EPA regarding the proper location for a testing port installation to address issues with inadequate duct diameter sizing for that bin into the source test plan.

*Abstract for [1500027]*

Q1: Will EPA, in consideration of difficulty in applying existing methods to new technology, waive the Method 5 and a portion of the Method 9 readings for three ship loader bustle filters at EGT Development, LLC's (EGT's) Export Elevator facility at Port of Longview, Washington?

A1: Yes. EPA grants EGT the waiver for the Method 5 reading required under the initial performance and for a portion of the required Method 9 readings for the three bustle filters for several reasons. There are technical difficulties that arise in performing the test methods with the new loading spout dust control system design. Specifically, technical issues arise with conducting the Method 5 test where the loading spout dust control system has been moved to the bottom of the ship loader spout, and with conducting a Method 9 opacity reading while the loading spout is within the hold of the ship loading grain. These technical issues combined with the anticipated significant margin of compliance, the testing of other units with identical filter media at the same facility, and the opacity readings that can be performed justifies the waiver approval.

Q2: Will EPA approve a waiver of initial performance testing for certain Donaldson bin vent CPV design PowerCore Filters (CPV filters) that EGT plans to install at this facility when they are in a group of identical units?

A2: Yes. EPA waives the initial Method 5 performance test for certain CPV filters as outlined in the EPA approval letter. NSPS emission test results with Duraplex filter media show maximum emissions are an order of magnitude lower than the

manufacturer's guarantee (0.002 grains/dscf), and two orders of magnitude lower than the 0.01 grains/dscf NSPS limit. Furthermore, the local air permitting authority will be requiring additional testing on a reasonable schedule and there will be a rotation of testing within a group, so that a different unit within the group is tested each time for any future performance tests. This applies to a total of 14 NSPS test units, which represents a group of identical units where that group is unique, has a unique air volume and aspirates a conveyor or facility with a unique conveying capacity.

*Abstract for [1500028]*

Q: Will EPA waive the requirement for Cargill Environmental Finance (Cargill) to performance test at two biogas-fueled generators under NSPS subpart JJJJ based on the test results of an identical (third) biogas-fueled generator at the Dry Creek Dairy in Hanson, Idaho?

A: Yes. EPA waives the Cargill performance test for the three generators that are located at the same facility, produced by the same manufacture, have the same model number, rated capacity, operating specifications, and are maintained in a similar manner. There is a substantial margin of compliance documented by the prior performance test results that were submitted.

*Abstract for [1500029]*

Q: Will EPA waive the requirement of 40 CFR 60.8(d) to provide notification 30 days in advance of a performance test for recently installed biogas-fueled generators at Big Sky West in Gooding, Idaho due to winter weather conditions and the pending holidays?

A: Yes. EPA waives the requirement to provide notification 30 days in advance of a performance test pursuant to the provisions at 40 CFR 60.19(f)(3) to implement it early in December due to weather conditions and the pending Holidays. EPA requests that you provide the exact testing date, a copy of the full testing protocol, and the results of the test once completed to the regulatory agencies.

*Abstract for [1500030]*

Q: Does EPA determine that Shell Offshore's incineration unit located on the Discoverer Drill vessel, operated in the Chukchi Sea is exempted from the requirements of 40 CFR part 60 subpart CCCC for Commercial and Industrial Solid Waste Incineration Units pursuant to the exemption provided in 40 CFR 60.2020(c)(2)?

A: Yes. Based on the information provided, EPA determines that Shell's incinerator qualifies for the exemption in 40 CFR 60.2020(c)(2) for units under a certain capacity that burn greater than 30 percent municipal solid waste or refuse-derived fuel, provided that Shell keeps the records required to demonstrate that it continues to qualify for the exemption on an ongoing basis.

*Abstract for [1500031]*

Q: Does EPA determine that physical changes made to two boilers subject to NSPS subpart Dc owned and operated by Yakama Forest Products (YFP) at the Large Log Complex have de-rated the boilers' heat input capacity?

A: Yes. Based on the test data submitted following the physical changes of replacing the burners on each boiler, EPA determines that boilers No. 3 and 4 have been permanently de-rated to a heat input capacity below 30 MM BTU/hr. YFP must ensure that oil pressure at the burners meets the conditions of this determination to remain consistent with the conditions during the source test that was the basis for this determination.

*Abstract for [1500033]*

Q: Will EPA approve Northwest Pipeline's request for an extension of the deadline to conduct a performance test required by 40 CFR 60.4340(a) in NSPS subpart KKKK for a turbine located at the Chehalis Compressor Station?

A: No. EPA determines that an applicable basis for waiving the testing requirement has not been identified. According to 40 CFR 60.4340(a), testing can be performed once every two years when emissions are less than 75 percent of the emission limit. Therefore, Northwest Pipeline must perform annual performance tests in accordance with § 60.4400.

*Abstract for [1500034]*

Q: Will EPA approve an alternative monitoring procedure (AMP) for monitoring the amount of waste combusted in the Northstar incinerator to demonstrate that the incinerator qualifies for the co-fired combustor exemption under 40 CFR part 60 subpart Ec for Hospital Medical Infectious Waste (HMIW) Incinerators located at BP Exploration Alaska's (BPXA's) Northstar Development Facility in the Beaufort Sea?

A: No. EPA denies the AMP because use of the proposed method to weigh only the HMIW incinerated, instead of weighing both the HMIW and the non-HMIW, will not assure compliance with BPXA's claim that the incinerator meets

the exemption for co-fired combustors under 40 CFR part 60 subpart Ec, as well as the exemption for "municipal waste combustion units" in 40 CFR 62.14525(c)(2).

*Abstract for [1500035]*

Q: Does EPA determine that Andarko's incineration unit located at various drilling locations within the Gubik and Chandler Prospects in Alaska is exempted from the requirements of 40 CFR part 60 subpart CCCC pursuant to the provisions at 40 CFR 60.2020(c)(2)?

A: Yes. Based on the information provided, EPA determines that Andarko's incinerator qualifies for the exemption in 40 CFR 60.2020(c)(2) for units under a certain capacity that burn greater than 30 percent municipal solid waste or refuse-derived fuel. Andarko must keep the records required to demonstrate that it continues to qualify for the exemption on an ongoing basis.

*Abstract for [1500036]*

Q: Is fuel sampling required for two turbines owned by Black Hills Corporation that monitor under NSPS subpart GG custom fuel monitoring schedules for semi-annual periods in which the turbines have not operated for the entire semi-annual period? The turbines are located at the Glenns Ferry Cogeneration Partners and Rupert Cogeneration Partners facilities in Idaho.

A: No. EPA determines that fuel sampling required by a custom fuel monitoring schedule is not required for semi-annual periods in which the turbine has not operated for the entire semi-annual period. Sampling must be done upon re-startup.

*Abstract for [1500038]*

Q: Will EPA waive the requirement in 40 CFR 60.8(d) for Cargill to provide a notification 30 days in advance of a performance test for the recently installed biogas-fueled generators at Dry Creek Dairy in Hansen, Idaho?

A: Yes. EPA waives the requirement to provide notification 30 days in advance of a performance test pursuant to the provisions at 40 CFR 60.19(f)(3). The source identified a date on which testing would be conducted.

*Abstract for [1500039]*

Q: Will EPA grant a waiver to Covanta Marion, Incorporated (CMI) in Brooks, Oregon, for the municipal waste combustor (MWC) unit load level limitations, under 40 CFR 60.53b(b)(2), for the two weeks preceding, and during the annual dioxin/furan and mercury performance tests for the purpose of evaluating system performance?

A: Yes. For the purpose of evaluating system performance, EPA waives the MWC load limit for the two week period preceding, and during the annual dioxin/furan and mercury performance test.

*Abstract for [1500049]*

Q: Will EPA provide a waiver pursuant to 40 CFR 60.8(b)(4) from the initial and subsequent performance testing requirement under NSPS subpart KKKK for three identical Solar Saturn T-1301 turbines operating under the same conditions on the same platform in the Cook Inlet at XTO Energy's Kenai, Alaska facility?

A: Yes. EPA grants the request to expand the November 9, 2011 waiver to Solar Saturn T-1301 turbine, serial number SDR-105092 under the condition that a different turbine will be tested each year on a three year rotation. If any tests exceeds 50 percent of the NOx emission limits, all turbines will be required to conduct performance tests.

*Abstract for [1500051]*

Q: Can EPA approve an Alternative Monitoring Plan (AMP) for Envent Corporation to conduct monitoring of hydrogen sulfide (H2S) emissions, in lieu of installing a continuous emission monitoring system when performing tank degassing and other similar operations controlled by portable, temporary thermal oxidizers, at refineries in Region 6 States that are subject to NSPS subparts J or Ja?

A: Yes. EPA conditionally approves the AMP based on the description of the process, the vent gas streams, the design of the vent gas controls, and the H2S monitoring data furnished. EPA specifies the proposed operating parameter limits and data which the refineries must furnish as part of the conditional approval. The approved AMP applies only to similar degassing operations conducted by ENVENT at refineries in EPA Region 6.

*Abstract for [1500054]*

Q: Is the alternative monitoring plan (AMP) submitted to the Tennessee Department of Environment and Conservation (TDEC) for the distillation unit in Source B-99A-2 at the Eastman Chemical Company (Eastman) facility in Kingsport, Tennessee acceptable?

A: Yes. Based upon the information provided in the AMP by Eastman, EPA determines that the AMP is acceptable since the proposed monitoring parameters (water flow rate, propionic acid flow rate, and propionic acid inlet temperature) will provide adequate assurance of compliance. We agree that three of the parameters that the

company would be required to monitor under NSPS subpart NNN (propionic acid specific gravity, water specific gravity, and water temperature) will not be useful indicators of absorber performance for the source in question. For ongoing compliance demonstration, EPA also provides guidance on how to define excess emissions in terms of the alternative monitoring parameters.

*Abstract for [1500056]*

Q1: Does a silo or frame structure enclosing a railcar loading station at three separate Hi-Crush Proppant nonmetallic mineral processing plants located in Augusta, Independence, and Blair, Wisconsin meet the definition of a "building" under NSPS subpart OOO?

A1: Yes. Based on Hi-Crush's representation that the enclosed railcar loading stations are housed in structures with roofs, EPA concludes that these structures would meet the definition of "building" in NSPS subpart OOO.

Q2: Would the openings of those buildings be considered a "vent"?

A2: No. The building openings have no mechanically induced air flow for the purpose of exhausting from a building.

Q3: Since these railcar loading stations are contained in a building, would the applicable particulate matter standard only be that fugitive emissions from the building openings must not exceed 7 percent opacity?

A3: Yes. One emission limit option for an enclosed railcar loading station that is itself enclosed in a building is to restrict fugitive emissions from the building openings (except for vents as defined in 40 CFR 60.671) to 7 percent opacity, per section 60.672(e)(1).

*Abstract for [1500057]*

Q: Does EPA approve a waiver from the 40 part 60 subpart Ec requirement to monitor the minimum pressure drop across a wet scrubber that control emissions of acid gases (*i.e.*, HCl) and is part of the emission control system for the Stericycle hospital/medical/infectious waste incineration (HMIWI) unit in Apopka, Florida? The Stericycle HMIWI unit is equipped with a dry scrubber followed by a fabric filter and a wet scrubber and with a selective noncatalytic reduction system. All other applicable parameter monitoring requirements are proposed to be met by the facility.

A: Yes. EPA approves the waiver request since the removal of acid gases is not dependent on the monitoring of wet scrubber minimum pressure drop and all other applicable monitoring parameters for the control system will be met. Monitoring of the other wet

scrubber monitoring parameters identified in Table 3 of subpart Ec (*i.e.*, the minimum scrubber liquor flow rate and the minimum scrubber liquor pH) will indicate if the scrubber is working properly. Further, compliance with the PM emission limit is achieved without the use of the wet scrubber based on information.

*Abstract for [1500058]*

Q: May an Alternative Monitoring Plan (AMP) be conditionally approved for parametric monitoring in lieu of a continuous opacity monitoring system (COMS) for a Wet Gas Scrubber (WGS) on a Fluidized Catalytic Cracking Unit (FCCU) subject to NSPS subpart J, at the Phillips 66 Company Alliance Refinery in Belle Chasse, Louisiana?

A: Yes. Based on the information provided, EPA approves the AMP for the proposed operating parameters conditioned on the source conducting a performance test that demonstrates compliance and that establishes the operating parameter limits (OPLs) for the WGS. EPA approves the two proposed operating parameters, including the 1) minimum Liquid-to-Gas (L/G) Ratio on a 3-hour rolling average basis; and, 2) minimum slurry liquid circulation pump discharge pressure on a 3-hour rolling average basis. The OPLs are to be recalculated based on the average of three runs, provided the average PM emissions for the three runs meet the PM emissions limit of the rule in pounds per kilopounds of coke processed.

*Abstract for [1500059]*

Q: Is Capitol One National Association required to petition the Administrator under 40 CFR 60.4211(e) for approval to exceed the 100 hour readiness testing limit for emergency generators testing for commissioning purposes under subpart IIII for internal compression engines during the initial onsite commissioning process of its Data Center in Chester, Virginia?

A: No. A petition is not necessary or appropriate. When a new greenfield source is under construction, subpart IIII allows emergency generators to be used as needed to complete the construction process, so long as Capitol One abides by the 100 hours limitation when the Data Center is in commercial operation.

*Abstract for [1500060]*

Q: Portland General Electric Company (PGE) seeks verification that the emergency diesel-fired emergency generators at its Carver Readiness Center in Clackamas, Oregon, run for 50 of 100 hours total use to supply power,

allowed under NSPS subpart IIII and NESHAP subpart ZZZZ, can be part of its Dispatchable Standby Generation (DSG) program.

A: 40 CFR 60.4211 and 63.6640 authorize limited non-emergency use of diesel engines that are classified and regulated as emergency engines. EPA determines that the language in 40 CFR 63.6640 of subpart ZZZZ regarding emergency engines dispatched under a financial arrangement with another entity was not intended to prohibit utilities from dispatching engines that they own and operate under the 50-hour non-emergency operation option provided.

*Abstract for [1500062]*

Q: Does EPA approve revisions to the Alternative Monitoring Plan (AMP) for monitoring hydrogen sulfide (H<sub>2</sub>S) concentration and determining the total reduced sulfur (TRS) concentration in the sour gas routed to flares at the Lion Oil Company El Dorado (Lion Oil), Arkansas Refinery, which are subject to NSPS subpart Ja?

A: Yes. EPA conditionally approves Lion Oil's revised AMP, which supersedes previous approvals to expand use of the approved AMP for determining TRS under NSPS subpart Ja, and that includes additional operating parameters, clarifications on sampling locations, and test protocol specifications.

*Abstract for [1500063]*

Q: Does EPA approve a revision to an Alternative Monitoring Plan (AMP) that has been conditionally approved for the wet gas scrubber (WGS) on a Fluidized Catalytic Cracking Unit (FCCU) at Marathon Petroleum's refinery in Texas City, Texas subject to NSPS Part 60 subpart J, be resubmitted for approval of a revision based on an additional operation mode at reduced charge rate?

A: Yes. EPA conditionally approves the revision to the EPA-approved AMP based on the additional information provided by Marathon to add an additional mode of operation. The condition for approval requires Marathon to conduct performance testing to demonstrate compliance and to establish the operating parameter limits (OPLs) for the WGS at the additional FCCU reduced charge rate, as established in the EPA response letter.

*Abstract for [1500064]*

Q: Does EPA approve alternate semiannual reporting periods under section 60.5420(b) of NSPS subpart OOOO to run from April 1 through September 30, and from October 1

through March 31, at the Atlas Pipeline Driver Gas Plant in Midland, Texas?

A: Yes. EPA approves the proposed alternate reporting schedule to align the periodic reporting time period requirements of NSPS subpart OOOO since it does not extend the reporting period that would be covered by the next semiannual report, as allowed under section 60.5420(b). The alternate reporting schedule does not extend the reporting period that would be covered by the next semiannual.

*Abstract for [1500065]*

Q1: Are the five City of Rock Island Public Works Department 880 HP spark ignition natural gas fired engines (plus one offline spare) at their wastewater treatment plant in Wisconsin considered emergency engines under NSPS subpart JJJJ?

A1: No. Since the engines would be operated approximately 16 times per year for 270 hours, EPA determines that the engines do not meet the definition of emergency stationary internal combustion engines. Therefore, the engines are subject to subpart JJJJ.

Q2: Can a waiver from performance testing be granted for the engines?

A2: No. EPA cannot grant a waiver of performance testing for these engines, but due to the potential difficulties in testing, EPA encourages the City to request alternative testing if necessary.

*Abstract for [1500066]*

Q: May EPA approve an alternative to stack testing under NSPS subpart JJJJ for nine identical non-certified Riverview bio-gas fueled generators located on three farms (Riverview Dairy, West River Dairy, and District 45 Dairy) in Minnesota?

A: No. EPA does not approve any of the five alternative options proposed by Riverview for its generators, which included: (1) exemption from ongoing testing for engines that meet the standard, (2) retroactive certification by the manufacturer, (3) self-certification through testing, (4) provide certification to manufacturers that have met the standards, and (5) test one engine and apply results to all nine. However, EPA does provide two alternatives, Modified Option 1A and 1B that could be used to demonstrate compliance. Modified Option 1A is annual testing for NO, NO<sub>x</sub>, CO and O<sub>2</sub> using a portable analyzer. Modified Option 1B is to test each dairy's engine sets at least once every three years, rotating annually on a three-year cycle.

*Abstract for [1500067]*

Q: May an alternative test method be approved for Hawaiian Electric

Company's four new compression ignition engines subject to NSPS subpart IIII at the Honolulu International Airport in Oahu that were certified on diesel but will be operated on biodiesel?

A: Yes. EPA determines that operation of the engines on biodiesel would not void the certification if all of the following conditions are met: the biodiesel meets the requirements of 40 CFR 60.4207(b), the manufacturer's warranty includes the use of the biodiesel, and the biodiesel meets ASTM D6751. The engines must also be installed, configured, operated and maintained per the manufacturer's instructions.

*Abstract for [1500068]*

Q: Does EPA approve an Alternative Monitoring Plan (AMP) for Evergreen Industrial Services (EIS) to conduct monitoring of hydrogen sulfide (H<sub>2</sub>S) emissions in lieu of installing a continuous emission monitoring system (CEMS), to monitor emissions controlled by portable and temporary thermal oxidizers units (TOUs) during tank degassing and other similar operations at refineries in Region 6 that are subject to NSPS subparts J or Ja?

A: Yes. Based on the description of the process, the vent gas streams, the design of the vent gas controls, and the H<sub>2</sub>S monitoring data furnished, EPA conditionally approves the AMP when EIA is conducting degassing operations at refineries in Region 6 since it is impractical to use a H<sub>2</sub>S CEMS in a portable TOUs. The EPA response letter list the operating conditions for degassing operations and data which the refineries must furnish to EIS as part of the conditional approval.

*Abstract for [1500069]*

Q: May Derenzo & Associates in Livonia, Michigan use a TECO Model 55C analyzer in lieu of Method 18 that will be used with Method 25A to determine nonmethane organic compounds emitted from an internal combustion engine subject to NSPS subpart JJJJ?

A: Yes. EPA approves the request to use TECO Model 55C as an alternative to Method 18 for measuring methane since it should produce results similar to the "cutter" analyzers already allowed by the regulation.

*Abstract for [1500071]*

Q: Does EPA approve the use by TRC Companies located in Lowell, Massachusetts of a TECO Model 55C analyzer to measure non-methane organic compounds (NMOC) from engines subject to NSPS subpart JJJJ?

A: Yes. EPA approve TRC Companies request for use of the TECO Model 55C analyzer in lieu of Method 18 to measure NMOC from subpart JJJJ engines, and the analyzer may be used by other engines subject to NSPS subpart JJJJ. EPA will announce this as broadly applicable to all stationary spark ignition combustion engines on our Web site at <http://www.epa.gov/ttn/emc/trnmethods.html#CatB>.

*Abstract for [1500072]*

Q1: Does EPA conditionally approve a revision to a previously approved Alternative Monitoring Plan (AMP) to allow for an automatic sampling system, and an associated flow meter for collecting and recording hydrogen sulfide (H<sub>2</sub>S) content, to be included for the West Operations Ground Flare (Multi Jet Flare), which is part of a Flare Gas Recovery System (FGRS) subject to NSPS subpart Ja, at the Motiva Enterprises Norco Refinery in Norco, Louisiana?

A1: Yes. EPA conditionally approves the AMP revision based on how the automatic sampling system functions regarding the configuration and operation of the FGRS. The H<sub>2</sub>S concentration of the combined refinery fuel gas stream routed to the FGRS and the Multi Jet Flare was less than 1 part per million. This satisfied EPA's condition for approval that the H<sub>2</sub>S content shall be inherently low. Additionally, the automatic sampling device samples the blended fuel gas stream before it is sent to the Multi Jet Flare, and there are no crossover points between the FGRS and other fuel gas streams. This satisfied EPA's condition for approval that no crossover points shall exist in the fuel gas vent stream going to the Multi Jet Flare. Based on review by EPA Headquarters, Motiva also was authorized to use an alternate test method for testing and analysis, which removed the previous requirement to measure and record refinery fuel gas H<sub>2</sub>S concentrations using the Length of Stain Tube method. EPA's "Conditions for Approval of the Alternative Monitoring Plan for Miscellaneous Refinery Fuel Gas Streams, dated December 7, 1999, are incorporated by reference, except for the monitoring provisions in Steps 1 through 7, as described in the EPA response letter.

Q2: What recordkeeping and report requirements are included in the conditional approval?

A2: Motiva shall maintain the H<sub>2</sub>S concentration data from the sampling system and the alternate test method in the laboratory information management system. The gas flow data from the flow

meter will be maintained in the electronic process data storage system. Additional records shall be kept to note when the FGRS is operating in either of two different scenarios. Quarterly reporting must be submitted, except more frequently under certain circumstances, as outlined in the conditional EPA approval letter.

*Abstract for [1500073]*

Q: May Derenzo & Associates in Livonia, Michigan use the TECO Model 55I analyzer (which is a newer version of the previously approved Model 55C) in lieu of Method 18 and Method 25A to determine non-methane organic compounds (NMOC) emitted from RICE subject to NSPS subpart JJJJ or NESHAP subpart ZZZZ?

A: Yes. EPA approves the alternative testing request for NSPS subpart JJJJ, provided that the facility follows all applicable requirements in Method 25A for sample heating, appropriate test procedures, calibration and standardization. Since NESHAP subpart ZZZZ does not require the measurement of NMOC that part of the request is not considered.

*Abstract for [1500074]*

Q: Can EPA confirm the proposed deadline for completing the initial performance test under 40 CFR part 60 subpart Ec for the University of Texas Medical Branch's medical infectious waste incinerator in Galveston, Texas?

A: Yes. EPA confirms that the initial compliance performance test should be completed within 60 days of achieving maximum production rate, and not later than 180 days after initial startup as required under section 60.8 of the General Provisions.

*Abstract for [A150001]*

Q: Does the use of the Pre-Construction Survey, as described in ASTM E2356-14 "Standard Practice for Comprehensive Building Asbestos Surveys," demonstrate compliance with the "thorough inspection" requirement at 40 CFR 61.145(a)?

A: Yes. If an owner/operator follows the steps described in Sections 1 through 5 and Section 8 in ASTM E2356-14 "Standard Practice for Comprehensive Building Asbestos Surveys", it would provide a thorough inspection of the facility. However, EPA would not accept the Limited Asbestos Screen (*i.e.*, Practice E2308) described in Section 1.5 as a substitute for the Comprehensive Building Asbestos Survey, and would not consider the Limited Asbestos Screen as a thorough inspection.

*Abstract for [C150001]*

Q: Do regulations related to ozone depleting substances under 40 CFR part 82 prohibit the use of Leak Stop to repair leaks in residential air conditioning systems that contain chlorofluorocarbons?

A: No. The use of aerosol chemical products such as Leak Stop are not prohibited as long as there is no "knowing venting" or "knowing release" of an ozone depleting substance taking place. We do not currently have any information about the propellant used by the Leak Stop product. However, if it is propelled by a Class I or II ozone depleting substance, then it is banned under the non-essential products exclusion found at 40 CFR 82.60.

*Abstract for [M150010]*

Q: Will EPA approve a waiver of the initial performance test according to the provisions of 40 CFR 60.8(b)(4) and 63.7(h) for a new chemset chamber subject to the NESHAP for Lead Acid Battery Manufacturing, 40 CFR part 63 subpart P P P P P P, and the NSPS for Lead Acid Battery Manufacturing, 40 CFR part 60 subpart K K, at the Johnson Controls Battery Group Inc.'s (JCBGI's) facility in Canby, Oregon?

A: No. EPA is denying the requested waiver because the new unit is not identical to the previously installed units and could have a different capacity. While emissions are expected to be low, the initial performance test is valuable to verify the installations of new equipment.

*Abstract for [M150011]*

Q: Will EPA approve a National Security Exemption (NSE) for the Department of Defense to waive the performance testing requirements for twelve stationary diesel fired engines constructed between 2003 and 2009, all of which are subject to the National Emissions Standard for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines (RICE) at 40 CFR part 63, subpart ZZZZ, while five engines are also subject to the New Source Performance Standard for Compression Ignition RICE at 40 CFR part 60, subpart I I I I, which are located at Fort Greely, Alaska?

A: No. An NSE exemption is not necessary because 40 CFR part 63 subpart ZZZZ does not require performance testing for emergency engines; according, an exemption from performance testing is not necessary for these twelve engines if they meet the definition of "emergency stationary RICE" under subpart X X X X. In addition,

subpart IIII does not require performance testing for manufactured-certified engines; accordingly, an exemption from performance testing under subpart IIII is not necessary for the five manufactured-certified engines located at Fort Greely.

*Abstract for [M150012]*

Q: Does EPA determine that the operation of an emergency generator owned and operated by the Union Pacific Railroad's rail yard facility in Lane County, Oregon is classified as a stationary source under NESHAP subpart ZZZZ?

A: No. EPA determines that the engine used to provide power restoration for emergencies at railroad tunnels in Oregon is a portable diesel generator. Because the engine has not provided power, or operated for emergency use, or any other purpose other than testing at the location where it has been stored for more than 12 months, it does not meet the definition of stationary engine for that location under subpart ZZZZ.

*Abstract for [M150013]*

Q1: Does EPA determine that 40 CFR part 63 subpart HHHHHH, National Emission Standards for Hazardous Air Pollutants: Paint Stripping and Miscellaneous Surface Coating Operations at Area Sources, apply to the process of spray applying vehicle undercoating?

A1: Yes. EPA determines the process of spray applying vehicle undercoating is subject to NESHAP subpart HHHHHH. The undercoating would be considered a coating under the NESHAP definitions and would not be a sealant. It is generally spray-applied using a hand-held device that creates an atomized mist of coating and deposits the coating on a sub straight, just as are other automotive coatings.

Q2: Does EPA determine that the exemption for facilities that do not spray-apply target HAP-containing coatings is available to part of a facility?

A2: No. EPA determines that a facility that is not exempt must satisfy the rule requirements for all of their spray-applied coating operations. If the facility spray-applies no target HAP, then it may request exemption from the rule.

*Abstract for [M150015]*

Q: Will EPA approve an alternative to the visible emissions monitoring requirement of 40 CFR 63.11423(b) of the National Emission Standards for Hazardous Air Pollutants (NESHAP) for Lead Acid Battery Manufacturing Area Sources, subpart PPPPPP, for Johnson Controls Battery Group Incorporated's

facility in Canby, Oregon to shut down equipment per permit conditions if any visible emissions are observed rather than continuing to operate and conduct a Method 9 test?

A: Yes. EPA approves this minor change in monitoring methodology pursuant to 40 CFR 63.8(b)(i) because it will be more stringent than that which is required according to 40 CFR 63.11423(b) by the NESHAP standard.

*Abstract for [M150016]*

Q: Does 40 CFR part 63 subpart MMMMMM for Area Source Carbon Black Production apply to Reklaim Technologies' tire reclamation facility at the Port of Morrow near Boardman, Oregon?

A: No. Based on the information provided by Reklaim, EPA determines that the process at Reklaim's facility is materially different from the "carbon black production" process that is subject to subpart MMMMMM. The process involves heating shredded tires in an oxygen starved environment to recover carbon black, oil and steel from the tires. As such the process does not fall within the definition of "carbon black production" and is not subject to subpart MMMMMM.

*Abstract for [M150017]*

Q: The Olympic Region Clean Air Agency (ORCAA) in Port Angeles, Washington asked if 40 CFR part 63 subpart HHHHHH for Paint Stripping and Miscellaneous Surface Coating Operations apply to the process of spray-applied truck bed lining.

A: EPA determines that operations that spray-apply coatings to truck bed liners, including color coatings, are subject to subpart HHHHHH, based on the definitions of coatings and spray-applied coating operations in 40 CFR 63.11180. Although the definition of "truck bed liner coating" does exclude color coats, that definition is not referred in 40 CFR 63.11170, the applicability section for subpart HHHHHH. The lining operation is generally spray-applied using a hand-held device that creates an atomized mist of coating and deposits the coating on a substrate, just as are other automotive coatings.

*Abstract for [M150023]*

Q: Does EPA approve Holcim's particulate matter (PM) alternative continuous parameter monitoring system (CPMS) plan for the common stack venting exhaust emissions from different sources at their Portland cement plant in Florence, Colorado, subject to the National Emission Standards for Hazardous Air Pollutants

From the Portland Cement Manufacturing Industry, subpart LLL?

A: Yes. Pursuant to 40 CFR 63.8(f)(2) and 63.1350(o)(4), EPA conditionally approves the use of one PM CPMS on the common stack whereby a site-specific operating limit is established that corresponds to the results of performance testing demonstrating compliance with the kiln and clinker cooler emission limits. The conditions for approval are specified in the EPA response letter.

*Abstract for [M150024]*

Q: Does EPA approve an alternative monitoring plan that uses a longer averaging time for inlet flow monitoring as a surrogate parameter for monitoring methanol destruction in the Aeration Stabilization Basin (ASB) subject to the National Emission Standards for Hazardous Air Pollutants (NESHAP) from the Pulp and Paper Industry, subpart S, at the Clearwater Paper Corporation, Cypress Bend Mill located in McGehee, Arkansas?

A: Yes. Based on the monitoring data provided by the company and performance test results, EPA approves the AMP request. EPA agrees that a daily flow is not representative of the actual hydraulic retention time in the ASB, whereas a nine-day rolling average inlet flow established per 40 CFR 63.453(n)(4) provides an actual representation of the treatment system retention time.

*Abstract for [M150025]*

Q: Does EPA approve an alternative monitoring request to conduct monthly pressure differential measurements across the catalyst at load conditions within plus or minus 10 percent of the baseline load established during the initial engine performance tests outlined in QEP Field Services Company's (QEP) Consent Decree, rather than the plus or minus 10 percent of 100 percent load as required in 40 CFR part 63 subpart ZZZZ for Stationary Reciprocating Internal Combustion Engines located at Chapita, Coyote Wash, Island and Wonsits Valley Compressor Stations?

A: Yes. EPA conditionally approves the AMP request pursuant to § 63.8(t)(2) based on the performance testing negotiated as part of the QEP Consent Decree. EPA believes that it is technically appropriate to conduct the monthly pressure drop readings at plus or minus 10 percent of the load at an affected facility engine when the initial performance test that was conducted is showing compliance with the MACT ZZZZ. The conditions for approval are described in the EPA response letter.

*Abstract for [M150026]*

Q: Do NSPS subpart IIII and NESHAP subpart ZZZZ apply to the engine of a mobile power generator in Springdale, Arkansas that is designed to supply electrical power on a temporary basis, at various locations within the Kawneer Springdale Plant, and does not remain at any location greater than 12 months?

A: No. EPA determines that NSPS subpart IIII and NESHAP subpart ZZZZ do not apply since this engine is considered a nonroad mobile source. The mobile generator is a wheeled unit and its engine meets the criteria for a nonroad engine that it be by itself or in or on a piece of equipment that is portable or transportable. Furthermore, it will not remain in a single location for longer than 12 consecutive months.

*Abstract for [M150027]*

Q1: Is the stationary gas compression reciprocating internal combustion engine (RICE) at the Dimension Energy Company Coquille Bay, Louisiana facility a remote affected source under 40 CFR part 63 subpart ZZZZ?

A1: Yes. After reviewing the description of the RICE and its operations, EPA determines that it is an existing area source which meets the definition of a remote stationary RICE under 40 CFR 63.6675.

Q2: What are the continuing compliance requirements for a remote stationary RICE?

A2: The operator must: Perform prescribed preventative maintenance at certain intervals; maintain the RICE according to the manufacturer's instructions; minimize startup time or develop a maintenance plan using good air pollution prevention practices; and, maintain records to demonstrate that applicable requirements have been completed.

*Abstract for [M150028]*

Q: Does EPA agree that the Callidus Closed Loop Gasification System (CCLGS) at the Del-Tin Fiber plant in El Dorado, Arkansas is exempt from the Boiler MACT, subpart DDDDD under the exemption at 40 CFR 63.7491(h) because it is subject to and complying with the Plywood MACT, subpart DDDD?

A: No. The EPA determines that both the Boiler MACT and the Plywood MACT apply to specific components of the CCLGS based on a review of the design and operation information available for the Del-Tin Fiber facility, so the exemption at 40 CFR 63.7491(h) does not apply. The rotary gasifiers and secondary combustion chamber (SCC) are considered affected sources,

specifically defined as "process heaters" under the Boiler MACT when combustion gases are not used to directly heat process material. The portion of combustion gases that directly flow through the dryer units are considered affected sources under the Plywood MACT (§ 63.2232(b) and § 63.2292) and are thereby exempted from the Boiler MACT requirements (§ 63.7491(1)). However, any combustion gases from the rotary gasifiers and the SCC that bypass the dryer units and are used for indirect heat transfer to process material or to heat transfer material for use in a process unit are subject to the Boiler MACT (§ 63.7575).

*Abstract for [M150029]*

Q: Does EPA agree to accept data from a prior performance test in lieu of a new performance test to demonstrate initial compliance with 40 CFR part 63 subpart ZZZZ for six natural gas fueled spark plug ignition engines at the ExxonMobil Chemical facility in Baton Rouge, Louisiana?

A: Yes. EPA accepts a previous performance testing for six engines conducted in lieu of implementing an initial test. The testing was done using the same methods specified in subpart ZZZZ, and was conducted within two years of the performance test deadline. Additionally, the equipment was not modified following the April 2012 testing.

*Abstract for [M150030]*

Q: Does EPA agree that the RockTenn Hodge Mill Boiler in Hodge, Louisiana is a biomass hybrid suspension grate boiler under 40 CFR part 63 subpart DDDDD?

A: Yes. EPA agrees that the boiler is subject to NESHAP subpart DDDDD since the description provided meets the definition of a hybrid suspension grate boiler found in the rule. Since natural gas and tire derived fuel (TDF) are also used, the facility must keep records to demonstrate the annual average moisture content is at or above 40 percent. The facility must use natural gas for startup, shutdown, and flame stabilization, and use TDF when excessively firing wet biomass fuel.

*Abstract for [M150031]*

Q: Are three Electric Utility Generating Units (EUGUs) located at the Lafayette Utilities System (LUS) Doc Bonin Electric Generating Station in Lafayette, Louisiana considered to be affected sources with gas-fired boilers that are not subject to Boiler Area Source MACT, subpart JJJJJJ?

A: EPA determines that the boilers are not affected sources subject to the Boiler Area Source MACT if all conditions at 40 CFR 63.11237 are met. Gas-fired boilers are excluded from subpart JJJJJJ per 40 CFR 63.11195(e). A permit limitation is necessary to verify applicability requirements are met for each EUGU for burning fuel oil only during natural gas curtailment, and to not exceed testing hours with fuel oil during any calendar year.

*Abstract for [M150032]*

Q1: Does EPA approve an Alternative Monitoring Plan (AMP) for three Reciprocating Internal Combustion Engines (RICE) subject to NESHAP subpart ZZZZ at the Occidental Permian Terrill Gas Treating Facility for testing at less than 100 percent maximum load?

A1: Yes. EPA approves Occidental Permian proposed AMP for a lower engine load be set as a maximum load for compliance demonstration. Specifically, we approve performance testing at the alternate lower maximum engine load with monitoring required at plus or minus 10 percent. The three RICE cannot operate at 100 percent load due to site-specific operations at the facility, and therefore cannot be tested at 100 percent plus or minus 10 percent operational capacity, as specified at 40 CFR 63.6620(b)(2). If operations change such that the maximum load of the engines exceeds the alternative lower maximum load, the AMP approval will be terminated, and retesting will be required to demonstrate compliance with NESHAP subpart ZZZZ at the higher engine load.

*Abstract for [M150034]*

Q: Does EPA agree that the backup power generator at the Freddie MAC facility in Carrollton, Texas is classified as an existing commercial emergency stationary Reciprocating Internal Combustion Engine (RICE) that is not subject to 40 CFR part 63 subpart ZZZZ?

A: Yes. EPA determines that the Freddie MAC facility is an area source with a commercial NAICS code, and the backup power generator meets the exemption provided at 40 CFR 63.6585(f)(2) applicable to emergency stationary RICE operated at an area source. This RICE, used solely for backup power generation, have not exceeded 50 hours for any activities during any one year period within the past two year period.

*Abstract for [M150036]*

Q: Will EPA provide a waiver to CertainTeed Corporation of the 60-day requirement under 40 CFR 63.9(c) to notify EPA in advance of the initial



performance test at the GS Roofing facility in Portland, Oregon?

A: Yes. EPA is granting a waiver of the 60-day requirement for a notification prior to the initial performance test pursuant to 40 CFR 63.9(i) of the 40 CFR 63.9(c) requirement to enable testing during facility's highest volume period with the maximum ambient temperature, which is will occur in less than 60 days. This would enable the estimation of what the emissions are during a worst case scenario to test the limits of our system.

*Abstract for [Z150002]*

Q: Does 40 CFR part 61 subpart N apply to the Bullseye Glass Company's manufacture of colored art glass in its Portland, Oregon facility?

A: Yes. NESHAP subpart N applies to the company's manufacture of colored art glass. According to 40 CFR 61.160(a), 40 CFR part 61 subpart N does not apply to pot furnaces but rather to each glass melting furnace that uses commercial arsenic as a raw material. However, based on information provided by Bullseye Glass including descriptions, photos and diagrams, EPA determines that the vessels used by Bullseye do not meet the definition of pot furnaces because they are not sealed off from the furnace atmosphere so that there is potential for emissions to escape with the furnace exhaust.

*Abstract for [Z150004]*

Q: Are boilers/engines/marine equipment on a liquefied natural gas carrier (LNGC) at the proposed Aguirre Gasport located approximately 3 miles offshore of the Puerto Rico Electric Power Authority subject to NSPS and NESHAP standards when the LNGC will be converted into a Floating Storage and Regasification Unit (FSRU) to be permanently moored at the GasPort?

A: Yes. Based on the information provided, EPA determines that the FSRU is a stationary source because it utilizes boilers as the main propulsion devices instead of reciprocating internal combustion engines (RICE) and it will be permanently moored, except when there is a need to take the unit to safer water due to and special circumstances. Therefore, the affected equipment on the FSRU, except for non-reciprocating internal combustion engine (RICE), is subject to NSPS and NESHAP standards. All non-reciprocating RICE equipment on the FSRU is not a stationary sources because it falls under the definition of nonroad engines as they will be used on self-propelled equipment. Therefore, the NSPS and NESHAP do not apply to the nonroad RICE. However, the nonroad RICE must

comply with the applicable nonroad engine standards in 40 CFR parts 89, 94, 1039, 1042, 1043, 1045, 1048, 1054, 1065, and 1068, if applicable. Specific questions on the requirements and applicability of a particular NSPS and NESHAP rules can be discussed separately on a case-by-case basis as the need arises.

*Abstract for [Z150005]*

Q: Are the 39 emergency stationary reciprocating internal combustion engines (RICE) at Los Alamos National Laboratory (LANL) area source facility subject to RICE NESHAP requirements?

A: No. EPA determines that the 39 emergency RICE at LANL are not subject to the RICE NESHAP because they are located at an area source that is classified as an "institutional" facility. The RICE rule excludes existing stationary emergency engines located at residential, commercial, or institutional facilities that are area sources of HAP. Note that the engines must meet the definition of "Emergency stationary RICE" in 40 CFR 63.6675.

*Abstract for [Z150006]*

Q: Northern Natural Gas based in Omaha, Nebraska asked that, under 40 CFR 63.6625(h), part 63 NESHAP subpart ZZZZ for spark ignition reciprocating internal combustion engines (RICE) regarding minimizing engine idle time, if an engine does not complete start up within the thirty minute time limit, are there any restrictions on initiating another startup of the engine and/or the time frame to complete the subsequent startup?

A: No. An engine does not need to be shut off if it does not complete startup within thirty minutes. However, any further activity after thirty minutes is considered part of normal operation. Multiple startups should be counted as separate events with a thirty minute time limit per event. If startups occur consecutively with short durations in between, they could be considered as one startup since startups are part of a single occasion where the engine is working up to normal operations.

*Abstract for [Z150009]*

Q1: May emergency Reciprocating Internal Combustion Engines (RICE) that currently do not qualify for the exclusion in 40 CFR 63.6585(f)(2) because they are contractually obligated to be available for more than 15 hours for the purposes specified at 40 CFR 63.6640(f)(2)(ii) and (iii) and (f)(4)(ii), later qualify for exclusion once those contracts expire, provided that the other conditions of 40 CFR 63.6585(f)(2) are met?

A1: If an emergency stationary RICE does not meet the conditions for the exclusion in 40 CFR 63.6585(f)(2) as of the compliance date, then it is subject to subpart ZZZZ at the date of compliance. However, if the engine's status subsequently changes to meet the conditions of 40 CFR 63.6585(f)(2) after the compliance date, the engine would no longer be subject to subpart ZZZZ.

Q2: Can emergency RICE located at area sources continue to participate in peak shaving programs for up to 50 hours per year until May 3, 2014 without losing their emergency engine status?

A2: An emergency stationary RICE located at an area source of HAP emissions can be used for peak shaving for up to 50 hours per year until May 3, 2014 if the engine is operated as part of a peak shaving (load management program) with the local distribution system operator and the power is provided only to the facility itself or to support the local distribution system. This is the case whether or not the engine will be retrofitted to comply with the subpart ZZZZ standards for non-emergency engines.

Q3: Do 40 CFR 63.6640(f)(4)(i) and (ii) address separate and distinct non-emergency situations, and does the "local reliability" exception set forth in 40 CFR 63.6640(f)(4)(ii) have no sunset provision?

A3: Yes. 40 CFR 63.6640(f)(4)(i) and (ii) are separate and distinct situations and there is no sunset provision for the operation specified in § 63.6640(f)(4)(ii). An emergency stationary RICE at an area source of HAP emissions can continue to operate for up to 50 hours per calendar year for the purpose specified in § 63.6640(f)(4)(ii) beyond May 3, 2014.

Q4: How does EPA interpret 40 CFR 63.6640(f)(4)(ii)(A), which requires that to qualify for the 50 hour exemption, the emergency RICE must be dispatched by the local balancing or local transmission and distribution system operator?

A4: If the local transmission and distribution system operator informs the facility that they will be cutting their power, which, in turn, causes the facility to engage its emergency stationary RICE, the engine would be considered dispatched by the local transmission and distribution system operator.

*Abstract for [Z150010]*

Q1: What date is used under NESHAP subpart ZZZZ to determine if engines located at Allison Transmission Indianapolis facility in Indiana, are "existing" or "new"?



A1: The rule uses the date that the engine commenced construction to determine if the engine is existing or new. The General Provisions to 40 CFR part 63 define both “construction” and “commenced” and those definitions are applied to the subpart.

Q2: Does NESHAP subpart ZZZZ apply to an engine that has been rebuilt, specifically where the engine core is reused, but components such as pistons, rings and bearings are reconditioned or replaced?

A2: A rebuilt engine would need to be evaluated to determine if reconstruction had occurred. The General Provisions to part 63 defines “reconstruction.”

*Abstract for [Z150011]*

Q: Are the emergency engines located at the NASA Langley Research Facility in Hampton, VA subject to NESHAP subpart ZZZZ for Reciprocating Internal Combustion Engines?

A: No. EPA determines that the emergency engines are located at a facility that is an area source and classified as an “institutional” facility. Therefore, under 40 CFR 63.6590(b)(3), emergency engines at the facility are exempt from requirements under NESHAP subpart ZZZZ.

*Abstract for [1600004]*

Q: Does EPA accept the industry coalition request to rescind a November 21, 2007, letter to the National Grain and Feed Association in which EPA stated that temporary storage facilities meet the definition of “permanent storage capacity” under 40 CFR part 60, subpart DD, NSPS for Grain Elevators (Subpart DD), and required it be included when determining applicability of Subpart DD for a particular facility?

A: Yes. The EPA is proposing revisions to Subpart DD and has also decided to re-evaluate the rationale for the November 21, 2007 letter. While the definition of “permanent storage capacity” in Subpart DD is broad, we are now aware that temporary storage facilities (TSFs) generally handle the grain less time throughout the year than other types of permanent storage facilities and may require different treatment. Also, while not dispositive as to the applicability of the rule to these units, we note that TSFs did not exist during the development of Subpart DD, and their processes and handling techniques were not specifically considered during the rulemaking process. For these reasons, EPA rescinds the November 21, 2007 letter. As a result, TSFs do not meet the definition of “permanent storage capacity” under Subpart DD and should not be included

when determining applicability under Subpart DD for a particular facility.

Dated: February 25, 2016.

**Betsy Smidinger,**

*Acting Director, Office of Compliance.*

[FR Doc. 2016-07185 Filed 3-29-16; 8:45 am]

**BILLING CODE 6560-50-P**

## FEDERAL COMMUNICATIONS COMMISSION

[OMB 3060-1213]

### Information Collection Being Reviewed by the Federal Communications Commission Under Delegated Authority

**AGENCY:** Federal Communications Commission.

**ACTION:** Notice and request for comments.

**SUMMARY:** As part of its continuing effort to reduce paperwork burdens, and as required by the Paperwork Reduction Act (PRA) of 1995 (44 U.S.C. 3501–3520), the Federal Communications Commission (Commission) invites the general public and other Federal agencies to take this opportunity to comment on the following information collection. Comments are requested concerning: Whether the collection of information is necessary for the proper performance of the functions of the Commission, including whether the information shall have practical utility; the accuracy of the Commission’s burden estimate; ways to enhance the quality, utility, and clarity of the information collected; ways to minimize the burden of the collection of information on the respondents, including the use of automated collection techniques or other forms of information technology; and ways to further reduce the information collection burden on small business concerns with fewer than 25 employees.

The Commission may not conduct or sponsor a collection of information unless it displays a currently valid control number. No person shall be subject to any penalty for failing to comply with a collection of information subject to the PRA that does not display a valid Office of Management and Budget (OMB) control number.

**DATES:** Written PRA comments should be submitted on or before May 31, 2016.

**ADDRESSES:** Direct all PRA comments to Cathy Williams, FCC, via email [PRA@fcc.gov](mailto:PRA@fcc.gov) and to [Cathy.Williams@fcc.gov](mailto:Cathy.Williams@fcc.gov). Include in the comments the Title as shown in the **SUPPLEMENTARY INFORMATION** section below.

**FOR FURTHER INFORMATION CONTACT:** For additional information about the information collection, contact Cathy Williams at (202) 418–2918.

### SUPPLEMENTARY INFORMATION:

*OMB Control Number:* 3060–1213.

*Title:* Application to Participate in a Reverse Incentive Auction, FCC Form 177.

*Form Number:* FCC Form 177.

*Type of Review:* Extension of a currently approved collection.

*Respondents:* Business or other for-profit entities, not-for-profit institutions, and state, local or tribal governments.

*Estimated Number of Respondents and Responses:* 600 respondents and 600 responses.

*Estimated Time per Response:* 90 minutes.

*Frequency of Response:* One-time reporting requirement.

*Obligation to Respond:* Required to obtain or retain benefits. Statutory authority for the currently approved information collection is contained in sections 154(i) and 309(j)(5) of the Communications Act, as amended, 47 U.S.C. 4(i), 309(j)(5), and sections 1.2204 and 73.3700(h)(4)(i), (h)(4)(ii), and (h)(6) of the Commission’s rules, 47 CFR 1.2204, 73.3700(h)(4)(i), (h)(4)(ii), and (h)(6).

*Estimated Total Annual Burden:* 900 hours.

*Total Annual Costs:* None.

*Nature and Extent of Confidentiality:* Certain information collected on FCC Form 177 will be treated as confidential for various periods of time during the course of the broadcast incentive auction (BIA) pursuant to 47 U.S.C. 1452(a)(3) and section 1.2206(b) of the Commission’s rules, 47 CFR 1.2206(b). To the extent necessary, respondents may request confidential treatment of information collected on FCC Form 177 that is not already being treated as confidential pursuant to section 0.459 of the Commission’s rules. *See* 47 CFR 0.459.

*Privacy Act Impact Assessment:* No impact(s).

*Needs and Uses:* A request for approval of this information collection will be submitted to the Office of Management and Budget (OMB) after this 60-day comment period in order to obtain the full three year clearance from OMB. On February 22, 2012, the President signed the Spectrum Act, which, among other things, authorized the Commission to conduct incentive auctions, and directed that the Commission use this innovative tool for an incentive auction of broadcast television spectrum to help meet the Nation’s growing spectrum needs. *See*

Middle Class Tax Relief and Job Creation Act of 2012, Public Law 112–96, sections 6402, 6403, 125 Stat. 156 (2012) (Spectrum Act). The Commission's broadcast incentive auction (BIA) will have three main components: (1) A reverse auction in which broadcast television licensees will submit bids to voluntarily relinquish their spectrum usage rights in exchange for defined shares of proceeds from the forward auction; (2) a repacking of the broadcast television bands; and (3) a forward auction of initial licenses for flexible use of the newly available spectrum. The information collection requirements reported under this new collection are the result of various Commission actions in which the Commission adopted general rules to govern the auction—including various application disclosures and certifications that must be made by broadcast television licensees to establish their eligibility to participate in the reverse auction—in order to implement the new and novel incentive auction approach for use in the BIA.

Under this information collection, the Commission will collect information that will be used to determine whether an applicant is legally qualified to participate in a reverse incentive auction. To aid in collecting this information, the Commission has created FCC Form 177, which the public will use to participate in reverse incentive auctions, including the Commission's upcoming broadcast incentive reverse auction. The Commission's auction rules and related requirements are designed to ensure that the competitive bidding process is limited to serious qualified applicants, deter possible abuse of the bidding and licensing process, and enhance the use of competitive bidding to assign Commission licenses and permits in furtherance of the public interest. The information collected on FCC Form 177 will be used by the Commission to determine if an applicant is legally qualified to participate in the reverse auction. Commission staff will review the information collected on FCC Form 177 as part of the pre-auction process, prior to the start of the reverse auction. Staff will determine whether each applicant satisfies the Commission's requirements to participate in the reverse auction. Without the information collected on FCC Form 177, the Commission will not be able to determine if an applicant is legally qualified to participate in the reverse auction and has complied with the various applicable regulatory and

statutory auction requirements for such participation.

Federal Communications Commission.

**Marlene H. Dortch,**

*Secretary, Office of the Secretary.*

[FR Doc. 2016–07116 Filed 3–29–16; 8:45 am]

**BILLING CODE 6712–01–P**

## FEDERAL COMMUNICATIONS COMMISSION

[OMB 3060–1214]

### Information Collection Being Reviewed by the Federal Communications Commission

**AGENCY:** Federal Communications Commission.

**ACTION:** Notice and request for comments.

**SUMMARY:** As part of its continuing effort to reduce paperwork burdens, and as required by the Paperwork Reduction Act (PRA) of 1995 (44 U.S.C. 3501–3520), the Federal Communications Commission (FCC or the Commission) invites the general public and other Federal agencies to take this opportunity to comment on the following information collection. Comments are requested concerning: Whether the proposed collection of information is necessary for the proper performance of the functions of the Commission, including whether the information shall have practical utility; the accuracy of the Commission's burden estimate; ways to enhance the quality, utility, and clarity of the information collected; ways to minimize the burden of the collection of information on the respondents, including the use of automated collection techniques or other forms of information technology; and ways to further reduce the information collection burden on small business concerns with fewer than 25 employees. The FCC may not conduct or sponsor a collection of information unless it displays a currently valid control number. No person shall be subject to any penalty for failing to comply with a collection of information subject to the PRA that does not display a valid Office of Management and Budget (OMB) control number.

**DATES:** Written PRA comments should be submitted on or before May 31, 2016. If you anticipate that you will be submitting comments, but find it difficult to do so within the period of time allowed by this notice, you should advise the contact listed below as soon as possible.

**ADDRESSES:** Direct all PRA comments to Nicole Ongele, FCC, via email [PRA@fcc.gov](mailto:PRA@fcc.gov) and to [Nicole.Ongele@fcc.gov](mailto:Nicole.Ongele@fcc.gov).

**FOR FURTHER INFORMATION CONTACT:** For additional information about the information collection, contact Nicole Ongele at (202) 418–2991.

### SUPPLEMENTARY INFORMATION:

*OMB Control Number:* 3060–1214.

*Title:* Direct Access to Numbers Order, FCC 15–70, Conditions.

*Form Number:* N/A

*Type of Review:* Revision of currently approved collection.

*Respondents:* Business or other for-profit.

*Number of Respondents and*

*Responses:* 13 respondents; 13 responses.

*Estimated Time per Response:* 10–20 hours.

*Frequency of Response:* One-time application, on-going and bi-annual reporting requirements.

*Obligation to Respond:* Voluntary. Statutory authority for this information collection is contained in 47 U.S.C. 251(e)(1).

*Total Annual Burden:* 520 hours.

*Total Annual Costs:* No cost.

*Privacy Act Impact Assessment:* No impact(s).

*Nature and Extent of Confidentiality:* If respondents submit information which respondents believe is confidential, respondents may request confidential treatment of such information pursuant to section 0.459 of the Commission's rules, 47 CFR 0.459.

*Needs and Uses:* In a June 2015 Report and Order (FCC 15–70), the Commission established the Numbering Authorization Application process, which allows interconnected VoIP providers to apply for a blanket authorization from the FCC that, once granted, will allow them to demonstrate that they have the authority to provide service in specific areas, thus enabling them to request numbers directly from the Numbering Administrators. This collection covers the information and certifications that applicants must submit in order to comply with the Numbering Authorization Application process. The data, information, and documents acquired through this collection will allow interconnected VoIP providers to obtain numbers with minimal burden or delay while also preventing providers from obtaining numbers without first demonstrating that they can deploy and properly utilize such resources. This information will also help the Federal Communications Commission (FCC) protect against number exhaust while promoting competitive neutrality among

traditional telecommunications carriers and interconnected VoIP providers by allowing both entities to obtain numbers directly from the Numbering Administrators. It will further help the FCC to maintain efficient utilization of numbering resources and ensure that telephone numbers are not being stranded.

Federal Communications Commission.

**Marlene H. Dortch,**

*Secretary.*

[FR Doc. 2016-07115 Filed 3-29-16; 8:45 am]

BILLING CODE 6712-01-P

## FEDERAL COMMUNICATIONS COMMISSION

[OMB 3060-0600 and 3060-0995]

### Information Collections Being Reviewed by the Federal Communications Commission Under Delegated Authority

**AGENCY:** Federal Communications Commission.

**ACTION:** Notice and request for comments.

**SUMMARY:** As part of its continuing effort to reduce paperwork burdens, and as required by the Paperwork Reduction Act (PRA) of 1995 (44 U.S.C. 3501–3520), the Federal Communications Commission invites the general public and other Federal agencies to take this opportunity to comment on the following information collection. Comments are requested concerning: Whether the proposed collection of information is necessary for the proper performance of the functions of the Commission, including whether the information shall have practical utility; the accuracy of the Commission's burden estimate; ways to enhance the quality, utility, and clarity of the information collected; ways to minimize the burden of the collection of information on the respondents, including the use of automated collection techniques or other forms of information technology; and ways to further reduce the information collection burden on small business concerns with fewer than 25 employees.

The FCC may not conduct or sponsor a collection of information unless it displays a currently valid control number. No person shall be subject to any penalty for failing to comply with a collection of information subject to the PRA that does not display a valid Office of Management and Budget (OMB) control number.

**DATES:** Written PRA comments should be submitted on or before May 31, 2016.

**ADDRESSES:** Direct all PRA comments to Cathy Williams, FCC, via email [PRA@fcc.gov](mailto:PRA@fcc.gov) and to [Cathy.Williams@fcc.gov](mailto:Cathy.Williams@fcc.gov). Include in the comments the Title as shown in the **SUPPLEMENTARY INFORMATION** section below.

**FOR FURTHER INFORMATION CONTACT:** For additional information about the information collection, contact Cathy Williams at (202) 418–2918.

#### SUPPLEMENTARY INFORMATION:

*OMB Control Number:* 3060–0600.

*Title:* Application to Participate in an FCC Auction, FCC Form 175.

*Form Number:* FCC Form 175.

*Type of Review:* Extension of a currently approved collection.

*Respondents:* Business or other for-profit entities, not-for-profit institutions, and state, local or tribal governments.

*Estimated Number of Respondents and Responses:* 500 respondents and 500 responses.

*Estimated Time per Response:* 90 minutes.

*Frequency of Response:* On occasion reporting requirement.

*Obligation to Respond:* Required to obtain or retain benefits. Statutory authority for the currently approved information collection is contained in sections 154(i) and 309(j)(5) of the Communications Act, as amended, 47 U.S.C. 4(i), 309(j)(5), and sections 1.2105, 1.2110, 1.2112 of the Commission's rules, 47 CFR 1.2105, 1.2110, 1.2112. Statutory authority for the revised information collection is contained in sections 154(i) and 309(j)(5) of the Communications Act of 1934, as amended, 47 U.S.C. 4(i), 309(j)(5), and sections 1.2105, 1.2110, 1.2112 of the Commission's rules, as amended, 47 CFR 1.2105, 1.2110, 1.2112.

*Estimated Total Annual Burden:* 750 hours.

*Total Annual Costs:* None.

*Nature and Extent of Confidentiality:* Information collected on FCC Form 175 is made available for public inspection, and the Commission is not requesting that respondents submit confidential information on FCC Form 175. Respondents seeking to have information collected on FCC Form 175 withheld from public inspection may request confidential treatment of such information pursuant to section 0.459 of the Commission's rules, 47 CFR 0.459.

*Privacy Act Impact Assessment:* No impact(s).

*Needs and Uses:* A request for extension of this information collection (no change in requirements) will be submitted to the Office of Management and Budget (OMB) after this 60-day comment period in order to obtain the

full three year clearance from OMB. On February 22, 2012, the President signed the Spectrum Act, which, among other things, authorized the Commission to conduct incentive auctions, and directed that the Commission use this innovative tool for an incentive auction of broadcast television spectrum to help meet the Nation's growing spectrum needs. See Middle Class Tax Relief and Job Creation Act of 2012, Pub. L. 112–96, sections 6402, 6403, 125 Stat. 156 (2012) (Spectrum Act). The Commission's broadcast incentive auction (BIA) will have three main components: (1) A reverse auction in which broadcast television licensees will submit bids to voluntarily relinquish their spectrum usage rights in exchange for defined shares of proceeds from the forward auction; (2) a repacking of the broadcast television bands; and (3) a forward auction of initial licenses for flexible use of the newly available spectrum.

The Commission is revising the currently approved information collection on FCC Form 175 to implement new collection requirements that are the result of (1) various Commission actions in which the Commission adopted general rules and procedures to govern the BIA, including rules applicable to applicants seeking to participate in the forward auction component of the BIA and, (2) the Commission's adoption of new and modified competitive bidding rules and requirements in the *Updating Part 1 Report and Order*, which will apply to applicants seeking to participate in a Commission auction, including the forward auction component of the BIA.

The Commission's auction rules and related requirements are designed to ensure that the competitive bidding process is limited to serious qualified applicants, deter possible abuse of the bidding and licensing process, and enhance the use of competitive bidding to assign Commission licenses in furtherance of the public interest. The information collected on FCC Form 175 is used by the Commission to determine if an applicant is legally, technically, and financially qualified to participate in a Commission auction. Additionally, if an applicant applies for status as a particular type of auction participant pursuant to Commission rules, the Commission uses information collected on FCC Form 175 to determine whether the applicant is eligible for the status requested. Commission staff reviews the information collected on FCC Form 175 for a particular auction as part of the pre-auction process, prior to the auction being held. Staff determines whether each applicant satisfies the

Commission's requirements to participate in the auction and, if applicable, is eligible for the status as a particular type of auction participant it requested. Without the information collected on FCC Form 175, the Commission will not be able to determine if an applicant is legally, technically, and financially qualified to participate in a Commission auction, including the forward auction component of the BIA, and has complied with the various applicable regulatory and statutory auction requirements for such participation.

The Commission plans to continue to use the FCC Form 175 for all upcoming, non-reverse spectrum auctions, including those required or authorized to be conducted pursuant to the Spectrum Act, collecting only the information necessary for each particular auction.

*OMB Control Number:* 3060-0995.

*Title:* Section 1.2105(c), Bidding Application and Certification Procedures; Sections 1.2105(c) and 1.2205, Prohibition of Certain Communications.

*Form Number:* N/A.

*Type of Review:* Extension of a currently approved collection.

*Respondents:* Business or other for-profit entities, not-for-profit institutions, and state, local or tribal governments.

*Estimated Number of Respondents and Responses:* 10 respondents and 10 responses.

*Estimated Time per Response:* 1.5 hours to 2 hours.

*Frequency of Response:* On occasion reporting requirement.

*Obligation to Respond:* Required to obtain or retain benefits. Statutory authority for this currently approved information collection is contained in sections 154(i) and 309(j) of the Communications Act, as amended, 47 U.S.C. 4(i), 309(j)(5), and section 1.2105(c) of the Commission's rules, 47 CFR 1.2105(c). Statutory authority for the revised information collection is contained in sections 154(i), 309(j), and 1452(a)(3) of the Communications Act, as amended, 47 U.S.C. 4(i), 309(j)(5), 1452(a)(3), and sections 1.2105(c) and 1.2205 of the Commission's rules, 47 CFR 1.2105(c), 1.2205.

*Estimated Total Annual Burden:* 50 hours.

*Total Annual Costs:* \$9,000.

*Nature and Extent of Confidentiality:* The Commission will take all reasonable steps to protect the confidentiality of all Commission-held data of a reverse auction applicant consistent with the confidentiality requirements of the Spectrum Act and the Commission's

rules. See 47 U.S.C. 1452(a)(3); 47 CFR 1.2206. In addition, to the extent necessary, a full power or Class A television broadcast licensee may request confidential treatment of any report of a prohibited communication submitted to the Commission that is not already being treated as confidential pursuant to section 0.459 of the Commission's rules, 47 CFR 0.459. Forward auction applicants are entitled to request confidentiality in accordance with section 0.459 of the Commission's rules, 47 CFR 0.459.

*Privacy Act Impact Assessment:* No impact(s).

*Needs and Uses:* A request for extension of this information collection (no change in requirements) will be submitted to the Office of Management and Budget (OMB) after this 60-day comment period in order to obtain the full three year clearance from OMB. On February 22, 2012, the President signed the Spectrum Act, which, among other things, authorized the Commission to conduct incentive auctions, and directed that the Commission use this innovative tool for an incentive auction of broadcast television spectrum to help meet the Nation's growing spectrum needs. See Middle Class Tax Relief and Job Creation Act of 2012, Public Law 112-96, sections 6402, 6403, 125 Stat. 156 (2012) (Spectrum Act), codified at 47 U.S.C. 309(j)(8)(G), 1452. The Commission's broadcast incentive auction (BIA) will have three main components: (1) A reverse auction in which broadcast television licensees will submit bids to voluntarily relinquish their spectrum usage rights in exchange for defined shares of proceeds from the forward auction; (2) a repacking of the broadcast television bands; and (3) a forward auction of initial licenses for flexible use of the newly available spectrum.

The Commission is revising the currently approved information collection to implement new collection requirements resulting from the Commission's adoption of new and modified rules prohibiting certain communications for full power and Class A television broadcast licensees and for applicants seeking to participate in the forward auction component of the BIA and requiring such covered parties to file a report with the Commission within a specified period of time if they make or receive a prohibited communication. Subject to certain exceptions, section 1.2205(b) of the Commission's rules provides that, beginning on the deadline for submitting applications to participate in the reverse auction and until the results of the incentive auction are announced

by public notice, all full power and Class A broadcast television licensees are prohibited from communicating directly or indirectly any incentive auction applicant's bids or bidding strategies to any other full power or Class A broadcast television licensee or to any forward auction applicant. Section 1.2205(c) requires any party that makes or receives a prohibited communication to report such communication in writing to the Commission immediately, and in no case later than five business days after the communication occurs. Section 1.2205(d) provides the procedures for filing any reports required under section 1.2205(c). Subject to certain exceptions, forward auction applicants in the BIA are subject to a BIA-specific provision in section 1.2105(c) of the Commission's rules (in addition to the Commission's existing prohibited communications rule applicable to applicants in traditional Commission auctions), which provides that, beginning on the deadline for submitting applications to participate in the forward auction and until the results of the incentive auction have been announced by public notice, all forward auction applicants are prohibited from communicating directly or indirectly any incentive auction applicant's bids or bidding strategies to any full power or Class A broadcast television licensee. Section 1.2105(c) requires forward applicants that make or receive a prohibited communications that is prohibited under section 1.2105(c) to file a report of such a communication with the Commission.

The Commission's rules prohibiting certain communications in Commission auctions are designed to reinforce existing antitrust laws, facilitate detection of collusive conduct, and deter anticompetitive behavior, without being so strict as to discourage pro-competitive arrangements between auction participants. They also help assure participants that the auction process will be fair and objective, and not subject to collusion. The information collected through the Commission's existing reporting requirement under section 1.2105(c) allows the Commission to enforce the prohibition on forward auction applicants by making clear the responsibility of parties who receive information that potentially violates the rules to promptly report to the Commission, thereby enhancing the competitiveness and fairness of its spectrum auctions. The revised information collection under the BIA-specific rule in section 1.2105(c) and in sections 1.2205(c) and 1.2205(d) will

likewise help the Commission enforce the prohibition on covered parties in the BIA, further assuring incentive auction participants that the auction process will be fair and competitive. The prohibited communication reporting requirement required of covered parties will enable the Commission to ensure that no bidder gains an unfair advantage over other bidders in its auctions and thus enhances the competitiveness and fairness of Commission's auctions. The information collected will be reviewed and, if warranted, referred to the Commission's Enforcement Bureau for possible investigation and administrative action. The Commission may also refer allegations of anticompetitive auction conduct to the Department of Justice for investigation.

Federal Communications Commission.

**Marlene H. Dortch,**

*Secretary, Office of the Secretary.*

[FR Doc. 2016-07121 Filed 3-29-16; 8:45 am]

**BILLING CODE 6712-01-P**

## FEDERAL COMMUNICATIONS COMMISSION

[OMB 3060-0895]

### Information Collection Being Reviewed by the Federal Communications Commission

**AGENCY:** Federal Communications Commission.

**ACTION:** Notice and request for comments.

**SUMMARY:** As part of its continuing effort to reduce paperwork burdens, and as required by the Paperwork Reduction Act (PRA) of 1995 (44 U.S.C. 3501-3520), the Federal Communications Commission (FCC or the Commission) invites the general public and other Federal agencies to take this opportunity to comment on the following information collection. Comments are requested concerning: Whether the proposed collection of information is necessary for the proper performance of the functions of the Commission, including whether the information shall have practical utility; the accuracy of the Commission's burden estimate; ways to enhance the quality, utility, and clarity of the information collected; ways to minimize the burden of the collection of information on the respondents, including the use of automated collection techniques or other forms of information technology; and ways to further reduce the information collection burden on small business concerns with fewer than 25 employees.

The FCC may not conduct or sponsor a collection of information unless it displays a currently valid control number. No person shall be subject to any penalty for failing to comply with a collection of information subject to the PRA that does not display a valid Office of Management and Budget (OMB) control number.

**DATES:** Written PRA comments should be submitted on or before May 31, 2016. If you anticipate that you will be submitting comments, but find it difficult to do so within the period of time allowed by this notice, you should advise the contact listed below as soon as possible.

**ADDRESSES:** Direct all PRA comments to Nicole Ongele, FCC, via email [PRA@fcc.gov](mailto:PRA@fcc.gov) and to [Nicole.Ongele@fcc.gov](mailto:Nicole.Ongele@fcc.gov).

**FOR FURTHER INFORMATION CONTACT:** For additional information about the information collection, contact Nicole Ongele at (202) 418-2991.

#### SUPPLEMENTARY INFORMATION:

*OMB Control Number:* 3060-0895.

*Title:* Numbering Resource

Optimization, CC Docket No. 99-200.

*Form Number:* FCC Form 502.

*Type of Review:* Revision of a currently approved collection.

*Respondents:* Business or other for-profit entities and state, local or tribal government.

*Number of Respondents and*

*Responses:* 2,793 respondents; 10,165 responses.

*Estimated Time per Response:* 1 hour-44.4 hours.

*Frequency of Response:* On occasion and semi-annual reporting requirements and recordkeeping requirement.

*Obligation to Respond:* Mandatory. Statutory authority for this information collection is contained in 47 U.S.C. 151, 153, 154, 201-205 and 251 of the Communications Act of 1934.

*Total Annual Burden:* 132,384 hours.

*Total Annual Cost:* \$3,465,570.20.

*Privacy Impact Assessment:* No impact(s).

*Nature and Extent of Confidentiality:* Disaggregated, carrier specific forecast and utilization data will be treated as confidential and will be exempt from public disclosure under 5 U.S.C. 552(b)(4).

*Needs and Uses:* The data collected on FCC Form 502 helps the Commission manage the ten-digit North American Numbering Plan (NANP), which is currently being used by the United States and 19 other countries. Under the Communications Act of 1934, as amended, the Commission was given "exclusive jurisdictions over those portions of the North American Numbering Plan that pertains to the

United States." Pursuant to that authority, the Commission conducted a rulemaking in March 2000 that the Commission found that mandatory data collection is necessary to efficiently monitor and manage numbering use. The Commission is revising this information collection to implement its newly adopted rules that allow interconnected Voice over Internet Protocol (VoIP) providers to obtain numbering resources directly from the Numbering Administrators. The following information collection requirements will be contained in this collection:

- (1) Utilization/Forecast Report;
- (2) Application for initial numbering resource;
- (3) Application for growth numbering resources;
- (4) Recordkeeping requirement;
- (5) Notifications by state commissions;
- (6) Demonstration to state commission; and
- (7) Petitions for additional delegation of numbering authority.

The data from this information collection is used by the FCC, state regulatory commissions, and the NANPA to monitor numbering resource utilization by all carriers using the resource and to project the dates of area code and NANP exhaust.

Federal Communications Commission.

**Gloria J. Miles,**

*Federal Register Liaison Officer, Office of the Secretary.*

[FR Doc. 2016-07148 Filed 3-29-16; 8:45 am]

**BILLING CODE 6712-01-P**

## FEDERAL COMMUNICATIONS COMMISSION

[OMB 3060-0953]

### Information Collection Being Reviewed by the Federal Communications Commission

**AGENCY:** Federal Communications Commission.

**ACTION:** Notice and request for comments.

**SUMMARY:** As part of its continuing effort to reduce paperwork burdens, and as required by the Paperwork Reduction Act (PRA) of 1995 (44 U.S.C. 3501-3520), the Federal Communications Commission (FCC or the Commission) invites the general public and other Federal agencies to take this opportunity to comment on the following information collection. Comments are requested concerning: Whether the proposed collection of

information is necessary for the proper performance of the functions of the Commission, including whether the information shall have practical utility; the accuracy of the Commission's burden estimate; ways to enhance the quality, utility, and clarity of the information collected; ways to minimize the burden of the collection of information on the respondents, including the use of automated collection techniques or other forms of information technology; and ways to further reduce the information collection burden on small business concerns with fewer than 25 employees.

The FCC may not conduct or sponsor a collection of information unless it displays a currently valid control number. No person shall be subject to any penalty for failing to comply with a collection of information subject to the PRA that does not display a valid Office of Management and Budget (OMB) control number.

**DATES:** Written PRA comments should be submitted on or before May 31, 2016. If you anticipate that you will be submitting comments, but find it difficult to do so within the period of time allowed by this notice, you should advise the contact listed below as soon as possible.

**ADDRESSES:** Direct all PRA comments to Nicole Ongele, FCC, via email [PRA@fcc.gov](mailto:PRA@fcc.gov) and to [Nicole.Ongele@fcc.gov](mailto:Nicole.Ongele@fcc.gov).

**FOR FURTHER INFORMATION CONTACT:** For additional information about the information collection, contact Nicole Ongele at (202) 418-2991.

**SUPPLEMENTARY INFORMATION:**

*OMB Control Number:* 3060-0953.

*Title:* Sections 95.1111 and 95.1113, Frequency Coordination/Coordinator, Wireless Medical Telemetry Service (WMTS).

*Form No.:* N/A.

*Type of Review:* Revision of a currently approved collection.

*Respondents:* Business or other for-profit and not-for-profit institutions.

*Number of Respondents and Responses:* 3,000 respondents; 3,000 responses.

*Estimated Time per Response:* 1–5 hours.

*Frequency of Response:* On occasion reporting requirement, third party disclosure requirement and recordkeeping requirement.

*Obligation to Respond:* Required to obtain or retain benefits. Statutory authority for this information collection is contained in 47 U.S.C. 154 and 303.

*Total Annual Burden:* 15,000 hours.

*Total Annual Cost:* \$750,000.

*Privacy Act Impact Assessment:* N/A.

*Nature and Extent of Confidentiality:* No information is requested that would require assurance of confidentiality.

*Needs and Uses:* The Commission will submit this information collection to OMB as a revision after this 60 day comment period to obtain the full three-year clearance from them.

On August 11, 2015 the Federal Communications Commission released a Report and Order, *Amendment of Part 15 of the Commission's Rules for Unlicensed Operations in the Television Bands, Repurposed 600 MHz Band, 600 MHz Guard Bands and Duplex Gap, and Channel 37, and Amendment of Part 74 of the Commission's Rules for Low Power Auxiliary Stations in the Repurposed 600 MHz Band and 600 MHz Duplex Gap*, ET Docket No 14–165, GN Docket No. 12–268, FCC 15–99, which modifies Commission rules for unlicensed wireless devices and wireless microphones in the reconstituted TV bands and the new 600 MHz band.

On June 12, 2000, the Commission released a Report and Order, ET Docket No. 99–255, FCC 00–211, which allocated spectrum and established rules for a “Wireless Medical Telemetry Service” (WMTS) that allows potentially life-critical equipment to operate in an interference-protected basis. Medical telemetry equipment is used in hospitals and health care facilities to transmit patient measurement data such as pulse and respiration rate to a nearby receiver, permitting greater patient mobility and increased comfort. The Commission designated a frequency coordinator, who maintains a database of all WMTS equipment. All parties using equipment in the WMTS are required to coordinate/register their operating frequency and other relevant technical operating parameters with the designated coordinator. The database provides a record of the frequencies used by each facility or device to assist parties in selecting frequencies to avoid interference. Without a database, there would be no record of WMTS usage because WMTS transmitters will not be individually licensed. The designated frequency coordinator has the responsibility to maintain an accurate engineering database of all WMTS transmitters, identified by location (coordinates, street address, and building), operating frequency, emission type and output power, frequency range(s) used, modulation scheme used, effective radiated power, number of transmitters in use at the health care facility at the time of registration, legal name of the authorized health care provider, and point of contact for

authorized health care provider. The frequency coordinator will make the database available to WMTS users, equipment manufacturers and the public. The coordinator will also notify users of potential frequency conflicts. In addition, in order to receive interference protection, parties operating WMTS networks on channel 37 shall notify one of the white space database administrators of their operating location pursuant to §§ 15.713(j)(11) and 15.715(p) of that chapter.

Federal Communications Commission.

**Marlene H. Dortch,**

*Secretary.*

[FR Doc. 2016–07117 Filed 3–29–16; 8:45 am]

**BILLING CODE 6712–01–P**

## FEDERAL DEPOSIT INSURANCE CORPORATION

### FDIC Systemic Resolution Advisory Committee; Notice of Meeting

**AGENCY:** Federal Deposit Insurance Corporation.

**ACTION:** Notice of open meeting.

**SUMMARY:** In accordance with the Federal Advisory Committee Act, Pub. L. 92–463 (Oct. 6, 1972), 5 U.S.C. App. 2, notice is hereby given of a meeting of the FDIC Systemic Resolution Advisory Committee (the “SR Advisory Committee”), which will be held in Washington, DC. The SR Advisory Committee will provide advice and recommendations on a broad range of issues regarding the resolution of systemically important financial companies pursuant to the Dodd-Frank Wall Street Reform and Consumer Protection Act, Pub. L. 111–203 (July 21, 2010), 12 U.S.C. 5301 *et seq.* (the “Dodd-Frank Act”).

**DATES:** Thursday, April 14, 2016, from 9:00 a.m. to 3:00 p.m.

**ADDRESSES:** The meeting will be held in the FDIC Board Room on the sixth floor of the FDIC Building located at 550 17th Street NW., Washington, DC.

**FOR FURTHER INFORMATION CONTACT:** Requests for further information concerning the meeting may be directed to Mr. Robert E. Feldman, Committee Management Officer of the FDIC, at (202) 898–7043.

**SUPPLEMENTARY INFORMATION:**

#### Agenda

The agenda will include a discussion of a range of issues and developments related to the resolution of systemically important financial companies pursuant to the Dodd-Frank Act. The agenda may be subject to change. Any changes to the

agenda will be announced at the beginning of the meeting.

### Type of Meeting

The meeting will be open to the public, limited only by the space available, on a first-come, first-served basis. For security reasons, members of the public will be subject to security screening procedures and must present valid photo identification to enter the building. The FDIC will provide attendees with auxiliary aids (e.g., sign language interpretation) required for this meeting. Those attendees needing such assistance should call (703) 562-6067 (Voice or TTY) at least two days before the meeting to make necessary arrangements. Written statements may be filed with the SR Advisory Committee before or after the meeting. This SR Advisory Committee meeting will be Webcast live via the Internet and subsequently made available on-demand approximately two weeks after the event. Visit <https://fdic.primevideo.com/#/channel/1384300429544/Advisory+Committee+on+Systemic+Resolution> to view the event. If you need any technical assistance, please visit our Video Help page at: <https://www.fdic.gov/video.html>.

Dated: March 25, 2016.

Federal Deposit Insurance Corporation.

**Robert E. Feldman,**

*Executive Secretary, Federal Deposit Insurance Corporation.*

[FR Doc. 2016-07127 Filed 3-29-16; 8:45 am]

BILLING CODE 6714-01-P

## FEDERAL MARITIME COMMISSION

[Docket No. 16-07]

### Notice of Filing of Complaint and Assignment

Jill M. Alban, Grant M. Alban, Mary Arnold, Al Baker, Katrina Bonar, Emmett R. Brophy, Steven Bruzonsky, Monica Bushey, Craig Buske, Doda "Danny" Camaj, Stephanie B. Crosby, Melinda Deneau, Jennifer Dillon, Jeffrey L. Gannon, Pamela Goessling, Thomas Goessling, Sean Gurney, Sheryl Haley, Lesley Denise Hart, Bruce Hertz, Elizabeth Ashley Hill Nèe Edwards, Maria Kookan, Adair Lara, Christine Laster, Kori Lehrkamp, Michael Lehrkamp, John Leyva, Joan Macquarrie, Daniel Morris, Tony Nikprelaj, Gustavo Adolfo Perez, Judy A. Reiber, Roberta Rothstein, Jeffrey Rubinstein, Alexandra Scott, Jason Smith, Catherine Taylor, Richard Tomasko, and Demian Vargas,

V.  
Nippon Yusen Kabushiki Kaisha, Nyk Line (North America) Inc., Mitsui O.S.K. Lines, Ltd., Mitsui O.S.K. Bulk Shipping (USA),

Inc., World Logistics Service (USA) Inc., Höegh Autoliners AS, Höegh Autoliners, Inc., Nissan Motor Car Carriers Co. Ltd., Kawasaki Kisen Kaisha, Ltd., "K" Line America, Inc., Wallenius Wilhelmsen Logistics AS, Wallenius Wilhelmsen Logistics Americas LLC, EUKOR Car Carriers Inc., Compañía Sud Americana De Vapores, A., and CSAV Agency North America, LLC

Notice is given that a Complaint has been filed with the Federal Maritime Commission (Commission) by the above named Complainants, on behalf of themselves and all others similarly situated, hereinafter "Complainants," against the above named providers of "Vehicle Carrier Services" and unnamed co-conspirators, hereinafter "Respondents." The Complaint is brought as a proposed class action. Complainants "seek to represent all persons and entities in the United States who purchased or leased a new, assembled motor vehicle for personal use and not for resale, incorporating a Vehicle Carrier Service charge charged by any Respondent or any current or former subsidiary or affiliate thereof, or any co-conspirator, from and including January 1, 2000. . . ." Complainants allege that Respondents "transport large numbers of cars, trucks, and other automotive vehicles including agriculture and construction equipment . . . across large bodies of water using specialized cargo ships known as Roll On/Roll Off vessels. . . ."

Complainants allege that Respondents violated provisions of the Shipping Act of 1984, including 46 U.S.C. 40302(a), 41102(b)(1), 41102(c), 41103(a)(1) and (2), 41104(10), 41105(1) and (6), and the Commission's regulations at 46 CFR 535.401 *et seq.*, because they "participated in a combination and conspiracy to suppress and eliminate competition in the Vehicle Carrier Services market by agreeing to fix, raise, stabilize and/or maintain the prices of, and allocate the market and customers for Vehicle Carrier Services sold to automobile manufacturers and others in the United States, and elsewhere, for the import and export of new, assembled motor vehicles to and from the United States."

Complainants request the following relief:

- (1) That Respondents be required to answer the charges herein;
- (2) That after due investigation and hearing Respondents be found to have violated 46 U.S.C. 40302(a), 41102(b)(1), 41102(c), 41103(a)(1) and (2), 41104(10), 41105(1) and (6), and 46 CFR 535.401, *et seq.*, and such other provisions as to which violations may be proved hereunder;

(3) The FMC determine that this action may be maintained as a class action under Rule 23(a), (b)(2) and (b)(3) of the Federal Rules of Civil Procedure, and direct that reasonable notice of this action, as provided by Rule 23(c)(2) of the Federal Rules of Civil Procedure, be given to each and every member of the Class;

(4) That Complainants be awarded reparations in a sum to be proven under 46 U.S.C. 41305, with interest (46 U.S.C. 41305(a)) and reasonable attorneys' fees (46 U.S.C. 41305 (b));

(5) That Complainants be awarded double its proven actual injury under 46 U.S.C. 41305(c) because Respondents and their co-conspirators violated 46 U.S.C. 41102(b) and 41105(1);

(6) That Respondents be found jointly and severally liable for the conduct alleged herein including that of their co-conspirators; and

(7) That such other and further order or orders be made as the FMC determines to be proper.

The full text of the complaint can be found in the Commission's Electronic Reading Room at [www.fmc.gov/16-07](http://www.fmc.gov/16-07).

This proceeding has been assigned to the Office of Administrative Law Judges. The initial decision of the presiding officer in this proceeding shall be issued by March 24, 2017 and the final decision of the Commission shall be issued by October 10, 2017.

**Karen V. Gregory,**  
*Secretary.*

[FR Doc. 2016-07105 Filed 3-29-16; 8:45 am]

BILLING CODE 6731-AA-P

## DEPARTMENT OF HEALTH AND HUMAN SERVICES

### Agency for Healthcare Research and Quality

#### Agency Information Collection Activities: Proposed Collection; Comment Request

**AGENCY:** Agency for Healthcare Research and Quality, HHS.

**ACTION:** Notice.

**SUMMARY:** This notice announces the intention of the Agency for Healthcare Research and Quality (AHRQ) to request that the Office of Management and Budget (OMB) approve the proposed information collection project: "Survey of Hospital Quality Leaders." In accordance with the Paperwork Reduction Act, 44 U.S.C. 3501-3521, AHRQ invites the public to comment on this proposed information collection.

**DATES:** Comments on this notice must be received by May 31, 2016.



**ADDRESSES:** Written comments should be submitted to: Doris Lefkowitz, Reports Clearance Officer, AHRQ, by email at [doris.lefkowitz@AHRQ.hhs.gov](mailto:doris.lefkowitz@AHRQ.hhs.gov).

Copies of the proposed collection plans, data collection instruments, and specific details on the estimated burden can be obtained from the AHRQ Reports Clearance Officer.

**FOR FURTHER INFORMATION CONTACT:**

Doris Lefkowitz, AHRQ Reports Clearance Officer, (301) 427-1477, or by email at [doris.lefkowitz@AHRQ.hhs.gov](mailto:doris.lefkowitz@AHRQ.hhs.gov).

**SUPPLEMENTARY INFORMATION:**

**Proposed Project**

*Survey of Hospital Quality Leaders*

The Consumer Assessment of Healthcare Providers and Systems (CAHPS®) Hospital Survey (HCAHPS) was first implemented on a voluntary basis in 2006 to assess patients' experiences with care. Today, hospitals subject to the Inpatient Prospective Payment System (IPPS) annual payment update provisions are required to collect and submit HCAHPS data in order to receive their full annual payment update. In addition, HCAHPS performance was added to the calculation of the value-based incentive payment in the Hospital Value-Based Purchasing (Hospital VBP) program, beginning with discharges in October 2012. The FY 2015 Hospital VBP program links 30% of the Inpatient Prospective Payment System hospitals' payment from CMS to HCAHPS performance.

Despite the high stakes associated with HCAHPS scores, little is known about the ways in which hospitals are using HCAHPS data and supplemental

information about patient experience to understand and improve their patients' experiences.

This research has the following goals:

(1) To characterize the role of HCAHPS in hospitals' efforts to improve patient experiences

(2) to identify the types of quality improvement activities that hospitals implement to improve their HCAHPS scores

(3) to describe hospitals' perspectives on HCAHPS

(4) to determine the types of information collected by hospitals beyond those required for Hospital VBP

This study is being conducted by AHRQ through its contractor, the RAND Corporation, pursuant to AHRQ's statutory authority to conduct and support research on health care and on systems for the delivery of such care, including activities with respect to the quality, effectiveness, efficiency, appropriateness and value of health care services and with respect to quality measurement and improvement. 42 U.S.C. 299a(a)(1) and (2).

**Method of Collection**

*Survey of Hospital Quality Leaders:*

This survey will elicit information from approximately 500 hospital quality leaders in a variety of hospital settings, including high- and low-performing hospitals, facilities of varying sizes, and hospitals representing all nine geographic Census divisions. Hospital quality leaders will be asked to provide information about the use of HCAHPS in their hospital, with questions addressing all of the substantive areas identified in the goals section above.

Characterizing hospitals' use of HCAHPS data will provide important insight into the activities hospitals conduct to improve patient experience scores. This information may be useful in supporting hospitals that lag behind their peers, learning from hospitals with outstanding records of patient experience, and providing recommendations that may be used to refine HCAHPS survey content.

**Estimated Annual Respondent Burden**

Table 1 shows the estimated annualized burden and cost for the respondents' time to participate in this data collection. These burden estimates are based on tests of data collection conducted on nine or fewer entities. As indicated below, the annual total burden hours are estimated to be 294 hours. The annual total cost associated with the annual total burden hours is estimated to be \$14,708.

Table 1 shows the estimated annualized burden for the respondents' time to participate in this data collection. The Survey of Hospital Quality Leaders will be administered to 500 individuals. Prior work suggests that 3–5 items can typically be completed per minute, depending on item complexity and respondent characteristics, (Hays & Reeve, 2010; Berry, 2009). We have calculated our burden estimate using a conservative estimate of 4.5 items per minute. The survey contains 159 items and is thus estimated to require an average administration time of 35 minutes. As indicated below, the annual total burden hours are estimated to be 294 hours.

**TABLE 1—ESTIMATED ANNUALIZED BURDEN HOURS AND COST**

Collection task	Number of respondents	Number of responses per respondent	Hours per response	Total burden hours	Average hourly wage rate*	Total cost burden
Survey of Hospital Quality Leaders .....	500	1	.59	294	\$49.96	\$14,708
Totals .....				294		\$14,708

\*Based upon mean hourly wages, "National Compensation Survey: All United States December 2009–January 2011," U.S. Department of Labor, Bureau of Labor Statistics.

**Request for Comments**

In accordance with the Paperwork Reduction Act, comments on AHRQ's information collection are requested with regard to any of the following: (a) Whether the proposed collection of information is necessary for the proper performance of AHRQ health care research and health care information dissemination functions, including whether the information will have

practical utility; (b) the accuracy of AHRQ's estimate of burden (including hours and costs) of the proposed collection(s) of information; (c) ways to enhance the quality, utility, and clarity of the information to be collected; and (d) ways to minimize the burden of the collection of information upon the respondents, including the use of automated collection techniques or other forms of information technology.

Comments submitted in response to this notice will be summarized and included in the Agency's subsequent request for OMB approval of the proposed information collection. All comments will become a matter of public record.

**Sharon B. Arnold,**  
Acting Director.

[FR Doc. 2016-07118 Filed 3-29-16; 8:45 am]

**BILLING CODE 4160-90-P**



## DEPARTMENT OF HEALTH AND HUMAN SERVICES

### Agency for Healthcare Research and Quality

#### National Advisory Council for Healthcare Research and Quality: Request for Nominations for Public Members

**AGENCY:** Agency for Healthcare Research and Quality (AHRQ), HHS.

**ACTION:** Notice of request for nominations for public members.

**SUMMARY:** 42 U.S.C. 299c establishes a National Advisory Council for Healthcare Research and Quality (the Council). The Council is to advise the Secretary of HHS (Secretary) and the Director of the Agency for Healthcare Research and Quality (AHRQ) on matters related to activities of the Agency to carry out its mission. AHRQ's mission is to produce evidence to make health care safer, higher quality, more accessible, equitable, and affordable, and to work within the U.S. Department of Health and Human Services and with other partners to make sure that the evidence is understood and used.

The terms of seven current members will expire in November 2016. To fill these positions, we are seeking individuals who are distinguished in: (1) The conduct of research, demonstration projects, and evaluations with respect to health care; (2) the fields of health care quality research or health care improvement; (3) the practice of medicine; (4) other health professions; (5) representing the private health care sector (including health plans, providers, and purchasers) or administrators of health care delivery systems; (6) the fields of health care economics, information systems, law, ethics, business, or public policy; and, (7) the representation of the interests of patients and consumers of health care. 42 U.S.C. 299c(c)(2).

Individuals are particularly sought with experience and success in activities specified in the summary above.

**DATES:** Nominations should be received on or before 60 days after date of publication.

**ADDRESSES:** Nominations should be sent to Jaime Zimmerman AHRQ, 5600 Fishers Lane, 06E37A, Rockville, Maryland 20857. Nominations may also be emailed to [NationalAdvisoryCouncil@ahrq.hhs.gov](mailto:NationalAdvisoryCouncil@ahrq.hhs.gov).

**FOR FURTHER INFORMATION CONTACT:** Jaime Zimmerman, AHRQ, at (301) 427-1456.

**SUPPLEMENTARY INFORMATION:** 42 U.S.C. 299c provides that the Secretary shall appoint 21 appropriately qualified individuals to the National Advisory Council for Healthcare Research and Quality. At least 17 members shall be representatives of the public and at least one member shall be a specialist in the rural aspects of one or more of the professions or fields listed in the above summary. In addition, the Secretary designates, as ex officio members, representatives from other Federal agencies, principally agencies that conduct or support health care research, as well as Federal officials the Secretary may consider appropriate. 42 U.S.C. 299c(c)(3). The Council meets approximately 3 times a year in the Washington, DC, metropolitan area, generally in Rockville, Maryland, to provide broad guidance to the Secretary and AHRQ's Director on the direction of and programs undertaken by AHRQ.

Seven individuals will be selected by the Secretary to serve on the Council beginning with the meeting in the spring of 2017. Members generally serve 3-year terms. Appointments are staggered to permit an orderly rotation of membership.

Interested persons may nominate one or more qualified persons for membership on the Council. Self-nominations are accepted. Nominations shall include: (1) A copy of the nominee's resume or curriculum vitae; and (2) a statement that the nominee is willing to serve as a member of the Council. Selected candidates will be asked to provide detailed information concerning their financial interests, consultant positions and research grants and contracts, to permit evaluation of possible sources of conflict of interest. Please note that once a candidate is nominated, AHRQ may consider that nomination for future positions on the Council. Federally registered lobbyists are not permitted to serve on this advisory board pursuant to the Presidential Memorandum entitled "Lobbyists on Agency Boards and Commissions" dated June 10, 2010, and the Office of Management and Budget's "Final Guidance on Appointment of Lobbyists to Federal Boards and Commissions," 76 FR 61756 (October 5, 2011).

The Department seeks a broad geographic representation. In addition, AHRQ conducts and supports research concerning priority populations, which include: Low-income groups; minority groups; women; children; the elderly; and individuals with special health care needs, including individuals with disabilities and individuals who need chronic care or end-of-life health care.

See 42 U.S.C. 299(c). Nominations of persons with expertise in health care for these priority populations are encouraged.

**Sharon B. Arnold,**  
*Acting Director.*

[FR Doc. 2016-07119 Filed 3-29-16; 8:45 am]

**BILLING CODE 4160-90-P**

## DEPARTMENT OF HEALTH AND HUMAN SERVICES

### Centers for Disease Control and Prevention

#### Disease, Disability, and Injury Prevention and Control Special Emphasis Panel (SEP): Initial Review

In accordance with Section 10(a)(2) of the Federal Advisory Committee Act (Pub. L. 92-463), the Centers for Disease Control and Prevention (CDC) announces a meeting for the initial review of applications in response to Funding Opportunity Announcement (FOA) DP 16-003, Johnston County Osteoarthritis Project: Arthritis, Disability, and Other Chronic Diseases.

*Time and Date:* 11:00 a.m.–2:00 p.m., EDT, April 12, 2016 (Closed).

This notice did not publish within the 15-day regulatory requirement, although it was submitted to the Office of the Federal Register on March 4, 2016. This is a re-submission for publication.

*Place:* Teleconference.

*Status:* The meeting will be closed to the public in accordance with provisions set forth in Section 552b(c)(4) and (6), Title 5 U.S.C., and the Determination of the Director, Management Analysis and Services Office, CDC, pursuant to Public Law 92-463.

*Matters for Discussion:* The meeting will include the initial review, discussion, and evaluation of applications received in response to "Johnston County Osteoarthritis Project: Arthritis, Disability, and Other Chronic Diseases", FOA DP16-003.

*Contact Person for More Information:* Jaya Raman Ph.D., Scientific Review Officer, CDC, 4770 Buford Highway, Mailstop F80, Atlanta, Georgia 30341, Telephone: (770) 488-6511, [kva5@cdc.gov](mailto:kva5@cdc.gov).

The Director, Management Analysis and Services Office, has been delegated the authority to sign **Federal Register** notices pertaining to announcements of meetings and other committee management activities, for both the Centers for Disease Control and

Prevention and the Agency for Toxic Substances and Disease Registry.

**Catherine Ramadei,**

*Acting Director, Management Analysis and Services Office, Centers for Disease Control and Prevention.*

[FR Doc. 2016–07134 Filed 3–29–16; 8:45 am]

**BILLING CODE 4163–18–P**

## DEPARTMENT OF HOMELAND SECURITY

### Federal Emergency Management Agency

[Internal Agency Docket No. FEMA–4263–DR; Docket ID FEMA–2016–0001]

#### Louisiana; Amendment No. 1 to Notice of a Major Disaster Declaration

**AGENCY:** Federal Emergency Management Agency, DHS.

**ACTION:** Notice.

**SUMMARY:** This notice amends the notice of a major disaster declaration for the State of Louisiana (FEMA–4263–DR), dated March 13, 2016, and related determinations.

**DATES:** *Effective Date:* March 15, 2016.

**FOR FURTHER INFORMATION CONTACT:** Dean Webster, Office of Response and Recovery, Federal Emergency Management Agency, 500 C Street SW., Washington, DC 20472, (202) 646–2833.

**SUPPLEMENTARY INFORMATION:** The notice of a major disaster declaration for the State of Louisiana is hereby amended to include the following areas among those areas determined to have been adversely affected by the event declared a major disaster by the President in his declaration of March 13, 2016.

The parishes of Beauregard, Bienville, Caddo, Caldwell, De Soto, La Salle, Livingston, Madison, Natchitoches, St. Tammany, Tangipahoa, Union, Vernon, Washington, West Carroll, and Winn for Individual Assistance and assistance for debris removal and emergency protective measures (Categories A and B), including direct federal assistance, under the Public Assistance program.

The following Catalog of Federal Domestic Assistance Numbers (CFDA) are to be used for reporting and drawing funds: 97.030, Community Disaster Loans; 97.031, Cora Brown Fund; 97.032, Crisis Counseling; 97.033, Disaster Legal Services; 97.034, Disaster Unemployment Assistance (DUA); 97.046, Fire Management Assistance Grant; 97.048, Disaster Housing Assistance to Individuals and Households In Presidentially Declared Disaster Areas; 97.049, Presidentially Declared Disaster Assistance—Disaster Housing Operations for Individuals and Households; 97.050 Presidentially Declared Disaster Assistance to Individuals

and Households—Other Needs; 97.036, Disaster Grants—Public Assistance (Presidentially Declared Disasters); 97.039, Hazard Mitigation Grant.

**W. Craig Fugate,**

*Administrator, Federal Emergency Management Agency.*

[FR Doc. 2016–07095 Filed 3–29–16; 8:45 am]

**BILLING CODE 9111–23–P**

## DEPARTMENT OF HOMELAND SECURITY

### Federal Emergency Management Agency

[Internal Agency Docket No. FEMA–4263–DR; Docket ID FEMA–2016–0001]

#### Louisiana; Amendment No. 2 to Notice of a Major Disaster Declaration

**AGENCY:** Federal Emergency Management Agency, DHS.

**ACTION:** Notice.

**SUMMARY:** This notice amends the notice of a major disaster declaration for the State of Louisiana (FEMA–4263–DR), dated March 13, 2016, and related determinations.

**DATES:** *Effective Date:* March 17, 2016.

**FOR FURTHER INFORMATION CONTACT:** Dean Webster, Office of Response and Recovery, Federal Emergency Management Agency, 500 C Street SW., Washington, DC 20472, (202) 646–2833.

**SUPPLEMENTARY INFORMATION:** The notice of a major disaster declaration for the State of Louisiana is hereby amended to include the following areas among those areas determined to have been adversely affected by the event declared a major disaster by the President in his declaration of March 13, 2016.

The parishes of Allen, Ascension, and Calcasieu for Individual Assistance and assistance for debris removal and emergency protective measures (Categories A and B), including direct federal assistance, under the Public Assistance program.

The following Catalog of Federal Domestic Assistance Numbers (CFDA) are to be used for reporting and drawing funds: 97.030, Community Disaster Loans; 97.031, Cora Brown Fund; 97.032, Crisis Counseling; 97.033, Disaster Legal Services; 97.034, Disaster Unemployment Assistance (DUA); 97.046, Fire Management Assistance Grant; 97.048, Disaster Housing Assistance to Individuals and Households In Presidentially Declared Disaster Areas; 97.049, Presidentially Declared Disaster Assistance—Disaster Housing Operations for Individuals and Households; 97.050 Presidentially Declared Disaster Assistance to Individuals and Households—Other Needs; 97.036, Disaster Grants—Public Assistance

(Presidentially Declared Disasters); 97.039, Hazard Mitigation Grant.

**W. Craig Fugate,**

*Administrator, Federal Emergency Management Agency.*

[FR Doc. 2016–07102 Filed 3–29–16; 8:45 am]

**BILLING CODE 9111–23–P**

## DEPARTMENT OF HOMELAND SECURITY

### Federal Emergency Management Agency

[Internal Agency Docket No. FEMA–4263–DR; Docket ID FEMA–2016–0001]

#### Louisiana; Major Disaster and Related Determinations

**AGENCY:** Federal Emergency Management Agency, DHS.

**ACTION:** Notice.

**SUMMARY:** This is a notice of the Presidential declaration of a major disaster for the State of Louisiana (FEMA–4263–DR), dated March 13, 2016, and related determinations.

**DATES:** *Effective Date:* March 13, 2016.

**FOR FURTHER INFORMATION CONTACT:** Dean Webster, Office of Response and Recovery, Federal Emergency Management Agency, 500 C Street SW., Washington, DC 20472, (202) 646–2833.

**SUPPLEMENTARY INFORMATION:** Notice is hereby given that, in a letter dated March 13, 2016, the President issued a major disaster declaration under the authority of the Robert T. Stafford Disaster Relief and Emergency Assistance Act, 42 U.S.C. 5121 *et seq.* (the “Stafford Act”), as follows:

I have determined that the damage in certain areas of the State of Louisiana resulting from severe storms and flooding beginning on March 8, 2016, and continuing, is of sufficient severity and magnitude to warrant a major disaster declaration under the Robert T. Stafford Disaster Relief and Emergency Assistance Act, 42 U.S.C. 5121 *et seq.* (the “Stafford Act”). Therefore, I declare that such a major disaster exists in the State of Louisiana.

In order to provide Federal assistance, you are hereby authorized to allocate from funds available for these purposes such amounts as you find necessary for Federal disaster assistance and administrative expenses.

You are authorized to provide Individual Assistance and assistance for debris removal and emergency protective measures (Categories A and B) under the Public Assistance program in the designated areas, Hazard Mitigation throughout the State, and any other forms of assistance under the Stafford Act that you deem appropriate subject to completion of Preliminary Damage Assessments (PDAs). Direct Federal assistance is authorized.

Consistent with the requirement that Federal assistance is supplemental, any Federal funds provided under the Stafford Act for Hazard Mitigation and Other Needs Assistance will be limited to 75 percent of the total eligible costs. Federal funds provided under the Stafford Act for Public Assistance also will be limited to 75 percent of the total eligible costs, with the exception of projects that meet the eligibility criteria for a higher Federal cost-sharing percentage under the Public Assistance Alternative Procedures Pilot Program for Debris Removal implemented pursuant to section 428 of the Stafford Act.

Further, you are authorized to make changes to this declaration for the approved assistance to the extent allowable under the Stafford Act.

The time period prescribed for the implementation of section 310(a), Priority to Certain Applications for Public Facility and Public Housing Assistance, 42 U.S.C. 5153, shall be for a period not to exceed six months after the date of this declaration.

The Federal Emergency Management Agency (FEMA) hereby gives notice that pursuant to the authority vested in the Administrator, under Executive Order 12148, as amended, Gerard M. Stolar, of FEMA is appointed to act as the Federal Coordinating Officer for this major disaster.

The following areas of the State of Louisiana have been designated as adversely affected by this major disaster:

The parishes of Bossier, Claiborne, Grant, Morehouse, Ouachita, Richland, and Webster for Individual Assistance.

The parishes of Bossier, Claiborne, Grant, Morehouse, Ouachita, Richland, and Webster for debris removal and emergency protective measures (Categories A and B), including direct federal assistance, under the Public Assistance program.

All areas within the State of Louisiana are eligible for assistance under the Hazard Mitigation Grant Program.

The following Catalog of Federal Domestic Assistance Numbers (CFDA) are to be used for reporting and drawing funds: 97.030, Community Disaster Loans; 97.031, Cora Brown Fund; 97.032, Crisis Counseling; 97.033, Disaster Legal Services; 97.034, Disaster Unemployment Assistance (DUA); 97.046, Fire Management Assistance Grant; 97.048, Disaster Housing Assistance to Individuals and Households In Presidentially Declared Disaster Areas; 97.049, Presidentially Declared Disaster Assistance—Disaster Housing Operations for Individuals and Households; 97.050, Presidentially Declared Disaster Assistance to Individuals and Households—Other Needs; 97.036, Disaster Grants—Public Assistance

(Presidentially Declared Disasters); 97.039, Hazard Mitigation Grant.

**W. Craig Fugate,**

*Administrator, Federal Emergency Management Agency.*

[FR Doc. 2016-07094 Filed 3-29-16; 8:45 am]

**BILLING CODE 9111-23-P**

## DEPARTMENT OF THE INTERIOR

### Fish and Wildlife Service

**[FWS-HQ-FAC-2016-N050; FF09F42300-FVWF97920900000-XXX]**

### Sport Fishing and Boating Partnership Council

**AGENCY:** Fish and Wildlife Service, Interior.

**ACTION:** Notice of meeting.

**SUMMARY:** We, the U.S. Fish and Wildlife Service (Service), announce a public meeting of the Sport Fishing and Boating Partnership Council (Council). A Federal advisory committee, the Council was created in part to foster partnerships to enhance public awareness of the importance of aquatic resources and the social and economic benefits of recreational fishing and boating in the United States. This meeting is open to the public, and interested persons may make oral statements to the Council or may file written statements for consideration.

**DATES:** The meeting will take place Tuesday, May 3, 2016, from 8:30 a.m. to 4:30 p.m. (Eastern Time) and Wednesday, May 4, 2016, from 8:30 a.m. to 3:30 p.m. For deadlines and directions on registering to attend the meeting, submitting written material, and/or giving an oral presentation, please see “Public Input” under **SUPPLEMENTARY INFORMATION.**

**ADDRESSES:** The meeting will be held at the National Oceanic and Atmospheric Administration’s Florida Keys Eco-Discovery Center, 35 East Quay Road, Key West, Florida 33040.

**FOR FURTHER INFORMATION CONTACT:** Brian Bohnsack, Sport Fishing and Boating Partnership Council Coordinator, 5275 Leesburg Pike, Mailstop FAC, Falls Church, VA 22041; telephone (703) 358-2435; fax (703) 358-2487; or email [brian\\_bohnsack@fws.gov](mailto:brian_bohnsack@fws.gov).

**SUPPLEMENTARY INFORMATION:** In accordance with the requirements of the Federal Advisory Committee Act, 5 U.S.C. App., we announce that the Sport Fishing and Boating Partnership Council will hold a meeting.

## Background

The Council was formed in January 1993 to advise the Secretary of the Interior, through the Director of the Service, on aquatic conservation endeavors that benefit recreational fishery resources and recreational boating and that encourage partnerships among industry, the public, and government. The 18-member Council, appointed by the Secretary of the Interior, includes the Service Director and the president of the Association of Fish and Wildlife Agencies, who both serve in ex officio capacities. Other Council members are directors from State agencies responsible for managing recreational fish and wildlife resources and individuals who represent the interests of saltwater and freshwater recreational fishing, recreational boating, the recreational fishing and boating industries, recreational fisheries resource conservation, Native American tribes, aquatic resource outreach and education, and tourism. Background information on the Council is available at <http://www.fws.gov/sfbpc>.

## Meeting Agenda

During the meeting, the Council will consider issues affecting recreational fishing and boating programs on Federal lands. An abbreviated list of planned agenda items includes:

- An update and discussion on the Council’s assessment of the Recreational Boating and Fishing Foundation’s implementation of the National Outreach and Communication Program (Catalog of Federal Domestic Assistance number 15.653);
- An update and discussion regarding the Council’s proposed pilot project to improve the efficiency of Federal agencies’ permitting review processes associated with boating infrastructure projects (*e.g.*, boat dock replacement and maintenance, boat ramp construction and maintenance);
- An update of the fishing and boating programs administered by the Florida Fish and Wildlife Conservation Commission;
- Status of the Council’s nomination process and charter update; and
- Other miscellaneous Council business.

The final agenda will be posted on the Internet at <http://www.fws.gov/sfbpc>.

**Public Input**

If you wish to	Then you must contact the Council Coordinator (see <b>FOR FURTHER INFORMATION CONTACT</b> ) no later than
Attend the meeting .....	Wednesday, April 27, 2016.
Submit written information or questions before the meeting for the Council to consider during the meeting.	Wednesday, April 27, 2016.
Give an oral presentation during the meeting.	Wednesday, April 27, 2016.

**Attendance**

The Council meeting will be held at the National Oceanic and Atmospheric Administration's Florida Keys Eco-Discovery Center, 35 East Quay Road, Key West, Florida. Signs will be posted to direct attendees to the specific conference room.

**Submitting Written Information or Questions**

Interested members of the public may submit relevant information or questions for the Council to consider during the meeting. Written statements must be received by the date listed above in "Public Input." Written statements must be supplied to the Council Coordinator either by sending one hard copy with original signature via the mail or one electronic copy via email (acceptable file formats are Adobe Acrobat PDF, MS Word, MS PowerPoint, or rich text file).

**Giving an Oral Presentation**

Individuals or groups requesting to make an oral presentation during the meeting will be limited to 2 minutes per speaker, with no more than a total of 30 minutes for all speakers. Interested parties should contact the Council Coordinator, in writing (preferably via email; see **FOR FURTHER INFORMATION CONTACT**), to be placed on the public speaker list for this meeting. To ensure an opportunity to speak during the public comment period of the meeting, members of the public must register with the Council Coordinator. Registered speakers who want to expand on their oral statements, or those who wanted to speak but could not be accommodated on the agenda, may submit written statements to the Council Coordinator up to 30 days after the meeting.

**Meeting Minutes**

Summary minutes of the meeting will be maintained by the Council Coordinator (see **FOR FURTHER INFORMATION CONTACT**) and will be available for public inspection within 90 days of the meeting. They will be posted on the Council's Web site at <http://www.fws.gov/sfbpc>.

**James W. Kurth,**

*Acting Director.*

[FR Doc. 2016-07133 Filed 3-29-16; 8:45 am]

**BILLING CODE 4333-15-P**

**DEPARTMENT OF THE INTERIOR****Fish and Wildlife Service**

**[FWS-HQ-IA-2014-0019;  
FXIA167109ADV16-156-FF09A00000]**

**Advisory Council on Wildlife Trafficking**

**AGENCY:** Fish and Wildlife Service, Interior.

**ACTION:** Notice of meeting.

**SUMMARY:** We, the U.S. Fish and Wildlife Service (Service), announce a public meeting of the Advisory Council on Wildlife Trafficking (Council). The Council's purpose is to provide expertise and support to the Presidential Task Force on Wildlife Trafficking. You may attend the meeting in person, or you may participate via telephone. At this time, we are inviting submissions of questions and information for consideration during the meeting.

**DATES:** *Meeting:* The meeting will be held on Friday, April 15, 2016, from 9 a.m. to 1 p.m. Eastern Time.

*Registering to Attend the Meeting:* To attend the meeting in person, you must register by close of business on April 8, 2016. (You do not need to register to listen via phone.) Please submit your name, email address, and phone number to Mr. Cade London to complete the registration process (see **FOR FURTHER INFORMATION CONTACT**). Because there is limited seating available, registrations will be taken on a first-come, first-served basis. Members of the public requesting reasonable accommodations, such as hearing interpreters, must contact Mr. London, in writing (preferably by email), no later than April 5, 2015.

*Submitting Questions or Information:* If you want to provide us with questions and information to be considered during the meeting, your material must be received or postmarked on or before April 8, 2015. Comments submitted electronically using the Federal eRulemaking Portal (see **ADDRESSES**

section) must be received by 11:59 p.m. Eastern Time on April 8, 2015.

*Making an Oral Presentation at the Meeting:* If you want to make an oral presentation at the meeting (in person or by phone), contact Mr. London no later than April 8, 2015 (see **FOR FURTHER INFORMATION CONTACT**). For more information, see Making an Oral Presentation under **SUPPLEMENTARY INFORMATION**.

**ADDRESSES:** *Meeting Location:* The meeting will be held at the U.S. Department of the Interior, South Interior Building Auditorium, 1951 Constitution Avenue NW., Washington, DC 20240.

*Meeting Call-In Numbers:* Members of the public unable to attend the meeting in person may call in at 888-606-5920 (toll free) or 630-395-0312 (toll) using the dial-in passcode 1214001. To ensure that enough call-in lines are available, we request that members of the public register as call-in participants at [https://www.mymeetings.com/emeet/rsvp/index.jsp?customHeader=mymeetings&Conference\\_ID=7459947&passcode=1214001](https://www.mymeetings.com/emeet/rsvp/index.jsp?customHeader=mymeetings&Conference_ID=7459947&passcode=1214001). Members may register to give an oral presentation over the phone as well. For more information, see Making an Oral Presentation under **SUPPLEMENTARY INFORMATION**.

*Submitting Questions or Information:* You may submit questions or information for consideration during the meeting by one of the following methods:

1. *Electronically:* Go to the Federal eRulemaking Portal: <http://www.regulations.gov>. In the Search box, enter FWS-HQ-IA-2014-0019. Then click on the "Search" button. You may submit questions or information by clicking on "Comment Now!"

2. *By hard copy:* Submit by U.S. mail or hand-delivery to: Public Comments Processing, Attn: FWS-HQ-IA-2014-0019; Division of Policy, Performance, and Management Programs; U.S. Fish and Wildlife Service; 5275 Leesburg Pike, MS: BPHC; Falls Church, VA 22041-3803.

We will not accept email or faxes. We request that you send comments only by the methods described above. We will post all comments on <http://www.regulations.gov>. This generally means that we will post any personal information you provide us (see the Submitting Public Comments section for more information).

*Reviewing Comments Received by the Service:* See Reviewing Public Comments in the **SUPPLEMENTARY INFORMATION** section.

**FOR FURTHER INFORMATION CONTACT:** Mr. Cade London, Policy Advisor, International Affairs, U.S. Fish and Wildlife Service, by email at [cade\\_london@fws.gov](mailto:cade_london@fws.gov) (preferable method of contact); by U.S. mail at U.S. Fish and Wildlife Service; 5275 Leesburg Pike, MS: IA; Falls Church, VA 22041–3803; by telephone at (703) 358–2584; or by fax at (703) 358–2276.

**SUPPLEMENTARY INFORMATION:** In accordance with the requirements of the Federal Advisory Committee Act (5 U.S.C. App.), we announce that the Advisory Council on Wildlife Trafficking (Council) will hold a meeting to discuss the implementation of the National Strategy for Combating Wildlife Trafficking, and other Council business as appropriate. The Council's purpose is to provide expertise and support to the Presidential Task Force on Wildlife Trafficking.

You may attend the meeting in person, or you may participate via telephone. At this time, we are inviting submissions of questions and information for consideration during the meeting.

### Background

Executive Order 13648 established the Advisory Council on Wildlife Trafficking on August 30, 2013, to advise the Presidential Task Force on Wildlife Trafficking, through the Secretary of the Interior, on national strategies to combat wildlife trafficking, including, but not limited to:

1. Effective support for anti-poaching activities;
2. Coordinating regional law enforcement efforts;
3. Developing and supporting effective legal enforcement mechanisms; and
4. Developing strategies to reduce illicit trade and consumer demand for illegally traded wildlife, including protected species.

The eight-member Council, appointed by the Secretary of the Interior, includes former senior leadership within the U.S. Government, as well as chief executive officers and board members from conservation organizations and the private sector. For more information on the Council and its members, visit <http://www.fws.gov/international/advisory-council-wildlife-trafficking/>.

### Meeting Agenda

The Council will consider:

1. Task Force discussions,
2. Administrative topics, and
3. Public comment and response.

The final agenda will be posted on the Internet at <http://www.fws.gov/>

[international/advisory-council-wildlife-trafficking/](http://www.fws.gov/international/advisory-council-wildlife-trafficking/).

### Making an Oral Presentation

Members of the public who want to make an oral presentation in person or by telephone at the meeting will be prompted during the public comment section of the meeting to provide their presentation and/or questions. If you want to make an oral presentation in person or by phone, contact Mr. Cade London (**FOR FURTHER INFORMATION CONTACT**) no later than the date given in the **DATES** section.

Registered speakers who want to expand on their oral statements, or those who wanted to speak but could not be accommodated on the agenda, are invited to submit written statements to the Council after the meeting. Such written statements must be received by Mr. London, in writing (preferably via email), no later than April 22, 2016.

### Submitting Public Comments

You may submit your questions and information by one of the methods listed in **ADDRESSES**. We request that you send comments by only one of the methods described in **ADDRESSES**.

If you submit information via the Federal eRulemaking Portal (<http://www.regulations.gov>), your entire submission—including any personal identifying information—will be posted on the Web site.

If your submission is made via a hardcopy that includes personal identifying information, you may request at the top of your document that we withhold this information from public review. However, we cannot guarantee that we will be able to do so. We will post all hardcopy submissions at <http://www.regulations.gov>.

### Reviewing Public Comments

Comments and materials we receive will be available for public inspection at <http://www.regulations.gov>. Alternatively, you may view them by appointment during normal business hours at 5275 Leesburg Pike, Falls Church, VA 22041–3803. Please contact Mr. London (see **FOR FURTHER INFORMATION CONTACT**).

### Obtaining Meeting Minutes

Summary minutes of the meeting will be available on the Council Web site at <http://www.fws.gov/international/advisory-council-wildlife-trafficking/>. Alternatively, you may view them by appointment during normal business hours at 5275 Leesburg Pike, Falls Church, VA 22041–3803. Please contact

Mr. London (see **FOR FURTHER INFORMATION CONTACT**).

Gloria Bell,

Deputy Assistant Director, International Affairs, U.S. Fish and Wildlife Service.

[FR Doc. 2016–07113 Filed 3–29–16; 8:45 am]

BILLING CODE 4333–15–P

## DEPARTMENT OF THE INTERIOR

### Bureau of Land Management

[16X.LLWO320000.L13200000.PP0000]

### Notice of Intent To Prepare a Programmatic Environmental Impact Statement To Review the Federal Coal Program and To Conduct Public Scoping Meetings

**AGENCY:** Bureau of Land Management, Interior.

**ACTION:** Notice.

**SUMMARY:** In compliance with the National Environmental Policy Act of 1969, as amended (NEPA), the Bureau of Land Management (BLM), Washington Office, intends to prepare a Programmatic Environmental Impact Statement (EIS) to review the Federal coal program.

This Notice of Intent begins the process of defining the scope of the Programmatic EIS by providing background on the Federal coal program and identifying the issues that may be addressed in the Programmatic EIS. This Notice informs the public about: Concerns that have been raised about the Federal coal program; issues that are expected to be assessed in the Programmatic EIS; and potential modifications to the Federal coal program suggested by stakeholders during the listening sessions that could be considered in the Programmatic EIS. This Notice of Intent also announces plans to conduct public scoping meetings, invites public participation in the scoping process, and solicits public comments for consideration in establishing the scope and content of the Programmatic EIS.

**DATES:** The BLM will invite interested agencies, States, American Indian tribes, local governments, industry, organizations and members of the public to submit comments or suggestions to assist in identifying significant issues and in determining the scope of this Programmatic EIS.

The BLM will be holding public scoping meetings to obtain comments on the Programmatic EIS and plans to hold these meetings in the following locations: Casper, WY; Grand Junction, CO; Knoxville, TN; Pittsburgh, PA; Salt

Lake City, UT; and Seattle, WA. The BLM will announce the specific dates and locations of the scoping meetings at least 15 days in advance through local media, newspapers, and the project Web site at: [http://www.blm.gov/wo/st/en/prog/energy/coal\\_and\\_non-energy/details\\_on\\_coal\\_peis.html](http://www.blm.gov/wo/st/en/prog/energy/coal_and_non-energy/details_on_coal_peis.html). In addition, the BLM will consider all written comments received or postmarked during the public comment period on scoping, which will close 30 days after the final public meeting.

**ADDRESSES:** You may submit written comments by the following methods:

- *Email:* [BLM\\_WO\\_Coal\\_Program\\_PEIS\\_Comments@blm.gov](mailto:BLM_WO_Coal_Program_PEIS_Comments@blm.gov). This is the preferred method of commenting.
- *Mail, personal, or messenger delivery:* Coal Programmatic EIS Scoping, Bureau of Land Management, 20 M St. SE., Room 2134LM, Washington, DC 20003.

**FOR FURTHER INFORMATION CONTACT:**

Mitchell Leverette, Chief, Division of Solid Minerals, email: [mleveret@blm.gov](mailto:mleveret@blm.gov), telephone: 202–912–7113, or visit the Coal Programmatic EIS Web site at: [http://www.blm.gov/wo/st/en/prog/energy/coal\\_and\\_non-energy/details\\_on\\_coal\\_peis.html](http://www.blm.gov/wo/st/en/prog/energy/coal_and_non-energy/details_on_coal_peis.html).

**SUPPLEMENTARY INFORMATION:** On January 15, 2016, the Secretary of the Interior issued Order No. 3338 directing the BLM to conduct a broad, programmatic review of the Federal coal program it administers through preparation of a Programmatic EIS under NEPA. 42 U.S.C. 4321 *et seq.* The Order was issued in response to a range of concerns raised about the Federal coal program, including, in particular, concerns about whether American taxpayers are receiving a fair return from the development of these publicly owned resources; concerns about market conditions, which have resulted in dramatic drops in coal demand and production in recent years, with consequences for coal-dependent communities; and concerns about whether the leasing and production of large quantities of coal under the Federal coal program is consistent with the Nation's goals to reduce greenhouse gas emissions to mitigate climate change. In light of these issues, the Programmatic EIS will identify and evaluate potential reforms to the Federal coal program. This review will enable the Department to consider how to modernize the program to allow for the continued development of Federal coal resources, as appropriate, while addressing the substantive issues raised by the public, other stakeholders, and the Department's own review of the comments it has received during recent

listening sessions held last year in Washington, DC; Billings, Montana; Gillette, Wyoming; Denver, Colorado; and Farmington, New Mexico.

**Background and Need for Agency Action**

*A. Overview of Federal Coal Program*

Under the Mineral Leasing Act of 1920, as amended, 30 U.S.C. 181 *et seq.*, and the Mineral Leasing Act for Acquired Lands of 1947, as amended, 30 U.S.C. 351 *et seq.*, the BLM is responsible for the leasing of Federal coal and regulation of the development of that coal on approximately 570 million acres of the 700 million acres of mineral estate that is owned by the Federal government. This includes Federal mineral rights on Federal lands and Federal mineral rights located under surface lands with non-Federal ownership. Under the authority of the Mineral Leasing Act, the BLM administers leasing and monitors coal production. Other Departmental bureaus, in particular the Office of Surface Mining Reclamation and Enforcement (OSMRE) and the Office of Natural Resources Revenue (ONRR), also take actions related to coal mining on Federal lands. The OSMRE, and those States that have regulatory primacy under the Surface Mining Control and Reclamation Act of 1977 (SMCRA), permit coal mining and reclamation activities, and monitor reclamation and reclamation bonding actions. The ONRR collects and audits all payments required under the lease, including bonus bids, royalties, and rental payments, and distributes those funds between the Federal Treasury and the States where coal resources are located.

**1. Federal Coal Leasing and Production**

On average, over the last few years, about 41 percent of the Nation's annual coal production came from Federal land. Federal coal produced from the Powder River Basin in Montana and Wyoming accounts for over 85 percent of all Federal coal production. Federal coal was used to generate an estimated 14 percent of the Nation's electricity in 2015. Coal is also used for other critical processes, including making steel (metallurgical coal).

As of FY2015, the BLM administered 306 coal leases, covering 482,691 acres in 11 States, with an estimated 7.75 billion tons of recoverable Federal coal. Over the last decade (2006–2015), the BLM sold 32 coal leases and managed leases that produced approximately 4.3 billion tons of coal and resulted in \$9.55

billion in revenue collections by the United States.

The U.S. Energy Information Administration (EIA) estimates total U.S. coal production in 2015 was about 895 million short tons (MMst), 10 percent lower than in 2014 and the lowest level since 1986.<sup>1</sup> EIA projects that coal production will fall by another 12 percent in 2016, then rise by 2 percent in 2017.<sup>2</sup> The approximately 7.75 billion tons of recoverable reserves of Federal coal currently under lease is estimated to be sufficient to continue production at current levels for 20 years, averaged across all leases, and these reserves would be sufficient to cover production, on average, for even longer if coal production declines, as is projected.

EIA estimates that U.S. coal exports decreased 23 MMst (24 percent) from 2014 levels to 74 MMst in 2015, and EIA expects the current global coal market trends to continue.<sup>3</sup> EIA forecasts that coal exports will decline by an additional 10 MMst (13 percent) in 2016 and by 1 MMst (2 percent) in 2017.<sup>4</sup>

In terms of employment and revenues to the States, coal mining employed almost 90,000 people in 2012. More recently, there were an estimated 74,000 direct jobs in coal mining as of May 2014, including roughly 6,500 in Wyoming.<sup>5</sup> Revenues from Federal coal provided Wyoming approximately \$556 million in FY2014. Other States received the following approximate amounts: Utah—\$44 million; Montana—\$43 million; Colorado—\$36 million; and New Mexico—\$16 million.

**2. Federal Coal Program**

The current BLM coal leasing program includes land use planning, processing applications (e.g., for exploration licenses and lease sales), estimating the value of proposed leases, holding lease

<sup>1</sup> U.S. EIA, *Short Term Energy Outlook: Coal* (Mar. 8, 2016) (<http://www.eia.gov/forecasts/steo/report/coal.cfm>); U.S. EIA, *Today in Energy: Coal Production and Prices Decline in 2015* (Jan. 8, 2016) (<http://www.eia.gov/todayinenergy/detail.cfm?id=24472>). Note that the EIA data referenced in this Notice is more recent than the EIA data referenced in the Secretarial Order.

<sup>2</sup> U.S. EIA, *Short Term Energy Outlook: Coal* (Mar. 8, 2016) (<http://www.eia.gov/forecasts/steo/report/coal.cfm>).

<sup>3</sup> U.S. EIA, *Short Term Energy Outlook: Coal* (Mar. 8, 2016) (<http://www.eia.gov/forecasts/steo/report/coal.cfm>).

<sup>4</sup> U.S. EIA, *Short Term Energy Outlook: Coal* (Mar. 8, 2016) (<http://www.eia.gov/forecasts/steo/report/coal.cfm>).

<sup>5</sup> Bureau of Labor Statistics, *May 2014 National Industry-Specific Occupational Employment and Wage Estimates: NAICS 212100—Coal Mining* ([http://www.bls.gov/oes/current/naics4\\_212100.htm](http://www.bls.gov/oes/current/naics4_212100.htm)); Wyoming Department of Workforce Services, *Wyoming Labor Market Information* (<http://doe.state.wy.us/lmi/CES/nawy14.htm>).

sales, and post-leasing actions (*e.g.*, production verification, lease and production inspection and enforcement, royalty reductions, and bond review).

The Federal Government receives revenue from coal leasing in three ways: (1) A bonus that is paid at the time BLM issues a lease; (2) Rental fees; and (3) Production royalties. The royalty rates are set by regulation at a fixed 8 percent for underground mines and not less than 12.5 percent for surface mines. All receipts from a lease are shared with the State in which the lease is located (51 percent to the Federal Government and 49 percent to the State).

The BLM's planning process for Resource Management Plans, supported by environmental analysis under NEPA, identifies areas that are potentially available to be considered for coal leasing. The planning process considers, among other things, the impacts of a "reasonably foreseeable development scenario," but it does not directly authorize any coal leasing or determine which coal will actually be leased.

The Federal Coal Leasing Amendments Act of 1976 (FCLAA), which amended Section 2 of the Mineral Leasing Act of 1920, requires that, with limited exceptions, Federal lands available for coal leasing be sold by competitive bid, with the BLM receiving "fair market value" for the lease. While multiple bids are not required, all successful bids must equal or exceed the estimated pre-sale fair market value for the lease, as calculated by the BLM. Competitive leasing is not required for: (1) Preference right lease applications for owners of pre-FCLAA prospecting permits; and (2) Modifications of existing leases, where Congress has authorized the Secretary to allow up to 960 acres (increased from 160 acres by the Energy Policy Act of 2005) of contiguous lands for noncompetitive leasing by modifying an existing lease.

The BLM issued coal leasing regulations in 1979 that provided for two separate competitive coal leasing processes: (1) Regional leasing, where the BLM selects tracts within a region for competitive sale; and (2) Leasing by application, where an industry applicant nominates a particular tract of coal for competitive sale.

Regional coal leasing requires the BLM to select potential coal leasing tracts based on land use planning, expected coal demand, and potential environmental and economic impacts.<sup>6</sup> This process includes use of a Federal/State advisory board known as a

Regional Coal Team,<sup>7</sup> to provide input on leasing decisions. The regional leasing system has not been used since 1990, and currently all BLM coal leasing is done by application.<sup>8</sup> Leasing by application begins with the submission of an application to lease a tract of coal identified by the applicant.<sup>9</sup> The BLM reviews the application for completeness, to ensure that it conforms to existing land use plans, and to ensure that it contains sufficient geologic data to determine the fair market value of the coal. The agency then prepares an analysis under NEPA (either an Environmental Assessment or an EIS) and seeks public comment on the proposed lease sale. Through this process, the BLM evaluates alternative tract configurations to maximize competitiveness and value, and to avoid bypassing Federal coal. The BLM also consults with other appropriate Federal, State, and tribal government agencies, and the BLM determines whether the surface owner consents to leasing in situations where the surface is not administered by the BLM. Preparations for the actual lease sale begin with the BLM formulating, after obtaining public comment, a pre-sale estimate of the fair market value of the coal. This estimate is kept confidential and is used to evaluate the bids for the lease "bonus" received during the sale. Sealed bids are accepted prior to the date of the sale and are publicly announced during the sale. The winning bid is the highest bid that meets or exceeds the coal tract's presale estimated fair market value, assuming that the bidder meets all eligibility requirements and has paid the appropriate fees and payments.

There are two separate bonding requirements for Federal coal leases. The BLM requires a bond adequate to ensure compliance with the terms and conditions of the lease, which must cover a portion of potential liabilities associated with the bonus bid, rental fees, and royalties. In addition, under SMCRA, the OSMRE or the State with regulatory primacy requires sufficient bonding to cover anticipated reclamation costs.

<sup>7</sup> The BLM regulations require a Regional Coal Team to be established for each coal production region, comprised of representatives from the BLM and the Governors of each State in the region. The Regional Coal Teams are to guide the coal planning process for each coal production region, serve as the forum for BLM and State consultation, and make recommendations on coal leasing levels. 43 CFR 3400.4.

<sup>8</sup> While the Powder River Basin (PRB) coal production region was decertified in 1992, the PRB regional coal team is still in place and meets periodically to review regional activity and make recommendations on coal leasing in the region.

<sup>9</sup> See 43 CFR subpart 3425.

A Federal coal lease has an initial term of 20 years, but it may be terminated after 10 years if the coal resources are not diligently developed. 30 U.S.C. 207. Existing leases that have met their diligence requirements may be renewed for additional 10 year terms following the initial 20 year term.

### 3. Previous Comprehensive Reviews

The Department has previously conducted two separate, comprehensive reviews of the Federal coal program. In the late 1960s, there were serious concerns about speculation in the coal leasing program. A BLM study discovered a sharp increase in the total Federal acreage under lease and a consistent decline in coal production. In response, the Department undertook the development of a planning system to determine the size, timing, and location of future coal leases, and the preparation of a Programmatic EIS for the entire Federal coal leasing program. Beginning in February 1973, the short-term actions included a complete moratorium on the issuance of new coal prospecting permits, and a moratorium with limited exceptions on the issuance of new Federal coal leases. New leases were issued only to maintain existing mines or to supply reserves for production in the near future, where "near future" meant that development and production were to commence within 3 and 5 years, respectively. The moratorium was scaled back over time, but was not completely lifted until 1981, after the Programmatic EIS had been completed, a new leasing system had been adopted through regulation, and litigation was resolved.

In 1982, concerns about the Federal coal program arose again, this time related to allegations that the Government did not receive fair market value from a large lease sale in the Powder River Basin under the new procedures adopted as part of the programmatic review in the 1970s. Among other reports on the issue, in May 1983, the Government Accountability Office (GAO) issued a report concluding that the Department had received roughly \$100 million less than it should have for the leases sold. In response, in July 1983, Congress directed the Secretary to appoint members to a commission, known as the Linowes Commission, to investigate fair market value policies for Federal coal leasing. Congress also, in the 1984 Appropriations Act, directed the Office of Technology Assessment (OTA) to study whether the Department's coal leasing program was compatible with the nationally mandated environmental protection goals.

<sup>6</sup> 43 CFR part 3420.



As part of the 1984 Appropriations Bill, Congress imposed a moratorium on the sale or lease of coal on public lands, subject to certain exceptions, starting in 1983 and ending 90 days after publication of the Linowes Commission's report. The Linowes Commission published the *Report of the Commission on Fair Market Value Policy for Federal Coal Leasing* in February 1984. The OTA report, *Environmental Protection in the Federal Coal Leasing Program*, was released in May 1984. The principal thrust of these reports was that the Department should: (1) Temper its pace of coal leasing; (2) Improve and better document its procedures for receiving fair market value; and (3) Take care to balance competing resource uses in making lease decisions.

Interior Secretary William P. Clark extended the suspension of coal leasing (with exceptions for emergency leasing and processing preference right lease applications, among other things), while the Department completed its comprehensive review of the program. This review included proposed modifications to be made by the Department in response to the Linowes Commission and OTA reports. Secretary Clark announced on August 30, 1984, that the Department would prepare an EIS supplement to the 1979 Programmatic EIS for the Federal coal management program. The Department issued the Record of Decision for the Programmatic EIS supplement in January 1986, in the form of a Secretarial Issue Document. That document recommended continuation of the leasing program with modifications. In conjunction with those modifications, Interior Secretary Donald Hodel lifted the coal leasing moratorium in 1987.

### *B. Need for Comprehensive Review of Federal Coal Program*

On March 17, 2015, Secretary Jewell called for "an honest and open conversation about modernizing the Federal coal program." As described above, the last time the Federal coal program underwent comprehensive review was in the mid-1980s, and market conditions, infrastructure development, scientific understanding, and national priorities have changed considerably since that time. The Secretary's call also responded to continued concerns from numerous stakeholders about the Federal coal program, including concerns raised by the GAO,<sup>10</sup> the Department's Office of

Inspector General (OIG),<sup>11</sup> members of Congress, interested stakeholders, and the public. The concerns raised by the GAO and OIG centered on whether taxpayers are receiving fair market value from the sale of coal. Others raised concerns that the current Federal leasing structure lacks transparency and competition and is therefore not ensuring that the American taxpayer receives a fair return from Federal coal resources, while also raising questions regarding current market conditions for the coal industry generally and related implications for Federal resources. Stakeholders also questioned whether the leasing program results in over-supply of a commodity that has significant environmental and health impacts, including impacts on global climate change.

In response to the Secretary's call for a conversation to address these concerns, the BLM held 5 listening sessions regarding the Federal coal program in the summer of 2015. Sessions were held in Washington, DC; Billings, Montana; Gillette, Wyoming; Denver, Colorado; and Farmington, New Mexico. The Department heard from 289 individuals during the sessions and received more than 92,000 written comments before the comment period closed on September 17, 2015. The oral and written comments reflected several recurring themes:

- Concern about global climate change and the impact of coal production and use.
- Concern about the loss of jobs and local revenues if coal production is reduced.
- Support for increased transparency and public participation in leasing and royalty decisions and concern that the structure of the leasing program does not provide for adequate competition or a fair return to the taxpayer for the use of Federal resources.
- Support for increasing coal royalty rates because: (1) The royalty rate should account for the environmental costs of coal production; (2) The royalty rate should match the rate for offshore Federal leases; and (3) Taxpayers are not receiving a fair return.
- Support for maintaining or lowering coal royalty rates because: (1) The coal industry already pays more than its fair share and existing Federal rates are too high given current market conditions; (2) Raising rates will lower production and revenues; and (3) Raising rates will cost jobs and harm communities.
- Support for streamlining the current leasing process, so that the Federal coal program is administered in a way that better promotes economic stability and jobs, especially in coal communities which are

*Exports, and Provide More Public Information*, GAO 14-140 (Dec. 2013).

<sup>11</sup> OIG, *Coal Management Program*, U.S. Department of the Interior, Report No.: CR-EV-BLM-0001-2012 (June 2013).

already suffering from depressed economic conditions.

Of these concerns, three aspects of the current Federal coal program received the most attention. First, numerous stakeholders are concerned that American taxpayers are not receiving a fair return on public coal resources. Second, many stakeholders are concerned that the Federal coal program conflicts with the Administration's climate policy and our national climate goals, making it more difficult for us to achieve those goals. Third, there are numerous and varying concerns about the structure of the Federal coal program in light of current market conditions, including how implementation of the Federal leasing program affects current and future coal markets, coal-dependent communities and companies, and the reclamation of mined lands. These three main concerns are addressed in more detail below.

### *1. Concerns About Fair Return*

In 2013, both GAO and OIG issued reports expressing concerns about the Federal coal program, particularly with respect to the leasing process and fair market value. In response, in 2014, the BLM developed new protocols and issued policy guidance, a manual, and a handbook to implement these changes. Nevertheless, stakeholders have expressed concerns that the BLM's response, while helpful, was insufficient to rectify fundamental weaknesses in the program with respect to fair return.<sup>12</sup>

These concerns arise, at least in part, because there is currently very little competition for Federal coal leases. About 90 percent of lease sales receive bids from only one bidder, typically the operator of a mine adjacent to the new lease, given the investment required to

<sup>12</sup> See, e.g., Taxpayers for Common Sense, *Federal Coal Leasing: Fair Market Value and a Fair Return for the American Taxpayer* (Sept. 2013). ([http://www.taxpayer.net/images/uploads/downloads/TCS\\_Federal\\_Coal\\_Leasing\\_Report\\_-\\_Final\\_-\\_Updated\\_10.4.13.pdf](http://www.taxpayer.net/images/uploads/downloads/TCS_Federal_Coal_Leasing_Report_-_Final_-_Updated_10.4.13.pdf)); Center for American Progress, *Modernizing the Federal Coal Program* (Dec. 2014) (<https://cdn.americanprogress.org/wp-content/uploads/2014/12/FederalCoal.pdf>); Headwaters Economics, *An Assessment of U.S. Federal Coal Royalties* (Jan. 2015) (<http://headwaterseconomics.org/wphw/wp-content/uploads/Report-Coal-Royalty-Valuation.pdf>); Center for American Progress, *Cutting Subsidies and Closing Loopholes in the U.S. Department of the Interior's Coal Program* (Jan. 6, 2015) (<https://cdn.americanprogress.org/wp-content/uploads/2015/01/CoalSubs-brief2.pdf>); Institute for Policy Integrity, *Harmonizing Preservation and Production* (June 2015) (<http://policyintegrity.org/publications/detail/harmonizing-preservation-and-production/>); Institute for Policy Integrity, *Illuminating the Hidden Costs of Coal* (Dec. 2015) (<http://policyintegrity.org/publications/detail/hidden-costs-of-coal/>).

<sup>10</sup> GAO, *Coal Leasing: BLM Could Enhance Appraisal Process, More Explicitly Consider Coal*



open a new mine. While the BLM conducts a peer-reviewed analysis to estimate a pre-sale fair market value of the coal and will not sell a lease unless the bid meets or exceeds that value, commenters have questioned whether an accurate fair market value can be identified in the absence of a truly competitive marketplace.

Commenters also raised concerns about the royalty rates set in Federal leases, which are set by regulation at a fixed 8 percent for underground mines and not less than 12.5 percent for surface mines. Many stakeholders believe that these rates do not adequately compensate the public for the removal of the coal and the externalities associated with its use. Still others have suggested that the large volumes and relatively low costs of Federal coal, which currently represents approximately 41 percent of total domestic production, have the effect of artificially lowering market prices for coal, further reducing the amount of royalties received.

Stakeholders also criticize the Federal coal program for obtaining even lower returns through certain types of leasing actions, such as lease modifications, and through royalty rate reductions, which may result in royalty rates as low as 2 percent. In addition, stakeholders have noted that the \$100 acre minimum bid requirement established in the regulations is outdated, and although the minimum bid does not apply frequently, given fair market value requirements, there are situations in which it sets the floor for the bid price.

Some stakeholders further suggest that a fair return to the taxpayer should also include compensation for externalities such as the environmental damage (or lost environmental benefits) from the removal and combustion of the coal.

## 2. Concerns About Market Conditions

Stakeholders raised a variety of concerns about the implications of current and future coal market conditions. As reported by EIA, between 2008 and 2013, U.S. coal production fell by 16 percent in total, as declining natural gas prices and other factors made coal less competitive as a fuel for generating electricity.<sup>13</sup> In 2015, U.S. coal production was roughly 891 MMst, 11 percent lower than 2014, and the lowest level since 1986.<sup>14</sup> World-wide

demand for coal appears to be softening as well, with EIA estimating a 23 percent decline in total U.S. coal exports in 2015 from the previous year.<sup>15</sup> As a result of these market trends, a number of mines in the U.S. have idled production, companies have asked the BLM to hold off on processing certain lease tracts for sale, several major coal companies have entered Chapter 11 bankruptcy, many coal miners have been laid off, and coal-dependent communities have suffered.<sup>16</sup> The EIA and other projections of future coal production anticipate continuing declines.

Stakeholders have urged the BLM to modify the Federal coal program to take these significant market changes into account, although the recommended changes vary. Some suggest that the program should attempt to improve the economic viability of the coal industry by reducing royalties and streamlining the leasing and permitting processes. Others raise concerns that the program has contributed to low coal prices by incentivizing over-production through non-competitive sales that oversupply the market.

Some have focused on how current market conditions threaten reclamation of lands disturbed by coal mining and may leave State and Federal governments with billions of dollars of unfunded reclamation liabilities. Specifically, many coal companies “self-bond” to meet reclamation bonding requirements, and some stakeholders have asserted that these companies may no longer have the funds to support reclamation activities, and/or they may attempt to shed reclamation obligations in bankruptcy.<sup>17</sup> OSMRE currently estimates that there is over \$3.6 billion in outstanding self-bonded reclamation liability in the United States.

Stakeholders also expressed a number of views regarding export of Federal coal. Some see export markets as a possible way to maintain or expand Federal coal production, while others view the production of coal for export

as a less valuable activity than coal production for domestic use. A number of stakeholders expressed concern that exports, or the potential for exports, were not adequately considered as part of the leasing process.

## 3. Concerns About Climate Change

The third broad category of concerns about the Federal coal program relates to its impacts on climate change. The United States has pledged under the United Nations Framework Convention on Climate Change to reduce its greenhouse gas (GHG) emissions by 26–28 percent below 2005 levels by 2025. The Obama Administration has made, and is continuing to make, unprecedented efforts to reduce U.S. GHG emissions in line with this target through measures such as vehicle efficiency standards, the Clean Power Plan, energy efficiency standards, requirements to reduce methane reductions from oil and gas production, and many other measures. Numerous scientific studies indicate that reducing GHG emissions from coal use worldwide is critical to addressing climate change.<sup>18</sup>

As noted above, the Federal coal program is a significant component of overall U.S. coal production. In recent years, Federal coal has comprised about 41 percent of the coal produced in the U.S.<sup>19</sup> When combusted, this Federal coal contributes roughly 10 percent of total U.S. GHG emissions.<sup>20</sup>

Many stakeholders highlighted the tension between producing very large quantities of Federal coal while pursuing policies to reduce U.S. GHG emissions substantially, including from coal combustion. They also stated that the current leasing system does not provide a way to systematically consider the climate impacts and costs to the public of Federal coal development, either as a whole, or in the context of particular projects. In addition, they raise concerns that exporting Federal coal, and the associated GHG emissions, undermines

<sup>18</sup> See, e.g., McGlade and Ekins, The geographical distribution of fossil fuels unused when limiting global warming to 2 °C, *Nature*, 517, 187–190 (Jan. 8, 2015) (finding that globally over 80% of current coal reserves should remain unused from 2010 to 2050 to meet the target of 2 degrees C).

<sup>19</sup> U.S. EIA, *Sales of Fossil Fuels Produced from Federal and Indian Lands, FY 2003 through FY 2014* (July 17, 2015) (<https://www.eia.gov/analysis/requests/federalands/>) (quantity of Federal coal production in 2014 and percent of total U.S. coal production).

<sup>20</sup> Id.; U.S. EPA, *Inventory of U.S. Greenhouse Gas Emissions and Sinks, 3–2* (April 2015) (<http://www3.epa.gov/climatechange/Downloads/ghgemissions/US-GHG-Inventory-2015-Chapter-3-Energy.pdf>) (quantity of U.S. emissions from coal in 2013).

<sup>13</sup> U.S. EIA, *Annual Energy Outlook 2015*, 22 (Apr. 14, 2015).

<sup>14</sup> U.S. EIA, *Short Term Energy Outlook: Coal* (Feb. 9, 2016) (<http://www.eia.gov/forecasts/steo/report/coal.cfm>); U.S. EIA, *Coal Production and Prices Decline in 2015* (January 8, 2016) (<http://www.eia.gov/todayinenergy/detail.cfm?id=24472>).

<sup>15</sup> U.S. EIA, *Short Term Energy Outlook: Coal* (Feb. 9, 2016) (<http://www.eia.gov/forecasts/steo/report/coal.cfm>); see also U.S. EIA, *Coal Production and Prices Decline in 2015* (Jan. 8, 2016) (<http://www.eia.gov/todayinenergy/detail.cfm?id=24472>).

<sup>16</sup> See, e.g., Wall Street Journal, *Pressure on Coal Industry Intensifies*, B1 (Jan. 12, 2016).

<sup>17</sup> See, e.g., *In re Alpha Natural Resources, Inc.*, et al., Case No. 15–33896 (KRH) United States Bankruptcy Court, Eastern District of Virginia, Richmond Division (Alpha Resources bankruptcy filing) (Aug. 3, 2015) (<http://www.kccllc.net/alpharestructuring/>); *In re Arch Coal, Inc.*, et al, Case No. 16–40120–705, United States Bankruptcy Court, Eastern District of Missouri, Eastern Division (Arch Coal bankruptcy filing (Jan. 11, 2016) (<http://www.archcoal.com/restructuring/>).

our nation's efforts to encourage all countries to contribute to climate change mitigation efforts.

### C. Secretarial Order

On January 15, 2016, the Secretary of the Interior issued Order No. 3338 directing the BLM to conduct a broad, programmatic review of the Federal coal program it administers through the preparation of a Programmatic EIS under NEPA. The Order stated:

Given the broad range of issues raised over the course of the past year (and beyond) and the lack of any recent analysis of the Federal coal program as a whole, a more comprehensive, programmatic review is in order, building on the BLM's public listening sessions . . . .

\* \* \* \* \*

[T]he purpose of the P[rogrammatic] EIS is to identify, evaluate, and potentially recommend reforms to the Federal coal program. This review will enable the Department to consider how to modernize the program to allow for the continued development of Federal coal resources while addressing the substantive issues raised by the public, other stakeholders, and the Department's own review of the comments it has received.

The Order does not apply to the coal program on Indian lands, as that program is distinct from the BLM's program and is subject to the unique trust relationship between the United States and federally recognized Indian tribes and government-to-government consultation requirements. The Order also does not apply to any action of OSMRE or ONRR.

### D. Scoping Discussion

The Programmatic EIS will identify and review potential modifications to the Federal coal program to address the concerns discussed above and others that may be identified during the scoping process, and potentially, identify a preferred set of actions. Such modifications could include changes to guidance, regulations, and/or land use plans. The process of developing the Programmatic EIS will be used to identify and develop potential changes to the program and evaluate their projected effects on the quality of the human environment. In addition, the Programmatic EIS will consider, as an alternative, a continuation of the current Federal coal program without any modifications, as required by NEPA. The scoping process will refine the specific issues to be addressed in the Programmatic EIS and the potential modifications to be evaluated. Cooperating agencies may include any

Federal, State, or local agency or tribal government with jurisdiction or special expertise in matters within the scope of the Programmatic EIS.

### 1. Issues To Be Addressed

The full set of issues to be assessed in the Programmatic EIS will be determined through the public scoping process, but it is expected to include the following topics. The Order identified most of these, but the following list has been expanded to include additional topics and details raised through the listening sessions.

#### a. *How, When, and Where to Lease.*

The regional leasing program authorized in the 1979 regulations has not worked as envisioned and, instead, the BLM has conducted leasing only in response to industry applications. Given concerns about the lack of competition in the lease-by-application system, as well as consideration of environmental goals, the Programmatic EIS will examine whether the current regulatory framework should be changed to provide a better mechanism or mechanisms to decide which coal resources should be made available and how the leasing process should work.

As part of this evaluation, the Programmatic EIS will examine the issue of when to lease. Some leasing programs for other Federal resources operate with an established schedule for leasing or consideration of leasing (e.g., BLM holds onshore oil and gas lease sales on a quarterly basis if parcels are available; offshore oil and gas leasing occurs using a schedule established in a five-year plan). The Programmatic EIS will examine whether scheduled sales should be used for Federal coal. In addition, the Programmatic EIS will look at the factors that should be considered in decisions about the timing of leasing. For example, it will evaluate whether market conditions should affect the timing of lease sales, such that sales would occur when coal values are higher rather than during periods of market downturns, when revenues from lease sales would be lower.

The Programmatic EIS will also examine where to lease and where not to lease, consistent with taking a landscape level view of this question. The Federal Land Policy and Management Act requires the BLM to develop land use plans, also known as Resource Management Plans to guide the BLM's management of public lands. The BLM uses this planning process to identify and address, at a broad scale, potential conflicts over and impacts of possible resource uses. The Programmatic EIS will consider whether

the BLM's unsuitability screening criteria adequately address the questions of where and/or where not to lease for coal production, as well as other potential factors that could be applied during the planning process to provide guidance on the most appropriate locations for coal leasing. This question is particularly timely in light of the BLM's recent proposal to update the current planning regulations ("Planning 2.0").<sup>21</sup> The proposed regulatory changes highlight, in particular, opportunities for early public involvement in the planning process and landscape level planning efforts that may cross traditional administrative boundaries, both of which are relevant for planning related to the coal program.

b. *Fair Return.* The Programmatic EIS will address whether the bonus bids, rents, and royalties received under the Federal coal program are successfully securing a fair return to the American public for Federal coal, and, if not, what adjustments could be made to provide such compensation. As part of this analysis, the Programmatic EIS will examine how each of these components of fair return should be calculated, including whether (and if so, what) externalities should be considered as part of the fair return calculation.

c. *Climate Impacts.* With respect to the climate impacts of the Federal coal program, the Programmatic EIS will examine how best to measure and assess the climate impacts of continued Federal coal production, transportation, and combustion. This will include evaluation of potential substitution effects from any changes in Federal coal production, and consideration of how best to ensure no unnecessary and undue degradation of public lands from climate change impacts. It will also consider whether and how to mitigate, account for, or otherwise address those impacts through the structure and management of the coal program, including, as appropriate, land use planning, adjustments to the scale and pace of leasing, adjustments to royalties or other means of internalizing externalities, mitigation through greenhouse gas reductions elsewhere, information disclosure, and other approaches. The Programmatic EIS will examine the climate impacts of the coal program in the context of the Nation's climate objectives, as well as the Nation's energy and security needs.

d. *Other Impacts.* The Federal coal program has other potential impacts on public health and the environment,

<sup>21</sup> Dept. of Interior, Bureau of Land Management, Resource Management Planning, Proposed Rule, 81FR 9674 (Feb. 25, 2016).

beyond climate impacts, that will also be assessed in the Programmatic EIS. These include the effects of coal production on: The quantity and quality of water resources, including aquifer drawdown and impacts on streams and alluvial valley floors; air quality and the associated effects on health and visibility; wildlife, including endangered species; and other land uses such as grazing and recreation. These impacts are commonly addressed through mitigation requirements. Recent mitigation directives focus on developing a comprehensive, clear, and consistent approach for avoidance and minimization of, and compensatory mitigation for, the impacts of agency activities and the projects agencies approve.<sup>22</sup> The Programmatic EIS will evaluate the BLM's general approach to mitigation for these impacts from coal production, and specifically, whether impacts from mining and combusting Federal coal are adequately mitigated across the Federal coal program, including the timing and certainty of mitigation, and whether standard mitigation at the programmatic level should be required, in addition to on a project-by-project basis.

*e. Socio-Economic Considerations.* Beyond the issue of fair market value, the Programmatic EIS will assess whether the current Federal coal leasing program adequately accounts for externalities related to Federal coal production, including environmental and social impacts. It will more broadly examine how the administration, availability, and pricing of Federal coal affect State, regional, and national economies (including job impacts), and energy markets in general, including the pricing and viability of other coal resources (both domestic and foreign) and other energy sources. The impact of possible program alternatives on the projected fuel mix and cost of electricity in the United States will also be examined.

*f. Exports.* The Programmatic EIS will address whether and, if so, how leasing decisions should consider actual and/or

projected exports of domestic coal from any given tract and potential mechanisms that could be used to appropriately evaluate export potential.

*g. Energy Needs.* Finally, the Programmatic EIS will examine how Federal coal supports fulfilling the energy needs of the United States. The evaluation will include an assessment of how the administration, availability, and pricing of Federal coal impacts electricity generation in the United States, particularly in light of other regulatory influences, and what other sources of energy supply (including efficiency) are projected to be available.

## 2. Potential Modifications to the Federal Coal Program To Be Considered

The BLM is considering various approaches for reforming the Federal coal program to address some or all of the identified issues above, including providing a fair return to taxpayers and providing appropriate consideration of the impacts the program has on the environment. These approaches may be considered separately or in any combination.

To date, stakeholders have made suggestions that range from maintaining the status quo to undertaking sweeping changes. During the listening sessions, commenters suggested a variety of modifications that could be made to the Federal coal program to better address concerns about fair return to taxpayers, market conditions, and effects on climate change, among others. Some of these suggestions were sufficiently specific to constitute potential approaches that could be evaluated in the Programmatic EIS. These proposals are summarized below.

The BLM requests comment on whether the Programmatic EIS should further evaluate some or all of these specific approaches, or some variation on them. The BLM also welcomes suggestions for other potential approaches that should be evaluated in the Programmatic EIS, including approaches that may be contrary to those articulated below, such as reforming the leasing process to promote coal development through steps that might accelerate leasing and reduce delays and costs. As previously noted, the Programmatic EIS will also consider a "no action alternative"—the continuation of the program without any modifications—as required by NEPA. We encourage commenters to be as specific as possible in identifying the types of changes to the program that the Programmatic EIS should evaluate, including changes to regulations, guidance, and management practices.

To address concerns about fair returns to taxpayers, the BLM is considering evaluating the following approaches:

- Raise the royalty rate or adjust the royalty terms of new leases, such as:
    - Raise the royalty rate to 18.75 percent, consistent with the royalty rate for Federal offshore oil and gas;
    - Raise the royalty rate to a level that would provide parity on an energy content (Btu) basis with the royalties currently collected for Federal onshore natural gas, a common substitute fuel;
    - Raise the royalty rate to the point that would maximize revenues to the taxpayer, taking into consideration any decrease in demand that may result from the higher royalty rate; or
    - Identify and require an "add-on" to be paid to reflect the cost of the harm to the public from negative externalities from coal development;
  - Limit the use of royalty rate reductions;
  - Change the methodology for determining fair market value when establishing the minimum bid or valuing lease modifications, such as:
    - Use the market price of non-Federal coal in the region or nation-wide;
    - Include the option value of leasing the coal resource at a given point in time;
    - Include the social cost of mining (*i.e.*, the cost to taxpayers of mining imposed by fixed cost non-internalized externalities, such as loss of recreational or other values, which do not vary by quantity produced);
    - Explicitly include export value in establishing fair market value;
    - Replace the lease by application approach with an open process of setting (after public comment and expert advice) minimal acceptable bid levels for tracts; or
    - Update the minimum bid established by regulation to account for inflation, and/or establish state-specific minimum bids;
  - Raise rental rates to adjust for inflation and/or incorporate lost value of other uses of the land and anticipated externalities of exploratory activities;
  - Do not lease to companies that have more than 10 years of recoverable reserves coal at the time of lease application; and
  - Evaluate whether there is an over-supply of Federal coal that is undercutting market prices for coal in the United States and thereby leading to lower royalty revenue.
- The BLM received the following industry proposals concerned with promoting coal production that are also under consideration:
- Lower royalty rates, including as a means of increasing overall government take;

<sup>22</sup> Secretary of the Interior, Secretarial Order 3330 (Oct. 31, 2013) (establishing a Department-wide mitigation strategy) (<https://www.doi.gov/sites/doi.gov/files/migrated/news/upload/Secretarial-Order-Mitigation.pdf>); President Obama, Presidential Memorandum: Mitigating Impacts on Natural Resources from Development and Encouraging Related Private Investment (Nov. 3, 2015) (<https://www.whitehouse.gov/the-press-office/2015/11/03/mitigating-impacts-natural-resources-development-and-encouraging-related>). Consistent with these directives, the BLM is currently working on a mitigation policy that will bring consistency to the consideration and application of avoidance, minimization, and compensatory actions or development activities and projects impacting public lands and resources.

- Broaden the applicability of royalty rate reductions;
- Reform the leasing process to accelerate leasing and reduce delays and costs;
  - Base bonus bids on the amount of recoverable coal, not coal reserves;
  - Convert revenue streams to pay-as-you go, instead of an upfront payment of bonus bids over five years; and
  - Reestablish the Royalty Policy Committee to guide changes to royalties.

To address concerns about climate impacts and/or other public health and environmental harms, the BLM is considering evaluating the following approaches:

- Change the methodology for determining which, or how much, Federal coal and/or acreage is made available for leasing, such as:
  - Establish a “budget,” or other quantity-based schedule, for the amount of Federal coal and/or acreage to be leased over a given period, with the budget set on a declining schedule consistent with the United States’ climate goals and commitments and market demand;
  - Re-establish an updated version of the regional planning and leasing process, using land use planning and environmental evaluation to decide whether an area should be leased; or
  - Develop a landscape-level approach to identify geographic areas for potential leasing to identify and address potential conflicts
- Raise royalty rates or require an “adder” to be paid to reflect the cost of the harm to the public from negative externalities from coal development (could include production-related externalities, transportation-related externalities, externalities from use of coal, and/or costs of infrastructure demand, such as water and power), such as:
  - Incorporating the social cost of carbon;
  - Incorporating the social cost of methane; or
  - Reflecting other externalities;
- Require climate and/or other public health and environmental harms to be mitigated; and
- Prohibit or otherwise limit leasing to entities that are not meeting their environmental responsibilities, such as:
  - Entities listed in the Office of Surface Mining Reclamation and Enforcement Applicator Violator System; or
  - Entities that have not met their reclamation or bonding (including bond release) requirements.

#### E. Scoping Process

The Federal coal program Programmatic EIS process will provide

opportunities for formal public participation through commenting during public scoping and on the draft Programmatic EIS, when that is published. The BLM aims to complete the Coal Programmatic EIS over roughly 3 years. The process will include public and agency scoping, including public scoping meetings, collection of public comments during the scoping period, issuance of a summary of substantive comments received during the scoping period, as well as issuance of a scoping report at the end of the scoping process; coordination and consultation with Federal, State, tribal and local governments; publication of a draft Programmatic EIS; public review of and comments on the draft Programmatic EIS; and publication of a final Programmatic EIS, which will include the BLM’s responses to substantive comments received on the draft Programmatic EIS. The Programmatic EIS process is intended to involve all interested agencies (Federal, State, county, and local), Native American tribes, public interest groups, businesses, and members of the public.

At this time, interested parties are invited to participate in the scoping process to assist the BLM in identifying and refining the issues and policy proposals to be analyzed in depth and in eliminating from detailed study those policy proposals and issues that are not feasible or pertinent. Participation in the scoping process may take the form of attendance at public scoping meetings, speaking at public scoping meetings, and/or submitting written comments.

In addition to taking comment on the specific approaches discussed above, as well as welcoming suggestions for other potential approaches that should be evaluated in the Programmatic EIS, BLM is soliciting input on the following:

1. Potential new leasing models, or potential reforms to the previous or existing leasing models of regional leasing and lease by application;
2. Other approaches to increase competition in the leasing process;
3. Data or analyses that justify a specific change to the royalty rate;
4. Potential approaches to improve the pre-sale estimate of fair market value;
5. Whether, and how, to account in the leasing process for the extent to which reclamation responsibilities have been met;
6. Potential approaches to design a ‘budget’ for the amount of Federal coal and/or acreage to be leased over a given period; and
7. How to account for export potential in the leasing process.

Public scoping meetings will be held as indicated above under the **DATES** section. These scoping meetings will be

informal. The presiding officer will establish only those procedures needed to ensure that everyone who wishes to speak has a chance to do so, to the extent practicable, and that the agency representatives understand all issues and comments. Persons wishing to speak on behalf of an organization should identify that organization in their request to speak. Should any speaker wish to provide for the record further information that cannot be presented within the designated time, such information may be submitted in writing or electronically by the date listed in the **DATES** section to the addresses listed in the **ADDRESSES** section.

In submitting written comments, individuals should be aware that the entire comment—including personal identifying information (including address, phone number, and email address)—may be made publicly available at any time. While the commenter can request in the comment that the commenter’s personal identifying information be withheld from public review, this cannot be guaranteed. All comments from organizations or businesses, and from individuals identifying themselves as representatives or officials of organizations or businesses, will be available for public inspection in their entirety. If you would like to receive a copy of the draft Programmatic EIS and other project materials, you are encouraged to make this request through the project Web site ([http://www.blm.gov/wo/st/en/prog/energy/coal\\_and\\_non-energy/details\\_on\\_coal\\_peis.html](http://www.blm.gov/wo/st/en/prog/energy/coal_and_non-energy/details_on_coal_peis.html)), or you may contact Mitchell Leverette as provided in the **ADDRESSES** section of this notice.

Pursuant to 36 CFR 800.2(d)(3), the BLM will use the NEPA public participation requirements to satisfy the public involvement requirements under Section 106 of the National Historic Preservation Act (NHPA), 16 U.S.C. 470(f). The BLM will consult with Indian tribes on a government-to-government basis in accordance with Executive Order 13175 and other policies. Tribal concerns, including impacts on Indian trust assets and potential impacts to cultural resources, will be given due consideration. Federal, State, and local agencies, along with tribes and other stakeholders that may be interested in or affected by the Federal coal program, are invited to participate in the scoping process and, if eligible, may request or be requested by the BLM to participate in the development of the environmental analysis as a cooperating agency.

After gathering public comments on issues and policy proposals that should be addressed in the Programmatic EIS, the BLM will identify the issues and policy proposals to be addressed in the Programmatic EIS and the issues and proposals determined to be beyond the scope of the Programmatic EIS. Following closure of the scoping period, the BLM will prepare a scoping summary report and will make the report available to the public. The report will be posted on the project Web site ([http://www.blm.gov/wo/st/en/prog/energy/coal\\_and\\_non-energy/details\\_on\\_coal\\_peis.html](http://www.blm.gov/wo/st/en/prog/energy/coal_and_non-energy/details_on_coal_peis.html)), or may be requested from Mitchell Leverette, as provided in the **ADDRESSES** section of this notice.

**Authority:** The BLM will prepare the Programmatic EIS in accordance with, but not limited to, the National Environmental Policy Act, 42 U.S.C. 4321 *et seq.*; the Council on Environmental Quality regulations (CEQ), 40 CFR parts 1500–1508; the U.S. Department of the Interior regulations implementing NEPA, 43 CFR part 46; and the Federal Land Policy and Management Act of 1976 (FLPMA), 43 U.S.C. 1701 *et seq.*

This notice is published in accordance with section 40 CFR 1501.7 of the CEQ regulations and 43 CFR 46.235 of the DOI regulations implementing the NEPA.

**Neil Kornze,**

*Director, Bureau of Land Management,  
Department of the Interior.*

[FR Doc. 2016–07138 Filed 3–29–16; 8:45 am]

**BILLING CODE 4310–84–P**

## DEPARTMENT OF THE INTERIOR

### Bureau of Land Management

[LLWO2200000.L10200000.PK0000.  
00000000; Control No. 1004–0019]

### Renewal of Approved Information Collection

**AGENCY:** Bureau of Land Management, Interior.

**ACTION:** 60-Day notice and request for comments.

**SUMMARY:** In compliance with the Paperwork Reduction Act, the Bureau of Land Management (BLM) invites public comments on, and plans to request approval to continue, the collection of information from individuals, households, farms, and businesses interested in cooperating with the BLM in constructing or maintaining range improvement projects that enhance or

improve livestock grazing management, improve watershed conditions, enhance wildlife habitat, or serve similar purposes. The BLM also invites public comments on this collection of information. The Office of Management and Budget (OMB) has assigned control number 1004–0019 to this information collection.

**DATES:** Please submit comments on the proposed information collection by May 31, 2016.

**ADDRESSES:** Comments may be submitted by mail, fax, or electronic mail.

*Mail:* U.S. Department of the Interior, Bureau of Land Management, 1849 C Street NW., Room 2134LM, Attention: Jean Sonneman, Washington, DC 20240.

*Fax:* to Jean Sonneman at 202–245–0050.

*Electronic mail:* [Jean\\_Sonneman@blm.gov](mailto:Jean_Sonneman@blm.gov).

Please indicate “Attn: 1004–0019” regardless of the form of your comments.

### FOR FURTHER INFORMATION CONTACT:

Kimberly Hackett, at 202–912–7216. Persons who use a telecommunication device for the deaf may call the Federal Information Relay Service at 1–800–877–8339, to leave a message for Ms. Hackett.

**SUPPLEMENTARY INFORMATION:** OMB regulations at 5 CFR part 1320, which implement provisions of the Paperwork Reduction Act, 44 U.S.C. 3501–3521, require that interested members of the public and affected agencies be given an opportunity to comment on information collection and recordkeeping activities (see 5 CFR 1320.8 (d) and 1320.12(a)). This notice identifies an information collection that the BLM plans to submit to OMB for approval. The Paperwork Reduction Act provides that an agency may not conduct or sponsor a collection of information unless it displays a currently valid OMB control number. Until OMB approves a collection of information, you are not obligated to respond.

The BLM will request a 3-year term of approval for this information collection activity. Comments are invited on: (1) The need for the collection of information for the performance of the functions of the agency; (2) the accuracy of the agency’s burden estimates; (3) ways to enhance the quality, utility and clarity of the information collection; and (4) ways to minimize the information collection burden on respondents, such

as use of automated means of collection of the information. A summary of the public comments will accompany our submission of the information collection requests to OMB.

Before including your address, phone number, email address, or other personal identifying information in your comment, you should be aware that your entire comment—including your personal identifying information—may be made publicly available at any time. While you can ask us in your comment to withhold your personal identifying information from public review, we cannot guarantee that we will be able to do so.

The following information pertains to this request:

**Title:** Grazing Management: Range Improvements Agreements and Permits (43 CFR Subpart 4120).

**OMB Control Number:** 1004–0019.

**Summary:** This request pertains to range improvements on public lands managed by the BLM. Range improvements enhance or improve livestock grazing management, improve watershed conditions, enhance wildlife habitat, or serve similar purposes. At times, the BLM may require holders of grazing permits or grazing leases to install range improvements to meet the terms and conditions of their permits or leases. Operators may also come to the BLM with proposals for range improvements. Often the BLM, operators, and other interested parties work together and jointly contribute to construction of range improvements in order to facilitate improved grazing management or enhance other multiple uses. Cooperators may include lenders which provide the funds that operators contribute for improvements.

**Frequency of Collection:** On occasion.

**Forms:**

- Form 4120–6 (Cooperative Range Improvement Agreement); and
- Form 4120–7 (Range Improvement Permit).

**Description of Respondents:** Holders of BLM grazing permits or grazing leases; affected individuals and households; and affected tribal, state, and county agencies.

**Estimated Annual Responses:** 1,110.

**Estimated Annual Burden Hours:** 1,640.

**Estimated Annual Non-Hour Costs:** None.

The estimated burdens are itemized in the following table:

Type of response	Number of responses	Hours per response	Total hours (Column B × Column C)
A	B	C	D
Cooperative Range Improvement Agreement, 43 CFR 4120.3–2, Form 4120–6 and related non-form information .....	500	2	1,000
Range Improvement Permit, 43 CFR 4120.3–3, Form 4120–7 and related non-form information .....	30	2	60
Affected Public/Individuals and Households, 43 CFR 4120.5–1 .....	50	1	50
Affected Public/Tribal, State, and County Agencies, 43 CFR 4120.5–2 .....	530	1	530
Total .....	1,110	.....	1,640

**Jean Sonneman,**

*Bureau of Land Management, Information Collection Clearance Officer.*

[FR Doc. 2016–07091 Filed 3–29–16; 8:45 am]

**BILLING CODE 4310–84–P**

**DEPARTMENT OF THE INTERIOR****Bureau of Land Management**

[LLWO320000 L13300000.PP0000 12X]

**Renewal of Approved Information Collection; OMB Control No. 1004–0121**

**AGENCY:** Bureau of Land Management, Interior.

**ACTION:** 30-Day notice and request for comments.

**SUMMARY:** The Bureau of Land Management (BLM) has submitted an information collection request to the Office of Management and Budget (OMB) to continue the collection of information regarding authorizations pertaining to solid minerals other than coal and oil shale. The Office of Management and Budget (OMB) previously approved this information collection activity, and assigned it control number 1004–0121.

**DATES:** The OMB is required to respond to this information collection request within 60 days but may respond after 30 days. For maximum consideration, written comments should be received on or before April 29, 2016.

**ADDRESSES:** Please submit comments directly to the Desk Officer for the Department of the Interior (OMB #1004–0121), Office of Management and Budget, Office of Information and Regulatory Affairs, fax 202–395–5806, or by electronic mail at [OIRA\\_submission@omb.eop.gov](mailto:OIRA_submission@omb.eop.gov). Please provide a copy of your comments to the BLM. You may do so via mail, fax, or electronic mail.

*Mail:* U.S. Department of the Interior, Bureau of Land Management, 1849 C Street NW., Room 2134LM, Attention: Jean Sonneman, Washington, DC 20240.

*Fax:* to Jean Sonneman at 202–245–0050.

*Electronic mail:* [Jean\\_Sonneman@blm.gov](mailto:Jean_Sonneman@blm.gov).

Please indicate “Attn: 1004–0121” regardless of the form of your comments.

**FOR FURTHER INFORMATION CONTACT:**

Vince Vogt, at 202–912–7125. Persons who use a telecommunication device for the deaf may call the Federal Information Relay Service at 1–800–877–8339, to leave a message for Mr. Vogt. You may also review the information collection request online at <http://www.reginfo.gov/public/do/PRAMain>.

**SUPPLEMENTARY INFORMATION:** The Paperwork Reduction Act (44 U.S.C. 3501–3521) and OMB regulations at 5 CFR part 1320 provide that an agency may not conduct or sponsor a collection of information unless it displays a currently valid OMB control number. Until OMB approves a collection of information, you are not obligated to respond. In order to obtain and renew an OMB control number, Federal agencies are required to seek public comment on information collection and recordkeeping activities (see 5 CFR 1320.8(d) and 1320.12(a)).

As required at 5 CFR 1320.8(d), the BLM published a 60-day notice in the **Federal Register** on September 16, 2015 (80 FR 55640), and the comment period ended November 16, 2015. The BLM received no comments.

The BLM now requests comments on the following subjects:

1. Whether the collection of information is necessary for the proper functioning of the BLM, including whether the information will have practical utility;
2. The accuracy of the BLM’s estimate of the burden of collecting the information, including the validity of the methodology and assumptions used;
3. The quality, utility and clarity of the information to be collected; and
4. How to minimize the information collection burden on those who are to

respond, including the use of appropriate automated, electronic, mechanical, or other forms of information technology.

Please send comments as directed under **ADDRESSES** and **DATES**. Please refer to OMB control number 1004–0121 in your correspondence. Before including your address, phone number, email address, or other personal identifying information in your comment, you should be aware that your entire comment—including your personal identifying information—may be made publicly available at any time. While you can ask us in your comment to withhold your personal identifying information from public review, we cannot guarantee that we will be able to do so.

The following information pertains to this request:

*Title:* Leasing of Solid Minerals Other Than Coal and Oil Shale (43 CFR parts 3500, 3580, and 3590).

*OMB Control Number:* 1004–0121.

*Abstract:* This control number enables the BLM to fulfill its responsibilities regarding prospecting permits, exploration licenses, leases, the exchange of leases, use permits, and the regulation of mining activities for solid minerals other than coal or oil shale. The information activities currently approved under control number 1004–0121 include requirements that an applicant, a permittee or a lessee submit information that enables the BLM to:

- Determine if applicants, permittees, and lessees meet qualification criteria;
- Assure compliance with various other legal requirements relating to the leasing of solid minerals other than coal or oil shale;
- Gather data needed to determine the environmental impacts of developing solid leasable minerals other than coal or oil shale;
- Maintain accurate leasing records; and
- Oversee and manage the leasing of solid minerals other than coal or oil shale.

*Forms:*

Form 3504–1, Personal Bond and Power of Attorney;  
Form 3504–3, Bond under Lease;  
Form 3504–4, Statewide or Nationwide Personal Mineral Bond;  
Form 3510–1, Prospecting Application and Permit;  
Form 3510–2, Phosphate or Sodium Use Permit; and

Form 3520–7, Lease.  
*Frequency of Collection:* On occasion.  
*Description of Respondents:* Applicants for, and holders of, the following authorizations in connection with solid minerals other than coal or oil shale:  
• Prospecting permits;  
• Exploration licenses;

• Leases; and  
• Use permits.  
*Obligation to Respond:* To obtain or retain a benefit.  
*Estimated Annual Responses:* 473.  
*Estimated Annual Burden Hours:* 16,346.  
The following table itemizes the estimated burden hours:

Type of response	Number of responses	Hours per response	Total hours (Column B × Column C)
A.	B.	C.	D.
Request for Effective Date, 43 CFR 3501.20 .....	10	1	10
Qualification Requirements/Individuals or Households, Guardians or Trustees, Heirs, and Devises, 43 CFR 3502.27, 3502.29, 3502.33, 3502.34, and 3502.40 .....	3	2	6
Qualification Requirements/Associations and Partnerships, 43 CFR 3502.28, 3502.33, and 3502.34 .....	3	2	6
Qualification Requirements/Corporations, 43 CFR 3502.30, 3502.33, and 3502.34 .....	44	2	88
Surface Owner Consultation/State or Local Government, 43 CFR 3503.21(b) .....	1	2	2
Surface Owner Consultation/Educational, Charitable, or Religious Organization, 43 CFR 3503.21(b) .....	2	2	4
Applicant's Land Description, 43 CFR 3503.30 through 3503.32 .....	50	2	100
Bonding, 43 CFR 3504.50 through 3504.71, Forms 3504–1, 3504–3, and 3504–4 .....	40	4	160
Application for a Prospecting Permit, 43 CFR 3505.12 and 3505.13, Form 3510–1 .....	50	10	500
Amendment or Withdrawal of an Application for Prospecting Permit, 43 CFR 3505.30 and 3505.31 .....	10	5	50
Exploration Plan, 43 CFR 3505.40, 3505.45, and 3592.1(a) .....	25	400	10,000
Application to Extend a Prospecting Permit, 43 CFR 3505.60 through 3505.66 .....	5	40	200
Application for an Exploration License, 43 CFR 3506.11 through 3506.25 .....	4	10	40
Application for a Preference Right Lease, 43 CFR 3507.11 through 3507.19, Form 3520–7 ...	2	300	600
Application for a Competitive Lease, 43 CFR 3508.12 through 3508.22 .....	5	20	100
Application for a Fractional or Future Interest Lease, 43 CFR 3509.10 through 3509.51 .....	1	80	80
Application for a Fringe Acreage Lease or Lease Modification, (43 CFR 3510.12) .....	10	20	200
Objection to Proposed Readjustment of Lease Terms and Conditions, 43 CFR 3511.25 and 3511.26 .....	20	2	40
Request for Renewal of a Lease, 43 CFR 3511.27 .....	20	2	40
Assignment, Sublease, or Transfer, 43 CFR 3512.11 through 3512.17 .....	30	6	180
Application for Waiver, Suspension, or Reduction of Rental or Minimum Royalties, or for a Reduction in the Royalty Rate, 43 CFR 3513.11 through 3513.26 .....	2	100	200
Lease Relinquishment, 43 CFR 3514.11 through 3514.21 .....	10	40	400
Mineral Lease Exchange, 43 CFR 3515.23 through 3515.27 .....	1	40	40
Application for a Use Permit, 43 CFR 3516.15 through 3516.30, Form 3510–2 .....	1	10	10
Application for Approval of a Hardrock Mineral Development Contract or Processing or Milling Arrangement, 43 CFR 3517.15 .....	1	20	20
Application for a Gold, Silver, or Quicksilver Lease in a Confirmed Private Land Grant, 43 CFR 3581.3 and 3581.4, Form 3520–7 .....	1	20	20
Application for a Hardrock Mineral Lease in the Shasta and Trinity Units of the Whiskeytown-Shasta-Trinity National Recreation Area, 43 CFR 3583.3 .....	1	20	20
Application for a Mineral Lease in the White Mountain National Recreation Area, 43 CFR 3585.3–2 .....	1	20	20
Mining Plan, 43 CFR 3592.1 through 3592.3 .....	5	300	1,500
Modification of an Exploration or Mining Plan, 43 CFR 3592.1(d) .....	10	150	1,500
Data on Bore Holes and Samples, 43 CFR 3593.1 .....	25	2	50
Production Records, 43 CFR 3597.1 and 3597.2 .....	80	2	160
Totals .....	473	.....	16,346

Dated: March 23, 2016.

Jean Sonneman,

Bureau of Land Management Information  
Collection Clearance Officer.

[FR Doc. 2016–07164 Filed 3–29–16; 8:45 am]

BILLING CODE 4310–84–P

## DEPARTMENT OF THE INTERIOR

### Bureau of Land Management

[LLWO3200000–L19900000.PP0000]

### Renewal of Approved Information Collection; Control No. 1004–0114

AGENCY: Bureau of Land Management,  
Interior.

**ACTION:** 60-Day notice and request for comments.

**SUMMARY:** In compliance with the Paperwork Reduction Act, the Bureau of Land Management (BLM) invites public comments on, and plans to request approval to continue, the collection of information for the location, recording, and maintenance of mining claims and sites. The Office of Management and

Budget (OMB) has assigned control number 1004–0114 to this information collection.

**DATES:** Please submit comments on the proposed information collection by May 31, 2016.

**ADDRESSES:** Comments may be submitted by mail, fax, or electronic mail.

*Mail:* U.S. Department of the Interior, Bureau of Land Management, 1849 C Street NW., Room 2134LM, Attention: Jean Sonneman, Washington, DC 20240.

*Fax:* to Jean Sonneman at 202–245–0050.

*Electronic mail:*

*Jean\_Sonneman@blm.gov.*

Please indicate “Attn: 1004–0114” regardless of the form of your comments.

**FOR FURTHER INFORMATION CONTACT:**

Sonia Santillan, at 202–912–7123. Persons who use a telecommunication device for the deaf may call the Federal Information Relay Service at 1–800–877–8339, to leave a message for Ms. Santillan.

**SUPPLEMENTARY INFORMATION:** OMB regulations at 5 CFR part 1320, which implement provisions of the Paperwork Reduction Act, 44 U.S.C. 3501–3521, require that interested members of the public and affected agencies be given an opportunity to comment on information collection and recordkeeping activities (see 5 CFR 1320.8 (d) and 1320.12(a)). This notice identifies an information collection that the BLM plans to submit to OMB for approval. The Paperwork

Reduction Act provides that an agency may not conduct or sponsor a collection of information unless it displays a currently valid OMB control number. Until OMB approves a collection of information, you are not obligated to respond.

The BLM will request a 3-year term of approval for this information collection activity. Comments are invited on: (1) The need for the collection of information for the performance of the functions of the agency; (2) the accuracy of the agency’s burden estimates; (3) ways to enhance the quality, utility and clarity of the information collection; and (4) ways to minimize the information collection burden on respondents, such as use of automated means of collection of the information. A summary of the public comments will accompany our submission of the information collection requests to OMB.

Before including your address, phone number, email address, or other personal identifying information in your comment, you should be aware that your entire comment—including your personal identifying information—may be made publicly available at any time. While you can ask us in your comment to withhold your personal identifying information from public review, we cannot guarantee that we will be able to do so.

The following information pertains to this request:

*Title:* Recordation of Location Notices and Mining Claims; Payment of Fees (43 CFR parts 3832 through 3838).

*OMB Control Number:* 1004–0114.

*Summary:* The BLM seeks to renew the previously approved information collection for the regulations at 43 CFR parts 3832 through 3838. These regulations pertain to the location, recording, and maintenance of mining claims and sites, in accordance with the Mining Law (30 U.S.C. 22–54), Section 314 of the Federal Land Policy and Management Act (FLPMA) (43 U.S.C. 1744), certain other statutes pertaining to specific Federal lands, and the Stock Raising Homestead Act (43 U.S.C. 299 and 301).

*Frequency of Collection:* On occasion, except Form 3830–2 (which may be filed annually) and annual FLPMA documents (which are to be filed annually when required).

*Forms:* Form 3830–2, Maintenance Fee Waiver Certification; and Form 3830–3, Notice of Intent to Locate a Lode or Placer Mining Claim(s) and/or a Tunnel Site(s) on Lands Patented under the Stock Raising Homestead Act of 1916, As Amended by the Act of April 16, 1993.

*Description of Respondents:* Mining claimants.

*Estimated Annual Responses:* 136,338.

*Estimated Annual Burden Hours:* 64,412.

*Estimated Annual Non-Hour Costs:* \$1,677,670.

The estimated burdens are itemized in the following table:

Type of response	Number of responses	Time per response	Total hours (Column B × Column C)
A	B	C	D
Notice of Intent to Locate Under the Stock Raising Homestead Act (43 CFR part 3838) Form 3830–3.	91	1 hour .....	91
Locating Mining Claims or Sites (43 CFR part 3832) .....	28,122	30 minutes .....	14,061
Recording a New Location Notice (43 CFR part 3833, subpart A) .....	28,122	30 minutes .....	14,061
Amending a Location Notice (43 CFR part 3833, subpart B) .....	3,586	30 minutes .....	1,793
Transfer of Interest (43 CFR part 3833, subpart C) or Acquisition of a Delinquent Co-Claimant's Interests in a Mining Claim or Site (43 CFR part 3837).	27,530	30 minutes .....	13,765
Waiver from Annual Maintenance Fee (43 CFR part 3835, subpart A) Form 3830–2 and/or nonform data.	22,828	20 minutes .....	7,609
Annual FLPMA Documents (43 CFR part 3835, subpart C) Form 3830–4 .....	26,054	30 minutes .....	13,027
Deferring Assessment Work (43 CFR part 3836, subpart B) .....	5	1 hour .....	5
Totals .....	136,338	.....	64,412

**Jean Sonneman,**

*Information Collection Clearance Officer,  
Bureau of Land Management.*

[FR Doc. 2016–07088 Filed 3–29–16; 8:45 am]

**BILLING CODE 4310–84–P**



**DEPARTMENT OF THE INTERIOR****Bureau of Land Management****[16X.LLWO320000.L13200000.PP0000]****Renewal of Approved Information Collection****AGENCY:** Bureau of Land Management, Interior.**ACTION:** 60-Day notice and request for comments.

**SUMMARY:** In compliance with the Paperwork Reduction Act, the Bureau of Land Management (BLM) invites public comments on, and plans to request approval to continue, the collection of information that enables the BLM to manage Federal coal resources in accordance with applicable statutes. The Office of Management and Budget (OMB) has assigned control number 1004-0073 to this information collection.

**DATES:** Please submit comments on the proposed information collection by May 31, 2016.

**ADDRESSES:** Comments may be submitted by mail, fax, or electronic mail.

*Mail:* U.S. Department of the Interior, Bureau of Land Management, 1849 C Street NW., Room 2134LM, Attention: Jean Sonneman, Washington, DC 20240.

*Fax:* to Jean Sonneman at 202-245-0050.

*Electronic mail:* Jean\_Sonneman@blm.gov.

Please indicate "Attn: 1004-0073" regardless of the form of your comments.

**FOR FURTHER INFORMATION CONTACT:** Bill Radden-Lesage, at 202-912-7116. Persons who use a telecommunication device for the deaf may call the Federal Information Relay Service at 1-800-877-8339, to leave a message for Mr. Radden-Lesage.

**SUPPLEMENTARY INFORMATION:** OMB regulations at 5 CFR part 1320, which implement provisions of the Paperwork Reduction Act, 44 U.S.C. 3501-3521, require that interested members of the public and affected agencies be given an opportunity to comment on information collection and recordkeeping activities (see 5 CFR 1320.8 (d) and 1320.12(a)). This notice identifies an information collection that the BLM plans to submit to OMB for approval. The Paperwork Reduction Act provides that an agency may not conduct or sponsor a collection of information unless it displays a currently valid OMB control number. Until OMB approves a collection of information, you are not obligated to respond.

The BLM will request a 3-year term of approval for this information collection activity. Comments are invited on: (1) The need for the collection of information for the performance of the functions of the agency; (2) the accuracy of the agency's burden estimates; (3) ways to enhance the quality, utility and clarity of the information collection; and (4) ways to minimize the information collection burden on respondents, such as use of automated means of collection of the information. A summary of the public comments will accompany our submission of the information collection requests to OMB.

Before including your address, phone number, email address, or other personal identifying information in your comment, you should be aware that your entire comment—including your personal identifying information—may be made publicly available at any time. While you can ask us in your comment to withhold your personal identifying information from public review, we cannot guarantee that we will be able to do so.

The following information pertains to this request:

*Title:* Coal Management (43 CFR parts 3400 through 3480).

*OMB Control Number:* 1004-0073.

*Summary:* This collection enables the BLM to learn the extent and qualities of Federal coal resources; evaluate the environmental impacts of coal leasing and development; determine the qualifications of prospective lessees to acquire and hold Federal coal leases; and ensure lessee compliance with applicable statutes, regulations, and lease terms and conditions.

*Frequency of Collection:* On occasion. *Forms:*

- 3440-1, Application and License to Mine Coal (Free Use); and
- 3400-12, Coal Lease.

*Description of Respondents:*

- Applicants for, and holders of, coal exploration licenses;
- Applicants/bidders for, and holders of, coal leases;
- Applicants for, and holders of, licenses to mine coal; and
- Surface owners and State and tribal governments whose lands overlie coal deposits.

*Estimated Annual Responses:* 2,159.

*Estimated Annual Burden Hours:* 39,809.

*Estimated Annual Non-Hour Costs:* \$625,883 in document processing fees.

**Jean Sonneman,**

*Bureau of Land Management, Information Collection Clearance Officer.*

[FR Doc. 2016-07163 Filed 3-29-16; 8:45 am]

**BILLING CODE 4310-84-P**

**DEPARTMENT OF THE INTERIOR****Bureau of Land Management****[LLWO320000 L13300000.FW0000 013X]****Renewal of Approved Information Collection; Control No. 1004-0001****AGENCY:** Bureau of Land Management, Interior.**ACTION:** 60-Day notice and request for comments.

**SUMMARY:** In compliance with the Paperwork Reduction Act, the Bureau of Land Management (BLM) invites public comments on, and plans to request approval to continue, the collection of information that enables the BLM to collect information from applicants for free use permits for vegetative or mineral materials. The Office of Management and Budget (OMB) has assigned control number 1004-0001 to this information collection.

**DATES:** Please submit comments on the proposed information collection by May 31, 2016.

**ADDRESSES:** Comments may be submitted by mail, fax, or electronic mail.

*Mail:* U.S. Department of the Interior, Bureau of Land Management, 1849 C Street NW., Room 2134LM, Attention: Jean Sonneman, Washington, DC 20240.

*Fax:* To Jean Sonneman at 202-245-0050.

*Electronic mail:* Jean\_Sonneman@blm.gov.

Please indicate "Attn: 1004-0001" regardless of the form of your comments.

**FOR FURTHER INFORMATION CONTACT:**

Mike Bechdolt, at 202-912-7234 (vegetative materials); or George Brown, at 202-912-7118 (mineral materials). Persons who use a telecommunication device for the deaf may call the Federal Information Relay Service at 1-800-877-8339, to leave a message for Mr. Bechdolt or Mr. Brown.

**SUPPLEMENTARY INFORMATION:** OMB regulations at 5 CFR part 1320, which implement provisions of the Paperwork Reduction Act, 44 U.S.C. 3501-3521, require that interested members of the public and affected agencies be given an opportunity to comment on information collection and recordkeeping activities (see 5 CFR 1320.8 (d) and 1320.12(a)). This notice identifies an information collection that the BLM plans to submit to OMB for approval. The Paperwork Reduction Act provides that an agency may not conduct or sponsor a collection of information unless it displays a currently valid OMB control number. Until OMB approves a collection of

information, you are not obligated to respond.

The BLM will request a 3-year term of approval for this information collection activity. Comments are invited on: (1) The need for the collection of information for the performance of the functions of the agency; (2) the accuracy of the agency's burden estimates; (3) ways to enhance the quality, utility and clarity of the information collection; and (4) ways to minimize the information collection burden on respondents, such as use of automated means of collection of the information. A summary of the public comments will accompany our submission of the information collection requests to OMB.

Before including your address, phone number, email address, or other personal identifying information in your comment, you should be aware that your entire comment—including your personal identifying information—may be made publicly available at any time. While you can ask us in your comment to withhold your personal identifying information from public review, we

cannot guarantee that we will be able to do so.

The following information pertains to this request:

**Title:** Free Use Application and Permit for Vegetative or Mineral Materials (43 CFR parts 3600, 3620, and 5510).

**OMB Control Number:** 1004-0001.

**Summary:** The Bureau of Land Management (BLM) collects information from respondents for free use permits for vegetative or mineral materials in order to: (1) Determine whether the applicant is eligible for free use, (2) Determine whether the vegetative or mineral materials at issue qualify for free use; (3) Determine whether free use is consistent with pertinent land use plans and authorities; and (4) Monitor the authorized removal and uses of vegetative and mineral materials to ensure sustainable resource management and verify that the actual use is consistent with the authorization. The BLM seeks approval to continue to use one form for vegetative materials,

and different forms for mineral materials.

**Frequency of Collection:** On occasion.  
**Forms:**

- 3604-1a, Free Use Permit Application for Mineral Materials;
- 3604-1b, Free Use Permit for Mineral Materials; and
- 5510-1, Free Use Application and Permit for Vegetative Materials.

**Description of Respondents:** Individuals seeking authorization for free use of mineral or vegetative materials.

**Estimated Annual Responses:**

- 160 mineral materials applications; and

- 100 vegetative material applications.

**Estimated Annual Burden Hours:**

- 120 burden hours for mineral materials;
- 75 burden hours for vegetative materials.

**Estimated Annual Non-Hour Costs:** None.

The estimated annual burdens of this collection are itemized below:

Type of response	Number of responses	Hours per response	Total hours (Column B × Column C)
A	B	C	D
3604-1a, Free Use Permit Application for Mineral Materials and 3604-1b, Free Use Permit for Mineral Materials .....	160	0.75	120
Form 5510-1, Free Use Application and Permit for Vegetative Materials .....	100	0.75	75
Totals .....	260	.....	195

**Jean Sonneman,**  
Information Collection Clearance Officer,  
Bureau of Land Management.

[FR Doc. 2016-07090 Filed 3-29-16; 8:45 am]

**BILLING CODE 4310-84-P**

## DEPARTMENT OF THE INTERIOR

### National Park Service

[NPS-WASO-APCE-PPS-19584;  
PPWOPCAD00; PPMRSCR1Y.Y00000]

#### Notice of Availability and Request for Comments on Draft Director's Order #21 Concerning National Park Service Policies and Procedures Governing Philanthropic Partnerships

**AGENCY:** National Park Service, Interior.

**ACTION:** Notice of availability.

**SUMMARY:** The National Park Service (NPS), under its authority at 54 U.S.C. 100101(a) *et seq.*, has prepared a new, revised Director's Order setting forth the policies and procedures that guide NPS philanthropic partnerships to reflect the

evolving nature of this topic and updated terms and practices used by today's growing field of philanthropy and fundraising professionals. Once adopted, the policies and procedures will supersede and replace the policies and procedures issued in July 2008.

**DATES:** Written comments will be accepted until May 16, 2016.

**ADDRESSES:** Draft Director's Order #21 is available online at: <http://parkplanning.nps.gov/DO-21>, where readers may submit comments electronically.

#### FOR FURTHER INFORMATION CONTACT:

Reginald Chapple, Division Chief, Office of Partnerships & Philanthropic Stewardship, National Park Service, at [reginald\\_chapple@nps.gov](mailto:reginald_chapple@nps.gov), or by phone at 202-354-2112.

**SUPPLEMENTARY INFORMATION:** The NPS is updating its current system of internal written policy guidance. When these updated documents contain new policies or internal procedural requirements that may affect parties outside the NPS, the NPS, as a matter of

policy, makes them available for public review and comment before adopting them.

After public review and comment, the NPS will issue a new, revised Director's Order #21 and accompanying reference manual. Director's Order #21 covers topics such as criteria for reviewing, accepting, and recognizing donations; establishing roles and responsibilities for NPS employees who work with the philanthropic sector; and identifying agreements for fundraising and sponsorship activities.

#### Public Availability of Comments:

Before including your address, phone number, email address, or other personal identifying information in your comment, you should be aware that your entire comment—including your personal identifying information—may be made publicly available at any time. While you may ask us in your comment to withhold your personal identifying information from public review, we cannot guarantee that we will be able to do so.

Dated: March 8, 2016.

**Jeffrey P. Reinbold,**

*Assistant Director, Partnerships and Civic Engagement, National Park Service.*

[FR Doc. 2016-07089 Filed 3-29-16; 8:45 am]

BILLING CODE 4310-EE-P

## DEPARTMENT OF THE INTERIOR

### National Park Service

[NPS-WASO-NAGPRA-20476;  
PPWOCRADN0-PCU00RP14.R50000]

### Notice of Inventory Completion: University of South Alabama, Center for Archaeological Studies, Mobile, AL

**AGENCY:** National Park Service, Interior.

**ACTION:** Notice.

**SUMMARY:** The University of South Alabama, Center for Archaeological Studies, has completed an inventory of human remains, in consultation with the appropriate Indian tribes or Native Hawaiian organizations, and has determined that there is no cultural affiliation between the human remains and any present-day Indian tribes or Native Hawaiian organizations. Representatives of any Indian tribe or Native Hawaiian organization not identified in this notice that wish to request transfer of control of these human remains should submit a written request to the University of South Alabama, Center for Archaeological Studies. If no additional requestors come forward, transfer of control of the human remains to the Indian tribes or Native Hawaiian organizations stated in this notice may proceed.

**DATES:** Representatives of any Indian tribe or Native Hawaiian organization not identified in this notice that wish to request transfer of control of these human remains should submit a written request with information in support of the request to the University of South Alabama, Center for Archaeological Studies at the address in this notice by April 29, 2016.

**ADDRESSES:** Gregory A. Waselkov, Director, Center for Archaeological Studies, University of South Alabama, 6052 USA Drive South, Mobile, AL 36688, telephone (251) 460-6911, email [gwaselkov@southalabama.edu](mailto:gwaselkov@southalabama.edu).

**SUPPLEMENTARY INFORMATION:** Notice is here given in accordance with the Native American Graves Protection and Repatriation Act (NAGPRA), 25 U.S.C. 3003, of the completion of an inventory of human remains under the control of the University of South Alabama, Center for Archaeological Studies, Mobile, AL. The human remains were removed from

sites 1FR310 and 1FR323, Franklin County, AL.

This notice is published as part of the National Park Service's administrative responsibilities under NAGPRA, 25 U.S.C. 3003(d)(3) and 43 CFR 10.11(d). The determinations in this notice are the sole responsibility of the museum, institution, or Federal agency that has control of the Native American human remains. The National Park Service is not responsible for the determinations in this notice.

### Consultation

A detailed assessment of the human remains was made by the University of South Alabama, Center for Archaeological Studies professional staff in consultation with representatives of Absentee-Shawnee Tribe of Indians of Oklahoma; Alabama-Coushatta Tribe of Texas (previously listed as the Alabama-Coushatta Tribes of Texas); Alabama-Quassarte Tribal Town; Cherokee Nation; Chitimacha Tribe of Louisiana; Coushatta Tribe of Louisiana; Eastern Band of Cherokee Indians; Eastern Shawnee Tribe of Oklahoma; Jena Band of Choctaw Indians; Kialegee Tribal Town; Mississippi Band of Choctaw Indians; Shawnee Tribe; The Chickasaw Nation; The Choctaw Nation of Oklahoma; The Muscogee (Creek) Nation; Poarch Band of Creeks (previously listed as the Poarch Band of Creek Indians of Alabama); The Quapaw Tribe of Indians; The Seminole Nation of Oklahoma; Thlopthlocco Tribal Town; Tunica-Biloxi Indian Tribe; and the United Keetoowah Band of Cherokee Indians in Oklahoma.

### History and Description of the Remains

Around 1969, human remains representing, at minimum, one adult individual were removed from site 1FR310 in Franklin County, AL. This small collection may have been picked up from the site surface. All that is known regarding the circumstances surrounding the removal of these human remains is that an archeologist, Noel Read Stowe, wrote his master's thesis on this and other sites in Franklin County, AL, and donated the human remains to the University of South Alabama around 1970. No known individuals were identified. No associated funerary objects are present.

Around 1969, human remains representing, at minimum, one adult individual were removed from site 1FR323 in Franklin County, AL. This small collection may have been picked up from the site surface. All that is known regarding the circumstances surrounding the removal of these

remains is that an archeologist, Noel Read Stowe, wrote his master's thesis on this site and other sites in Franklin County, AL, donated the human remains to the University of South Alabama around 1970. No known individuals were identified. No associated funerary objects are present.

### Determinations Made by the University of South Alabama, Center for Archaeological Studies

Officials of the University of South Alabama, Center for Archaeological Studies have determined that:

- Pursuant to 25 U.S.C. 3001(9), the human remains described in this notice are Native American based on the context of their recovery from sites 1FR310 and 1FR323.
- Pursuant to 25 U.S.C. 3001(9), the human remains described in this notice represent the physical remains of two individuals of Native American ancestry.
- Pursuant to 25 U.S.C. 3001(2), a relationship of shared group identity cannot be reasonably traced between the Native American human remains and any present-day Indian tribe.
- Treaties, Acts of Congress, or Executive Orders indicate that the land from which the Native American human remains were removed is the aboriginal land of The Chickasaw Nation.
- Pursuant to 43 CFR 10.11(c)(1), the disposition of the human remains may be to The Chickasaw Nation.

### Additional Requestors and Disposition

Representatives of any Indian tribe or Native Hawaiian organization not identified in this notice that wish to request transfer of control of these human remains should submit a written request with information in support of the request to Gregory A. Waselkov, Director, Center for Archaeological Studies, University of South Alabama, 6052 USA Drive South, Mobile, AL 36688, telephone (251) 460-6911, email [gwaselkov@southalabama.edu](mailto:gwaselkov@southalabama.edu), by April 29, 2016. After that date, if no additional requestors have come forward, transfer of control of the human remains to The Chickasaw Nation may proceed.

The University of South Alabama, Center for Archaeological Studies is responsible for notifying Absentee-Shawnee Tribe of Indians of Oklahoma; Alabama-Coushatta Tribe of Texas (previously listed as the Alabama-Coushatta Tribes of Texas); Alabama-Quassarte Tribal Town; Cherokee Nation; Chitimacha Tribe of Louisiana; Coushatta Tribe of Louisiana; Eastern Band of Cherokee Indians; Eastern Shawnee Tribe of Oklahoma; Jena Band

of Choctaw Indians; Kialegee Tribal Town; Mississippi Band of Choctaw Indians; Shawnee Tribe; The Chickasaw Nation; The Choctaw Nation of Oklahoma; The Muscogee (Creek) Nation; Poarch Band of Creeks (previously listed as the Poarch Band of Creek Indians of Alabama); The Quapaw Tribe of Indians; The Seminole Nation of Oklahoma; Thlopthlocco Tribal Town; Tunica-Biloxi Indian Tribe; and the United Keetoowah Band of Cherokee Indians in Oklahoma that this notice has been published.

Dated: February 29, 2016.

**Melanie O'Brien,**

*Manager, National NAGPRA Program.*

[FR Doc. 2016-07110 Filed 3-29-16; 8:45 am]

**BILLING CODE 4312-50-P**

## DEPARTMENT OF THE INTERIOR

### National Park Service

[NPS-WASO-NRSS-EQD-SSB-20715;  
PPWONRADE3, PPMRSNR1Y.NM000]

#### Information Collection Request Sent to the Office of Management and Budget (OMB) for Approval; National Park Service Institutional Animal Care and Use Committee (NPS IACUC) Amendment, Annual Review, Exhibition, and General Submission Forms

**AGENCY:** National Park Service, Interior.

**ACTION:** Notice; request for comments.

**SUMMARY:** We (National Park Service, NPS) are asking the Office of Management and Budget (OMB) to approve the Information Collection Request (IC) described below. This collection is set to expire on March 31, 2016. The NPS is requesting approval of a previously approved collection and two additional new forms that will be used by the Institutional Animal Care and Use Committee (NPS IACUC/the Committee) to collect information from researchers, and to ensure compliance with the Animal Welfare Act (AWA), its regulations (AWAR) and standards, and the Interagency Research Animal Committee (IRAC) principles, for projects involving the use of vertebrate animals in research, teaching, and training. As required by the Paperwork Reduction Act of 1995 and as part of our continuing efforts to reduce paperwork and respondent burden, we invite the general public and other federal agencies to take this opportunity to comment on this IC. We may not conduct or sponsor, and a person is not required to respond to, a collection of information unless it displays a currently valid OMB Control Number.

**DATES:** To ensure that your comments on this ICR are considered, we must receive them on or before April 29, 2016.

**ADDRESSES:** Please direct all written comments on this ICR directly to the Office of Management and Budget (OMB) Office of Information and Regulatory Affairs, Attention: Desk Officer for the Department of the Interior, to [OIRA\\_Submission@omb.eop.gov](mailto:OIRA_Submission@omb.eop.gov) (email) or 202-395-5806 (fax); and identify your submission as 1024-0265 IACUC. Also send a copy to Phadrea Ponds, Information Collection Coordinator, National Park Service, 1201 Oakridge Drive, Fort Collins, CO 80525 (mail); or [phadrea\\_ponds@nps.gov](mailto:phadrea_ponds@nps.gov) (email). Please reference Information Collection 1024-0265 in your email.

#### FOR FURTHER INFORMATION CONTACT:

Aaron Smith, NPS IACUC Administrator by mail at Biological Resource Division, 1201 Oakridge Drive, Suite 200, Fort Collins, CO 80525 or [aaron\\_d\\_smith@nps.gov](mailto:aaron_d_smith@nps.gov) (email). You may also contact Tracy Thompson at [tracy\\_thompson@nps.gov](mailto:tracy_thompson@nps.gov) (email). You may also access this ICR at [www.reginfo.gov](http://www.reginfo.gov) by using the OMB Control Number (1024-0265).

*I. Abstract:* The NPS is requesting to renew a previously approved collection (OMB Control Number: 1024-0265) and have two additional forms approved. All research, teaching, and training projects involving vertebrate animals taking place on NPS territories must be approved by the NPS IACUC prior to their commencement. Principal Investigators (PI) are required to submit the completed General Submission, Annual Renewal, Amendment, BioBlitz/Field Study, or Concurrence Submission forms as required for approval to the NPS IACUC Office.

Under the provisions of the Animal Welfare Act, Interagency Research Animal Committee's U.S. Government Principles, and The *NPS Organic Act*, 16 U.S.C. a-1, individuals or agencies proposing research, teaching, or training activities involving vertebrate animals must have IACUC review and oversight of these activities. This collection will continue to gather information on these activities that will be conducted in NPS units for the NPS IACUC to meet these requirements.

#### *II. Data:*

*OMB Control Number:* 1024-0265.

*Title:* National Park Service Institutional Animal Care and Use Committee (NPS IACUC) Amendment, Annual Review, Exhibition, and General Submission Forms.

*Form Numbers:* 10-1301, General Submission Form; 10-1301A, Amendment Form; 10-1302, Annual Review Form; 10-1303, Concurrence Form; and 10-1304, BioBlitz Field Study Form.

*Type of Request:* Revision of a currently approved collection.

*Affected Public:* State and local governments; private businesses.

*Respondent Obligation:* Mandatory.

*Frequency of Collection:* One time; on occasion

*Estimated Number of Responses:* 230.

*Estimated Annual Burden Hours:* 140 hours.

*Estimated Annual Reporting and Recordkeeping "Non-Hour Cost":* None.

*III. Request for Comments:* On January 13, 2016, we published a Federal Register notice (81 FR 1642) announcing that we would submit this IC to OMB for approval. Public comments were solicited for 60 days ending March 14, 2016. We did not receive any comments in response to that notice.

We again invite comments concerning this information collection on:

- Whether or not the collection of information is in accordance with the regulatory requirements;
- The accuracy of our estimate of the burden for this collection of information;
- Ways to enhance the quality, utility, and clarity of the information to be collected; and
- Ways to minimize the burden of the collection of information on respondents.

A Federal agency may not conduct or sponsor and a person is not required to respond to a collection of information unless it displays a currently valid OMB control number. Comments that you submit in response to this notice are a matter of public record. Before including your address, phone number, email address, or other personal identifying information in your comment, you should be aware that your entire comment, including your personal identifying information, may be made publicly available at any time. While you can ask OMB in your comment to withhold your personal identifying information from public review, we cannot guarantee that it will be done.

Dated: March 25, 2016.

**Madonna L. Baucum,**

*Information Collection Clearance Officer,  
National Park Service.*

[FR Doc. 2016-07167 Filed 3-29-16; 8:45 am]

**BILLING CODE 4310-EH-P**

**DEPARTMENT OF THE INTERIOR****National Park Service**

[NPS–WASO–NAGPRA–20457;  
PPWOCRADNO–PCU00RP14.R50000]

**Notice of Inventory Completion:  
Kamehameha Schools and University  
of Hawai'i at Hilo, Hilo, HI**

**AGENCY:** National Park Service, Interior.

**ACTION:** Notice.

**SUMMARY:** The Kamehameha Schools and University of Hawai'i at Hilo have completed an inventory of human remains, in consultation with the appropriate Indian tribes or Native Hawaiian organizations, and have determined that there is a cultural affiliation between the human remains and present-day Indian tribes or Native Hawaiian organizations. Lineal descendants or representatives of any Indian tribe or Native Hawaiian organization not identified in this notice that wish to request transfer of control of these human remains should submit a written request to the Kamehameha Schools. If no additional requestors come forward, transfer of control of the human remains to the lineal descendants, Indian tribes, or Native Hawaiian organizations stated in this notice may proceed.

**DATES:** Lineal descendants or representatives of any Indian tribe or Native Hawaiian organization not identified in this notice that wish to request transfer of control of these human remains should submit a written request with information in support of the request to the Kamehameha Schools, at the address in this notice by April 29, 2016.

**ADDRESSES:** Jason Jeremiah, Senior Manager, Cultural Resources, Community Engagement & Resources Group, Kamehameha Schools, 567 South King Street, Suite 200, Honolulu, HI 96813, telephone (808) 523–6200.

**SUPPLEMENTARY INFORMATION:** Notice is here given in accordance with the Native American Graves Protection and Repatriation Act (NAGPRA), 25 U.S.C. 3003, of the completion of an inventory of human remains under the control of the Kamehameha Schools and in the physical custody of the University of Hawai'i at Hilo. The human remains were removed from Pakini Iki, Ka'u District, Hawai'i Island, Ka'u District, Hawai'i Island.

This notice is published as part of the National Park Service's administrative responsibilities under NAGPRA, 25 U.S.C. 3003(d)(3). The determinations in this notice are the sole responsibility of

the museum, institution, or Federal agency that has control of the Native American human remains. The National Park Service is not responsible for the determinations in this notice.

**Consultation**

A detailed assessment of the human remains was made by the professional staff of Kamehameha Schools and University of Hawai'i at Hilo, in consultation with representatives of Aha Moku Advisory Committee; Department of Hawaiian Homelands; the Hawaiian Civic Club of Ka'u; the Hawai'i Island Burial Council; Hui Malama i Nā Kūpuna o Hawai'i Nei; the Kamehameha Schools (Landowners and NHO); and the Office of Hawaiian Affairs.

**History and Description of the Remains**

Between 1955 and 1957, human remains representing, at minimum, two individuals were removed from Waiahukini Rockshelter Site in Ka'u, Hawai'i Island, HI, which are on lands belonging to Kamehameha Schools (formerly Bishop Estate Trust). Excavations were under the direction of Professor William Bonk at the University of Hawai'i at Hilo (then called Hilo College) and the Bishop Museum. Three human teeth were identified in bags of midden deposit in the summer of 2014, which had been stored with the other excavated material from the site at University of Hawai'i at Hilo until the present time. No known individuals were identified. No funerary objects are present.

Although some historical era artifacts were identified in the uppermost layers of Waiahukini, the human remains were identified in midden deposits dated to the pre-Contact era.

These collections remain in the physical custody of University of Hawai'i at Hilo although control of the collections is with Kamehameha Schools.

**Determinations Made by the  
Kamehameha Schools and University of  
Hawai'i at Hilo**

Officials of the Kamehameha Schools and University of Hawai'i at Hilo have determined that:

- Pursuant to 25 U.S.C. 3001(9), the human remains described in this notice represent the physical remains of two individuals of Native American ancestry.
- Pursuant to 25 U.S.C. 3001(2), there is a relationship of shared group identity that can be reasonably traced between the Native American human remains and the Aha Moku Advisory Committee (Moku o Keawe), Hawaiian Civic Club of Ka'u, Kamehameha

Schools, and the Office of Hawaiian Affairs.

**Additional Requestors and Disposition**

Lineal descendants or representatives of any Indian tribe or Native Hawaiian organization not identified in this notice that wish to request transfer of control of these human remains should submit a written request with information in support of the request to Jason Jeremiah, Senior Manager, Cultural Resources, Community Engagement & Resources Group, Kamehameha Schools, 567 South King Street, Suite 200, Honolulu, HI 96813, telephone (808) 523–6200, by April 29, 2016. After that date, if no additional requestors have come forward, transfer of control of the human remains to the Aha Moku Advisory Committee (Moku o Keawe), the Hawaiian Civic Club of Ka'u, Kamehameha Schools, and the Office of Hawaiian Affairs may proceed.

The Kamehameha Schools and University of Hawai'i at Hilo is responsible for notifying the Aha Moku Advisory Committee; Department of Hawaiian Homelands; the Hawaiian Civic Club of Ka'u Hawai'i Island Burial Council; Hui Malama i Nā Kūpuna o Hawai'i Nei; Kamehameha Schools (Landowners and NHO); and the Office of Hawaiian Affairs that this notice has been published.

Dated: February 25, 2016.

**Melanie O'Brien,**

*Manager, National NAGPRA Program.*

[FR Doc. 2016–07107 Filed 3–29–16; 8:45 am]

**BILLING CODE 4312–50–P**

**DEPARTMENT OF THE INTERIOR****National Park Service**

[NPS–WASO–NAGPRA–20401;  
PPWOCRADNO–PCU00RP14.R50000]

**Notice of Inventory Completion:  
Sheriff's Office, Berrien County, Saint  
Joseph, MI**

**AGENCY:** National Park Service, Interior.

**ACTION:** Notice.

**SUMMARY:** The Sheriff's Office of Berrien County, MI has completed an inventory of human remains, in consultation with the appropriate Indian tribes or Native Hawaiian organizations, and has determined that there is no cultural affiliation between the human remains and any present-day Indian tribes or Native Hawaiian organizations. Representatives of any Indian tribe or Native Hawaiian organization not identified in this notice that wish to request transfer of control of these human remains should submit a written

request to the Berrien County Sheriff's Office. If no additional requestors come forward, transfer of control of the human remains to the Indian tribes or Native Hawaiian organizations stated in this notice may proceed.

**DATES:** Representatives of any Indian tribe or Native Hawaiian organization not identified in this notice that wish to request transfer of control of these human remains should submit a written request with information in support of the request to the Berrien County Sheriff's Office at the address in this notice by April 29, 2016.

**ADDRESSES:** Berrien County Sheriff's Office, Attention Chief Deputy Michael Bradley, 919 Port Street, Saint Joseph, MI 49085, email [mbradley@berriencounty.org](mailto:mbradley@berriencounty.org).

**SUPPLEMENTARY INFORMATION:** Notice is here given in accordance with the Native American Graves Protection and Repatriation Act (NAGPRA), 25 U.S.C. 3003, of the completion of an inventory of human remains under the control of the Berrien County Sheriff's Office. The human remains were removed from Galien River in New Buffalo, MI.

This notice is published as part of the National Park Service's administrative responsibilities under NAGPRA, 25 U.S.C. 3003(d)(3) and 43 CFR 10.11(d). The determinations in this notice are the sole responsibility of the museum, institution, or Federal agency that has control of the Native American human remains. The National Park Service is not responsible for the determinations in this notice.

**Consultation:** A detailed assessment of the human remains was made by the Berrien County Sheriff's office and the Michigan State University Anthropology Department professional staff in consultation with representatives of the Absentee-Shawnee Tribe of Indians of Oklahoma; Bad River Band of the Lake Superior Tribe of Chippewa Indians of the Bad River Reservation, Wisconsin; Bay Mills Indian Community, Michigan; Bois Forte Band (Nett Lake) of the Minnesota Chippewa Tribe, Minnesota; Chippewa-Cree Indians of the Rocky Boy's Reservation, Montana (previously listed as the Chippewa-Cree Indians of the Rocky Boy's Reservation, Montana); Citizen Potawatomi Nation, Oklahoma; Delaware Nation, Oklahoma; Eastern Shawnee Tribe of Oklahoma; Fond du Lac Band of the Minnesota Chippewa Tribe, Minnesota; Forest County Potawatomi Community, Wisconsin; Grand Portage Band of the Minnesota Chippewa Tribe, Minnesota; Grand Traverse Band of the Ottawa and the Chippewa Indians, Michigan; Hannahville Indian Community,

Michigan; Ho-Chunk Nation of Wisconsin; Keweenaw Bay Indian Community, Michigan; Kickapoo Tribe of Indians of the Kickapoo Reservation in Kansas; Kickapoo Tribe of Oklahoma; Lac Courte Oreilles Band of Lake Superior Chippewa Indians of Wisconsin; Lac Vieux Desert Band of Lake Superior Chippewa Indians of Michigan; Leech Lake Band of the Minnesota Chippewa Tribe, Minnesota; Little River Band of Ottawa Indians, Michigan; Little Traverse Bay Bands of Odawa Indians, Michigan; Match-e-be-nash-she-wish Band of Pottowatomi Indians of Michigan; Miami Tribe of Oklahoma; Mille Lacs Band of the Minnesota Chippewa Tribe, Minnesota; Nottawaseppi Huron Band of the Potawatomi, Michigan (previously listed as the Huron Potawatomi, Inc.); Ottawa Tribe of Oklahoma; Peoria Tribe of Indians of Oklahoma; Pokagon Band of Potawatomi Indians, Michigan and Indiana; Prairie Band of Potawatomi Nation (previously listed as the Prairie Band of Potawatomi Nation, Kansas); Red Cliff Band of Lake Superior Chippewa Indians of Wisconsin; Red Lake Band of Chippewa Indians, Minnesota; Sac and Fox Tribe of the Mississippi in Iowa; Sac and Fox Nation of Missouri in Kansas and Nebraska, Sac and Fox Nation, Oklahoma; Saginaw Chippewa Indian Tribe of Michigan; Sault Ste. Marie Tribe of Chippewa Indians, Michigan; Shawnee Tribe; Sokaogon Chippewa Community, Wisconsin; St. Croix Chippewa Indians of Wisconsin; Turtle Mountain Band of Chippewa Indians of North Dakota; White Earth Band of Minnesota Chippewa Tribe, Minnesota; Winnebago Tribe of Nebraska; and the Wyandotte Nation (hereafter The Consulted Tribes).

#### History and Description of the Remains

In April 2011, human remains representing, at minimum, one individual were removed from Galien River in Berrien County, MI. In early April of 2011 a minor was fishing in the Galien River in new Buffalo Township, MI. After casting into the center of the river the youth reeled in what appeared to be a large bone. The youth took the bone to his high school science teacher who contacted the Berrien County Sheriff's Office.

The Sheriff's Office's Dive Team responded by searching a section of the river approximately eight feet square, where they found additional skeletonized human remains. All of the human remains, including the original bone found by the minor, were transported to the Anthropology Department at Michigan State University and examined by Dr. Norman

Sauer. The human remains were found to be "adult prehistoric Native American" of indeterminate gender, and returned to the Berrien County Sheriff's Office. No known individuals were identified. No associated funerary objects are present.

At the time of the excavation and removal of these human remains, the land from which the remains were removed was not the tribal land of any Indian tribe or Native Hawaiian organization.

#### Determinations Made by the Berrien County Sheriff's Office

Officials of the Berrien County Sheriff's Office have determined that:

- Pursuant to 25 U.S.C. 3001(9), the human remains described in this notice are Native American based on osteological evidence.
- Pursuant to 25 U.S.C. 3001(9), the human remains described in this notice represent the physical remains of one individual of Native American ancestry.
- Pursuant to 25 U.S.C. 3001(2), a relationship of shared group identity cannot be reasonably traced between the Native American human remains and any present-day Indian tribe.
- According to final judgments of the Indian Claims Commission or the Court of Federal Claims, the land from which the Native American human remains were removed is the aboriginal land of The Consulted Tribes
- Pursuant to 43 CFR 10.11(c)(2)(i), the disposition of the human remains may be to The Consulted Tribes.

#### Additional Requestors and Disposition

Representatives of any Indian tribe or Native Hawaiian organization not identified in this notice that wish to request transfer of control of these human remains should submit a written request with information in support of the request to the Berrien County Sheriff's Office, Attention Chief Deputy Michael Bradley, 919 Port Street, Saint Joseph, MI 49085, email [mbradley@berriencounty.org](mailto:mbradley@berriencounty.org) by April 29, 2016.

After that date, if no additional requestors have come forward, transfer of control of the human remains to The Consulted Tribes may proceed.

The Berrien County Sheriff's Office is responsible for informing The Consulted Tribes that this notice has been published:

Dated: February 18, 2016.

**Melanie O'Brien,**

*Manager, National NAGPRA Program.*

[FR Doc. 2016-07106 Filed 3-29-16; 8:45 am]

**BILLING CODE 4312-50-P**

## DEPARTMENT OF JUSTICE

## Drug Enforcement Administration

## Avi Weisfogel, D.D.S.; Decision and Order

On November 2, 2015, the Deputy Assistant Administrator, Office of Diversion Control, Drug Enforcement Administration (DEA), issued an Order to Show Cause to Avi Weisfogel, D.D.S. (Registrant), of Old Bridge, New Jersey. GX 1, at 1. The Show Cause Order proposed the revocation of Registrant's Certificate of Registration BW6474580, pursuant to which he is authorized to dispense controlled substances in schedules II through V as a practitioner, the denial of any application to renew or modify the registration, and the denial of any application for any other DEA registration, on the ground that he "do[es] not have authority to handle controlled substances in New Jersey, the [S]tate in which he is registered with the" Agency. *Id.* (citing 21 U.S.C. 823(f) and 824(a)(3)).

More specifically, the Show Cause Order alleged that Registrant entered into a consent order with the New Jersey State Board of Dentistry (Board), pursuant to which the Board revoked his license to practice dentistry effective November 13, 2014. *Id.* The Show Cause Order thus alleged that Registrant is "without authority to handle controlled substances in New Jersey, the State in which [he is] registered." *Id.* The Order thus advised Registrant that his registration was subject to revocation "based upon [his] lack of authority to handle controlled substances in the State of New Jersey." *Id.* (citing 21 U.S.C. 802(21), 823(f) and 824(a)(3)).<sup>1</sup>

Having determined that Registrant was no longer practicing at his registered location, a Diversion Investigator obtained his residence address and initially attempted to serve the Show Cause Order on him by Certified Mail, Return Receipt Requested, which was addressed to him at his residence. GX 6, at 1–2 (Declaration of DI). However, the mailing was returned unclaimed. GX 3, at 1. Subsequently, on December 4, 2015, the DI mailed the Show Cause Order to Registrant's residence by regular first class mail. GX 6, at 2. The DI averred that the Order was not returned as undeliverable. *Id.*

In its Request for Final Agency Action, the Government advises that

neither Registrant, nor anyone representing him, has requested a hearing or sent any other correspondence to DEA. Request for Final Agency Action, at 6. Accordingly, the Government filed its Request for Final Agency Action seeking the revocation of Registrant's Registration along with the Investigative Record to support its Request. *See* 21 CFR 1301.43(d) & (e).

Based on the Government's submission, I conclude that Registrant has received constitutionally adequate notice of the proceeding. *See Jones v. Flowers*, 547 U.S. 220 (2006). I find that since the date of service of the Order to Show Cause, 30 days have now passed, and neither Registrant, nor anyone purporting to represent him, has either requested a hearing on the allegations or submitted a written statement in lieu of a hearing. *See* 21 CFR 1301.43(a) & (c). Accordingly, I find that Registrant has waived his right to a hearing or to submit a written statement. *Id.* § 1301.43(c) & (d). I therefore issue this Decision and Final Order based on the Investigative Record submitted by the Government. *Id.* § 1301.43(e). I make the following findings of fact.

## Findings

Registrant is the holder of DEA Certificate of Registration BW6474580, pursuant to which he is authorized to dispense controlled substances in schedules II through V, at the registered address of 30 State Highway 18, Old Bridge, NJ. GX 2. The registration does not expire until May 31, 2017. *Id.*

Registrant previously held a dental license issued by the New Jersey State Board of Dentistry. GX 5, at 1. Registrant also previously held a New Jersey Controlled Dangerous Substance Registration (CDS). However, on November 13, 2014, Registrant entered into a Consent Order with the Board of Dentistry in which he agreed that his dental license "is hereby permanently retired [and this] is to be deemed a revocation of licensure." GX 5, at 2. As for his New Jersey CDS Registration, it became inactive on the same date that Registrant entered into the Consent Order with the Board and has since expired. According to the online records of the State of New Jersey, as of the date of this Order, Registrant's New Jersey Dentist license remains revoked. *See also* <https://newjersey.mylicense.com/verification>.

## Discussion

Pursuant to 21 U.S.C. 824(a)(3), the Attorney General is authorized to suspend or revoke a registration issued under section 823, "upon a finding that

the Registrant . . . has had his State license . . . suspended [or] revoked . . . by competent State authority and is no longer authorized by State law to engage in the . . . dispensing of controlled substances." Moreover, DEA has repeatedly held that the possession of authority to dispense controlled substances under the laws of the State in which a practitioner engages in professional practice is a fundamental condition for obtaining and maintaining a practitioner's registration. *James L. Hooper*, 76 FR 71371 (2011), *pet. for rev. denied*, *Hooper v. Holder*, 481 Fed. Appx. 826 (4th Cir. 2012).

This rule derives from the text of two provisions of the CSA. First, Congress defined "the term 'practitioner' [to] mean[ ] a . . . physician . . . or other person licensed, registered or otherwise permitted, by . . . the jurisdiction in which he practices . . . to distribute, dispense, [or] administer . . . a controlled substance in the course of professional practice." 21 U.S.C. 802(21). Second, in setting the requirements for obtaining a practitioner's registration, Congress directed that "[t]he Attorney General shall register practitioners . . . if the applicant is authorized to dispense . . . controlled substances under the laws of the State in which he practices." 21 U.S.C. 823(f). Because Congress has clearly mandated that a practitioner possess state authority in order to be deemed a practitioner under the Act, DEA has held repeatedly that revocation of a practitioner's registration is the appropriate sanction whenever he is no longer authorized to dispense controlled substances under the laws of the State in which he practices his profession. *See, e.g., Calvin Ramsey*, 76 FR 20034, 20036 (2011); *Sheran Arden Yeates, M.D.*, 71 FR 39130, 39131 (2006); *Dominick A. Ricci*, 58 FR 51104, 51105 (1993); *Bobby Watts*, 53 FR 11919, 11920 (1988).

Because Registrant no longer holds authority to dispense controlled substances in New Jersey, the State in which he is registered with the Agency, I will order that his registration be revoked and that any pending application to renew or modify his registration be denied.

## Order

Pursuant to the authority vested in me by 21 U.S.C. 823(f) and 824(a), as well as 21 CFR 0.100(b), I order that DEA Certificate of Registration BW6474580, issued to Avi Weisfogel, D.D.S., be, and it hereby is, revoked. I further order that any pending application of Avi Weisfogel, D.D.S., to renew or modify his

<sup>1</sup> The Show Cause Order also notified Registrant of his right to request a hearing on the allegations or to submit a written statement in lieu of a hearing, the procedure for electing either option, and the consequence for failing to elect either option. GX 1, at 2 (citing 21 CFR 1301.43).



registration, be, and it hereby is, denied. This Order is effective April 29, 2016.

Dated: March 21, 2016.

**Chuck Rosenberg,**  
*Acting Administrator.*

[FR Doc. 2016-07111 Filed 3-29-16; 8:45 am]

**BILLING CODE 4410-09-P**

## OFFICE OF MANAGEMENT AND BUDGET

### Request for Comments on Category Management Policy 16-2: Improving the Acquisition and Management of Common Information Technology: Mobile Devices and Services

**AGENCY:** Office of Management and Budget.

**ACTION:** Notice of public comment period.

**SUMMARY:** The Office of Management and Budget (OMB) is seeking public comment on a draft memorandum titled, “*Category Management Policy 16-2: Improving the Acquisition and Management of Common Information Technology: Mobile Devices and Services.*”

**DATES:** The 30-day public comment period on the draft memorandum begins on March 30, 2016.

**ADDRESSES:** Interested parties should provide comments at the following link: <https://mobile.cio.gov/>.

**FOR FURTHER INFORMATION CONTACT:** Ms. Meredith Romley at [Meredith\\_B\\_Romley@omb.eop.gov](mailto:Meredith_B_Romley@omb.eop.gov) or [OFCIO@omb.eop.gov](mailto:OFCIO@omb.eop.gov).

**SUPPLEMENTARY INFORMATION:** The Office of Management and Budget (OMB) and Office of Federal Procurement Policy are jointly proposing the third IT Category Management policy memorandum. This memo is required under the Federal Information Technology Oversight and Reform Act (FITARA). The memo seeks to improve the acquisition and management of mobile devices and services through consolidation of contracts, mandated use of one or more government-wide best-in-class contract solutions, improved demand management, and increased accountability of agency officials. Authority for this notice is granted

under the Clinger-Cohen Act, 40 U.S.C. Subtitle III.

**Tony Scott,**  
*Administrator, Office of the Federal Chief Information Officer.*

Anne Rung,  
*Administrator, Office of Federal Procurement Policy.*

[FR Doc. 2016-07192 Filed 3-29-16; 8:45 am]

**BILLING CODE 3110-05-P**

## NATIONAL ARCHIVES AND RECORDS ADMINISTRATION

### Information Security Oversight Office

**[NARA-2016-023]**

#### National Industrial Security Program Policy Advisory Committee (NISPPAC)

**AGENCY:** National Archives and Records Administration (NARA).

**ACTION:** Notice of Advisory Committee Meeting.

**SUMMARY:** In accordance with the Federal Advisory Committee Act (5 U.S.C. app 2) and implementing regulation 41 CFR 101-6, NARA announces the following committee meeting.

**DATES:** The meeting will be held on April 14, 2016, from 10:00 a.m. to 12:00 p.m. EDT.

**ADDRESSES:** National Archives and Records Administration, 700 Pennsylvania Avenue NW., Archivist's Reception Room, Room 105, Washington, DC 20408.

**FOR FURTHER INFORMATION CONTACT:** Robert Tringali, Program Analyst, by mail at ISOO, National Archives Building; 700 Pennsylvania Avenue NW., Washington, DC 20408, by telephone number at (202) 357-5335, or by email at [robert.tringali@nara.gov](mailto:robert.tringali@nara.gov). Contact ISOO at [ISOO@nara.gov](mailto:ISOO@nara.gov) and the NISPPAC at [NISPPAC@nara.gov](mailto:NISPPAC@nara.gov).

**SUPPLEMENTARY INFORMATION:** The purpose of this meeting is to discuss National Industrial Security Program policy matters. The meeting will be open to the public. However, due to space limitations and access procedures, you must submit the name and telephone number of individuals planning to attend to the Information Security Oversight Office (ISOO) no later than Monday, April 11, 2016. ISOO will provide additional instructions for accessing the meeting's location.

Dated: March 23, 2016.

**Patrice Little Murray,**  
*Committee Management Officer.*

[FR Doc. 2016-07146 Filed 3-29-16; 8:45 am]

**BILLING CODE 7515-01-P**

## NATIONAL ARCHIVES AND RECORDS ADMINISTRATION

### Office of Government Information Services

**[NARA-2016-024]**

#### Freedom of Information Act (FOIA) Advisory Committee; Meeting

**AGENCY:** National Archives and Records Administration (NARA).

**ACTION:** Notice of Federal Advisory Committee Meeting.

**SUMMARY:** In accordance with the Federal Advisory Committee Act (5 U.S.C. App) and the second United States Open Government National Action Plan (NAP) released on December 5, 2013, NARA announces an upcoming Freedom of Information Act (FOIA) Advisory Committee meeting.

**DATES:** The meeting will be on April 19, 2016, from 10:00 a.m. to 1:00 p.m. EDT. You must register for the meeting by 5:00 p.m. EDT on April 18, 2016.

**Location:** National Archives and Records Administration (NARA); 700 Pennsylvania Avenue NW.; Archivist's Reception Room (Room 105); Washington, DC 20408.

**FOR FURTHER INFORMATION CONTACT:** Christa Lemelin, Designated Federal Officer for this committee, by mail at National Archives and Records Administration; Office of Government Information Services; 8601 Adelphi Road—OGIS; College Park, MD 20740-6001, by telephone at 202-741-5773, or by email at [Christa.Lemelin@nara.gov](mailto:Christa.Lemelin@nara.gov).

**SUPPLEMENTARY INFORMATION:** *Agenda and meeting materials:* You may find all meeting materials at <https://ogis.archives.gov/foia-advisory-committee/meetings.htm>. The purpose of this meeting is to discuss the FOIA issues on which the Committee is focusing its efforts: Oversight and accountability, proactive disclosures, and fees. The meeting will include subcommittee status reports and discussion of proposed recommendations to make to the Archivist of the United States. Guest speaker Margaret B. Kwoka, Assistant Professor at the University of Denver Sturm College Of Law, will present her academic study of the commercial use of FOIA at six Federal agencies, and proactive disclosures as a public benefit



and potential cost-saving measure for agencies.

**Procedures:** The meeting is open to the public. Due to space limitations and access procedures, you must register in advance if you wish to attend the meeting. You will also go through security screening when you enter the building. Seating in the meeting room is limited and will be available on a first-come, first-served basis. Registration for the meeting will go live via Eventbrite on April 4, 2016 at 10:00 a.m. EDT. To register for the meeting, please do so at this Eventbrite link: <http://www.eventbrite.com/e/freedom-of-information-act-foia-advisory-committee-meeting-registration-22044174720>. Members of the media who wish to register, those who are unable to register online, and those who require special accommodations, should contact Christa Lemelin at the phone number, mailing address, or email address listed above.

Dated: March 23, 2016.

**Patrice Little Murray,**

*Committee Management Officer.*

[FR Doc. 2016-07145 Filed 3-29-16; 8:45 am]

**BILLING CODE 7515-01-P**

## NATIONAL CREDIT UNION ADMINISTRATION

### Agency Information Collection Activities: Proposed Collection; Comment Request; Investment and Deposit Activities

**AGENCY:** National Credit Union Administration (NCUA).

**ACTION:** Notice and request for comment.

**SUMMARY:** NCUA, as part of its continuing effort to reduce paperwork and respondent burden, invites the general public and other Federal agencies to comment on a reinstatement of a previously approved collection, as required by the Paperwork Reduction Act of 1995 (Pub. L. 104-13, 44 U.S.C. Chapter 35).

**DATES:** Written comments should be received on or before May 31, 2016 to be assured consideration.

**ADDRESSES:** Interested persons are invited to submit written comments on the information collection to Dawn Wolfgang, National Credit Union Administration, 1775 Duke Street, Alexandria, Virginia 22314-3428; Fax No. 703-519-8579; or Email at [PRAComments@NCUA.gov](mailto:PRAComments@NCUA.gov).

**FOR FURTHER INFORMATION CONTACT:** Requests for additional information should be directed to the address above.

**SUPPLEMENTARY INFORMATION:**

**OMB Number:** 3133-0133.

**Title:** Investment and Deposit Activities, 12 CFR part 703.

**Abstract:** The National Credit Union Administration (NCUA) Federal Credit Union Act, 12 U.S.C. 1757(7), 1757(8), 1757(15), lists securities, deposits, and other obligations in which a Federal Credit Union (FCU) may invest. The regulations related to these areas are contained in Part 703 and Section 721.3 of the NCUA Rules and Regulations. These regulations also set forth requirements related to maintaining an adequate investment program, including several required reporting areas.

The information collected is used by the NCUA to determine compliance with the appropriate sections of the NCUA Rules and Regulations and Federal Credit Union Act, which governs investment and deposit activities on the basis of safety and soundness concerns. It is used to determine the level of risk that exists within a credit union, the actions taken by the credit union to mitigate such risk, and helps prevent losses to federal credit unions and the National Credit Union Share Insurance Fund (NCUSIF).

**Type of Review:** Reinstatement with change of a previously approved collection.

**Affected Public:** Federal credit unions.

**Estimated No. of Respondents/Recordkeepers:** 3,899.

**Frequency of Response:** Upon occurrence of triggering action.

**Estimated Burden Hours per Response:** Avg. time per response for information collection requirements prescribed under Subpart A: 0.55; Subpart B: 6.96.

**Estimated Total Annual Burden Hours:** 211,935.

**Reason for Change:** The number of respondents have decreased (Subpart A) due to an adjustment in the number of FCUs, decreasing the total burden, and increases in the number of responses are attributed to adjustments to reflect actual program activity. Program changes are attributed to new information collection requirements prescribed by Subpart B.

**Request for Comments:** Comments submitted in response to this notice will be summarized and included in the request for Office of Management and Budget approval. All comments will become a matter of public record. The public is invited to submit comments concerning: (a) Whether the collection of information is necessary for the proper performance of the function of the agency, including whether the information will have practical utility;

(b) the accuracy of the agency's estimate of the burden of the collection of information, including the validity of the methodology and assumptions used; (c) ways to enhance the quality, utility, and clarity of the information to be collected; and (d) ways to minimize the burden of the collection of the information on the respondents, including the use of automated collection techniques or other forms of information technology.

By Gerard Poliquin, Secretary of the Board, the National Credit Union Administration, on March 23, 2016.

Dated: March 24, 2016.

**Dawn D. Wolfgang,**

*NCUA PRA Clearance Officer.*

[FR Doc. 2016-07123 Filed 3-29-16; 8:45 am]

**BILLING CODE 7535-01-P**

## NUCLEAR REGULATORY COMMISSION

[NRC-2016-0068]

### Integrated Action Plan To Modernize Digital Instrumentation and Controls Regulatory Infrastructure

**AGENCY:** Nuclear Regulatory Commission.

**ACTION:** Preliminary draft action plan; request for comment.

**SUMMARY:** The U.S. Nuclear Regulatory Commission (NRC) is issuing for public comment its preliminary draft action plan, "Integrated Action Plan to Modernize Digital Instrumentation and Controls Regulatory Infrastructure." This preliminary draft action plan outlines the strategy and implementation milestones the NRC staff has identified in order to modernize the NRC's digital instrumentation and controls (I&C) regulatory infrastructure.

**DATES:** Submit comments by April 24, 2016. Comments received after this date will be considered if it is practical to do so, but the Commission is able to ensure consideration only for comments received before this date.

**ADDRESSES:** You may submit comments by any of the following methods (unless this document describes a different method for submitting comments on a specific subject):

- **Federal Rulemaking Web site:** Go to <http://www.regulations.gov> and search for Docket ID NRC-2016-0068. Address questions about NRC dockets to Carol Gallagher; telephone: 301-415-3463; email: [Carol.Gallagher@nrc.gov](mailto:Carol.Gallagher@nrc.gov). For technical questions, contact the individual listed in the **FOR FURTHER**

**INFORMATION CONTACT** section of this document.

- *Mail comments to:* Cindy Bladey, Office of Administration, Mail Stop: OWFN-12-H08, U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001.

For additional direction on obtaining information and submitting comments, see “Obtaining Information and Submitting Comments” in the **SUPPLEMENTARY INFORMATION** section of this document.

**FOR FURTHER INFORMATION CONTACT:**

Todd Keene, Office of Nuclear Reactor Regulation, U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001; telephone: 301-415-1994; email: [Todd.Keene@nrc.gov](mailto:Todd.Keene@nrc.gov).

**SUPPLEMENTARY INFORMATION:**

**I. Obtaining Information and Submitting Comments**

*A. Obtaining Information*

Please refer to Docket ID NRC-2016-0068 when contacting the NRC about the availability of information for this action. You may obtain publicly-available information related to this action by any of the following methods:

- *Federal Rulemaking Web site:* Go to <http://www.regulations.gov> and search for Docket ID NRC-2016-0068.
- *NRC's Agencywide Documents Access and Management System (ADAMS):* You may obtain publicly-available documents online in the ADAMS Public Documents collection at <http://www.nrc.gov/reading-rm/adams.html>. To begin the search, select “ADAMS Public Documents” and then select “Begin Web-based ADAMS Search.” For problems with ADAMS, please contact the NRC's Public Document Room (PDR) reference staff at 1-800-397-4209, 301-415-4737, or by email to [pdr.resource@nrc.gov](mailto:pdr.resource@nrc.gov). The ADAMS accession number for each document referenced in this notice (if that document is available in ADAMS) is provided the first time that a document is referenced. The preliminary draft action plan is available in ADAMS under Accession No. ML16075A466.

- *NRC's PDR:* You may examine and purchase copies of public documents at the NRC's PDR, Room O1-F21, One White Flint North, 11555 Rockville Pike, Rockville, Maryland 20852.

*B. Submitting Comments*

Please include Docket ID NRC-2016-0068 in your comment submission.

The NRC cautions you not to include identifying or contact information that you do not want to be publicly disclosed in your comment submission.

The NRC will post all comment submissions at <http://www.regulations.gov> as well as enter the comment submissions into ADAMS. The NRC does not routinely edit comment submissions to remove identifying or contact information.

If you are requesting or aggregating comments from other persons for submission to the NRC, then you should inform those persons not to include identifying or contact information that they do not want to be publicly disclosed in their comment submission. Your request should state that the NRC does not routinely edit comment submissions to remove such information before making the comment submissions available to the public or entering the comment into ADAMS.

**II. Background**

The NRC is requesting public comments on a preliminary draft action plan in an effort to gain an understanding of stakeholder perspectives of the digital I&C regulatory challenges, priorities and potential solutions. The development of this action plan was directed by the Commission in SRM-15-0106 (February 25, 2016) (ADAMS Accession No. ML16056A614). In order to reach the widest audience, the action plan will be provided via email and posted on the NRC public Web site, as well as published in the **Federal Register**. Additionally, a public meeting on the preliminary draft action plan will be held on March 30, 2016, at NRC Headquarters. Additional information concerning the public meeting can be found on NRC's Public Meeting Schedule Web page; <http://meetings.nrc.gov/pmns/mtg>.

The NRC staff has developed the preliminary draft action plan to provide a strategy to modernize the digital I&C regulatory infrastructure in order to improve the predictability and consistency of the process for licensing and oversight of industry stakeholders. Improvements and modernization of the NRC's digital I&C regulatory processes will improve efficiency of the oversight of licensee implementation of digital I&C equipment.

This preliminary draft action plan has not been subject to all levels of NRC management review. Accordingly, it may be incomplete or in error in one or more respects and may be subject to further revision before the staff presents an action plan regarding an integrated strategy to modernize the NRC's digital instrumentation and controls regulatory infrastructure to the Commission in a SECY paper (currently scheduled to be

provided to the Commission in May 2016).

Because of the schedule for development of the plan, the NRC will not issue a comment response document providing formal written responses to comments which are received.

Dated at Rockville, Maryland, this 24th day of March, 2016.

For the Nuclear Regulatory Commission.

**Sheldon D. Stuchell,**

*Chief, Generic Communications Branch, Division of Policy and Rulemaking, Office of Nuclear Reactor Regulation.*

[FR Doc. 2016-07112 Filed 3-29-16; 8:45 am]

**BILLING CODE 7590-01-P**

**SECURITIES AND EXCHANGE COMMISSION**

[Release No. IC-32048; File No. 812-14430]

**NexPoint Capital, Inc., et al.; Notice of Application**

March 24, 2016.

**AGENCY:** Securities and Exchange Commission (“Commission”).

**ACTION:** Notice of application for an order under section 17(d) and section 57(i) of the Investment Company Act of 1940 (the “Act”) and rule 17d-1 under the Act to permit certain joint transactions otherwise prohibited by section 17(d) and section 57(a)(4) of the Act and rule 17d-1 under the Act.

**SUMMARY OF APPLICATION:** Applicants request an order to permit a business development company (“BDC”) and a closed-end management investment company to co-invest in portfolio companies with each other and with certain affiliated investment funds.

**APPLICANTS:** NexPoint Capital, Inc. (“NexPoint Capital”), NexPoint Credit Strategies Fund (“NHF”) (each of NexPoint Capital and NHF, an “Existing Investment Company” and collectively, the “Existing Investment Companies”), NexPoint Advisors, L.P. (“NexPoint Advisors”), Highland Multi Strategy Credit Fund, L.P. (“HMSCF”) and Highland Capital Healthcare Partners (Master), L.P. (“HCHP” and, collectively with HMSCF, the “Existing Private Funds”), Highland Capital Management, L.P., Highland Capital Healthcare Advisors, L.P. and Acis Capital Management, L.P. (each, a “Current Adviser to Private Funds” and, collectively, the “Current Advisers to Private Funds,” and, the Current Advisers to Private Funds collectively with the Existing Investment Companies, NexPoint Advisors and the Existing Private Funds, the “Applicants”).

**FILING DATES:** The application was filed on March 6, 2015 and amended on August 28, 2015, December 21, 2015, March 11, 2016, and March 18, 2016.

**HEARING OR NOTIFICATION OF HEARING:** An order granting the requested relief will be issued unless the Commission orders a hearing. Interested persons may request a hearing by writing to the Commission's Secretary and serving applicants with a copy of the request, personally or by mail. Hearing requests should be received by the Commission by 5:30 p.m. on April 18, 2016, and should be accompanied by proof of service on applicants, in the form of an affidavit, or for lawyers, a certificate of service. Pursuant to rule 0-5 under the Act, hearing requests should state the nature of the writer's interest, any facts bearing upon the desirability of a hearing on the matter, the reason for the request, and the issues contested. Persons who wish to be notified of a hearing may request notification by writing to the Commission's Secretary.

**ADDRESSES:** Secretary, U.S. Securities and Exchange Commission, 100 F St. NE., Washington, DC 20549-1090.

**Applicants:** 300 Crescent Court, Suite 700, Dallas, Texas 75201.

**FOR FURTHER INFORMATION CONTACT:** Jill Ehrlich, Senior Counsel, at (202) 551-6819, or Mary Kay Frech, Branch Chief, at (202) 551-6821 (Division of Investment Management, Chief Counsel's Office).

**SUPPLEMENTARY INFORMATION:** The following is a summary of the application. The complete application may be obtained via the Commission's Web site by searching for the file number, or for an applicant using the Company name box, at <http://www.sec.gov/search/search.htm> or by calling (202) 551-8090.

### Applicants' Representations

1. NexPoint Capital, a Delaware corporation, is an externally managed, non-diversified, closed-end management investment company that has elected to be regulated as a BDC under the Act.<sup>1</sup> NexPoint Capital's investment objective is to generate current income and capital appreciation primarily through investments in middle-market healthcare companies, middle-market companies in non-healthcare sectors, syndicated floating rate debt of large nonpublic and public

companies and collateralized loan obligations. NexPoint Capital's board of directors currently consists of six members, five of whom are not "interested persons" of NexPoint Capital within the meaning of section 2(a)(19) of the Act (the "Independent Directors").

2. NHF, a Delaware statutory trust, is an externally managed, non-diversified, closed-end management investment company registered under the Act. NHF's investment objective is to generate current income and capital appreciation primarily through investments in: (i) Secured and unsecured floating and fixed rate loans; (ii) bonds and other debt obligations; (iii) debt obligations of stressed, distressed and bankrupt issuers; (iv) structured products, including but not limited to, mortgage-backed and other asset-backed securities and collateralized debt obligations; and (v) equities. NHF's board of trustees currently consists of six members, five of whom are not "interested persons" of NHF within the meaning of section 2(a)(19) of the Act (the "Independent Trustees").

3. NexPoint Advisors, a Delaware limited partnership, is registered under the Investment Advisers Act of 1940 ("Advisers Act") and is the investment adviser of NexPoint Capital and NHF.

4. The Existing Private Funds are entities formed under the laws of Delaware or under the laws of the Cayman Islands. In reliance on the exclusion from the definition of "investment company" provided by section 3(c)(1) or 3(c)(7) of the Act, neither of the Existing Private Funds will be registered under the Act. Highland Capital Management, L.P., registered as an investment adviser under the Advisers Act, serves as the investment adviser to HMSCF, and Acis Capital Management, L.P., registered as an investment adviser under the Advisers Act, serves as the investment sub-adviser to HMSCF. Highland Capital Healthcare Advisors, L.P., registered as an investment adviser under the Advisers Act, serves as the investment adviser to HCHP. NexPoint Advisors expects that certain portfolio companies that are appropriate investments for a Private Fund<sup>2</sup> may

also be appropriate for one or more Investment Companies,<sup>3</sup> with certain exceptions based on available capital or diversification.

5. Applicants seek an order ("Order")<sup>4</sup> to allow an Investment Company to co-invest in the same issuers of securities with one or more other Investment Companies or Private Funds (the "Co-Investment Program") with which it may be prohibited from co-investing by reason of section 17(d) or section 57 of the Act. For purposes of the application, a "Co-Investment Transaction" means any transaction in which an Investment Company (or one of its Wholly Owned Investment Subsidiaries, as defined below) participates together with one or more other Investment Companies and/or Private Funds in reliance on the requested Order. "Potential Co-Investment Transaction" means any investment opportunity in which an Investment Company (or a Wholly Owned Investment Subsidiary) could not participate together with one or more other Investment Companies and/or Private Funds without obtaining and relying on the Order.

6. Each of the Investment Companies may, from time to time and as applicable, form a special purpose subsidiary (a "Wholly-Owned Investment Subsidiary").<sup>5</sup> Wholly-Owned Investment Subsidiaries would be prohibited from investing in a Co-

and is registered as an investment adviser under the Advisers Act.

<sup>3</sup> The term "Investment Company" means any Existing Investment Company and any future closed-end investment company that (a) is registered under the Act or has elected to be regulated as a BDC under the Act, (b) will be advised by an Adviser, and (c) that intends to participate in the Co-Investment Program.

<sup>4</sup> All existing entities that currently intend to rely on the Order have been named as Applicants and any entities that may rely on the Order in the future will comply with the terms and conditions of the application.

<sup>5</sup> The term "Wholly-Owned Investment Subsidiary" means an entity (a) whose sole business purpose is to hold one or more investments and issue debt on behalf of such Investment Company, to obtain debt financing for those investments and, in the case of a Wholly Owned Investment Subsidiary organized as a small business investment company under the Small Business Investment Act of 1958 ("SBA Act"), to maintain a license under the SBA Act and issue debentures guaranteed by the Small Business Administration; (b) that is wholly owned by such Investment Company (with the applicable Investment Company at all times holding directly or indirectly, beneficially and of record, 100% of the voting and economic interests); (c) with respect to which the board of directors or board of trustees, as applicable, of such Investment Company has the sole authority to make all determinations with respect to the Wholly Owned Investment Subsidiary's participation under the conditions to the application; and (d) that is an entity that would be an investment company but for section 3(c)(1) or 3(c)(7) of the Act.

<sup>1</sup> Section 2(a)(48) defines a BDC to be any closed-end investment company that operates for the purpose of making investments in securities described in sections 55(a)(1) through 55(a)(3) of the Act and makes available significant managerial assistance with respect to the issuers of such securities.

<sup>2</sup> "Private Fund" means any Existing Private Fund or any entity (a) whose investment adviser is an Adviser, (b) that would be an investment company but for section 3(c)(1) or 3(c)(7) of the Act, and (c) that intends to participate in the Co-Investment Program (as defined below). "Adviser" means (a) NexPoint Advisors, (b) the Current Advisers to Private Funds, and (c) any future investment adviser that controls, is controlled by or is under common control with any of NexPoint Advisors or the Current Advisers to Private Funds

Investment Transaction with any other Investment Company or Private Fund because the Wholly-Owned Investment Subsidiary would be a company controlled by the applicable Investment Company for purposes of section 17(d) and section 57(a)(4) and rule 17d-1. Applicants request that any Wholly Owned Investment Subsidiary be permitted to participate in Co-Investment Transactions in lieu of the Investment Company of which it is a subsidiary and that the participation in any such transaction by any Wholly Owned Investment Subsidiary be treated, for purposes of the Order, as though the Investment Company of which it is a subsidiary were participating directly. Applicants represent that this treatment is justified because any Wholly Owned Investment Subsidiary would have no purpose other than serving as a holding and financing vehicle for the applicable Investment Company's investments and, therefore, no conflicts of interest could arise between an Investment Company and its Wholly Owned Investment Subsidiary. The board of directors or board of trustees, as applicable, of an Investment Company would make all relevant determinations under the conditions with regard to the participation of such Investment Company's Wholly Owned Investment Subsidiary in a Co-Investment Transaction, and the board of directors or the board of trustees, as applicable, of an Investment Company would be informed of, and take into consideration, any proposed use of any Wholly Owned Investment Subsidiary in such Investment Company's place. If an Investment Company proposes to participate in the same Co-Investment Transaction with any of its Wholly Owned Investment Subsidiaries, the board of directors or the board of trustees, as applicable, of such Investment Company will also be informed of, and take into consideration, the relative participation of the Investment Company and the Wholly Owned Investment Subsidiary.

7. Applicants represent that the Adviser of another Investment Company or a Private Fund will refer to the Adviser of an Investment Company all Potential Co-Investment Transactions within such Investment Company's Objectives and Strategies<sup>6</sup> that are

<sup>6</sup> "Objectives and Strategies" means the Investment Company's investment objectives and strategies, as described in its registration statement on Form N-2 and other filings made with the Commission by such Investment Company under the Securities Act of 1933, as amended ("1933 Act"), or the Act, any reports filed by such Investment Company with the Commission under

considered for such other Investment Company or Private Fund, and such investment opportunities may result in a Co-Investment Transaction. For each such referral, the applicable Adviser will consider the investment objective, investment policies, investment position, investment strategies, investment restrictions, regulatory and tax requirements, capital available for investment and other pertinent factors applicable to such Investment Company. Likewise, when selecting investments for a Private Fund, the applicable Adviser to the Private Fund will select investments separately for the Private Fund, considering the investment objective, investment policies, investment position, investment strategies, investment restrictions, regulatory and tax requirements, capital available for investment and other pertinent factors applicable to such Private Fund. Each Co-Investment Transaction and the proposed allocation of such Co-Investment Transaction would be approved prior to the actual investment by the required majority (within the meaning of section 57(o) of the Act) (the "Required Majority")<sup>7</sup> of the Investment Company's board of directors or board of trustees, as applicable.

8. Other than pro rata dispositions and follow-on investments<sup>8</sup> as provided in conditions 7 and 8, and after making the determinations required in conditions 1 and 2(a), the applicable Adviser will present each Potential Co-Investment Transaction and the proposed allocation to the directors or trustees of the applicable Investment Company who are eligible to vote under section 57(o) of the Act ("Eligible Directors"), and the Required Majority will approve each Co-Investment Transaction prior to any investment by such Investment Company.

9. With respect to the pro rata dispositions and follow-on investments provided in conditions 7 and 8, the Investment Companies may participate in a pro rata disposition or follow-on investment without obtaining prior approval of the Required Majority if, among other things: (i) The proposed participation of such Investment

the Securities Exchange Act of 1934, as amended, or the Act and such Investment Company's reports to stockholders.

<sup>7</sup> In the case of an Investment Company that is a registered closed-end fund, the directors or trustees that make up the Required Majority will be determined as if the Investment Company were a BDC subject to section 57(o).

<sup>8</sup> "Follow-on investment" means an additional investment in an existing portfolio company, including through the exercise of warrants, conversion privileges or other rights to acquire securities of the portfolio company.

Company and each other Investment Company or Private Fund in such disposition or follow-on investment is proportionate to its outstanding investments in the issuer immediately preceding the disposition or follow-on investment, as the case may be; and (ii) the board of directors or board of trustees, as applicable, of the Investment Company has approved such Investment Company's participation in pro rata dispositions and follow-on investments as being in the best interests of the Investment Company. If such board does not so approve, any such disposition or follow-on investment will be submitted to the Investment Company's Eligible Directors. The board of directors or board of trustees, as applicable, of an Investment Company may at any time rescind, suspend or qualify its approval of pro rata dispositions and follow-on investments, with the result that all dispositions and/or follow-on investments must be submitted to the Eligible Directors of such Investment Company.

10. No Independent Director or Independent Trustee of an Investment Company will have a financial interest in any Co-Investment Transaction, other than indirectly through share ownership in the Investment Company.

11. Under condition 14, if NexPoint Advisors or its principals, or any person controlling, controlled by, or under common control with NexPoint Advisors or its principals, and the Private Funds (collectively, the "Holders") own in the aggregate more than 25 percent of the outstanding voting shares of an Investment Company (the "Shares"), then the Holders will vote such Shares as directed by an independent third party when voting on matters specified in the condition. Applicants believe that this condition will ensure that the Independent Directors or Independent Trustees will act independently in evaluating the Co-Investment Program, because the ability of NexPoint Advisors or its principals to influence the Independent Directors or Independent Trustees by a suggestion, explicit or implied, that the Independent Directors or Independent Trustees can be removed will be limited significantly. Applicants represent that the Independent Directors or Independent Trustees shall evaluate and approve any independent third party, taking into account its qualifications, reputation for independence, cost to the shareholders, and other factors that they deem relevant.

#### Applicants' Legal Analysis

1. Section 17(d) of the Act and rule 17d-1 under the Act prohibit affiliated

persons of a registered investment company from participating in joint transactions with the company or a company controlled by such company unless the Commission has granted an order permitting such transactions. Section 57(a)(4) of the Act prohibits certain affiliated persons of a BDC from participating in joint transactions with the BDC (or a company controlled by such company) in contravention of rules as prescribed by the Commission. Section 57(i) of the Act provides that, until the Commission prescribes rules under section 57(a)(4), the Commission's rules under section 17(d) of the Act applicable to registered closed-end investment companies will be deemed to apply to BDCs. Because the Commission has not adopted any rules under section 57(a)(4), rule 17d-1 applies to BDCs. NexPoint Advisors and any other Investment Company or Private Fund that it advises could be deemed to be persons related to an Investment Company in a manner described by section 2(a)(3) or section 57(b), as applicable, and, therefore, prohibited by section 17(d) or section 57(a)(4), as applicable, and rule 17d-1 from participating in the Co-Investment Program. In addition, because the other Advisers are "affiliated persons" of NexPoint Advisors, such Advisers and the Investment Companies and Private Funds advised by any of them could be deemed to be persons related to such Investment Company in a manner described by section 2(a)(3) or section 57(b), as applicable, and also prohibited from participating in the Co-Investment Program. Finally, because any Wholly Owned Investment Subsidiary will be controlled by an Investment Company, it will subject to section 17(d) or section 57(a)(4), and thus also subject to the provisions of rule 17d-1.

2. Rule 17d-1, as made applicable to BDCs by section 57(i), prohibits any person who is related to a BDC in a manner described in section 57(b), acting as principal, from participating in, or effecting any transaction in connection with, any joint enterprise or other joint arrangement or profit-sharing plan in which the BDC is a participant, absent an order from the Commission. In passing upon applications under rule 17d-1, the Commission considers whether the company's participation in the joint transaction is consistent with the provisions, policies, and purposes of the Act and the extent to which such participation is on a basis different from or less advantageous than that of other participants.

3. Applicants state that they expect that co-investment in portfolio companies by the Investment

Companies and the Private Funds will increase favorable investment opportunities for each participant.

4. Applicants submit that the fact that the Required Majority will approve each Co-Investment Transaction before investment, and other protective conditions set forth in the application, will ensure that each Investment Company will be treated fairly. Applicants state that each Investment Company's participation in the Co-Investment Transactions will be consistent with the provisions, policies, and purposes of the Act and on a basis that is not different from, or less advantageous than, that of the other Investment Companies or the Private Funds.

#### **Applicants' Conditions**

Applicants agree that any order granting the requested relief will be subject to the following conditions:

1. Each time an Adviser considers a Potential Co-Investment Transaction for a Private Fund or another Investment Company that falls within an Investment Company's then-current Objectives and Strategies, the Investment Company's Adviser will make an independent determination of the appropriateness of such investment for such Investment Company in light of such Investment Company's then-current circumstances.

2. (a) If the applicable Adviser deems an Investment Company's participation in any Potential Co-Investment Transaction to be appropriate for such Investment Company, it will then determine an appropriate level of investment for such Investment Company;

(b) If the aggregate amount recommended by the applicable Adviser to be invested in such Potential Co-Investment Transaction by an Investment Company, together with the amount proposed to be invested by the other participating Investment Companies and Private Funds, collectively, in the same transaction, exceeds the amount of the investment opportunity, then the investment opportunity will be allocated among them pro rata based on each participating party's capital available for investment in the asset class being allocated, up to the amount proposed to be invested by each party. The applicable Adviser will provide the Eligible Directors of each participating Investment Company with information concerning each participating party's available capital to assist the Eligible Directors with their review of such Investment Company's investments for

compliance with these allocation procedures; and

(c) After making the determinations required in conditions 1 and 2(a), the applicable Adviser will distribute written information concerning the Potential Co-Investment Transaction, including the amount proposed to be invested by each Investment Company and each Private Fund, to the Eligible Directors of each participating Investment Company for their consideration. An Investment Company will co-invest with one or more other Investment Companies and/or Private Funds only if, prior to the Investment Company's participation in the Potential Co-Investment Transaction, the Required Majority concludes that:

(i) The terms of the Potential Co-Investment Transaction, including the consideration to be paid, are reasonable and fair to such Investment Company and its stockholders and do not involve overreaching in respect of such Investment Company or its stockholders on the part of any person concerned;

(ii) the Potential Co-Investment Transaction is consistent with:

(A) The interests of the stockholders of such Investment Company; and

(B) such Investment Company's then-current Objectives and Strategies;

(iii) the investment by another Investment Company or any Private Fund would not disadvantage such Investment Company, and participation by such Investment Company would not be on a basis different from, or less advantageous than, that of any other Investment Company or Private Fund; provided, that if any other Investment Company or Private Fund, but not such Investment Company itself, gains the right to nominate a director for election to a portfolio company's board of directors or the right to have a board observer or any similar right to participate in the governance or management of the portfolio company, such event will not be interpreted to prohibit the Required Majority from reaching the conclusions required by this condition (2)(c)(iii), if

(A) The Eligible Directors will have the right to ratify the selection of such director or board observer, if any;

(B) the Advisers agree to, and do, provide periodic reports to each Investment Company's board of directors or board of trustees, as applicable, with respect to the actions of such director or the information received by such board observer or obtained through the exercise of any similar right to participate in the governance or management of the portfolio company; and

(C) any fees or other compensation that any other Investment Company, Private Fund or any affiliated person of another Investment Company or Private Fund receives in connection with the right of such other Investment Company or Private Fund to nominate a director or appoint a board observer or otherwise to participate in the governance or management of the portfolio company will be shared proportionately among the participating Private Funds (which each may, in turn, share their portion with their affiliated persons) and the participating Investment Companies in accordance with the amount of each party's investment; and

(iv) the proposed investment by the Investment Company will not benefit the other Investment Companies, the Advisers, the Private Funds or any affiliated person of any of them (other than the parties to the Co-Investment Transaction), except (A) to the extent permitted by condition 13; (B) to the extent permitted by sections 17(e) or 57(k) of the Act, as applicable; (C) indirectly, as a result of an interest in the securities issued by one of the parties to the Co-Investment Transaction; or (D) in the case of fees or other compensation described in condition 2(c)(iii)(C).

3. Each Investment Company has the right to decline to participate in any Potential Co-Investment Transaction or to invest less than the amount proposed.

4. The applicable Adviser will present to the board of directors or the board of trustees, as applicable, of each Investment Company, on a quarterly basis, a record of all investments in Potential Co-Investment Transactions made by any of the other Investment Companies and the Private Funds during the preceding quarter that fell within such Investment Company's then-current Objectives and Strategies that were not made available to such Investment Company and an explanation of why the investment opportunities were not offered to such Investment Company. All information presented to a board pursuant to this condition will be kept for the life of such Investment Company and at least two years thereafter, and will be subject to examination by the Commission and its staff.

5. Except for follow-on investments made in accordance with condition 8,<sup>9</sup> an Investment Company will not invest in reliance on the Order in any issuer in which any other Investment Company,

Private Fund or any affiliated person of another Investment Company or Private Fund is an existing investor.

6. An Investment Company will not participate in any Potential Co-Investment Transaction unless the terms, conditions, price, class of securities to be purchased, settlement date and registration rights will be the same for each participating Investment Company and Private Fund. The grant to another participant, but not such Investment Company, of the right to nominate a director for election to a portfolio company's board of directors, the right to have an observer on the board of directors or similar rights to participate in the governance or management of the portfolio company will not be interpreted so as to violate this condition 6, if conditions 2(c)(iii)(A), (B) and (C) are met.

7. (a) If any Investment Company or Private Fund elects to sell, exchange or otherwise dispose of an interest in a security that was acquired in a Co-Investment Transaction, the applicable Advisers will:

(i) Notify each Investment Company that participated in the Co-Investment Transaction of the proposed disposition at the earliest practical time; and

(ii) formulate a recommendation as to participation by such Investment Company in any such disposition.

(b) Each Investment Company will have the right to participate in such disposition on a proportionate basis, at the same price and on the same terms and conditions as those applicable to any participating Private Funds and other participating Investment Companies.

(c) An Investment Company may participate in such disposition without obtaining prior approval of the Required Majority if: (i) The proposed participation of such Investment Company and of each other participant in such disposition is proportionate to its outstanding investment in the issuer immediately preceding the disposition; (ii) the board of directors or board of trustees, as applicable, of such Investment Company has approved as being in the best interests of such Investment Company the ability to participate in such dispositions on a pro rata basis (as described in greater detail in the application); and (iii) such board is provided on a quarterly basis with a list of all dispositions made in accordance with this condition. In all other cases, the applicable Adviser will provide its written recommendation as to an Investment Company's participation to the Eligible Directors of such Investment Company, and the Investment Company will participate in

such disposition solely to the extent that the Required Majority determines that it is in the Investment Company's best interests.

(d) Each Investment Company and each other participant will bear its own expenses in connection with any such disposition.

8. (a) If any Investment Company or Private Fund desires to make a follow-on investment in a portfolio company whose securities were acquired in a Co-Investment Transaction, the applicable Advisers will:

(i) Notify each Investment Company that participated in the Co-Investment Transaction of the proposed transaction at the earliest practical time; and

(ii) formulate a recommendation as to the proposed participation, including the amount of the proposed follow-on investment, by such Investment Company.

(b) Such Investment Company may participate in such follow-on investment without obtaining prior approval of the Required Majority if: (i) The proposed participation of each Investment Company and each Private Fund in such investment is proportionate to its outstanding investment in the issuer immediately preceding the follow-on investment; (ii) the board of directors or board of trustees, as applicable, of such Investment Company has approved as being in the best interests of such Investment Company the ability to participate in follow-on investments on a pro rata basis (as described in greater detail in the application); and (iii) such board is provided on a quarterly basis with a list of all follow on investments made in accordance with this condition. In all other cases, the applicable Adviser will provide its written recommendation as to such Investment Company's participation to the Eligible Directors, and such Investment Company will participate in such follow-on investment solely to the extent that the Required Majority determines that it is in such Investment Company's best interests.

(c) If with respect to any follow-on investment:

(i) The amount of the opportunity is not based on the Investment Companies' and the Private Funds' outstanding investments immediately preceding the follow-on investment; and

(ii) the aggregate amount recommended by the applicable Adviser to be invested by each Investment Company in the follow-on investment, together with the amount proposed to be invested by the participating Private Funds in the same transaction, exceeds the amount of the opportunity, then the

<sup>9</sup> This exception applies only to follow-on investments by an Investment Company in issuers in which that Investment Company already holds investments.

amount to be invested by each such party will be allocated among them pro rata based on each participating party's capital available for investment in the asset class being allocated, up to the amount proposed to be invested by each.

(d) The acquisition of follow-on investments as permitted by this condition will be considered a Co-Investment Transaction for all purposes and subject to the other conditions set forth in the application.

9. The Independent Directors or Independent Trustees, as applicable, of each Investment Company will be provided quarterly for review all information concerning Potential Co-Investment Transactions and Co-Investment Transactions, including investments made by the other Investment Companies and the Private Funds that the applicable Investment Company considered but declined to participate in, so that the Independent Directors or Independent Trustees, as applicable, may determine whether all investments made during the preceding quarter, including those investments which the applicable Investment Company considered but declined to participate in, comply with the conditions of the Order. In addition, the Independent Directors or Independent Trustees, as applicable, will consider at least annually the continued appropriateness for such Investment Company of participating in new and existing Co-Investment Transactions.

10. The Investment Companies will maintain the records required by section 57(f)(3) of the Act as if each of the Investment Companies were a business development company and as if each of the investments permitted under these conditions were approved by the Required Majority under section 57(f) of the Act.

11. No Independent Directors or Independent Trustees, as applicable, will also be a director, general partner, managing member or principal, or otherwise an "affiliated person" (as defined in the Act) of any Private Fund.

12. The expenses, if any, associated with acquiring, holding or disposing of any securities acquired in a Co-Investment Transaction (including, without limitation, the expenses of the distribution of any such securities registered for sale under the 1933 Act) will, to the extent not payable by the Advisers under their respective advisory agreements with the Investment Companies and the Private Funds, be shared by the participating Investment Companies and the participating Private Funds in proportion to the relative amounts of the securities held or being

acquired or disposed of, as the case may be.

13. Any transaction fee<sup>10</sup> (including break-up or commitment fees but excluding broker's fees contemplated by section 17(e) or 57(k) of the Act, as applicable) received in connection with a Co-Investment Transaction will be distributed to the participating Investment Companies and the participating Private Funds on a pro rata basis, based on the amount each invested or committed, as the case may be, in such Co-Investment Transaction. If any transaction fee is to be held by an Adviser pending consummation of the Co-Investment Transaction, the fee will be deposited into an account maintained by such Adviser at a bank or banks having the qualifications prescribed in section 26(a)(1) of the Act, and such account will earn a competitive rate of interest that will also be divided pro rata among the participating Investment Companies and the participating Private Funds based on the amount each invests in such Co-Investment Transaction. None of the Investment Companies, the Private Funds, the Advisers, nor any affiliated person of the Investment Companies or Private Funds will receive additional compensation or remuneration of any kind as a result of, or in connection with, a Co-Investment Transaction (other than (a) in the case of the participating Investment Companies and the participating Private Funds, the pro rata transaction fees described above and fees or other compensation described in condition 2(c)(iii)(C) and (b) in the case of the Advisers, investment advisory fees paid in accordance with the respective investment advisory agreements).

14. If the Holders own in the aggregate more than 25 percent of the Shares of an Investment Company, then the Holders will vote such Shares as directed by an independent third party when voting on (1) the election of directors; (2) the removal of one or more directors; or (3) any other matter under either the Act or applicable state law affecting the Board's composition, size, or manner of election.

For the Commission, by the Division of Investment Management, under delegated authority.

**Brent J. Fields,**  
Secretary.

[FR Doc. 2016-07101 Filed 3-29-16; 8:45 am]

**BILLING CODE 8011-01-P**

<sup>10</sup> Applicants are not requesting and the staff is not providing any relief for transaction fees received in connection with any Co-Investment Transaction.

## SECURITIES AND EXCHANGE COMMISSION

[Release No. 34-77440; File No. SR-NYSEArca-2016-50]

### Self-Regulatory Organizations; NYSE Arca, Inc.; Notice of Filing and Immediate Effectiveness of Proposed Rule Change To Amend Rule 6.2 To Create a Reserve Market Maker Options Trading Permit

March 24, 2016.

Pursuant to Section 19(b)(1)<sup>1</sup> of the Securities Exchange Act of 1934 (the "Act")<sup>2</sup> and Rule 19b-4 thereunder,<sup>3</sup> notice is hereby given that, on March 22, 2016, NYSE Arca, Inc. (the "Exchange" or "NYSE Arca") filed with the Securities and Exchange Commission (the "Commission") the proposed rule change as described in Items I and II below, which Items have been prepared by the self-regulatory organization. The Commission is publishing this notice to solicit comments on the proposed rule change from interested persons.

#### I. Self-Regulatory Organization's Statement of the Terms of Substance of the Proposed Rule Change

The Exchange proposes to amend Rule 6.2 to create a Reserve Market Maker Options Trading Permit ("Reserve OTP"). The proposed rule change is available on the Exchange's Web site at [www.nyse.com](http://www.nyse.com), at the principal office of the Exchange, and at the Commission's Public Reference Room.

#### II. Self-Regulatory Organization's Statement of the Purpose of, and Statutory Basis for, the Proposed Rule Change

In its filing with the Commission, the self-regulatory organization included statements concerning the purpose of, and basis for, the proposed rule change and discussed any comments it received on the proposed rule change. The text of those statements may be examined at the places specified in Item IV below. The Exchange has prepared summaries, set forth in sections A, B, and C below, of the most significant parts of such statements.

<sup>1</sup> 15 U.S.C. 78s(b)(1).

<sup>2</sup> 15 U.S.C. 78a.

<sup>3</sup> 17 CFR 240.19b-4.



*A. Self-Regulatory Organization's Statement of the Purpose of, and the Statutory Basis for, the Proposed Rule Change*

1. Purpose

The Exchange proposes to amend Rule 6.2 to create a Reserve OTP.

Under the current NYSE Arca Fee Schedule (Fee Schedule),<sup>4</sup> an OTP Holder or OTP Firm<sup>5</sup> acting as a Market Maker must pay a monthly fee for each Options Trading Permit ("OTP") it utilizes.<sup>6</sup> In order to act as a Market Maker<sup>7</sup> on the Exchange Floor, an individual must be specifically named on the relevant Market Maker's OTP. On some occasions, a Market Maker operating on the Floor may be absent from the Floor either briefly or for an entire trading day due to illness or planned absence. When such absences occur, the OTP Holder or OTP Firm may wish to have a Market Maker Authorized Trader<sup>8</sup> ("MMAT") employee engage in open outcry trading to cover for the absent Market Maker. However, an MMAT may only step in to cover for the absent Market Maker if it is specifically named on the relevant OTP, and it may not be economical for the OTP Holder or OTP Firm to maintain an additional OTP—or there may not be enough time to complete the approval process for an additional OTP—to address the such [sic] short-term absences. In such cases, the OTP Holder or OTP Firm must carry out its

responsibilities with fewer than the optimal number of Market Makers on the Trading Floor. For example, under the Fee Schedule, a total of four OTPs are required to stream quotes electronically into all option issues traded on the Exchange. Additionally, each OTP can have an individual named to act as a Market Maker in open outcry trading on the Floor of the Exchange. Thus, an OTP Holder or OTP Firm with four OTPs may stream quotes in every option issue on the Exchange and have four individuals conduct trading in open outcry on the trading Floor as Market Makers. If one of those four individuals is unavailable due to sickness, vacation or other reason, the OTP Holder or OTP Firm is required to pay for an additional OTP (presently \$1,000) in order to have a fifth individual trade in open outcry as a Market Maker. If the OTP Holder or OTP Firm activates an individual on an OTP for any portion of a month, even as little as one day, the OTP Holder or OTP Firm is charged the full monthly OTP fee.<sup>9</sup>

The Exchange believes that an option should be available to Market Maker firms to address the short-term absence of an employee in a more economical way, which also would assist the Exchange in maintaining fair and orderly markets. Accordingly, the Exchange proposes new paragraph (i) to Rule 6.2 (Admission to and Conduct on the Options Trading Floor) to create a Reserve OTP. A Reserve OTP would permit an OTP Holder or OTP Firm to have a qualified MMAT employee cover for the absent Market Maker under the firm's OTP, effectively empowering the individual acting as a qualified MMAT to act as a Market Maker in lieu of the absent individual until such time as the absent Market Maker returns.

As proposed, when a Market Maker is or will be absent, an OTP Holder or OTP Firm that maintains a Reserve OTP would be required to provide written notice to the Exchange—at least one day in advance—that it will utilize such Reserve OTP (the "Notice"). The Notice would identify both the absent Market Maker (who will not be utilizing the Reserve OTP) and the MMAT who will be acting as the substitute Market Maker. While the Notice is in effect, only the specifically named MMAT acting as a substitute Market Maker will be authorized to utilize the OTP. When the original Market Maker returns, the OTP Holder or OTP Firm would provide written notice to the Exchange—at least

one day in advance, and, as of the date specified in the notice, the original Market Maker may resume reliance on the OTP and the MMAT would no longer be able to utilize the OTP. In this manner, an OTP Holder or OTP Firm that has purchased the four OTPs required to quote every issue on the Exchange would have the ability to ensure it has sufficient Market Maker coverage in the event of an absence, without having to incur the full OTP fee, by instead paying a Reserve OTP fee of \$175 per month, which would be established by a separate fee filing with the Commission.<sup>10</sup> The proposed fee would be assessed to an OTP Holder for each MMAT in its employ whom the OTP Holder or OTP Firm wishes to be eligible to be named to the OTP to act as a Market Maker to cover for another Market Maker who is otherwise unable to be at work that day.

Any natural person to whom a Reserve OTP is issued would be required, as of the date of notice, to (a) be fully qualified and approved by the Exchange to be an OTP Holder or OTP Firm authorized as an MMAT; and (b) meet all of the requirements of an OTP Holder or OTP Firm under the Exchange's rules.

Implementation

The Exchange proposes to announce the implementation of the proposed rule change via Trader Update.

2. Statutory Basis

The Exchange believes that the proposed change is consistent with Section 6(b) of the Act,<sup>11</sup> in general, and furthers the objectives of Section 6(b)(5),<sup>12</sup> in particular, in that it is designed to promote just and equitable principles of trade, to foster cooperation and coordination with persons engaged in regulating, clearing, settling, processing information with respect to, and facilitation transactions in securities, to remove impediments to, and perfect the mechanism of a free and open market and, in general, to protect investors and the public interest. Additionally, the Exchange believes the proposed rule change is consistent with

<sup>4</sup> See Fee Schedule, available here, [https://www.nyse.com/publicdocs/nyse/markets/arca-options/NYSE\\_Arca\\_Options\\_Fee\\_Schedule.pdf](https://www.nyse.com/publicdocs/nyse/markets/arca-options/NYSE_Arca_Options_Fee_Schedule.pdf).

<sup>5</sup> An OTP Holder is a natural person, in good standing, that has been issued an OTP. See Rule 1.1.(q). An OTP Firm is a sole proprietorship, partnership, corporation, limited liability company or other organization in good standing, who has been issued an OTP or upon whom an OTP Holder has conferred trading privileges on the Exchange. See Rule 1.1.(r).

<sup>6</sup> OTPs are issued by the Exchange for effecting approved securities transactions on the Exchange's Trading Facilities. See Rule 1.1.(p). The cost of each OTP ranges from \$6,000, for the first OTP, to \$1,000 for the fifth or greater OTP, as the cost decreases as the number of OTPs utilized per month increases. See *supra* n. 4. The first OTP allows a Market Maker to quote in up to 175 issues; a Market Maker is required to have four OTPs to quote all issues on the Exchange. See *id.*

<sup>7</sup> A Market Maker is an individual who is registered with the Exchange for the purpose of making transactions as a dealer-specialist on the Floor of the Exchange or for the purpose of submitting quotes electronically and making transactions as a dealer-specialist through the NYSE Arca OX electronic trading system. See Rule 6.32(a).

<sup>8</sup> A Market Maker Authorized Trader is an authorized trader who performs market making activities pursuant to Rule 6 on behalf of an OTP Holder or OTP Firm registered as a Market Maker. See Rule 6.1A(a)(9). A Market Maker Authorized Trader must meet the same registration requirements as a Market Maker before they can be designated as a Market Maker Authorized Trader. See Rule 6.33.

<sup>9</sup> The Monthly OTP fee is based on the maximum number of OTPs held by an OTP Firm or OTP Holder during a calendar month. See *supra* n. 4, endnote 1.

<sup>10</sup> The Exchange will not implement the proposed change until it has filed to modify its fee schedule to address the addition of a Reserve OTP. The Exchange also notes this \$175 fee is consistent with fees on other option exchanges. See NYSE Amex Options Fee Schedule, Section III.A. (charging \$175 monthly fee for Reserve Floor Market Maker), available here, [https://www.nyse.com/publicdocs/nyse/markets/amex-options/NYSE\\_Amex\\_Options\\_Fee\\_Schedule.pdf](https://www.nyse.com/publicdocs/nyse/markets/amex-options/NYSE_Amex_Options_Fee_Schedule.pdf).

<sup>11</sup> 15 U.S.C. 78f(b).

<sup>12</sup> 15 U.S.C. 78f(b)(5).



the Section 6(b)(5)<sup>13</sup> requirement that the rules of an exchange not be designed to permit unfair discrimination between customers, issuers, brokers, or dealers.

Specifically, the Exchange believes that the proposed rule change would remove impediments to, and perfect the mechanism of a free and open market and, in general, to protect investors and the public interest because it would provide a more cost-effective method for OTP Holders or OTP Firms to have fully qualified personnel step in to handle other employees' absences. As such, the proposed change would enable OTP Holders and OTP Firms to better utilize their personnel and resources, thereby contributing to fair and orderly markets.

The Exchange notes that the concept of a Reserve OTP is not new or novel and has been in place at other option exchanges for several years. For example, NYSE Amex Options implemented the concept in January 2012.<sup>14</sup>

#### *B. Self-Regulatory Organization's Statement on Burden on Competition*

The Exchange does not believe that this proposed rule change would impose any burden on competition not necessary or appropriate in furtherance of the purposes of the Act. The proposed rule change would relieve the burden on OTP Holders or OTP Firms when they have employees absent from the trading floor and would, in turn, improve the competitiveness of Exchange Market Makers and also promote competition for order flow among market participants and the options exchanges.

#### *C. Self-Regulatory Organization's Statement on Comments on the Proposed Rule Change Received From Members, Participants, or Others*

No written comments were solicited or received with respect to proposed rule change.

### **III. Date of Effectiveness of the Proposed Rule Change and Timing for Commission Action**

Because the proposed rule change does not (i) significantly affect the protection of investors or the public interest; (ii) impose any significant burden on competition; and (iii) become operative for 30 days from the date on which it was filed, or such shorter time as the Commission may designate if consistent with the protection of

investors and the public interest, the proposed rule change has become effective pursuant to Section 19(b)(3)(A) of the Act<sup>15</sup> and Rule 19b-4(f)(6) thereunder.<sup>16</sup>

A proposed rule change filed under Rule 19b-4(f)(6)<sup>17</sup> normally does not become operative for 30 days after the date of filing. However, pursuant to Rule 19b-4(f)(6)(iii),<sup>18</sup> the Commission may designate a shorter time if such action is consistent with the protection of investors and the public interest. The Exchange has requested that the Commission waive the 30-day operative delay so that the proposal may become operative immediately upon filing. The Exchange states that such waiver would allow the Exchange to begin implementation of the proposed rule without delay, which the Exchange believes would promote the efficient use of resources and promote competition among the option exchanges. The Commission believes that waiving the 30-day operative delay is consistent with the protection of investors and the public interest. As stated in the filing, the Exchange believes that the proposed rule change will enable OTP Holders and OTP Firms to better utilize their personnel and resources, thereby contributing to fair and orderly markets. The Exchange states that it will not implement the proposed rule change until it submits a filing to adopt a fee related to the Reserve OTP. Accordingly, the Commission designates the proposed rule change to be operative upon filing.<sup>19</sup>

At any time within 60 days of the filing of the proposed rule change, the Commission summarily may temporarily suspend such rule change if it appears to the Commission that such action is necessary or appropriate in the public interest, for the protection of investors, or otherwise in furtherance of the purposes of the Act. If the Commission takes such action, the Commission shall institute proceedings to determine whether the proposed rule should be approved or disapproved.

<sup>15</sup> 15 U.S.C. 78s(b)(3)(A).

<sup>16</sup> 17 CFR 240.19b-4(f)(6). In addition, Rule 19b-4(f)(6)(iii) requires the Exchange to give the Commission written notice of the Exchange's intent to file the proposed rule change, along with a brief description and text of the proposed rule change, at least five business days prior to the date of filing of the proposed rule change, or such shorter time as designated by the Commission. The Exchange has satisfied this requirement.

<sup>17</sup> 17 CFR 240.19b-4(f)(6).

<sup>18</sup> 17 CFR 240.19b-4(f)(6)(iii).

<sup>19</sup> For purposes only of waiving the 30-day operative delay, the Commission has also considered the proposed rule's impact on efficiency, competition, and capital formation. See 15 U.S.C. 78c(f).

### **IV. Solicitation of Comments**

Interested persons are invited to submit written data, views, and arguments concerning the foregoing, including whether the proposed rule change is consistent with the Act. Comments may be submitted by any of the following methods:

#### *Electronic Comments*

- Use the Commission's Internet comment form (<http://www.sec.gov/rules/sro.shtml>); or
- Send an email to [rule-comments@sec.gov](mailto:rule-comments@sec.gov). Please include File Number SR-NYSEARCA-2016-50 on the subject line.

#### *Paper Comments*

- Send paper comments in triplicate to Secretary, Securities and Exchange Commission, 100 F Street NE., Washington, DC 20549-1090.

All submissions should refer to File Number SR-NYSEARCA-2016-50. This file number should be included on the subject line if email is used. To help the Commission process and review your comments more efficiently, please use only one method. The Commission will post all comments on the Commission's Internet Web site (<http://www.sec.gov/rules/sro.shtml>). Copies of the submission, all subsequent amendments, all written statements with respect to the proposed rule change that are filed with the Commission, and all written communications relating to the proposed rule change between the Commission and any person, other than those that may be withheld from the public in accordance with the provisions of 5 U.S.C. 552, will be available for Web site viewing and printing in the Commission's Public Reference Room, 100 F Street NE., Washington, DC 20549, on official business days between the hours of 10:00 a.m. and 3:00 p.m. Copies of the filing also will be available for inspection and copying at the principal office of the Exchange. All comments received will be posted without change; the Commission does not edit personal identifying information from submissions. You should submit only information that you wish to make available publicly. All submissions should refer to File Number SR-NYSEARCA-2016-50, and should be submitted on or before April 20, 2016.

<sup>13</sup> *Id.*

<sup>14</sup> See Securities Exchange Act Release No. 66237 (January 25, 2012), 77 FR 4848 (January 31, 2012) (SR-NYSEAmex-2012-02) (amending Rule 902NY to create a Reserve Floor Market Maker Amex Trading Permit ("Reserve ATP")).

For the Commission, by the Division of Trading and Markets, pursuant to delegated authority.<sup>20</sup>

**Brent J. Fields,**  
Secretary.

[FR Doc. 2016-07099 Filed 3-29-16; 8:45 am]

BILLING CODE 8011-01-P

## SECURITIES AND EXCHANGE COMMISSION

[Release No. 34-77441; File No. SR-NYSEArca-2016-44]

### Self-Regulatory Organizations; NYSE Arca, Inc.; Notice of Filing of Proposed Rule Change Amending NYSE Arca Equities Rule 7.31P(h) To Add a New Discretionary Pegged Order

March 24, 2016.

Pursuant to Section 19(b)(1)<sup>1</sup> of the Securities Exchange Act of 1934 (the “Act”)<sup>2</sup> and Rule 19b-4 thereunder,<sup>3</sup> notice is hereby given that, on March 11, 2016, NYSE Arca, Inc. (the “Exchange” or “NYSE Arca”) filed with the Securities and Exchange Commission (the “Commission”) the proposed rule change as described in Items I and II below, which Items have been prepared by the self-regulatory organization. The Commission is publishing this notice to solicit comments on the proposed rule change from interested persons.

#### I. Self-Regulatory Organization's Statement of the Terms of Substance of the Proposed Rule Change

The Exchange proposes to amend NYSE Arca Equities Rule 7.31P(h) (Orders and Modifiers) to add a new Discretionary Pegged Order. The proposed rule change is available on the Exchange's Web site at [www.nyse.com](http://www.nyse.com), at the principal office of the Exchange, and at the Commission's Public Reference Room.

#### II. Self-Regulatory Organization's Statement of the Purpose of, and Statutory Basis for, the Proposed Rule Change

In its filing with the Commission, the self-regulatory organization included statements concerning the purpose of, and basis for, the proposed rule change and discussed any comments it received on the proposed rule change. The text of those statements may be examined at the places specified in Item IV below. The Exchange has prepared summaries, set forth in sections A, B, and C below,

of the most significant parts of such statements.

#### A. Self-Regulatory Organization's Statement of the Purpose of, and the Statutory Basis for, the Proposed Rule Change

##### 1. Purpose

The Exchange proposes to amend NYSE Arca Equities Rule 7.31P(h) (Orders and Modifiers) (“Rule 7.31P”) to add a new Discretionary Pegged Order. The proposed new order is based on the Discretionary Peg Order as proposed by Investors' Exchange, LLC (“IEX”) in its Form 1 Application seeking registration as a national securities exchange under Section 6 of the Act (“IEX Form 1 Application”).<sup>4</sup> The Exchange proposes to adopt the Discretionary Pegged Order for its Pillar trading platform only.

As proposed, Rule 7.31P(h)(3) would provide that a Discretionary Pegged Order would be a Pegged Order<sup>5</sup> to buy (sell) that upon entry to the NYSE Arca Marketplace<sup>6</sup> would be assigned a working price<sup>7</sup> equal to the lower (higher) of the midpoint of the PBBO<sup>8</sup> (“Midpoint Price”) or the limit price of the order. Any untraded shares of such order would be assigned a working price equal to the lower (higher) of the PBB (PBO) or the order's limit price and would automatically be adjusted in response to changes to the PBB (PBO) for buy (sell) orders up (down) to the order's limit price. In order to trade with contra-side orders on the NYSE Arca Book, a Discretionary Pegged Order to buy (sell) would exercise the least amount of price discretion necessary from its working price to its discretionary price (defined as the lower (higher) of the Midpoint Price or the Discretionary Pegged Order's limit

price), except during periods of quote instability, as defined in proposed Rule 7.31P(h)(3)(D), as described in greater detail below. This proposed rule text is based on proposed IEX Rule 11.190(a)(10), but with non-substantive differences to use Pillar terminology to describe how the Discretionary Pegged Order would operate on the Exchange. Unlike IEX, the Exchange proposes to price a Discretionary Pegged Order based on the PBBO rather than the NBBO, which is the reference price that the Exchange uses for its Pegged Orders under Rule 7.31P(h).

Proposed Rule 7.31P(h)(3)(A) would provide that Discretionary Pegged Orders would not be displayed, must be designated Day, and would be eligible to be designated for the Core Trading Session only. Accordingly, the proposed rule would provide that Discretionary Pegged Orders that include a designation for the Early Trading Session or Late Trading Session would be rejected. This proposed rule text is based on proposed IEX Rules 11.190(a)(10)(F) (a Discretionary Peg Order is eligible to trade only during IEX's Regular Market Session) and 11.190(a)(10)(H) (a Discretionary Peg Order is not eligible to display). Unlike IEX, the Exchange proposes that a Discretionary Pegged Order be Day time-in-force and not include any other time-in-force instruction. The descriptions set forth in proposed IEX Rule 11.190(a)(10)(A), (C), and (E) are set forth in current Rule 7.31P(h), which defines Pegged Orders as a Limit Order that does not route. Therefore, the Exchange proposes not to specify these requirements separately for the proposed Discretionary Pegged Order. Unlike IEX's proposed Discretionary Peg Order, the Exchange's proposed Discretionary Pegged Order would have to include a limit price.

Proposed Rule 7.31P(h)(3)(B) would provide that when exercising discretion, Discretionary Pegged Orders would maintain their time priority at their working price as Priority 3—Non-Display Orders and would be prioritized behind Priority 3—Non-Display Orders with a working price equal to the discretionary price of a Discretionary Pegged Order at the time of execution. If multiple Discretionary Pegged Orders are exercising price discretion during the same book processing action, they would maintain their relative time priority at the discretionary price. This proposed rule text is based on the last two full sentences of proposed IEX Rule 11.190(a)(10), with non-substantive differences to use Pillar terminology to describe the relative ranking and priority of Discretionary Pegged Orders.

<sup>4</sup> See proposed IEX Rules 11.190(a)(10) and 11.190(g) in Exhibit B to IEX's Form 1 Application and Securities Exchange Act Release No. 75925 (Sept. 15, 2015), 80 FR 57261 (Sept. 22, 2015) (File No. 10-222).

<sup>5</sup> A “Pegged Order” is defined in Rule 7.31P(h) as a Limit Order that does not route with a working price that is pegged to a dynamic reference price. If the designated reference price is higher (lower) than the limit price of a Pegged Order to buy (sell), the working price will be the limit price of the order.

<sup>6</sup> The term “NYSE Arca Marketplace” is defined in Rule 1.1(e) as the electronic securities communications and trading facility designated by the Board of Directors through which orders of Users are consolidated for execution and/or display.

<sup>7</sup> The term “working price” is defined in Rule 7.36P(a)(3) as the price at which an order is eligible to trade at any given time, which may be different from the limit price or display price of the order. The term “limit price” is defined in Rule 7.36P(a)(2) as the highest (lowest) specified price at which a Limit Order to buy (sell) is eligible to trade.

<sup>8</sup> The term “PBBO” is defined in Rule 1.1(dd) as the highest Protected Bid and the lowest Protected Offer.

<sup>20</sup> 17 CFR 200.30-3(a)(12).

<sup>1</sup> 15 U.S.C. 78s(b)(1).

<sup>2</sup> 15 U.S.C. 78a.

<sup>3</sup> 17 CFR 240.19b-4.

Proposed Rule 7.31P(h)(3)(C) would provide that a Discretionary Pegged Order would be eligible to exercise price discretion to its discretionary price, except during periods of quote instability, as specified in proposed Rule 7.31P(h)(3)(D). Proposed Rule 7.31P(h)(3)(C)(i) would provide that if the Corporation<sup>9</sup> determines the PBB for a particular security to be an unstable quote in accordance with proposed Rule 7.31P(h)(3)(D), it would restrict buy Discretionary Pegged Orders in that security from exercising price discretion to trade against interest above the PBB. Proposed Rule

7.31P(h)(3)(C)(ii) would provide that if the Corporation determines the PBO for a particular security to be an unstable quote in accordance with proposed Rule 7.31P(h)(3)(D), it would restrict sell Discretionary Pegged Orders in that security from exercising price discretion to trade against interest below the PBO. This rule text is based on proposed IEX Rule 11.190(a)(10)(K) with non-substantive differences to refer to the Corporation instead of the "System" and to measure the PBBO rather than the NBBO for quote instability.

Proposed Rule 7.31P(h)(3)(D) would set forth how the Exchange would determine quote stability, *i.e.*, crumbling quote, of the PBBO. This proposed rule text is based on proposed IEX Rule 11.190(g) with non-substantive differences to use the term "Corporation" instead of "System," and as described above, to measure the stability of the PBBO rather than the NBBO. As proposed, when the Corporation determines a quote, either the PBB or the PBO, is unstable, the determination would remain in effect at that price level for ten (10) milliseconds. As further proposed, the Corporation would only treat one side of the PBBO as unstable in a particular security at any given time.

The Exchange would determine quote instability or a crumbling quote when the following factors occur:

- The PBB and PBO are the same as the PBB and PBO one (1) millisecond ago (proposed Rule 7.31P(h)(3)(D)(i)(A)); and
- the PBBO spread is less than or equal to the thirty (30) day median PBBO spread during the Core Trading Session (proposed Rule 7.31P(h)(3)(D)(i)(B)); and
- there are more protected quotations on the far side, *i.e.* more protected quotations on the PBO than the PBB for

buy orders, or more protected quotations on the PBB than the PBO for sell orders (proposed Rule

- 7.31P(h)(3)(D)(i)(C)); and
- the quote instability factor result from the quote stability calculation is greater than the defined quote instability threshold (proposed Rule 7.31P(h)(3)(D)(i)(D)).

The Exchange proposes that the quote stability calculation used to determine the current quote instability factor would be defined by the following formula that utilizes the quote stability coefficients and quote stability variables defined below:

$$1 / (1 + e^{- (C0 + C1 * N + C2 * F + C3 * N-1 + C4 * F-1)})$$

(See proposed Rule

7.31P(h)(3)(D)(i)(D)(1)).

As set forth in proposed Rule 7.31P(h)(3)(D)(i)(D)(1)(a), the Exchange proposes to utilize the values below for the quote stability coefficients:

- C0 = -2.39515; (ii) C1 = -0.76504; (iii) C2 = 0.07599; (iv) C3 = 0.38374; and (v) C4 = 0.14466.

As set forth in proposed Rule 7.31P(h)(3)(D)(i)(D)(1)(b), the Exchange proposes to utilize the following quote stability variables to calculate the current quote instability factor: (i) N = the number of protected quotations on the near side of the market, *i.e.* PBB for buy orders and PBO for sell orders; (ii) F = the number of protected quotations on the far side of the market, *i.e.* PBO for buy orders and PBB for sell orders; (iii) N-1 = the number of protected quotations on the near side of the market one (1) millisecond ago; and (iv) F-1 = the number of protected quotations on the far side of the market one (1) millisecond ago.

As set forth in proposed Rule 7.31P(h)(3)(D)(i)(D)(2), the Exchange proposes to utilize a quote instability threshold of 0.32. Finally, as set forth in proposed Rule 7.31P(h)(3)(D)(i)(D)(3), the Exchange reserves the right to modify the quote instability coefficients or quote instability threshold at any time, subject to a filing of a proposed rule change with the SEC.

Because of the technology changes associated with this proposed rule change, the Exchange will announce by Trader Update the implementation date.

## 2. Statutory Basis

The proposed rule change is consistent with Section 6(b) of the Securities Exchange Act of 1934 (the "Act"),<sup>10</sup> in general, and furthers the objectives of Section 6(b)(5),<sup>11</sup> in

particular, because it is designed to prevent fraudulent and manipulative acts and practices, to promote just and equitable principles of trade, to foster cooperation and coordination with persons engaged in facilitating transactions in securities, to remove impediments to, and perfect the mechanism of, a free and open market and a national market system and, in general, to protect investors and the public interest.

Specifically, the Exchange believes that the proposed rule change would remove impediments to and perfect the mechanism of a free and open market and a national market system by promoting transparency in Exchange rules by adopting a new order type that is designed to exercise discretion in order to provide price improvement to contra-side orders. Similar to how MPL Orders operate, the Discretionary Pegged Order is designed to be a non-displayed order that could execute at the midpoint of the PBBO, and thus would enhance order execution opportunities at the Exchange that provide price improvement opportunities over the PBBO. However, unlike an MPL Order, the Exchange would monitor the quality of the PBBO to assess whether a Discretionary Pegged Order would be eligible to exercise its discretion. As proposed, the Exchange would use a mathematical calculation (the "quote instability calculation") to assess the probability of an imminent change to the current PBB to a lower price or the PBO to a higher price for a particular security ("quote instability factor"). When the quoting activity meets predefined criteria and the quote instability factor calculated is greater than the Exchange's proposed threshold ("quote instability threshold"), the Exchange would treat the quote as not stable ("quote instability" or "crumbling quote").

The Exchange believes that using the proposed quote instability calculation to determine quote instability would remove impediments to and perfect the mechanism of a free and open market and a national market system because the Exchange would be monitoring the PBBO on behalf of its members in an objective and transparent manner to assess the quality of the PBBO and whether it is appropriate for a Discretionary Pegged Order to exercise its discretion. The Exchange further believes that it would remove impediments to and perfect the mechanism of a free and open market and a national market system for the Exchange to monitor the quote stability because it would assist ETP Holders in obtaining best execution for their

<sup>9</sup> The term "Corporation" is defined in Rule 1.1(k) to mean NYSE Arca Equities, as described in NYSE Arca Equities' Certificate of Incorporation and Bylaws.

<sup>10</sup> 15 U.S.C. 78f(b).

<sup>11</sup> 15 U.S.C. 78f(b)(5).

customers by limiting executions at the midpoint of the PBBO when the PBBO is not stable, thereby providing a more conservative alternative for investors seeking to passively participate with contra-side order flow. The proposed rule change would therefore facilitate transactions in securities and improve trading within the national market system.

As discussed above, the proposed rule change is based on the proposed rules of IEX, which has not yet been approved as a registered securities exchange. In a letter commenting on IEX's Form 1 Application, the Exchange previously stated that it did not oppose IEX's proposed quote instability feature, but noted that it offers a feature typically performed by broker-dealers.<sup>12</sup> Generally, an exchange's function is to reprice orders based on direction from its members and input from market data, e.g., a Pegged Order is repriced based on changes to the PBBO. By contrast, broker dealers generally perform the function of evaluating the quality of the market to determine whether to trade and at what price. The proposed quote stability calculation would perform a similar function by monitoring the quality of the market in order to assess whether to exercise price discretion, and therefore the Exchange would be making pricing decisions for its members based on the Exchange's evaluation of the quality of the PBBO. In a separate context, the Commission has disapproved a registered exchange from performing the same services as a broker-dealer.<sup>13</sup> While the Exchange believes that the proposal is consistent with the Act for the reasons described above, the Exchange respectfully requests that the Commission clearly articulate the boundaries of when an exchange may and may not offer services that are otherwise performed by broker dealers and, when it is appropriate for an exchange to monitor the quality of the prices in a market to determine how to price an order.

To this end, the Exchange believes that the proposed rule change would achieve efficiency and cost savings for market participants that rely on the

Exchange to manage the price-discovery process on their behalf because it presents an option for ETP Holders to have the Exchange monitor the quality of the PBBO. Specifically, the Discretionary Pegged Order will be an option to assist market participants to achieve best execution on behalf of their customers by reducing the potential to execute at a stale price. The manner by which the Exchange would monitor the quality of the quote would be objective and transparent, as specified in proposed Rule 7.31P(h)(3)(D). Market participants that use the Discretionary Pegged Order would thus be able to serve their customers better, thereby protecting investors and the public interest.

#### *B. Self-Regulatory Organization's Statement on Burden on Competition*

The Exchange does not believe that the proposed rule change will impose any burden on competition that is not necessary or appropriate in furtherance of the purposes of the Act. The Exchange believes that the proposed Discretionary Pegged Order and related quote instability would promote competition because it is based on the proposed rules of IEX, which would implement the Discretionary Peg Order and related quote instability if approved as a registered securities exchange under Section 6 of the Act.

#### *C. Self-Regulatory Organization's Statement on Comments on the Proposed Rule Change Received From Members, Participants, or Others*

No written comments were solicited or received with respect to the proposed rule change.

### **III. Date of Effectiveness of the Proposed Rule Change and Timing for Commission Action**

Within 45 days of the date of publication of this notice in the **Federal Register** or within such longer period up to 90 days (i) as the Commission may designate if it finds such longer period to be appropriate and publishes its reasons for so finding or (ii) as to which the self-regulatory organization consents, the Commission will:

A. By order approve or disapprove such proposed rule change, or

B. institute proceedings to determine whether the proposed rule change should be disapproved.

### **IV. Solicitation of Comments**

Interested persons are invited to submit written data, views, and arguments concerning the foregoing, including whether the proposed rule change is consistent with the Act.

Comments may be submitted by any of the following methods:

#### *Electronic Comments*

- Use the Commission's Internet comment form (<http://www.sec.gov/rules/sro.shtml>); or
- Send an email to [rule-comments@sec.gov](mailto:rule-comments@sec.gov). Please include File Number SR-NYSEArca-2016-44 on the subject line.

#### *Paper Comments*

- Send paper comments in triplicate to Brent J. Fields, Secretary, Securities and Exchange Commission, 100 F Street NE., Washington, DC 20549-1090.

All submissions should refer to File Number SR-NYSEArca-2016-44. This file number should be included on the subject line if email is used. To help the Commission process and review your comments more efficiently, please use only one method. The Commission will post all comments on the Commission's Internet Web site (<http://www.sec.gov/rules/sro.shtml>). Copies of the submission, all subsequent amendments, all written statements with respect to the proposed rule change that are filed with the Commission, and all written communications relating to the proposed rule change between the Commission and any person, other than those that may be withheld from the public in accordance with the provisions of 5 U.S.C. 552, will be available for Web site viewing and printing in the Commission's Public Reference Room, 100 F Street NE., Washington, DC 20549 on official business days between the hours of 10:00 a.m. and 3:00 p.m. Copies of the filing also will be available for inspection and copying at the principal office of the Exchange. All comments received will be posted without change; the Commission does not edit personal identifying information from submissions. You should submit only information that you wish to make available publicly. All submissions should refer to File Number SR-NYSEArca-2016-44 and should be submitted on or before April 20, 2016.

For the Commission, by the Division of Trading and Markets, pursuant to delegated authority.<sup>14</sup>

**Brent J. Fields,**

*Secretary.*

[FR Doc. 2016-07100 Filed 3-29-16; 8:45 am]

**BILLING CODE 8011-01-P**

<sup>12</sup> See Letter from Elizabeth K. King, General Counsel & Secretary, New York Stock Exchange to Brent J. Fields, Secretary, Commission, dated November 12, 2015.

<sup>13</sup> See Securities Exchange Act Release No. 68629 (Jan. 11, 2013), 78 FR 3928, 3931 (Jan. 17, 2013) (SR-NASDAQ-2012-059) (Order disapproving proposal to establish "benchmark orders" because, in part, the proposed functionality would create regulatory disparities that would give Nasdaq an inappropriate advantage over broker-dealers providing the same services and therefore the Commission could not find that the proposal would be consistent with Section 6(b)(8) of the Act).

<sup>14</sup> 17 CFR 200.30-3(a)(12).

## SECURITIES AND EXCHANGE COMMISSION

### Sunshine Act Meeting; Correction

**FEDERAL REGISTER CITATION OF PREVIOUS ANNOUNCEMENT:** 81 FR 17225, March 28, 2016.

**PREVIOUSLY ANNOUNCED TIME AND DATE OF THE MEETING:** Wednesday, March 30, 2016 at 10 a.m.

**CHANGES IN THE MEETING:** The Open Meeting scheduled for Wednesday, March 30, 2016 at 10 a.m., has been changed to Wednesday, April 13, 2016 at 10 a.m.

**CONTACT PERSON FOR MORE INFORMATION:** For further information and to ascertain what, if any, matters have been added, deleted or postponed, please contact the Office of the Secretary at (202) 551-5400.

March 25, 2016.

**Brent J. Fields,**  
Secretary.

[FR Doc. 2016-07224 Filed 3-28-16; 4:15 pm]

**BILLING CODE 8011-01-P**

## SECURITIES AND EXCHANGE COMMISSION

**[Release No. 34-77437; File No. SR-NYSEArca-2013-107]**

### Self-Regulatory Organizations; NYSE Arca, Inc.; Order Granting an Extension to Limited Exemption From Rule 612(c) of Regulation NMS in Connection With the Exchange's Retail Liquidity Program Until August 31, 2016

March 24, 2016.

On December 23, 2013, the Securities and Exchange Commission ("Commission") issued an order pursuant to its authority under Rule 612(c) of Regulation NMS ("Sub-Penny Rule")<sup>1</sup> that granted NYSE Arca, Inc. ("Exchange") a limited exemption from the Sub-Penny Rule in connection with the operation of the Exchange's Retail Liquidity Program ("Program").<sup>2</sup> The limited exemption was granted concurrently with the Commission's approval of the Exchange's proposal to adopt the Program for a one-year pilot term.<sup>3</sup> The exemption was granted coterminous with the effectiveness of the pilot Program; both the pilot

Program and exemption are scheduled to expire on March 31, 2016.<sup>4</sup>

The Exchange now seeks to extend the exemption until August 31, 2016.<sup>5</sup> The Exchange's request was made in conjunction with an immediately effective filing that extends the operation of the Program through the same date.<sup>6</sup> In its request to extend the exemption, the Exchange notes that the participation in the Program has increased more recently. Accordingly, the Exchange has asked for additional time to allow itself and the Commission to analyze more robust data concerning the Program, which the Exchange committed to provide to the Commission.<sup>7</sup> For this reason and the reasons stated in the Order originally granting the limited exemption, the Commission finds that extending the exemption, pursuant to its authority under Rule 612(c) of Regulation NMS, is appropriate in the public interest and consistent with the protection of investors.

Therefore, it is hereby ordered that, pursuant to Rule 612(c) of Regulation NMS, the Exchange is granted a limited exemption from Rule 612 of Regulation NMS that allows it to accept and rank orders priced equal to or greater than \$1.00 per share in increments of \$0.001, in connection with the operation of its Retail Liquidity Program, until August 31, 2016.

The limited and temporary exemption extended by this Order is subject to modification or revocation if at any time the Commission determines that such action is necessary or appropriate in furtherance of the purposes of the Securities Exchange Act of 1934. Responsibility for compliance with any applicable provisions of the Federal securities laws must rest with the

persons relying on the exemption that is the subject of this Order.

For the Commission, by the Division of Trading and Markets, pursuant to delegated authority.<sup>8</sup>

**Brent J. Fields,**  
Secretary.

[FR Doc. 2016-07097 Filed 3-29-16; 8:45 am]

**BILLING CODE 8011-01-P**

## SECURITIES AND EXCHANGE COMMISSION

**[Release No. 34-77438; File Nos. SR-NYSE-2011-55; SR-NYSEAmex-2011-84]**

### Self-Regulatory Organizations; New York Stock Exchange LLC; NYSE MKT LLC; Order Granting an Extension to Limited Exemptions From Rule 612(c) of Regulation NMS in Connection With the Exchanges' Retail Liquidity Programs Until August 31, 2016

March 24, 2016.

On July 3, 2012, the Securities and Exchange Commission ("Commission") issued an order pursuant to its authority under Rule 612(c) of Regulation NMS ("Sub-Penny Rule")<sup>1</sup> that granted the New York Stock Exchange LLC ("NYSE") and NYSE MKT LLC<sup>2</sup> ("NYSE MKT" and, together with NYSE, the "Exchanges") limited exemptions from the Sub-Penny Rule in connection with the operation of the Exchanges' respective Retail Liquidity Programs ("Programs").<sup>3</sup> The limited exemptions were granted concurrently with the Commission's approval of the Exchanges' proposals to adopt their respective Programs for one-year pilot terms.<sup>4</sup> The exemptions were granted coterminous with the effectiveness of the pilot Programs; both the pilot Programs and exemptions are scheduled to expire on March 31, 2016.<sup>5</sup>

<sup>1</sup> 17 CFR 200.30-3(a)(83).

<sup>2</sup> 17 CFR 242.612(c).

<sup>3</sup> At the time it filed the original proposal to adopt the Retail Liquidity Program, NYSE MKT went by the name NYSE Amex LLC. On May 14, 2012, the Exchange filed a proposed rule change, immediately effective upon filing, to change its name from NYSE Amex LLC to NYSE MKT LLC. See Securities Exchange Act Release No. 67037 (May 21, 2012), 77 FR 31415 (May 25, 2012) (SR-NYSEAmex-2012-32).

<sup>4</sup> See Securities Exchange Act Release No. 67347 (July 3, 2012), 77 FR 40673 (July 10, 2012) (SR-NYSE-2011-55; SR-NYSEAmex-2011-84) ("Order").

<sup>5</sup> See *id.*

<sup>6</sup> The pilot terms of the Programs were originally scheduled to end on July 31, 2013, but the Exchanges initially extended the terms for an additional year, through July 31, 2014, see Securities Exchange Act Release Nos. 70096 (August 2, 2013), 78 FR 48520 (August 8, 2013) (SR-NYSE-2013-48), and 70100 (August 2, 2013), 78 FR 48535 (August 8, 2013) (SR-NYSEMKT-

<sup>1</sup> 17 CFR 242.612(c).

<sup>2</sup> See Securities Exchange Act Release No. 71176 (December 23, 2013), 78 FR 79524 (December 30, 2013) (SR-NYSEArca-2013-107) ("Order").

<sup>3</sup> See *id.*

<sup>4</sup> The pilot term of the Program was originally scheduled to end on April 14, 2015, but the Exchange initially extended the term through September 30, 2015, see Securities Exchange Act Release No. 74572 (March 24, 2015), 80 FR 16705 (March 30, 2015) (NYSEArca-2015-22), and then subsequently extended the term again through March 31, 2016, see Securities Exchange Act Release Nos. 75994 (September 28, 2015), 80 FR 59834 (October 2, 2015) (SR-NYSEArca-2015-84) and 77236 (Feb. 25, 2016), 81 FR 10943 (March 2, 2016) (SR-NYSEArca-2016-30). Each time the pilot term of the Program was extended, the Commission granted the Exchange's request to also extend the Sub-Penny exemption through September 30, 2015, see Securities Exchange Act Release No. 74609 (March 30, 2015), 80 FR 18272 (April 3, 2015), and March 31, 2016, see Securities Exchange Act Release No. 34-76021 (September 29, 2015), 80 FR 60207 (October 5, 2015).

<sup>5</sup> See Letter from Martha Redding, Assistant Secretary, NYSE, to Brent J. Fields, Secretary, Securities and Exchange Commission, dated March 17, 2016.

<sup>6</sup> See Securities Exchange Act Release No. 77425 (March 23, 2016), FR—(SR-NYSEArca-2016-47).

<sup>7</sup> See Order, *supra* note 2, 78 FR at 79529.

The Exchanges now seek to extend the exemptions until August 31, 2016.<sup>6</sup> The Exchanges' request was made in conjunction with immediately effective filings that extend the operation of the Programs through the same date.<sup>7</sup> In their request to extend the exemptions, the Exchanges note that the participation in the Programs has increased more recently. Accordingly, the Exchanges have asked for additional time to allow themselves and the Commission to analyze more robust data concerning the Programs, which the Exchanges committed to provide to the Commission.<sup>8</sup> For this reason and the reasons stated in the Order originally granting the limited exemptions, the Commission finds that extending the exemptions, pursuant to its authority under Rule 612(c) of Regulation NMS, is appropriate in the public interest and consistent with the protection of investors.

Therefore, it is hereby ordered that, pursuant to Rule 612(c) of Regulation NMS, each Exchange is granted a limited exemption from Rule 612 of Regulation NMS that allows it to accept and rank orders priced equal to or greater than \$1.00 per share in increments of \$0.001, in connection with the operation of its Retail Liquidity Program, until August 31, 2016.

The limited and temporary exemptions extended by this Order are subject to modification or revocation if

2013–60), and then subsequently extended the terms again through March 31, 2015, *see* Securities Exchange Act Release Nos. 72629 (July 16, 2014), 79 FR 42564 (July 22, 2014) (SR–NYSE–2014–35), and 72625 (July 16, 2014), 79 FR 42566 (July 22, 2014) (SR–NYSEMKT–2014–60), September 30, 2015, *see* Securities Exchange Act Release Nos. 74454 (March 6, 2015), 80 FR 13054 (March 12, 2015) (SR–NYSE–2015–10), and 74455 (March 6, 2015), 80 FR 13047 (March 12, 2015) (SR–NYSEMKT–2015–14), and March 31, 2016 *see* Securities Exchange Act Release Nos. 75993 (September 28, 2015), 80 FR 59844 (October 2, 2015) (SR–NYSE–2015–41), and 75995 (September 28, 2015), 80 FR 59836 (October 2, 2015) (SR–NYSEMKT–2015–69). Each time the pilot terms of the Programs were extended, the Commission granted the Exchanges' requests to also extend the Sub-Penny exemptions through July 31, 2014, *see* Securities Exchange Act Release No. 70085 (July 31, 2013), 78 FR 47807 (August 6, 2013), March 31, 2015, *see* Securities Exchange Act Release No. 72732 (July 31, 2014), 79 FR 45851 (August 6, 2014), September 30, 2015, *see* Securities Exchange Act Release No. 74507 (March 13, 2015), 80 FR 14421 (March 19, 2015), and March 31, 2016, *see* Securities Exchange Act Release No. 76020 (September 29, 2015), 80 FR 60201 (October 5, 2015).

<sup>6</sup> See Letter from Martha Redding, Assistant Secretary, NYSE, to Brent J. Fields, Secretary, Securities and Exchange Commission, dated March 17, 2016.

<sup>7</sup> See Securities Exchange Act Release Nos. 77426 (March 23, 2016), FR – (SR–NYSE–2016–25), and 77424 (March 23, 2016), FR – (SR–NYSEMKT–2016–39).

<sup>8</sup> See Order, *supra* note 3, 77 FR at 40681.

at any time the Commission determines that such action is necessary or appropriate in furtherance of the purposes of the Securities Exchange Act of 1934. Responsibility for compliance with any applicable provisions of the Federal securities laws must rest with the persons relying on the exemptions that are the subject of this Order.

For the Commission, by the Division of Trading and Markets, pursuant to delegated authority.<sup>9</sup>

**Brent J. Fields,**  
Secretary.

[FR Doc. 2016–07098 Filed 3–29–16; 8:45 am]

**BILLING CODE 8011–01–P**

## DEPARTMENT OF STATE

[Public Notice: 9502]

### 60-Day Notice of Proposed Information Collection: Statement of Exigent/Special Family Circumstances for Issuance of a U.S. Passport to a Minor Under Age 16

**ACTION:** Notice of request for public comment.

**SUMMARY:** The Department of State is seeking Office of Management and Budget (OMB) approval for the information collection described below. In accordance with the Paperwork Reduction Act of 1995, we are requesting comments on this collection from all interested individuals and organizations. The purpose of this notice is to allow 60 days for public comment preceding submission of the collection to OMB.

**DATES:** The Department will accept comments from the public up to May 31, 2016.

**ADDRESSES:** You may submit comments by any of the following methods:

- **Web:** Persons with access to the Internet may comment on this notice by going to [www.Regulations.gov](http://www.Regulations.gov). You can search for the document by entering “Docket Number: DOS–2016–0017” in the Search field. Then click the “Comment Now” button and complete the comment form.

- **Email:** [PPTFormsOfficer@state.gov](mailto:PPTFormsOfficer@state.gov)
- **Regular Mail:** Send written comments to: U.S. Department of State, P.O. Box 1227, Sterling, Virginia 20166–1227.

You must include the DS form number (if applicable), information collection title, and the OMB control number in any correspondence.

**FOR FURTHER INFORMATION CONTACT:** Direct requests for additional

information regarding the collection listed in this notice, including requests for copies of the proposed collection instrument and supporting documents, to U.S. Department of State, PPT Forms Officer, 44132 Mercure Cir., P.O. Box 1227, Sterling, Virginia 20166–1227, who may be reached on 202–485–6538 or at [PPTFormsOfficer@state.gov](mailto:PPTFormsOfficer@state.gov).

#### SUPPLEMENTARY INFORMATION:

- **Title of Information Collection:** Statement of Exigent/Special Family Circumstances for Issuance of a U.S. Passport to a Minor under Age 16.
- **OMB Control Number:** 1405–0216.
- **Type of Request:** Revision of a Currently Approved Collection.
- **Originating Office:** Bureau of Consular Affairs, Passport Services CA/PPT.
- **Form Number:** DS–5525.
- **Respondents:** Individuals or Households.
- **Estimated Number of Respondents:** 43,526 respondents.
- **Estimated Number of Responses:** 43,526 responses.
- **Average Time Per Response:** 30 minutes.
- **Total Estimated Burden Time:** 21,763 hours.
- **Frequency:** On occasion.
- **Obligation to Respond:** Required to Obtain or Retain a Benefit.

We are soliciting public comments to permit the Department to:

- Evaluate whether the proposed information collection is necessary for the proper functions of the Department.
- Evaluate the accuracy of our estimate of the time and cost burden for this proposed collection, including the validity of the methodology and assumptions used.
- Enhance the quality, utility, and clarity of the information to be collected.
- Minimize the reporting burden on those who are to respond, including the use of automated collection techniques or other forms of information technology.

Please note that comments submitted in response to this Notice are public record. Before including any detailed personal information, you should be aware that your comments as submitted, including your personal information, will be available for public review.

**Abstract of proposed collection:** The information collected on the DS–5525, “Statement of Exigent/Special Family Circumstances for Issuance of a U.S. Passport to a Minor under Age 16”, is used in conjunction with the DS–11, “Application for a U.S. Passport”. The DS–5525 can serve as the statement describing exigent or special family

<sup>9</sup> 17 CFR 200.30–3(a)(83).

circumstances, which is required if written consent of the non-applying parent or guardian cannot be obtained when the passport application is executed for a minor under age 16.

**Methodology:** Passport Services collects information from U.S. citizens and non-citizen nationals when they complete and submit the DS-5525, "Statement of Exigent/Special Family Circumstances for Issuance of a U.S. Passport to a Minor under Age 16". Passport applicants can either download the DS-5525 from the internet or obtain the form from an Acceptance Facility/Passport Agency. The form must be completed, signed, and submitted along with the applicant's DS-11, "Application for a U.S. Passport".

Dated: March 18, 2016.

**Brenda S. Sprague,**

*Deputy Assistant Secretary for Passport Services, Bureau of Consular Affairs, Department of State.*

[FR Doc. 2016-07182 Filed 3-29-16; 8:45 am]

**BILLING CODE 4710-06-P**

## DEPARTMENT OF STATE

[Public Notice: 9501]

### Culturally Significant Objects Imported for Exhibition Determinations: "High Society: The Portraits of Franz X. Winterhalter" Exhibition

**SUMMARY:** Notice is hereby given of the following determinations: Pursuant to the authority vested in me by the Act of October 19, 1965 (79 Stat. 985; 22 U.S.C. 2459), E.O. 12047 of March 27, 1978, the Foreign Affairs Reform and Restructuring Act of 1998 (112 Stat. 2681, *et seq.*; 22 U.S.C. 6501 note, *et seq.*), Delegation of Authority No. 234 of October 1, 1999, Delegation of Authority No. 236-3 of August 28, 2000 (and, as appropriate, Delegation of Authority No. 257-1 of December 11, 2015), I hereby determine that the objects to be included in the exhibition "High Society: The Portraits of Franz X. Winterhalter," imported from abroad for temporary exhibition within the United States, are of cultural significance. The objects are imported pursuant to loan agreements with the foreign owners or custodians. I also determine that the exhibition or display of the exhibit objects at The Museum of Fine Arts, Houston, Houston, Texas, from on or about April 17, 2016, until on or about August 14, 2016, and at possible additional exhibitions or venues yet to be determined, is in the national interest. I have ordered that Public Notice of these Determinations be published in the **Federal Register**.

**FOR FURTHER INFORMATION CONTACT:** For further information, including a list of the imported objects, contact the Office of Public Diplomacy and Public Affairs in the Office of the Legal Adviser, U.S. Department of State (telephone: 202-632-6471; email: [section2459@state.gov](mailto:section2459@state.gov)). The mailing address is U.S. Department of State, L/PD, SA-5, Suite 5H03, Washington, DC 20522-0505.

Dated: March 23, 2016.

**Mark Taplin,**

*Deputy Assistant Secretary for Policy, Bureau of Educational and Cultural Affairs, Department of State.*

[FR Doc. 2016-07180 Filed 3-29-16; 8:45 am]

**BILLING CODE 4710-05-P**

## DEPARTMENT OF STATE

[Public Notice: 9503]

### 60-Day Notice of Proposed Information Collection: Statement of Consent: Issuance of a U.S. Passport to a Minor Under Age 16

**ACTION:** Notice of request for public comment.

**SUMMARY:** The Department of State is seeking Office of Management and Budget (OMB) approval for the information collection described below. In accordance with the Paperwork Reduction Act of 1995, we are requesting comments on this collection from all interested individuals and organizations. The purpose of this notice is to allow 60 days for public comment preceding submission of the collection to OMB.

**DATES:** The Department will accept comments from the public up to May 31, 2016.

**ADDRESSES:** You may submit comments by any of the following methods:

- **Web:** Persons with access to the Internet may comment on this notice by going to [www.Regulations.gov](http://www.Regulations.gov). You can search for the document by entering "Docket Number: DOS-2016-0015" in the Search field. Then click the "Comment Now" button and complete the comment form.

- **Email:** [PPTFormsOfficer@state.gov](mailto:PPTFormsOfficer@state.gov).

- **Regular Mail:** Send written comments to: U.S. Department of State, PPT Forms Officer, 44132 Mercure Cir., P.O. Box 1227, Sterling, Virginia 20166-1227.

You must include the DS form number (if applicable), information collection title, and the OMB control number in any correspondence.

**FOR FURTHER INFORMATION CONTACT:** Direct requests for additional information regarding the collection

listed in this notice, including requests for copies of the proposed collection instrument and supporting documents, to U.S. Department of State, PPT Forms Officer, 44132 Mercure Cir., P.O. Box 1227, Sterling, Virginia 20166-1227, who may be reached on 202-485-6538 or at [PPTFormsOfficer@state.gov](mailto:PPTFormsOfficer@state.gov).

#### SUPPLEMENTARY INFORMATION:

- **Title of Information Collection:** Statement of Consent: Issuance of a U.S. Passport to a Minor Under Age 16.

- **OMB Control Number:** 1405-0129.

- **Type of Request:** Revision of a Currently Approved Collection.

- **Originating Office:** Bureau of Consular Affairs, Passport Services CA/PPT.

- **Form Number:** DS-3053.

- **Respondents:** Individuals or Households.

- **Estimated Number of Respondents:** 465,848 respondents.

- **Estimated Number of Responses:** 465,848 responses.

- **Average Time per Response:** 20 minutes.

- **Total Estimated Burden Time:**

155,127 hours per year.

- **Frequency:** On occasion.

- **Obligation to Respond:** Required to Obtain or Retain a Benefit.

We are soliciting public comments to permit the Department to:

- Evaluate whether the proposed information collection is necessary for the proper functions of the Department.

- Evaluate the accuracy of our estimate of the time and cost burden for this proposed collection, including the validity of the methodology and assumptions used.

- Enhance the quality, utility, and clarity of the information to be collected.

- Minimize the reporting burden on those who are to respond, including the use of automated collection techniques or other forms of information technology.

Please note that comments submitted in response to this Notice are public record. Before including any detailed personal information, you should be aware that your comments as submitted, including your personal information, will be available for public review.

#### Abstract of Proposed Collection

The information collected on the DS-3053 is used to facilitate the issuance of passports to U.S. citizens and nationals under the age of 16. The primary purpose of soliciting the information is to ensure that both parents and/or all guardians consent to the issuance of a passport to a minor under age 16, except where one parent has sole custody or there are exigent or special family circumstances.



### Methodology

Passport Services collects information from parents or legal guardians of U.S. citizens and non-citizen nationals minors when they complete and submit the Statement of Consent or Special Circumstances: Issuance of a Passport to a Minor under Age 16. Passport applicants can either download the DS-3053 from the internet or obtain one from an Acceptance Facility/Passport Agency. The form must be completed, signed, and submitted along with the applicant's DS-11, Application for a U.S. Passport.

Dated: March 18, 2016.

**Brenda S. Sprague,**

*Deputy Assistant Secretary for Passport Services, Bureau of Consular Affairs, Department of State.*

[FR Doc. 2016-07183 Filed 3-29-16; 8:45 am]

**BILLING CODE 4710-06-P**

### DEPARTMENT OF STATE

[Public Notice: 9504]

#### 60-Day Notice of Proposed Information Collection: Electronic Diversity Visa Entry Form

**ACTION:** Notice of request for public comment.

**SUMMARY:** The Department of State is seeking Office of Management and Budget (OMB) approval for the information collection described below. In accordance with the Paperwork Reduction Act of 1995, we are requesting comments on this collection from all interested individuals and organizations. The purpose of this notice is to allow 60 days for public comment preceding submission of the collection to OMB.

**DATES:** The Department will accept comments from the public up to *May 31, 2016*.

**ADDRESSES:** You may submit comments by any of the following methods:

- **Web:** Persons with access to the Internet may comment on this notice by going to [www.Regulations.gov](http://www.Regulations.gov). You can search for the document by entering "Docket Number: DOS-2016-0014 in the Search field. Then click the "Comment Now" button and complete the comment form.

- **Email:** [PRA\\_BurdenComments@state.gov](mailto:PRA_BurdenComments@state.gov). You must include the DS form number, information collection title, and the OMB control number in any correspondence.

**FOR FURTHER INFORMATION CONTACT:** Direct requests for additional information regarding the collection

listed in this notice, including requests for copies of the proposed collection instrument and supporting documents, to Taylor Mauck, who may be reached on 202-485-7635 or at [PRA\\_BurdenComments@state.gov](mailto:PRA_BurdenComments@state.gov).

#### SUPPLEMENTARY INFORMATION:

- **Title of Information Collection:** Electronic Diversity Visa Entry Form.
- **OMB Control Number:** 1405-0153.
- **Type of Request:** Extension of a Currently Approved Collection.
- **Originating Office:** CA/VO/L/R.
- **Form Number:** DS-5501.
- **Respondents:** Immigrant Visa Applicants.
- **Estimated Number of Respondents:** 11,072,400.
- **Estimated Number of Responses:** 11,072,400.
- **Average Time per Response:** 30 Minutes.
- **Total Estimated Burden Time:** 5,536,200 hours.
- **Frequency:** Annually.
- **Obligation to Respond:** Required to Obtain or Retain a Benefit.

We are soliciting public comments to permit the Department to:

- Evaluate whether the proposed information collection is necessary for the proper functions of the Department.
- Evaluate the accuracy of our estimate of the time and cost burden for this proposed collection, including the validity of the methodology and assumptions used.
- Enhance the quality, utility, and clarity of the information to be collected.
- Minimize the reporting burden on those who are to respond, including the use of automated collection techniques or other forms of information technology.

Please note that comments submitted in response to this Notice are public record. Before including any detailed personal information, you should be aware that your comments as submitted, including your personal information, will be available for public review.

**Abstract of proposed collection:** The Department of State utilizes the Electronic Diversity Visa Lottery (EDV) Entry Form to elicit information necessary to ascertain the applicability of the legal provisions of the diversity immigrant visa program. The 2 primary requirements are: The applicant is from a low admission country and is a high school graduate, or has two years of experience in a job that requires two years of training. The foreign nationals complete the electronic entry forms and then applications are randomly selected for further participation in the program. Department of State regulations

pertaining to diversity immigrant visas under the INA are published in 22 CFR 42.33.

**Methodology:** The EDV Entry Form is available online at [www.dvlottery.state.gov](http://www.dvlottery.state.gov) and can only be submitted electronically during the annual registration period.

Dated: March 2, 2016.

**Edward Ramotowski,**

*Deputy Assistant Secretary, Bureau of Consular Affairs, Department of State.*

[FR Doc. 2016-07184 Filed 3-29-16; 8:45 am]

**BILLING CODE 4710-06-P**

### DEPARTMENT OF STATE

[Public Notice: 9500]

#### Notice of Public Meeting

**SUMMARY:** The U.S. Department of State, Bureau of Oceans and International Environmental and Scientific Affairs (OES), Office of Marine Conservation announces that the Advisory Panel to the U.S. Section of the North Pacific Anadromous Fish Commission will meet on May 9th, 2016.

**DATES:** The meeting will take place via teleconference on May 9th, 2016 from 2 p.m. to 3 p.m. Eastern time.

**Meeting Details:** The teleconference call-in number is toll-free 877-336-1831, passcode 6472335, and will have a limited number of lines for members of the public to access from anywhere in the United States. Callers will hear instructions for using the passcode and joining the call after dialing the toll-free number noted. Members of the public wishing to participate in the teleconference must contact the OES officer in charge as noted in the **FOR FURTHER INFORMATION CONTACT** section below no later than close of business on Friday, May 6th, 2016.

**FOR FURTHER INFORMATION CONTACT:** Elana Katz-Mink, Office of Marine Conservation, OES, Room 2758, U.S. Department of State, 2201 C Street NW., Washington, DC 20520. Telephone (202) 647-1073, fax (202) 736-7350, email address [katz-minkeh@state.gov](mailto:katz-minkeh@state.gov).

**SUPPLEMENTARY INFORMATION:** In accordance with the requirements of the Federal Advisory Committee Act, notice is given that the Advisory Panel to the U.S. Section of the North Pacific Anadromous Fish Commission (NPAFC) will meet on the date and time noted above. The panel consists of members from the states of Alaska and Washington who represent the broad range of fishing and conservation interests in anadromous and ecologically related species in the North Pacific. Certain members also represent

relevant state and regional authorities. The panel was established in 1992 to advise the U.S. Section of the NPAFC on research needs and priorities for anadromous species, such as salmon, and ecologically related species occurring in the high seas of the North Pacific Ocean. The upcoming Panel meeting will focus on a review of the agenda for the 2016 annual meeting of the NPAFC (May 16–20, 2016; Busan, Republic of Korea). Background material is available from the point of contact noted above and by visiting [www.npafc.org](http://www.npafc.org).

Dated: March 22, 2016.

**William Gibbons-Fly,**

*Director, Office of Marine Conservation,  
Department of State.*

[FR Doc. 2016–07178 Filed 3–29–16; 8:45 am]

**BILLING CODE 4710–09–P**

## **SURFACE TRANSPORTATION BOARD**

[STB Docket No. EP 670 (Sub-No. 1)]

### **Notice of Rail Energy Transportation Advisory Committee Meeting**

**AGENCY:** Surface Transportation Board.

**ACTION:** Notice of Rail Energy Transportation Advisory Committee meeting.

**SUMMARY:** Notice is hereby given of a meeting of the Rail Energy Transportation Advisory Committee (RETAC), pursuant to the Federal Advisory Committee Act (FACA), 5 U.S.C. app. 2 10(a)(2).

**DATES:** The meeting will be held on Friday, April 15, 2016, at 9:00 a.m. C.D.T.

**ADDRESSES:** The meeting will be held at the BNSF Railway Corporate Headquarters at 2650 Lou Menk Drive, Fort Worth, Texas 76131–2830. Members of the public who wish to attend are encouraged to contact Katherine Bourdon (see contact information below) in advance to avoid delays in security processing on the day of the meeting.

**FOR FURTHER INFORMATION CONTACT:** Katherine Bourdon (202) 245–0285; [Katherine.Bourdon@stb.dot.gov](mailto:Katherine.Bourdon@stb.dot.gov).

[Assistance for the hearing impaired is available through the Federal Information Relay Service (FIRS) at: (800) 877–8339.]

**SUPPLEMENTARY INFORMATION:** RETAC was formed in 2007 to provide advice and guidance to the Board, and to serve as a forum for discussion of emerging issues related to the transportation of energy resources by rail, including coal, ethanol, and other biofuels,

*Establishment of a Rail Energy Transportation Advisory Committee*, Docket No. EP 670. The purpose of this meeting is to continue discussions regarding issues such as rail performance, capacity constraints, infrastructure planning and development, and effective coordination among suppliers, carriers, and users of energy resources. Potential agenda items for this meeting include a performance measures review, industry segment updates by RETAC members, and a roundtable discussion.

The meeting, which is open to the public, will be conducted in accordance with the Federal Advisory Committee Act, 5 U.S.C. app. 2; Federal Advisory Committee Management regulations, 41 CFR pt. 102–3; RETAC's charter; and Board procedures. Further communications about this meeting may be announced through the Board's Web site at [WWW.STB.DOT.GOV](http://WWW.STB.DOT.GOV).

**Written Comments:** Members of the public may submit written comments to RETAC at any time. Comments should be addressed to RETAC, c/o Katherine Bourdon, Surface Transportation Board, 395 E Street SW., Washington, DC 20423–0001 or [Katherine.Bourdon@stb.dot.gov](mailto:Katherine.Bourdon@stb.dot.gov).

**Authority:** 49 U.S.C. 1321, 49 U.S.C. 11101; 49 U.S.C. 11121.

Decided: March 24, 2016.

By the Board, Joseph H. Dettmar, Acting Director, Office of Proceedings.

**Brendetta S. Jones,**  
*Clearance Clerk.*

[FR Doc. 2016–07122 Filed 3–29–16; 8:45 am]

**BILLING CODE 4915–01–P**

## **DEPARTMENT OF TRANSPORTATION**

### **Federal Aviation Administration**

[Docket No. FAA–2015–2836]

### **Guidance on the Procedures and Process To Petition the Secretary Under the Airport and Airway Improvement Act**

**AGENCY:** Federal Aviation Administration (FAA), DOT.

**ACTION:** Notice of final policy.

**SUMMARY:** This final policy establishes the procedures and processes to petition the Secretary under the Airport and Airway Improvement Act 49 U.S.C. 47106(c)(1)(A)(ii). The Federal Aviation Administration (FAA) issued guidance on the procedures and process to petition the Secretary under 49 U.S.C. 47106(c)(1)(A)(ii) in the **Federal Register** on August 4, 2015. This guidance is intended to provide detail

and clarity about who may petition the Secretary, when such a petition may be filed, how the petition may be made, and the procedures and process to petition the Secretary under this Section of the Airport and Airway Improvement Act.

**DATES:** *Effective Date:* The Guidance becomes effective immediately upon publication in the **Federal Register**.

**SUPPLEMENTARY INFORMATION:** By **Federal Register** Notice issued on August 4, 2015 (80 FR 46380), the FAA notified the public of the issuance for public comment of proposed Guidance on the Procedures and Process to Petition the Secretary under the Airports and Airway Improvement Act. FAA requested comments, suggestions and recommendations that would assist the agency in assessing and understanding the potential effects and implications of providing guidance on the procedures for and process of the right to petition the Secretary under 49 U.S.C. Section 47106(c)(1)(A)(ii). The Notice called for public comments to be received by FAA on or before October 5, 2015. No comments were received by that date. Other than editorial changes and one minor clarification, this final Guidance is identical to the proposed guidance.

### **I. Background**

In 1982, Congress enacted the Airport and Airway Improvement Act (AAIA) (Pub. L. 97–248). Relevant portions of the AAIA are codified in 49 U.S.C. Chapter 471, Subchapter I, Airport Improvement. The AAIA, among other items, established the current-day Airport Improvement Program (AIP) that is administered by the FAA's Office of Airports. Through the AIP, the FAA provides grants to public agencies—and, in limited cases, to private airport owners and operators—for the planning and development of public-use airports that are included in the National Plan of Integrated Airport Systems (NPIAS). The current AIP program built on earlier grant programs that are funded through a variety of user fees and fuel taxes. For more information on the history of the AIP and predecessor grant programs, see <http://www.faa.gov/airports/aip/>.

The AAIA also provides certain prerequisites and conditions that an airport sponsor must meet in order to be eligible for consideration of AIP funding. In 1992, Congress amended various provisions of the AAIA with the Airport and Airway Safety, Capacity, Noise Improvement, and Intermodal Transportation Act, Public Law 102–581. Section 113(b), Public Access and Participation with Respect to Airport

Projects, amended Section 509(b)(6)(A) of the AAIA (49 U.S.C. 47106(c)(1)(A)) by inserting the following:

(ii) the sponsor of the project certifies to the Secretary that the airport management board either has voting representation from the communities where the project is located or has advised the communities that they have the right to petition the Secretary concerning a proposed project.

The Secretary of the U.S. Department of Transportation has delegated the responsibility to respond to a petition under Section 47106 to the Administrator of the FAA, 49 CFR 1.83(a)(9). The Administrator has further delegated the authority to administer this provision to the Associate Administrator for the Office of Airports (ARP-1). Order 1100.154A.<sup>1</sup> The requirement for a sponsor to provide such certification to the FAA is incorporated into FAA Order 5050.4B, National Environmental Policy Act (NEPA) Implementing Instructions for Airport Actions, par. 1203.

## II. Purpose

After receiving a small number of submissions under this provision, the Associate Administrator for the Office of Airports has determined it would be helpful and appropriate to provide the public with more guidance on the procedures and processes associated with this provision:

The Secretary may approve an application under this subchapter for an airport development project involving the location of an airport or runway or a major runway extension only if the sponsor certifies to the Secretary that the airport management board has voting representation from the communities in which the project is located or has advised the communities that they have the right to petition the Secretary about a proposed project[.]

49 U.S.C. Section 47106(c)(1)(A)(ii).

## III. Final Guidance

### A. Where To File

The Secretary of the U.S. Department of Transportation has delegated the responsibility to respond to a petition under Section 47106 to the Administrator of the FAA. Accordingly, any petition under this statutory provision should be addressed to the Associate Administrator for the Office of Airports, 800 Independence Avenue SW., Washington, DC 20591.

### B. Form and Substance

The statute does not prescribe any specific format for the submission of a petition. The petition should be a

concise statement describing the project to which the petitioner objects, and clearly indicating the petitioner's specific objection to the project. The petition must also include a description of the result the petitioner is seeking. The petition should normally not exceed ten (10) pages. Upon application from the petitioner, the Secretary will consider extending the length of a petition for a large, complex project. Petitions must be legible and must be signed by the petitioner(s), who must be a duly authorized representative(s) of the community (see Section III.D.4 of this **Federal Register** notice). The FAA will not consider any petition that is not signed by the petitioner(s).

### C. Time To File a Petition

A petition filed under section 47106(c)(1)(A)(ii) should be filed only after the Airport Sponsor notifies a community of its right to file a petition.

Petitions to the Secretary pursuant to Section 47106(c)(1)(A)(ii) must be submitted within thirty (30) days after the FAA gives notice that the sponsor has presented evidence that the requirements of Section 47106(c)(1)(A)(ii) have been fulfilled. Although the environmental analysis and the grant decisions are separate processes and decisions, grant-related findings that are preconditions of issuing a grant are often made in the environmental Record of Decision (ROD). Typically, the FAA demonstrates that the sponsor has satisfied the requirements of Section 47106(c)(1)(A)(ii) in its Final Environmental Impact Statement (FEIS). Generally, the FEIS will contain a certification from the Airport Sponsor either that each community in which the project is located has a voting member on its airport management board, or that each community in which the project is located has been advised of its right to petition the Secretary. Normally the Airport Sponsor will have notified each of the communities prior to the publication of an FEIS, allowing communities at least 30 days to prepare and file a petition.<sup>2</sup> The thirty-day time to file ensures that communities without voting representation on the airport management board have the same ability to object to or provide input on a project prior to a final decision that grant-related preconditions have been

met as those communities that do have voting representation on the airport management board. Additionally, the 30-day period coincides with the Council on Environmental Quality's (CEQ) requirement that imposes a 30-day "cooling off" period on federal agencies between the publication of an FEIS and a ROD. However, the FAA may also provide notice that the sponsor has fulfilled the requirements of Section 47106(c)(1)(A)(ii) through a Draft EA, a Final EA, a Draft EIS, or via a separate **Federal Register** Notice. This type of FAA notice would also start the 30-day time limit for a community to file a petition pursuant to Section 47106(c)(1)(A)(ii).

### D. Definitions

#### (1) Location of an Airport

For purposes of Section 47106(c)(1)(A)(ii), location of an airport means approval of an airport at a location where no airport exists. This definition is consistent with the definition of the term airport location approval found in FAA Order 5050.4B, National Environmental Policy Act (NEPA) Implementing Instructions for Airport Actions (April 2006). Order 5050.4B defines airport location approval as approval of a new public use airport at a location where no airport exists. (Order 5050.4B, ¶¶ 9.p and 203). In interpreting Section 47106(c)(1)(A)(ii), it is appropriate to be consistent with other FAA interpretations of similar terms. Defining the term location of an airport consistently with the definition in the most current version of Order 5050.4B avoids confusion that could be caused by applying different definitions depending on the circumstances of the inquiry.

#### (2) Location of a Runway

While other FAA documents have referred to the location of a runway, none have defined the term. Because the term is similar to the term "location of an airport," it is appropriate to define the terms in a similar manner. For purposes of Section 47106(c)(1)(A)(ii), location of a runway refers to decisions approving the site of a new or relocated runway where a runway does not currently exist.

#### (3) Major Runway Extension

Order 5050.4B defines a major runway extension as one that creates a significant impact to an affected environmental resource (including noise), or one that permanently removes

<sup>1</sup> For clarity, this guidance will continue to use the term "Secretary" in this context.

<sup>2</sup> Should the FAA prepare an Environmental Assessment (EA) for a project to which § 47106(c)(1)(A)(ii) applies, or an EIS under MAP-21, Section 1319, the time to file a petition to the Secretary will begin to run when the community is informed of its right to file such a petition by the airport sponsor and will expire 30 days after such notification.

a relocated threshold.<sup>3</sup> Removal of a dislocated threshold is not considered a runway extension.<sup>4</sup> The definition of major runway extension that appears in Order 5050.4B, ¶9.I will be used in interpreting Section 47106(c)(1)(A)(ii).

#### (4) Communities in Which the Project Is Located

The term community is not defined in the statute. In the enabling legislation, this provision was entitled “Public Participation With Respect to Airport Projects.” The term “community” will be defined as a jurisdictional authority, that is, a political subdivision of a state, such as a town, township, city, or county. Defining community as a jurisdictional authority is consistent with the context of Section 47106(c). For example, in subsection (A)(i) the statute speaks of “objectives of any planning that the community has carried out.” Typically, only political subdivisions of a state, such as those described above, would have planning authority. Similarly, in the FAA’s experience, only a jurisdictional authority or political subdivision would be considered for voting representation on the airport’s governing authority. It is only in the absence of such voting representation of a jurisdictional authority or political subdivision that the statute provides the opportunity to petition the Secretary.

Defining community as a jurisdictional authority or political subdivision is also consistent with the definition of community in Order 5050.4B, ¶1203(b)(1).

Accordingly, only a political subdivision of a state that enjoys general jurisdiction, or a Tribal government meets the definition of community in this context. Political subdivisions of a state that have a specific, substantive authority, such as water districts or school districts, do not adequately represent the interests of the community at large. They are not required to balance the interests of the whole community on a wide range of issues. Rather, they seek to promote their specific substantive interest. Additionally, water districts or school districts would not normally be invited to sit on an airport management board. Thus, only a political subdivision of a state which enjoys general jurisdiction is a community entitled to file a petition under Section 47106(c)(1)(A)(ii).

Finally, under the statute, a community is only eligible to petition

under Section 47106(c)(1)(A)(ii) if the project is located in the community. If land is disturbed in the community, then the project is considered to be located in that community. The courts have also provided instruction on when a project is located in a community. In *City of Bridgeton v. FAA*, 212 F. 3d 448 (8th Cir. 2000), the court determined that a community in which there was no construction and no significant noise impact could not challenge the failure to notify it that it could petition the Secretary. Thus, outside the construction context, a project may be located in a community only if the project will have a significant impact on the community. For example, where a project will cause a significant noise impact on a community, the project is located in that community. If the project does not create a significant impact in the community, the community will have no right to petition the Secretary.

#### E. Other Considerations

There are currently ten states that participate in the FAA’s State Block Grant Program (SBGP). Under the program, the State agency (usually the aviation division of the state Department of Transportation) assumes responsibility for administering AIP grants for non-primary airports (including several categories of AIP funds). See 49 U.S.C. Section 47128. As part of the responsibility, the state assumes various responsibilities for the FAA including reviewing and approving proposed changes to the Airport Layout Plan (ALP) and compliance with the National Environmental Policy Act (NEPA).

The FAA interprets 49 U.S.C. Section 47106(c)(1)(A)(ii) as not being generally applicable to a project approved and administered as part of a state block grant. The plain language of this statutory provision states that this Section is triggered when a proponent submits a project grant application to the FAA. In the case of the SBGP, no such request is made because most of the funds are given to the states as a block (except for AIP Discretionary funds), and the state assumes responsibility for administering those funds. Participants in the SBGP are required to engage communities according to FAA guidance and to circulate the draft EA if warranted. However, in cases where the project may involve a request for AIP Discretionary funding, or other extraordinary circumstances, the FAA may determine that a community meeting the requirements set forth herein may have the right to petition the Secretary in connection with an AIP

grant. Petitions involving a SBGP project must include facts describing the extraordinary circumstances that they believe justify the Secretary entertaining the petition.

#### F. Agency Response

The FAA will provide a written response to a petition to the Secretary. The FAA may respond by outlining the issues raised in the petition and providing its responses either within the environmental ROD, or it may elect to respond in a separate document.

**Authority:** 49 U.S.C. 47106(c)(1)(A)(ii), 14 CFR part 1.

Issued in Washington, DC, on March 22, 2016.

**Elliott Black,**

*Director, Office of Airport Planning and Programming APP-001.*

[FR Doc. 2016-07165 Filed 3-29-16; 8:45 am]

**BILLING CODE 4910-13-P**

## DEPARTMENT OF TRANSPORTATION

### Federal Highway Administration

[Docket No. FHWA-2016-0010]

#### Agency Information Collection Activities: Notice of Request for Approval of a New Information Collection

**AGENCY:** Federal Highway Administration (FHWA), DOT.

**ACTION:** Notice of request for approval of a new information collection.

**SUMMARY:** The FHWA has forwarded the information collection request described in this notice to the Office of Management and Budget (OMB) for approval of a new information collection. We published a **Federal Register** Notice with a 60-day public comment period on this information collection on June 23, 2015. We are required to publish this notice in the **Federal Register** by the Paperwork Reduction Act of 1995.

**DATES:** Please submit comments by April 29, 2016.

**ADDRESSES:** You may send comments within 30 days to the Office of Information and Regulatory Affairs, Office of Management and Budget, 725 17th Street NW., Washington, DC 20503, Attention DOT Desk Officer. You are asked to comment on any aspect of this information collection, including: (1) Whether the proposed collection is necessary for the FHWA’s performance; (2) the accuracy of the estimated burden; (3) ways for the FHWA to enhance the quality, usefulness, and clarity of the collected information; and

<sup>3</sup> A relocated threshold leaves the pavement usable only for taxiing.

<sup>4</sup> Pavement beyond a dislocated threshold is available for takeoff.

(4) ways that the burden could be minimized, including the use of electronic technology, without reducing the quality of the collected information. All comments should include the Docket No. FHWA–2016–0010.

**FOR FURTHER INFORMATION CONTACT:**

Michael Nesbitt ([michael.nesbitt@dot.gov](mailto:michael.nesbitt@dot.gov)), 202–366–1179, Office of Infrastructure, Federal Highway Administration, Department of Transportation, 1200 New Jersey Avenue SE., Washington, DC 20590. Office hours are from 8 a.m. to 5 p.m., Monday through Friday, except Federal holidays.

**SUPPLEMENTARY INFORMATION:** *Title:* National Transportation Performance Management (TPM) Implementation Review, TPM Toolbox, and TPM State-of-Practice Questionnaires.

*Type of request:* New information collection requirement.

*Background:* Moving The Moving Ahead for Progress in the 21st Century (MAP–21) Act and the subsequent Fixing America's Surface Transportation Act (FAST Act) transformed the Federal-aid highway program by establishing new requirements for transportation performance management to ensure the most efficient investment of Federal transportation funds. Transportation performance management increases the accountability and transparency of the Federal-aid highway program and provides for a framework to support improved investment decision making through a focus on performance outcomes for key national transportation goals. State transportation agencies (STAs) will be expected to use the information and data generated as a result of the new regulations to make better informed transportation planning and programming decisions. The new performance aspects of the Federal-aid program will allow FHWA to better communicate a national performance story and to more reliably assess the impacts of Federal funding investments.

Under the “National Transportation Performance Management (TPM) Implementation Review Survey, TPM State-of-Practice Questionnaires, and TPM Toolbox” information collection request (ICR), the FHWA will collect information on the current state of the practice, data, methods, and systems used by State, metropolitan, regional, local, and/or tribal transportation entities to support their TPM processes in accordance with 23 U.S.C. 119, 134–135, and 148–150, as amended by MAP–21 and the FAST Act. This information will also be used to develop and deliver existing and future Federal Highway

Programs through successful partnerships, value-added stewardship, and risk-based oversight. Underpinning this effort will be a robust focus on improving FHWA and its partners' capacity to implement performance provisions. The information collected from these activities will translate into having a better skilled workforce, effective supporting systems, and clearly articulated programs that are optimally positioned and equipped to deliver the FHWA's mission. In general, the components of the “National TPM Implementation Review Survey, TPM State-of-Practice Questionnaires, and TPM Toolbox” will involve questions related to:

1. TPM related implementation efforts, programs, and activities,
2. Needs for TPM guidance and policy concerning MAP–21 and FAST provisions;
3. TPM capacity building needs;
4. Effectiveness implementing performance based planning and programming and TPM processes.

The most consequential activity covered by this ICR is the “National TPM Implementation Review Survey,” which is scheduled to be administered in 2016 and again several years later.

*Overview*

In the summer of 2015, the Federal Highway Administration (FHWA) published the National TPM Implementation Review Survey and Information Collection Request, Docket FHWA–2015–0013. In that 60-day **Federal Register** Notice (FRN), FHWA stated it would administer the first National TPM Implementation Review Survey in 2016 to establish a baseline and assess:

1. FHWA and its partners' progress implementing MAP–21 performance provisions and related TPM best practices; and
2. The effectiveness of performance-based planning and programming processes and transportation performance management.

In that FRN, FHWA also stated that a second National TPM Implementation Review Survey will be conducted several years after the first to assess FHWA and its partners' progress in addressing any gaps or issues identified during the first survey. The findings from the first review survey will be used in a pair of statutory reports to Congress due in 2017 on the effectiveness of performance-based planning, programming processes, and transportation performance management (23 U.S.C. 119, 134(l)(2), and 135(h)(2)). The findings from the second survey will be used in a subsequent follow-up

report. It is important to note that this is not a compliance review. The overall focus of the National TPM Implementation Review Survey is on the TPM and performance-based planning processes and practices used by STAs and MPOs, not the performance outcomes of those processes.

FHWA received 20 comment letters and over 24 unique comments. While a number of concerns were expressed by the commenters, they generally supported the information collection request outlined in the FRN. Regarding the National TPM Implementation Review Survey, stakeholders were most concerned about the estimated burden of effort and time for administration of the survey. Based on those specific comments to the docket, it became clear that a majority of responding States, MPOs, and their respective associations want FHWA to: (1) “coordinate with stakeholders when developing” the design of any TPM surveys, questionnaires, or related instruments; (2) Provide more information on the type of questions to be asked as part of the National TPM Implementation Review Survey and any State-of-Practice Questionnaires; (3) Minimize the burden of effort to the greatest extent practicable; (4) Delay administration of National TPM Implementation Review Survey until after the final rulemakings; and (5) Share data from the National TPM Implementation Review Survey with States, MPOs, and their respective associations to support the development of federally and state funded TPM capacity building efforts.

To address the first three concerns listed in the preceding paragraph, stakeholders can provide input on the design of National TPM Implementation Review Survey by:

1. Submitting comments on the draft survey questions and survey design report to the docket.
2. Participating in one of two webinar listening sessions on the design of the National TPM Implementation Review Survey. The date and time of these webinars will be advertised at [www.fhwa.dot.gov/TPM](http://www.fhwa.dot.gov/TPM). To receive an email notification announcing the date and time of these webinar listening sessions, please visit [www.fhwa.dot.gov/TPM](http://www.fhwa.dot.gov/TPM) and subscribe to email updates.

To address the concern on the timing of the National TPM Implementation Review Survey, FHWA decided to delay administering the review until after publication of the *Statewide and Nonmetropolitan Transportation Planning; Metropolitan Transportation Planning Final Rulemaking*.

In addition to the more formal National TPM Implementation Review Survey, FHWA will conduct informal voluntary TPM State-of-Practice Questionnaires related to ongoing TPM policy and guidance, technical assistance, and capacity needs. To address concerns expressed by stakeholders regarding the burden of effort and administration of these additional questionnaires, FHWA is proposing to sequence the National TPM Implementation Review Survey and other State-of-the-Practice Questionnaires on a biennial cycle. Under this biennial cycle, the first National TPM Implementation Review Survey would be administered in 2016 and the follow-up in 2020. The smaller, less formal State-of-the-Practice Questionnaires would be administered in 2018 and 2022. The State-of-the-Practice Questionnaires are essential to helping FHWA coordinate with its many stakeholders to reduce duplicative survey efforts as the industry works to implement and understand the TPM practices.

Under this sequencing, the National TPM Implementation Review Survey will continue to serve the original purpose of allowing FHWA to evaluate the effectiveness of efforts to implement TPM and PBPP. The State-of-the-Practice Questionnaires will enable FHWA and its stakeholders to coordinate the collection of information necessary to advance the state-of-the-practice and further TPM capacity building efforts. This approach limits the number of TPM related surveys to 4 over a number of years:

- National TPM Implementation Review Survey (*Baseline*): 2016.
- State-of-the-Practice Questionnaires: 2018.
- National TPM Implementation Review Survey (*Follow-up*): 2020.
- State-of-the-Practice Questionnaires: 2022.

After each survey or questionnaire, FHWA and its stakeholders will explore how to better align the information collection requests with yet-to-be determined performance management reporting processes. The information will be collected from State, metropolitan, regional, local, and/or tribal transportation agencies via internet-based questionnaires or web applications and will be used to help FHWA and its partner organizations do the following:

- Strategically plan to meet ever growing demand for TPM technical assistance needs;
- Develop and refine TPM policy and guidance based on stakeholder feedback;

- Channel resources to meet capacity development and training needs; and
- Identify and prioritize TPM research needs.

Lastly, as part of FHWA's ongoing technical assistance efforts, a TPM Toolbox is being created to help FHWA's partners self-assess and benchmark their TPM implementation progress, capabilities, and gaps. The TPM Toolbox will also help FHWA streamline the integration and administration of all the efforts described above. To maximize the effectiveness and efficiency of the TPM Toolbox, FHWA will collect business contact and organizational demographic (size of organization, location, etc.) information along with the responses submitted as part of the TPM Toolbox's self-assessment applications.

**Respondents:** The 975 respondents estimate is based on soliciting input from 52 STA, 409 MPOS, and a sampling of other State and local transportation entities. In most cases, only STAs and MPOs will be surveyed.

**Frequency:** Agencies will be solicited to provide information via a survey 1 time every two years. Additionally, transportation agencies may submit information more frequently by using the TPM Toolbox's self-assessment tool.

**Estimated Average Burden per Response:** The estimated average annual burden hours is up to 20 hours per response during a year with a survey/questionnaire request.

**Estimated Total Annual Burden Hours:** The estimated total annual burden hours for all respondents is estimated to be 19,500 burden hours (975 respondents  $\times$  20 burden hours) per year with survey/questionnaire requests.

**Professional Staff Time During a Survey Year**

- 20 hours/respondent  $\times$  975 respondents  $\times$  1 questionnaire during a survey year = 19,500 hours

**Clerical Staff Time During a Survey Year**

- 2 hours/respondent  $\times$  975 respondents  $\times$  1 questionnaire during a survey year = 1,950 hours

The aggregated associated salary cost to all respondents (975) during a survey year is estimated to be \$1,032,213 based on an average salary of \$38 per hour (approximately \$79,000 per year) for professional staff and \$18 per hour (approximately \$37,000 per year) for clerical staff. Disaggregated, the total average annual cost per respondent during a survey year is estimated to be \$1,058.68. The burden hours and costs are illustrated below.

**Professional Staff Cost During a Survey Year**

- All respondents: 19,500 hours  $\times$  \$38 per hour = \$741,000
  - Per respondent: (20  $\times$  \$38 = \$760)

**Clerical Staff Cost During a Survey Year**

- All respondents: 1,950 hours  $\times$  \$18 per hour = \$35,100
  - Per respondent (2 hours  $\times$  \$18 per hour = \$36)

**Total Annual Cost During a Survey Year**

- Subtotal Direct Salaries (Professional + Clerical) \$776,100
- Overhead/fringe benefits at 33%: \$256,113
- Total annual respondents cost during survey year: \$1,032,213
  - Total average annual cost per respondent during survey year: \$1,058.68

**Public Comments Invited:** You are asked to comment on any aspect of this information collection, including: (1) Whether the proposed collection of information is necessary for the U.S. DOT's performance, including whether the information will have practical utility; (2) the accuracy of the U.S. DOT's estimate of the burden of the proposed information collection; (3) ways to enhance the quality, usefulness, and clarity of the collected information; and (4) ways that the burden could be minimized, including the use of electronic technology, without reducing the quality of the collected information. The agency will summarize and/or include your comments in the request for OMB's clearance of this information collection.

**Authority:** The Paperwork Reduction Act of 1995; 44 U.S.C. Chapter 35, as amended; and 49 CFR 1.48.

Issued On: March 25, 2016.

**Michael Howell,**

*Information Collection Officer.*

[FR Doc. 2016-07169 Filed 3-29-16; 8:45 am]

**BILLING CODE 4910-22-P**

## DEPARTMENT OF TRANSPORTATION

### National Highway Traffic Safety Administration

[Docket No. NHTSA-2015-0083, Notice 2]

#### Decision That Nonconforming Model Year 2014 Mercedes-Benz SLK Class Passenger Cars Are Eligible for Importation

**AGENCY:** National Highway Traffic Safety Administration (NHTSA), Department of Transportation (DOT).

**ACTION:** Grant of petition.

**SUMMARY:** This document announces a decision by the National Highway Traffic Safety Administration that certain model year (MY) 2014 Mercedes-Benz SLK Class passenger cars (PCs) that were not originally manufactured to comply with all applicable Federal Motor Vehicle Safety Standards (FMVSS) are eligible for importation into the United States because they are substantially similar to vehicles originally manufactured for sale in the United States and certified by their manufacturer as complying with the safety standards (the U.S. certified version of the MY 2014 Mercedes-Benz SLK Class PC), and they are capable of being readily altered to conform to the standards.

**DATES:** This decision became effective on March 25, 2016.

**ADDRESSES:** For further information contact George Stevens, Office of Vehicle Safety Compliance, NHTSA (202-366-5308).

**SUPPLEMENTARY INFORMATION:**

**Background**

Under 49 U.S.C. 30141(a)(1)(A), a motor vehicle that was not originally manufactured to conform to all applicable FMVSS shall be refused admission into the United States unless NHTSA has decided that the motor vehicle is substantially similar to a motor vehicle originally manufactured for importation into and sale in the United States, certified as required under 49 U.S.C. 30115, and of the same model year as the model of the motor vehicle to be compared, and is capable of being readily altered to conform to all applicable FMVSS.

Petitions for eligibility decisions may be submitted by either manufacturers or importers who have registered with NHTSA pursuant to 49 CFR part 592. As specified in 49 CFR 593.7, NHTSA publishes notice in the **Federal Register** of each petition that it receives, and affords interested persons an opportunity to comment on the petition. At the close of the comment period, NHTSA decides, on the basis of the petition and any comments that it has received, whether the vehicle is eligible for importation. The agency then publishes this decision in the **Federal Register**.

J.K. Technologies, LLC, of Baltimore, Maryland (JK) (Registered Importer# RI-90-006), petitioned NHTSA to decide whether MY 2014 Mercedes-Benz SLK Class PCs are eligible for importation into the United States. NHTSA published a notice of the petition on February 16, 2016 (81 FR 7889) to afford an opportunity for public comment. No

comments were received in response to this petition. The reader is referred to the receipt notice for a thorough description of the petition.

*NHTSA'S Conclusions*

NHTSA has reviewed the petition and has concluded that the vehicles covered by the petition are substantially similar to MY 2014 Mercedes-Benz SLK Class PC's and are capable of being readily altered to comply with all applicable FMVSS.

NHTSA has also determined that any RI who imports or modifies one of these vehicles must include in the statement of conformity and associated documents (referred to as a "conformity package") it submits to NHTSA under 49 CFR 592.6(d) additional specific proof to confirm that the vehicle was manufactured to conform to, or was successfully altered to conform to, FMVSS No. 101, *Controls and Displays*, FMVSS No. 138, *Tire Pressure Monitoring Systems*, FMVSS No. 208 *Occupant Crash Protection* and FMVSS No. 301 *Fuel System Integrity*. This proof must include detailed descriptions of all modifications made to achieve conformity with those standards, including a detailed description of systems in place (if any) on the vehicle at the time it was delivered to the RI and a similarly detailed description of the systems in place after the vehicle is altered, including photographs of all required labeling. The description must also include parts assembly diagrams and associated part numbers for all components that were removed from or installed on the vehicle, a description of how any computer programming changes were completed, and a description of how compliance was verified after alterations were completed. Photographs (*e.g.*, monitor print screen captures) or report printouts, as practicable, must be submitted as proof that any computer reprogramming was carried out successfully.

In addition to the information specified above, each conformity package must also include evidence showing how the RI verified that the changes it made in loading or reprogramming vehicle software to achieve conformity with each separate FMVSS, did not also cause the vehicle to fall out of compliance with any other applicable FMVSS.

*Decision*

Accordingly, on the basis of the foregoing, NHTSA hereby decides that MY 2014 Mercedes-Benz SLK Class passenger cars that were not originally

manufactured to comply with all applicable FMVSS, are substantially similar to MY 2014 Mercedes-Benz SLK Class passenger cars manufactured for importation into and/or sale in the United States, and certified under 49 U.S.C. 30115, and are capable of being readily altered to conform to all applicable Federal Motor Vehicle Safety Standards.

*Vehicle Eligibility Number for Subject Vehicles*

The importer of a vehicle admissible under any final decision must indicate on the form HS-7 accompanying entry the appropriate vehicle eligibility number indicating that the vehicle is eligible for entry. VSP-581 is the vehicle eligibility number assigned to vehicles admissible under this notice of final decision.

**Authority:** 49 U.S.C. 30118, 30120; delegations of authority at 49 CFR 1.95 and 501.8.

**Jeffrey M. Giuseppe,**  
*Director, Office of Vehicle Safety Compliance.*  
[FR Doc. 2016-07144 Filed 3-29-16; 8:45 am]

**BILLING CODE 4910-59-P**

**DEPARTMENT OF TRANSPORTATION**

**National Highway Traffic Safety Administration**

[Docket No. NHTSA-2014-0045; Notice 2]

**General Motors, LLC, Grant of Petition for Decision of Inconsequential Noncompliance**

**AGENCY:** National Highway Traffic Safety Administration (NHTSA), Department of Transportation (DOT).

**ACTION:** Grant of petition.

**SUMMARY:** General Motors, LLC, (GM) has determined that certain model year (MY) 2014 GMC Sierra Denali vehicles do not fully comply with paragraph S3.1.4 of Federal Motor Vehicle Safety Standard (FMVSS) No. 102, *Transmission shift position sequence, starter interlock, and transmission braking effect*. GM filed a report dated January 31, 2014 pursuant to 49 CFR part 573, *Defect and Noncompliance Responsibility and Reports*. GM then petitioned NHTSA under 49 CFR part 556 requesting a decision that the subject noncompliance is inconsequential to motor vehicle safety.

**ADDRESSES:** For further information on this decision contact John Finneran, Office of Vehicle Safety Compliance, National Highway Traffic Safety Administration (NHTSA), telephone



(202) 366-5289, facsimile (202) 366-5930.

#### SUPPLEMENTARY INFORMATION:

I. *GM's Petition*: Pursuant to 49 U.S.C. 30118(d) and 30120(h) and the rule implementing those provisions at 49 CFR part 556, GM submitted a petition for an exemption from the notification and remedy requirements of 49 U.S.C. Chapter 301 on the basis that this noncompliance is inconsequential to motor vehicle safety.

Notice of receipt of GM's petition was published, with a 30-Day public comment period, on May 22, 2014 in the **Federal Register** (79 FR 29501). One comment was received from the Advocates for Highway and Auto Safety. To view the petition and all supporting documents log onto the Federal Docket Management System (FDMS) Web site at: <http://www.regulations.gov/>. Then follow the online search instructions to locate docket number "NHTSA-2014-0045."

II. *Vehicles Involved*: Affected are approximately 2,747 MY 2014 GMC Sierra Denali vehicles equipped with RPO code "UHS" instrument cluster displays that were manufactured between July 16, 2013 and January 22, 2014.

III. *Noncompliance*: GM explains that in certain circumstances the subject vehicles may experience a condition where the instrument cluster resets, and the analog gauges and the PRNDM indicators turn off momentarily to ensure the integrity of the information being displayed by electronic devices. Since all vehicles sold in the U.S. must display the shift positions, including the positions in relation to each other and the position selected whenever the ignition is in a position where the transmission can be shifted; or the transmission is not in park, these vehicles fail to fully meet the requirements set forth in paragraph S3.1.4 of FMVSS No. 102.

IV. *Rule Text*: Paragraph S3.1.4 of FMVSS No. 102 requires in pertinent part:

S3.1.4 Identification of shift positions and of shift position sequence . . .

S3.1.4.1 Expect as specified in S3.1.4.3, if the transmission shift position sequence includes a park position, identification of shift positions, including the positions in relation to each other and the position selected, shall be displayed in view of the driver whenever any of the following conditions exist:

(a) The ignition is in a position where the transmission can be shifted; or

(b) The transmission is not in park . . .

S3.1.4.3 Such information need not be displayed when the ignition is in a position that is used only to start the vehicle . . .

V. *Summary of GM's Analyses*: GM stated its belief that the subject noncompliance is inconsequential to motor vehicle safety for the following reasons:

1. GM believes that the condition is extremely unlikely to occur. For the condition to occur, the instrument cluster design input rate must be exceeded. This can only happen under extreme load conditions. For example, GM was able to create the condition in the laboratory by simultaneously inputting a series of warnings into the cluster during an active search of a media device connected to the vehicle while a Bluetooth® connected phone call is received by the vehicle.

2. GM states that any disruption of the PRNDM display as a result of this condition is very brief. In the unlikely event the condition were to occur and the instrument cluster resets, the PRNDM display would be restored within 1.3 seconds. This momentary reset would be a clear indication to the driver that service may be required.

3. GM also believes that the condition has little effect on the normal operation of the vehicle. While the operation of the instrument panel is briefly affected by the underlying condition, none of the other vehicle operations are affected.

4. GM states that the condition is extremely remote and not likely to occur during shifting. Considering the unusual combination of pre-conditions for the condition to occur, it is very unlikely the brief disruption of the PRNDM display would occur when it is needed, *i.e.*, during shifting. Most shifting occurs shortly after the vehicle is started, or just prior to being turned off. In the rare instance of a cluster reset, it would be more likely to occur during driving, not immediately after starting the vehicle or just prior to the driver exiting the vehicle.

5. GM is not aware of any reported instrument cluster resets as a result of the subject noncompliance.

6. GM also expressed its belief that for previous noncompliances that GM believes were similar, NHTSA granted petitions for inconsequential noncompliance.

GM has additionally informed NHTSA that it has corrected the noncompliance so that all future production vehicles will comply with FMVSS No. 102.

In summation, GM believes that the described noncompliance of the subject vehicles is inconsequential to motor vehicle safety, and that its petition, to exempt GM from providing recall notification of noncompliance as required by 49 U.S.C. 30118 and remedying the recall noncompliance as

required by 49 U.S.C. 30120 should be granted.

#### NHTSA'S Decision

*NHTSA'S Analysis*: GM explains that because they could only duplicate the subject condition with a series of unlikely simultaneous inputs, they believe that the subject noncompliance is not likely to occur. As an example, if all of the following conditions were to occur simultaneously the subject condition may occur causing an instrument cluster reset: A navigation route is active; three cluster warnings are initiated simultaneously; there is an incoming Bluetooth® connected phone call that triggers a Driver Information Center message; and a passenger actively searches a media device that provides more data than a typical radio display (*e.g.*, XM radio, or a paired media device). If all the above were to occur at precisely the same instant (within a millisecond) according to the GM, a cluster reset may be triggered. NHTSA agrees with GM that the possibility of this condition occurring is improbable because multiple specific actions must be taken by the driver and/or passenger simultaneously.

GM states that the disruption of the PRNDM as a result of this condition is very brief and in the unlikely event the condition where to occur and the instrument cluster resets, the PRNDM display would be restored within 1.3 seconds. GM also noted that while the operation of the instrument panel would be briefly affected by the underlying condition, no other vehicle operations are affected.

After receipt of GM's petition, NHTSA requested more information regarding the subject noncompliance. GM submitted videos showing that when the condition occurs any existing warning lights extinguish, the indicators (gauges) drop to zero, and operation of the entire instrument panel is interrupted. Specifically, any illuminated telltales extinguish for approximately 1.3 seconds before a bulb check that lasts approximately five seconds is initiated. At the conclusion of the bulb check any previously illuminated telltales will illuminate and remain illuminated.

NHTSA agrees with GM that if the instrument panel reset were to happen it would only be a momentary condition, the instrument panel telltales and indicators would extinguish and return to normal very quickly, with little, if any, impact to the driver.

GM mentioned two previous petitions that the agency granted due to the loss or failure of telltale indications. In the first petition, *General Motors Corp.; Grant of Petition for Determination of*

*Inconsequential Noncompliance*, 56 FR 33323 (July 19, 1991), the noncompliance would only manifest itself when the headlight high beams were turned on and the cigar lighter was activated. In this situation the required high beam telltale could dim or extinguish altogether for a short period of time while the cigar lighter was being powered. The petition was granted because the agency determined there was no consequence to motor vehicle safety attached to the extinguishment of the high beam telltale.

In the second petition, submitted by Nissan, *Nissan North America, Incorporated, Grant of Petition for Decision of Inconsequential Noncompliance*, 78 FR 59090 (Sept. 25, 2013), under rare circumstances the transmission gear selected was not always displayed correctly as required. The petition was granted because it was only possible for the gear indication to extinguish when the engine was inactive and the vehicle was inoperable. Upon reactivating the engine the gear indicator displayed the correct gear.

Advocates for Highway and Auto Safety (Advocates), provided comments about GM's petition in response to the petition receipt notice published in the **Federal Register**. The Advocates do not specifically support the granting or denial of GM's petition, but believe that the existence of such a malfunction raises serious questions regarding vehicle design which can lead to this kind of situation.

Finally, GM states that they are not aware of any reported instrument cluster resets as a result of the subject condition. *NHTSA'S Decision*: In consideration of the foregoing, NHTSA finds that GM has met its burden of persuasion that the FMVSS No. 102 noncompliance in the affected vehicles is inconsequential to motor vehicle safety. Accordingly, GM's petition is hereby granted and GM is consequently exempted from the obligation of providing notification of, and a free remedy for, that noncompliance under 49 U.S.C. 30118 and 30120.

NHTSA notes that the statutory provisions (49 U.S.C. 30118(d) and 30120(h)) that permit manufacturers to file petitions for a determination of inconsequentiality allow NHTSA to exempt manufacturers only from the duties found in sections 30118 and 30120, respectively, to notify owners, purchasers, and dealers of a defect or noncompliance and to remedy the defect or noncompliance. Therefore, this decision only applies to the subject noncompliant vehicles that GM no longer controlled at the time it determined that the noncompliance

existed. However, the granting of this petition does not relieve vehicle distributors and dealers of the prohibitions on the sale, offer for sale, or introduction or delivery for introduction into interstate commerce of the noncompliant vehicles under their control after GM notified them that the subject noncompliance existed.

**Authority:** 49 U.S.C. 30118, 30120; Delegations of authority at 49 CFR 1.95 and 501.8.

**Jeffrey M. Giuseppe,**  
*Director, Office of Vehicle Safety Compliance.*  
[FR Doc. 2016-07092 Filed 3-29-16; 8:45 am]

**BILLING CODE 4910-59-P**

## DEPARTMENT OF TRANSPORTATION

### National Highway Traffic Safety Administration

[Docket No. NHTSA-2014-0056; Notice 2]

### Chrysler Group LLC, Grant of Petition for Decision of Inconsequential Noncompliance

**AGENCY:** National Highway Traffic Safety Administration (NHTSA), Department of Transportation (DOT).

**ACTION:** Grant of petition.

**SUMMARY:** Chrysler Group LLC (Chrysler)<sup>1</sup> has determined that certain model year (MY) 2013 and 2014 Fiat brand, 500e model, passenger cars do not fully comply with paragraph S5.4.1 of Federal Motor Vehicle Safety Standard (FMVSS) No. 101, *Controls and Displays*. Chrysler has filed an appropriate report dated April 1, 2014, pursuant to 49 CFR part 573, *Defect and Noncompliance Responsibility and Reports*. Chrysler then petitioned NHTSA under 49 CFR part 556 requesting a decision that the subject noncompliance is inconsequential to motor vehicle safety.

**ADDRESSES:** For further information on this decision contact John Finneran, Office of Vehicle Safety Compliance, National Highway Traffic Safety Administration (NHTSA), telephone (202) 366-5289, facsimile (202) 366-5930.

### SUPPLEMENTARY INFORMATION:

#### I. Chrysler's Petition

Pursuant to 49 U.S.C. 30118(d) and 30120(h) and the rule implementing those provisions at 49 CFR part 556), Chrysler has petitioned for an exemption from the notification and remedy requirements of 49 U.S.C.

<sup>1</sup> Chrysler is a wholly owned subsidiary of the automaker Fiat S.p.A.

Chapter 301 on the basis that this noncompliance is inconsequential to motor vehicle safety.

Notice of receipt of Chrysler's petition was published, with a 30-Day public comment period, on June 19, 2014 in the **Federal Register** (79 FR 35227). No comments were received. To view the petition and all supporting documents log onto the Federal Docket Management System (FDMS) Web site at: <http://www.regulations.gov/>. Then follow the online search instructions to locate docket number "NHTSA-2014-0056."

### II. Vehicles Involved

Affected are approximately 3,447 MY 2013 and 2014 Fiat brand, 500e model, passenger cars manufactured between March 21, 2013 and February 11, 2014 at Chrysler's Toluca Assembly Plant.

### III. Noncompliance

Chrysler explains that the noncompliance is that the low tire pressure indicator telltale installed on the subject vehicles is orange in color rather than yellow as required by paragraph S5.4.1 of FMVSS No. 101.

### IV. Rule Text

Paragraph S5.4 of FMVSS No. 101 requires in pertinent part:

#### S5.4 Color

S5.4.1 The light of each telltale listed in Table 1 must be of the color specified for that telltale in column 6 of that table.

### V. Summary of Chrysler's Analyses

Chrysler stated that in the FMVSS No. 138 Final Rule (**Federal Register** Volume 70, Number 67 (April 8, 2005)) NHTSA indicated that the intent of a TPMS warning telltale is to notify the operator of safety consequences that do not constitute an emergency requiring immediate service. While the affected vehicles may display an orange TPMS telltale, Chrysler's position is the operator notification conveys the appropriate message to the operator when there is either significant tire under-inflation or a TPMS malfunction.

Chrysler's reasoning in support of the position is as follows:

- For the subject vehicles, if the TPMS telltale is illuminated and the operator does not understand its meaning, the TPMS telltale graphic is shown and described in the *Introduction, Instrument Cluster Descriptions, and Starting and Operating* sections of the vehicle owner's manual. An operator can easily refer to the owner's manual and determine the TPMS telltale relates to significant tire under-inflation or a TPMS malfunction. The owner's manual

does not reference the color of the TPMS telltale, but rather that it “illuminates” in the event of low tire pressure and/or TPMS fault.

- In the event there is significant under-inflation of tires, the TPMS telltale is illuminated and the instrument cluster Electronic Vehicle Information Center (EVIC) will display a highlighted graphic of the locations including the pressure values of the affected tires.

- In the event there is a TPMS fault, the telltale will flash on and off for 75 seconds and then maintain a continuous illumination. The system fault will sound a chime and also display a “Service TPM System” message in the EVIC for approximately 3 seconds. This message contains the same symbol as the telltale. If the ignition switch is cycled, this sequence will repeat, providing the system fault still exists. If the system fault no longer exists, the TPMS telltale will no longer flash, and the “Service TPM System” message will no longer display.

In addition to the TPMS telltale alerting the operator of a significant loss of tire pressure, or a TPMS malfunction as required, the EVIC messages and owner’s manual provide more than the minimum level of information required aiding the operator’s association of the illuminated telltale with an appropriate response.

Chrysler also made reference to a previous petition for inconsequential noncompliance that addressed labeling issues that NHTSA granted.

Chrysler has additionally informed NHTSA that it has corrected the noncompliance so that all future production vehicles will comply with FMVSS No. 101.

In summation, Chrysler believes that the described noncompliance of the subject vehicles is inconsequential to motor vehicle safety, and that its petition, to exempt Chrysler from providing recall notification of noncompliance as required by 49 U.S.C. 30118 and remedying the recall noncompliance as required by 49 U.S.C. 30120 should be granted.

#### *NHTSA’S Decision*

*NHTSA’S Analysis:* Chrysler explained that if the TPMS telltale is illuminated and the operator does not understand its meaning, the operator can easily refer to the owner’s manual and determine that the TPMS telltale relates to significant tire under-inflation or a TPMS malfunction. Chrysler also stated that the owner’s manual does not reference the color of the TPMS telltale, but rather that it “illuminates” in the

event of low tire pressure and/or TPMS fault.

NHTSA understands that many vehicle operators are not familiar with the standard TPMS telltale used in vehicles today. The agency anticipates that regardless of TPMS telltale color, yellow or orange, vehicle operators familiar with the telltale symbol will not be confused by the telltale color, and those not familiar with the telltale symbol will still have to reference the owner’s manual to determine the meaning when illumination occurs.

Chrysler explained that in the event there is a significant low inflation pressure condition, the TPMS telltale will illuminate as required, and the instrument cluster Electronic Vehicle Information Center (EVIC) will display a highlighted graphic depicting locations and pressure values of affected tires.

The agency is in agreement with Chrysler that the information provided by the EVIC is in addition to the telltale required by the TPMS safety standard (FMVSS No. 138). The EVIC information and warnings will aid the vehicle operator in the recognition of low tire inflation pressure and TPMS system malfunctions.

For the reasons stated above, the agency concludes that in the case of the subject vehicles, the low tire pressure indicator telltales installed on the subject vehicles being orange in color rather than yellow poses little if any risk to motor vehicle safety.

*NHTSA’S Decision:* In consideration of the foregoing, NHTSA finds that Chrysler has met its burden of persuasion that the subject FMVSS No. 101 noncompliance in the subject vehicles is inconsequential to motor vehicle safety. Accordingly, Chrysler’s petition is hereby granted and Chrysler is exempted from the obligation of providing notification of, and a free remedy for, that noncompliance under 49 U.S.C. 30118 and 30120.

NHTSA notes that the statutory provisions (49 U.S.C. 30118(d) and 30120(h)) that permit manufacturers to file petitions for a determination of inconsequentiality allow NHTSA to exempt manufacturers only from the duties found in sections 30118 and 30120, respectively, to notify owners, purchasers, and dealers of a defect or noncompliance and to remedy the defect or noncompliance. Therefore, any decision on this petition only applies to the subject vehicles that Chrysler no longer controlled at the time it determined that the noncompliance existed. However, the granting of this petition does not relieve Chrysler distributors and dealers of the prohibitions on the sale, offer for sale,

or introduction or delivery for introduction into interstate commerce of the noncompliant vehicles under their control after Chrysler notified them that the subject noncompliance existed.

**Authority:** 49 U.S.C. 30118, 30120; delegations of authority at 49 CFR 1.95 and 501.8.

**Jeffrey M. Giuseppe,**

*Director, Office of Vehicle Safety Compliance.*

[FR Doc. 2016-07143 Filed 3-29-16; 8:45 am]

**BILLING CODE 4910-59-P**

## **DEPARTMENT OF TRANSPORTATION**

### **National Highway Traffic Safety Administration**

[Docket No. NHTSA-2015-0113; Notice 2]

#### **Nitto Tire U.S.A, Inc., Grant of Petition for Decision of Inconsequential Noncompliance**

**AGENCY:** National Highway Traffic Safety Administration (NHTSA), Department of Transportation (DOT).

**ACTION:** Grant of petition.

**SUMMARY:** Nitto Tire U.S.A., Inc. (Nitto), has determined that certain Nitto NT05 passenger car tires manufactured between December 14, 2014 and August 1, 2015, do not fully comply with paragraph S5.5(e) of Federal Motor Vehicle Safety Standard (FMVSS) No. 139, *New Pneumatic Radial Tires for Light Vehicles*. Nitto filed a report<sup>1</sup> pursuant to 49 CFR part 573, *Defect and Noncompliance Responsibility and Reports*. Nitto then petitioned NHTSA under 49 CFR part 556 requesting a decision that the subject noncompliance is inconsequential to motor vehicle safety.

**ADDRESSES:** For further information on this decision contact Abraham Diaz, Office of Vehicle Safety Compliance, the National Highway Traffic Safety Administration (NHTSA), telephone (202) 366-5310, facsimile (202) 366-5930.

#### **SUPPLEMENTARY INFORMATION:**

##### **I. Overview**

Pursuant to 49 U.S.C. 30118(d) and 30120(h) (see implementing rule at 49 CFR part 556), Nitto submitted a petition for an exemption from the notification and remedy requirements of 49 U.S.C. Chapter 301 on the basis that this noncompliance is inconsequential to motor vehicle safety.

<sup>1</sup> Originally dated September 15, 2015 under the name of its parent company Toyo Tire Holdings of Americas Inc., and refiled under its own name on November 5, 2015.

Notice of receipt of the petition was published, with a 30-day public comment period, on December 14, 2015 in the **Federal Register** (80 FR 77415). No comments were received. To view the petition and all supporting documents log onto the Federal Docket Management System (FDMS) Web site at: <http://www.regulations.gov/>. Then follow the online search instructions to locate docket number "NHTSA-2015-0113."

## II. Tires Involved

Affected are approximately 1,059 Nitto NT05 size 295/35ZR18 99W passenger car tires manufactured between December 14, 2014 and August 1, 2015.

## III. Noncompliance

Nitto explains that the noncompliance is that the sidewall markings on the subject tires do not include the correct generic name for the plies in the tread and sidewall area of the tires as required by paragraph S5.5(e) of FMVSS No. 139. Specifically, the subject tires are marked with "Tread 2 Steel 2 Rayon 1 Nylon; Sidewall 3 Rayon." The correct marking should be "Tread 2 Steel 2 Polyester 1 Nylon; Sidewall 3 Polyester."

## IV. Rule Text

Paragraph S5.5(e) of FMVSS No. 139 requires in pertinent part:

S5.5 *Tire markings.* Except as specified in paragraphs (a) through (i) of S5.5, each tire must be marked on each sidewall with the information specified in S5.5(a) through (d) and on one sidewall with the information specified in S5.5(e) through (i) according to the phase-in schedule specified in S7 of this standard. . . .

(e) The generic name of each cord material used in the plies (both sidewall and tread area) of the tire; . . .

## V. Summary of Nitto's Analyses

Nitto stated its belief that the subject noncompliance is inconsequential to motor vehicle safety for the following reasons:

(1) Nitto believes that in the Safety Act Congress acknowledged that there are cases where a vehicle or equipment may fail to comply with a safety standard, but that the impact on motor vehicle safety is so slight that an exemption from the notice and remedy requirements of the Safety Act is justified.

(2) Nitto states that the subject tires meet all other performance and regulatory requirements of FMVSS No. 139.

(3) Nitto has not received any complaints, claims, or warranty adjustments related to this noncompliance.

(4) Nitto believes that NHTSA has previously granted inconsequential noncompliance petitions for noncompliances that it believes are similar to the subject noncompliance.

Nitto has additionally informed NHTSA that it has corrected the noncompliance so that future production of the subject tires will comply with all applicable labeling requirements of FMVSS No. 139.

In summation, Nitto believes that the described noncompliance of the subject tires is inconsequential to motor vehicle safety, and that its petition, to exempt Nitto from providing recall notification of noncompliance as required by 49 U.S.C. 30118 and remedying the recall noncompliance as required by 49 U.S.C. 30120 should be granted.

### NHTSA'S Decision

*NHTSA'S Analysis:* The agency agrees with Nitto that the noncompliances are inconsequential to motor vehicle safety. The agency believes that the true measure of inconsequentiality to motor vehicle safety in this case is that there is no effect of the noncompliances on the operational safety of vehicles on which these tires are mounted.

Although tire construction affects the strength and durability, neither the agency nor the tire industry provides information relating tire strength and durability to the ply cord material in the tread and sidewall. Therefore, tire dealers and customers should consider the tire construction information along with other information such as load capacity, maximum inflation pressure, and tread wear, temperature, and traction ratings, to assess performance capabilities of various tires.

In the agency's judgement, the incorrect labeling of the tire construction information will have an inconsequential effect on motor vehicle safety because most consumers do not base tire purchases or vehicle operation parameters on the ply material in a tire.

*NHTSA'S Decision:* In consideration of the foregoing, NHTSA finds that Nitto has met its burden of persuasion that the subject FMVSS No. 139 noncompliance in the affected tires is inconsequential to motor vehicle safety. Accordingly, Nitto's petition is hereby granted and Nitto is consequently exempted from the obligation of providing notification of, and a free remedy for, that noncompliance under 49 U.S.C. 30118 and 30120.

NHTSA notes that the statutory provisions (49 U.S.C. 30118(d) and 30120(h)) that permit manufacturers to file petitions for a determination of inconsequentiality allow NHTSA to exempt manufacturers only from the duties found in sections 30118 and 30120, respectively, to notify owners, purchasers, and dealers of a defect or noncompliance and to remedy the defect or noncompliance. Therefore, this

decision only applies to the subject tires that Nitto no longer controlled at the time it determined that the noncompliance existed. However, the granting of this petition does not relieve equipment distributors and dealers of the prohibitions on the sale, offer for sale, or introduction or delivery for introduction into interstate commerce of the noncompliant tires under their control after Nitto notified them that the subject noncompliance existed.

**Authority:** 49 U.S.C. 30118, 30120; delegations of authority at 49 CFR 1.95 and 501.8.

**Jeffrey M. Giuseppe,**

*Director, Office of Vehicle Safety Compliance.*

[FR Doc. 2016-07142 Filed 3-29-16; 8:45 am]

**BILLING CODE 4910-59-P**

## DEPARTMENT OF TRANSPORTATION

### Pipeline and Hazardous Materials Safety Administration

[Docket No. PHMSA-2016-0021]

### Oil Spill Response Planning Workshop

**AGENCY:** Pipeline and Hazardous Materials Safety Administration, DOT.

**ACTION:** Notice of public workshop.

**SUMMARY:** This notice is to announce a public workshop to discuss Oil Spill Response Plans covered by PHMSA's Part 130 and Part 194 regulations. The purpose of the workshop is to bring federal regulators, interested members of the public, industry, and other stakeholders together to share knowledge and experiences with oil spill response planning and preparedness, gather ideas for harmonizing PHMSA's regulations with other agencies, and discuss practical ways regulated entities can better plan and prepare for an oil spill.

**DATES:** The public workshop will held on Tuesday, April 12, 2016, from 9:00 a.m. to 4:30 p.m. EST. Changes to start and finish times will be updated on the PHMSA meeting Web site (<https://primis.phmsa.dot.gov/meetings/MtgHome.mtg?mtg=112>).

**ADDRESSES:** The workshop will be held at the National Transportation Safety Board, 490 L'Enfant Plaza East, Southwest, Washington, DC.

The workshop agenda and any additional information will be published on the PHMSA home page Web site at (<http://www.phmsa.dot.gov/pipeline>), and on the PHMSA meeting page Web site <https://primis.phmsa.dot.gov/meetings/MtgHome.mtg?mtg=112>. Presentations will also be available online at the

meeting page Web site within 30 days following the workshop.

**Registration:** Members of the public may attend this free workshop. Please note that the public workshop will be webcast. The details on this meeting, including the location, times, agenda items, and link to the webcast, will be available on the meeting page (<https://primis.phmsa.dot.gov/meetings/MtgHome.mtg?mtg=112>) as they become available. Attendees, both in person and by webcast, are strongly encouraged to register in advance at (<https://primis.phmsa.dot.gov/meetings/MtgHome.mtg?mtg=112>) to help ensure accommodations are adequate.

**Comments:** Members of the public may also submit written comments either before or after the workshop. Comments should reference Docket No. PHMSA-2016-0021. Comments may be submitted in the following ways:

- **E-Gov Web site:** <http://www.regulations.gov>. This site allows the public to enter comments on any **Federal Register** notice issued by any agency. Follow the instructions for submitting comments.
- **Fax:** 1-202-493-2251.
- **Mail:** Docket Management System, U.S. Department of Transportation (DOT), 1200 New Jersey Avenue SE., Room W12-140, Washington, DC 20590.
- **Hand Delivery:** DOT Docket Management System, Room W12-140, on the ground floor of the West Building, 1200 New Jersey Avenue SE., Washington, DC between 9:00 a.m. and 5:00 p.m., Monday through Friday, except federal holidays.

**Instructions:** Identify the docket number at the beginning of your comments. If you submit your comments by mail, submit two copies. If you wish to receive confirmation that PHMSA has received your comments, include a self-addressed stamped postcard. Internet users may submit comments at <http://www.regulations.gov>.

**Note:** Comments will be posted without changes or edits to <http://www.regulations.gov> including any personal information provided. Please see the Privacy Act Statement heading below for additional information.

#### Privacy Act Statement

Anyone may search the electronic form of all comments received for any of our dockets. You may review DOT's complete Privacy Act Statement in the **Federal Register** published April 11, 2000, (65 FR 19476).

#### Information on Services for Individuals With Disabilities

For information on facilities or services for individuals with disabilities, or to request special assistance at the meeting, please contact Kristen Beer, Office of Pipeline Safety, at 202-366-8405 or by email at [kristen.beer@dot.gov](mailto:kristen.beer@dot.gov).

**FOR FURTHER INFORMATION CONTACT:** David Lehman, Director, Emergency Support and Security Division, at 202-366-4439 or [david.lehman@dot.gov](mailto:david.lehman@dot.gov), regarding the subject matter in this notice.

#### Introduction

The federal pipeline oil spill response plan regulations (49 CFR 194) require operators to prepare and submit a response plan in order to minimize the harm caused to the environment due to the discharge of oil into or on any inland navigable waters of the United States or adjoining shorelines. This workshop will focus on multi-agency alignment, operator compliance, and participation in required drills and exercises. Additionally, attendees and commenters will be given the opportunity to provide suggestions and recommendations for possible changes to the oil spill response regulations.

#### Background

PHMSA wishes to gather information about the efficacy of the oil spill response plan regulations. PHMSA is aware that regulated entities and members of the public have requested greater direction and regulatory interpretation. PHMSA is also aware that its oil spill response plan regulations do not fully align with the regulations of other federal agencies that have been delegated jurisdiction under 42 U.S.C. 1321(j)(5). PHMSA is exploring ways to reduce redundancy, clarify language and improve efficacy of its oil spill response plan regulations.

PHMSA believes improving the response plan preparation and submission process is important for improving response actions, ensuring response capabilities, and minimizing harm to the environment. In particular, PHMSA is interested in collaboration with other jurisdictional federal agencies, operators, and oil spill response organizations.

Issued in Washington, DC, on March 24, 2016, under authority delegated in 49 CFR 1.97.

**Alan K. Mayberry,**  
Deputy Associate Administrator for Policy and Programs.

[FR Doc. 2016-07096 Filed 3-29-16; 8:45 am]

**BILLING CODE 4910-60-P**

#### DEPARTMENT OF TRANSPORTATION

##### Office of the Secretary

##### Transportation Research and Development Strategic Plan

**AGENCY:** Office of the Assistant Secretary for Research and Technology (OST-R), Department of Transportation (DOT).

**ACTION:** Request for Information (RFI).

**SUMMARY:** Section 6019 of the Fixing America's Surface Transportation Act (FAST Act; Pub. L. 114-94; December 4, 2015; codified at 49 U.S.C. 6503) requires that the Secretary develop a 5-year transportation research and development strategic plan to guide future Federal transportation research and development activities. The FAST Act states that the strategic plan shall "describe how the plan furthers the primary purpose of the transportation research and development program."

**DATES:** Comments must be received by April 29, 2016.

**ADDRESSES:** To ensure that you do not duplicate your docket submissions, please submit them by only one of the following means:

- **Federal eRulemaking Portal:** Go to <http://www.regulations.gov> and follow the online instructions for submitting comments.
- **Mail:** U.S. Department of Transportation, Dockets Management Facility, Room W12-140, 1200 New Jersey Ave. SE., Washington, DC 20590-0001.
- **Hand Delivery:** West Building Ground Floor, Room W12-140, 1200 New Jersey Ave. SE., between 9 a.m. 5 p.m., Monday through Friday, except Federal holidays. The telephone number is (202) 366-9329.

All comments must include the docket number DOT-OST-2016-0044 at the beginning of the submission. All comments received will be posted without change to <http://www.regulations.gov>, including any personal information provided.

**FOR FURTHER INFORMATION CONTACT:** Aaron Jette, Community Planner, U.S. DOT Volpe Center, Attn: Aaron Jette; Office 460; 55 Broadway, Cambridge, MA 02142. Telephone (617) 494-2335 or Email [RDTPlan@dot.gov](mailto:RDTPlan@dot.gov).

**SUPPLEMENTARY INFORMATION:** The FAST Act states that the strategic plan shall "describe how the plan furthers the primary purpose of the transportation research and development program, which shall include—

- (A) Improving mobility of people and goods;
- (B) Reducing congestion;

(C) Promoting safety;  
(D) Improving the durability and extending the life of transportation infrastructure;

(E) Preserving the environment;  
(F) Preserving the existing transportation system.”

The FAST Act also requires that the strategic plan take into account research and development by other Federal, State, local, private sector and non-profit institutions.

The Office of the Assistant Secretary for Research and Technology invites the public to provide comments to inform the development of the 5-year strategic plan for transportation Research, Development and Technology (RD&T). Comments should regard appropriate RD&T activities to meet the purposes and considerations listed in the FAST Act and/or emerging RD&T challenges, opportunities, and priorities that U.S. DOT RD&T should address over the next five years. In particular, comments may respond to any or all of the following questions:

1. What research strategies and priorities should the U.S. DOT adopt to achieve the primary purposes cited in the FAST Act?

2. How can the issues raised in the U.S. DOT document “*Beyond Traffic 2045: Trends and Choices*” be strategically addressed by RD&T activities over the next five years?

3. What emerging challenges or opportunities in transportation warrant additional Federal RD&T activities or investments?

4. What current and planned RD&T activities sponsored by the federal government should be continued or revised in the future?

5. What strategies could improve the cost-effectiveness of U.S. DOT research investments?

6. How can U.S. DOT best coordinate its RD&T activities with Federal, State, local, private sector, non-profit institutions, and international partners?

7. What knowledge gaps merit additional exploration by the USDOT?

For information about current U.S. DOT RD&T activities please visit the Department’s Web site at: <https://www.transportation.gov/research-and-statistics>.

The U.S. DOT RD&T Strategic Plan will present the Department’s strategy for responding to the trends and opportunities identified in *Beyond Traffic 2045: Trends and Choices* ([www.transportation.gov/BeyondTraffic](http://www.transportation.gov/BeyondTraffic)). *Beyond Traffic* examines the long-term and emerging trends affecting our Nation’s transportation system and the implications of those trends. It describes

how demographic and economic trends, as well as changes in technology, governance, and our climate are affecting how people and goods travel today, and how they could affect travel in the future. *Beyond Traffic* provides a framework for identifying U.S. DOT RD&T priorities that will advance technologies and inform decisions regarding how we move, how we move things, how we move better, how we adapt, and how we align decisions and dollars.

Issued in Washington, DC, on March 23, 2016.

**Gregory D. Winfree,**

*Assistant Secretary for Research and Technology.*

[FR Doc. 2016–07139 Filed 3–29–16; 8:45 am]

**BILLING CODE 4910–9X–P**

## DEPARTMENT OF TRANSPORTATION

### Office of the Secretary of Transportation

[Docket No. DOT–OST–2016–0037]

#### Notice of order soliciting community proposals

**AGENCY:** Department of Transportation, Office of the Secretary.

**ACTION:** Notice of order soliciting community proposals (Order 2016–3–32).

**SUMMARY:** The Department of Transportation is soliciting proposals from communities or consortia of communities interested in receiving grants under the Small Community Air Service Development Program. The full text of the Department’s order, including Appendices, is included in this Notice. As noted in the order, an application for a grant under this program must include a Grant Proposal of no more than 20 pages (one-sided only), a completed Application for Federal Domestic Assistance (SF424), a Summary Information Schedule, and any letters from the applicant community showing support.

**DATES:** Applications must be submitted no later than May 2, 2016.

**ADDRESSES:** Communities must submit applications electronically through <http://www.grants.gov>.

**FOR FURTHER INFORMATION CONTACT:** Brooke Chapman, Associate Director, Small Community Air Service Development Program, Office of Aviation Analysis, 1200 New Jersey Avenue SE., W86–307, Washington, DC 20590, (202) 366 0577.

**SUPPLEMENTARY INFORMATION:** By this order, the U.S. Department of

Transportation (the Department or DOT) invites proposals from communities and/or consortia of communities interested in obtaining a federal grant under the Small Community Air Service Development Program (“Small Community Program” or “SCASDP”) to address air service and airfare issues in their communities. Subject to the availability of funding, the Department has up to \$5 million available for FY 2016 grant awards to carry out this program. There is no other limitation on the amount of individual awards, and the amounts awarded will vary depending upon the features and merits of the selected proposals. In past years, the Department’s individual grant sizes have ranged from \$20,000 to nearly \$1.6 million. Funding amounts made available for reimbursement may be impacted by future limitations placed on the spending authority and appropriations enacted for the Department. *OST cannot award grants until the enactment of authorizing legislation, an appropriations act, budget authority, and apportionment from the Office of Management and Budget (OMB).* OST may, at its discretion, issue partial funding awards up to the level authorized and provided that the above conditions are met. Additional information on the budget process may be found in OMB A–11: [http://www.whitehouse.gov/omb/circulars\\_default/](http://www.whitehouse.gov/omb/circulars_default/).

*Applications of no more than 20 one-sided pages each (excluding the completed Application for Federal Domestic Assistance (SF424), Summary Information schedule, and any letters from the community or an air carrier showing support for the application), including all required information, must be submitted to [www.grants.gov](http://www.grants.gov) no later than 5:00 p.m. EDT on May 2, 2016.*

Applicants are strongly encouraged to submit applications in advance of the deadline. Please be aware that applicants must complete the grants.gov registration process before submitting an application, and that this process usually takes two to four weeks to complete.<sup>1</sup> The Department will not accept late-filed applications except under limited circumstances related to technical difficulties. Additional information on applying through grants.gov is in Appendix A, including a notice regarding late-filed applications.

<sup>1</sup> If an applicant experiences difficulties at any point during the registration or application process, it should contact the grants.gov support center by email ([support@grants.gov](mailto:support@grants.gov)) or by telephone (1–800–518–4726, available 24/7 except Federal holidays). See [www.grants.gov/web/grants/support.html](http://www.grants.gov/web/grants/support.html).

This order is organized into the following sections:

- I. Background
- II. Selection Criteria and Guidance on Application of Selection Criteria
- III. Evaluation and Selection Process
- IV. How To Apply
- V. Air Service Development Zone
- VI. Grant Administration
- VII. Questions and Clarifications
- Appendix A—Additional Information on Applying Through [www.grants.gov](http://www.grants.gov)
- Appendix B—Summary Information
- Appendix C—Application Checklist
- Appendix D—Confidential Commercial Information

## I. Background

The Small Community Program was established by the Wendell H. Ford Aviation Investment and Reform Act for the 21st Century (Pub. L. 106–181), reauthorized by the Vision 100-Century of Aviation Reauthorization Act (Pub. L. 108–176), and subsequently reauthorized by the FAA Modernization and Reform Act of 2012 (Pub. L. 112–95) (FAA 2012), as amended. The program is designed to provide financial assistance to small communities in order to help them enhance their air service. The Department provides this assistance in the form of monetary grants that are disbursed on a reimbursable basis. Authorization for this program is codified at 49 U.S.C. 41743.

The Small Community Program is authorized to receive appropriations under 49 U.S.C. 41743(e)(2), as amended. Appropriations are provided for this program for award selection in FY 2016 pursuant to FAA 2012 and the Consolidated Appropriations Act, 2016 (Pub. L. 114–113). The Airport and Airway Extension Act of 2015 provides contract authority until March 31, 2016, for the Airport Improvement Program, which funds SCASDP. Therefore, subject to the availability of funding, the Department has up to \$5 million available for FY 2016 grant awards to carry out this program. There is no other limitation on the amount of individual awards, and the amounts awarded will vary depending upon the features and merits of the selected proposals. In past years, the Department's individual grant sizes have ranged from \$20,000 to nearly \$1.6 million. Funding amounts made available for reimbursement may be impacted by future limitations placed on the spending authority and appropriations enacted for the Department. *OST cannot award grants until the enactment of authorizing legislation, an appropriations act, budget authority, and apportionment from the Office of Management and*

*Budget (OMB).* OST may, at its discretion, issue partial funding awards up to the level authorized and provided that the above conditions are met. Additional information on the budget process may be found in OMB A–11: [http://www.whitehouse.gov/omb/circulars\\_default/](http://www.whitehouse.gov/omb/circulars_default/).

## A. Eligible Applicants

Eligible applicants are small communities that meet the following statutory criteria under 49 U.S.C. 41743, as amended by Public Law 114–113:

1. (a) The airport serving the community or consortium is not larger than a small hub airport, according to FAA hub classifications effective on the date of service of this Order,<sup>2</sup> or
- (b) As of calendar year 1997, the airport serving the community or consortium was not larger than a small hub airport,<sup>3</sup> and
2. It has insufficient air carrier service or unreasonably high air fares; and
3. The airport serving the community presents characteristics, such as geographic diversity or unique circumstances that demonstrate the need for, and feasibility of, grant assistance from the Small Community Program.<sup>4</sup>

No more than four communities or consortia of communities, or a combination thereof, from the same State may be selected to participate in the program in any fiscal year. No more than 40 communities or consortia of communities, or a combination thereof, may be selected to participate in the program in each year for which the funds are appropriated.

**Consortium applications:** Both individual communities and consortia of communities are eligible for SCASDP funds. An application from a consortium of communities must be one that seeks to facilitate the efforts of the communities working together toward one joint grant project, with one joint objective, including the establishment of one entity to ensure that the joint objective is accomplished.

**Multiple applications prohibited:** A community may file only one

<sup>2</sup> “Small hub airport” is defined in 49 U.S.C. 47102 (23) as “a commercial service airport that has at least 0.05 percent but less than 0.25 percent of the passenger boardings.” See also [http://www.faa.gov/airports/planning\\_capacity/passenger\\_allcargo\\_stats/categories/](http://www.faa.gov/airports/planning_capacity/passenger_allcargo_stats/categories/). For FAA passenger enplanement information to use to determine an airport's eligibility as a small hub airport, see [http://www.faa.gov/airports/planning\\_capacity/passenger\\_allcargo\\_stats/passenger/](http://www.faa.gov/airports/planning_capacity/passenger_allcargo_stats/passenger/).

<sup>3</sup> See, <http://www.dot.gov/policy/aviation-policy/small-community-rural-air-service/SCASDP>, for the FAA's 1997 list of Primary and Nonprimary Commercial Service Airports.

<sup>4</sup> 49 U.S.C. 41743(c)(1), (2).

application for a grant, either individually or as part of a consortium.

**Communities without existing air service:** Communities that do not currently have commercial air service are eligible for SCASDP funds.

**Essential Air Service communities:** Small communities that meet the basic SCASDP criteria and currently receive subsidized air service under the Essential Air Service (“EAS”) program are eligible to apply for SCASDP funds. However, *grant awards to EAS-subsidized communities are limited to marketing or promotion projects that support existing or newly subsidized EAS.* Grant funds will *not* be authorized for EAS-subsidized communities to support any *new* competing air service. Furthermore, no funds will be authorized to support additional flights by EAS carriers or changes to those carriers' existing schedules. These restrictions are necessary to avoid conflicts with the mandate of the EAS program.

**Alternate Essential Air Service communities:** Likewise, small communities that meet the basic SCASDP criteria and currently receive assistance under the Alternate Essential Air Service Pilot Program (“Alternate EAS Pilot Program”) (49 U.S.C. 41745(a)) are eligible to apply for SCASDP funds. Since the Alternate EAS Pilot Program is a substitute/alternative to traditional EAS, we would consider applications from communities receiving assistance under 49 U.S.C. 41745(a) only for marketing or promotion projects; however, if the community is already receiving Department support for marketing projects, per the community's proposal under the Alternate EAS Pilot Program, the community's project would not be considered for a SCASDP grant.

## Eligible Projects

The Department is authorized to award grants under 49 U.S.C. 41743 to communities that seek to provide assistance to:

- A U.S. air carrier<sup>5</sup> to subsidize service to and from an underserved airport for a period not to exceed 3 years;
- An underserved airport to obtain service to and from the underserved airport; and/or
- An underserved airport to implement such other measures as the Secretary, in consultation with such airport, considers appropriate to improve air service both in terms of the

<sup>5</sup> Only U.S. air carriers are eligible to receive assistance from communities under SCASDP. See 49 U.S.C. 41743(d)(1) and 40102(a)(2).



cost of such service to consumers and the availability of such service, including improving air service through marketing and promotion of air service and enhanced utilization of airport facilities.

Applicants should also keep in mind the following statutory restrictions on eligible projects:

- An applicant may not receive an additional grant to support the same project from a previous grant (see Same Project Limitation below); and
- An applicant may not receive an additional grant, prior to the completion of its previous grant (see Concurrent Grant Limitation below).

**Same Project Limitation:** Under 49 U.S.C. 41743(c), a community or consortium may not receive an additional grant to support the same project for which it received a previous grant (Same Project Limitation).<sup>6</sup> In assessing whether a previous grantee's current application represents a new project, the Department will compare the goals and objectives of the previous grant, including the key components of the means by which those goals and objectives were to be achieved, to the current application. For example, if a community received an earlier grant to support a revenue guarantee for service to a particular destination or direction, a new application by that community for another revenue guarantee for service to the same destination or in the same direction is ineligible, even if the revenue guarantee were structured differently or the type of carrier were different. However, a new application by such a previous grantee for service to a new destination or direction using a revenue guarantee, or for general marketing of the airport and the various services it offers, is eligible.<sup>7</sup> The Department recognizes that not all revenue guarantees, marketing agreements, studies, or other activities are of the same nature, and that if a subsequent application incorporates different goals or significantly different components, it may be sufficiently different to constitute a new project under 49 U.S.C. 41743(c).

**Concurrent Grant Limitation:** A community or consortium may have

only one SCASDP grant at any time. If a community or consortium applies for a subsequent SCASDP grant when its current grant has not yet expired, that community/consortium must notify the Department of its intent to terminate the current SCASDP grant, and if the community/consortium is selected for a new grant, such termination must take place prior to entering into the new grant agreement. In addition, for consortium member applicants, permission must be granted from both the grant sponsor and the Department to withdraw from the current SCASDP grant before that consortium member will be deemed eligible to receive a subsequent SCASDP grant.

**Airport Capital Improvements Ineligible:** Airport capital improvement projects, including, but not limited to, runway expansions and enhancements, the construction of additional aircraft gates, and other airport terminal expansions and reconfigurations are ineligible for funding under the Small Community Program. Airports seeking funding for airport capital improvement projects may want to consult with their local FAA Regional Office to discuss potential eligibility for grants under the Airport Improvement Program.

## II. Selection Criteria and Guidance on Application of Selection Criteria

SCASDP grants will be awarded based on the selection criteria as outlined below. There are two categories of selection criteria: Priority Selection Criteria and Secondary Selection Criteria. Applications that meet one or more of the Priority Selection Criteria will be viewed more favorably than those that do not meet any Priority Selection Criteria.

### A. Priority Selection Criteria

The statute directs the Department to give priority consideration to those communities or consortia where the following criteria are met:

1. *Air fares are higher than the national average air fares for all communities*—The Department will compare the local community's air fares to the national average air fares for all similar markets. Communities with market air fares significantly higher than the national average air fares in similar markets will receive priority consideration. The Department calculates these fares using data from the Bureau of Transportation Statistics (BTS) Airline Origin and Destination Survey data. The Department evaluates all fares in all relevant markets that serve a SCASDP community and compares the SCASDP community fares to all fares in similar markets across the

country. Each SCASDP applicant's air fares are computed as a percentage above or below the national averages. The report compares a community's air fares to the average for all other similar markets in the country that have similar density (passenger volume) and similar distance characteristics (market groupings). All calculations are based on 12-month ended periods to control for seasonal variation of fares.

2. *The community or consortium will provide a portion of the cost of the activity from local sources other than airport revenue sources*—The Department will consider whether a community or consortium proposes local funding for the proposed project. Applications providing proportionately higher levels of cash contributions from sources other than airport revenues will be viewed more favorably. Applications that provide multiple levels of contributions (state, local, cash and in-kind contributions) will also be viewed more favorably. See Additional Guidance—Cost Sharing and Local Contributions, in Subsection C below, for more information on the application of this selection criterion.

3. *The community or consortium has established or will establish a public-private partnership to facilitate air carrier service to the public*—The Department will consider a community's or consortium's commitment to facilitate air carrier service in the form of a public-private partnership. Applications that describe in detail how the partnership will actively participate in the implementation of the proposed project will be viewed more favorably.

4. *The assistance will provide material benefits to a broad segment of the traveling public, including businesses, educational institutions, and other enterprises, whose access to the national air transportation system is limited*—The Department will consider whether the proposed project would provide, to a broad segment of the community's traveling public, important benefits relevant to the community. Examples include service that would offer new or additional access to a connecting hub airport, service that would provide convenient travel times for both business and leisure travelers that would help obviate the need to drive long distances, and service that would offer lower fares.

5. *The assistance will be used in a timely manner*—The Department will consider whether a proposed project provides a well-defined strategic plan and reasonable timetable for use of the grant funds. In the Department's experience, reasonable timetables for

<sup>6</sup> This limitation applies for all projects contained in a previous grant agreement's scope; thus, even if the community did not actively implement a project listed in the scope of an earlier grant agreement, it may not receive funding for that project in a subsequent round of SCASDP funding.

<sup>7</sup> As noted in the "Market Analysis" subsection of section C below, target markets proposed by communities may be destination specific (e.g., service to LAX), a geographic region (e.g., northwest mountain region) or directional (e.g., hub in the southeastern United States or a point north, south, east, or west of the applicant community).

use of grant funds generally include a year to complete studies, two years for marketing and promotion of the airport, community, carrier, or destination, and three years for projects that target a revenue guarantee, subsidy, or other financial incentives. Applicants should describe how their projects can be accomplished within this timetable, including whether the airport and proposed air service provider have the requisite authorities and certifications necessary to carry out the proposed projects. In addition, because of this emphasis placed on timely use of funds, applicants proposing new service should describe the airport and whether it can support the proposed service, including whether the airport holds, or intends to apply for, an airport operating certificate issued under 14 CFR part 139. Air service providers proposed for the new service must have met or be able to meet, in a reasonably short period of time, all Department requirements for air service certification, including safety and economic authorities.

6. *Multiple communities cooperate to submit a regional or multistate application to consolidate air service into one regional airport*—The Department will consider whether a proposed project involves a consortium effort to consolidate air service into one regional airport. This statutory priority criterion was added pursuant to Section 429 of the FAA Modernization and Reform Act of 2012 (Pub. L. 112–95).

#### B. Secondary Selection Criteria

1. *Innovation*—The Department will consider whether an application proposes new and creative solutions to air transportation issues facing the community, including:

- The extent to which the applicant's proposed solution(s) to solving the problem(s) is new or innovative, including whether the proposed project utilizes or encourages intermodal or regional solutions to connect passengers to the community's air service (or, if the community cannot implement or sustain its own air services, to connect to a neighboring community's air service) *e.g.*, cost-effective inter/intra city passenger bus service, or marketing of intermodal surface transportation options also available to air travelers; and
- whether the proposed project, if successfully implemented, could serve as a working model for other communities.

2. *Community Participation*—The Department will consider whether an application has broad community participation, including:

- Whether the proposed project has broad community support; and
- the community's demonstrated commitment to and participation in the proposed project.

3. *Location*—The Department will consider the location and characteristics of a community:

- The geographic location of each applicant, including the community's proximity to larger centers of air service and low-fare service alternatives;
- The population and business activity, as well as the relative size of each community; and
- Whether the community's proximity to an existing or prior grant recipient could adversely affect either its proposal or the project undertaken by the other recipient.

4. *Other Factors*—The Department will also consider:

- Whether the proposed project clearly addresses the applicant's stated problems;
- The community's existing level of air service and whether that service has been increasing or decreasing;
- Whether the applicant has a plan to provide any necessary continued financial support for the proposed project after the requested grant award expires;
- The grant amount requested compared with the total funds available for all communities;
- The proposed federal grant amount requested compared with the local share offered;
- any letters of intent from airline planning departments or intermodal surface transportation providers on behalf of applications that specifically indicate intent to enlist new or expanded air service or surface transportation service in support of the air service in the community;
- whether the applicant has plans to continue with the proposed project if it is not self-sustaining after the grant award expires; and
- equitable and geographic distribution of available funds.

#### C. Additional Guidance

*Market Analysis:* Applicants requesting funds for a revenue guarantee/subsidy/financial incentive are encouraged to conduct and reference in their applications an in-depth analysis of their target markets. Target markets can be destination specific (*e.g.*, service to LAX), a geographic region (*e.g.*, northwest mountain region) or directional (*e.g.*, hub in the southeastern United States or a point north, south, east, or west of the applicant community).

*Complementary Marketing Commitment:* Applicants requesting

funds for a revenue guarantee/subsidy/financial incentive are encouraged to designate in their applications a portion of the project funds (Federal, local or in-kind) for the development and implementation of a marketing plan in support of the service sought.

*Subsidies for a carrier to compete against an incumbent:* The Department is reluctant to subsidize one carrier, but not others in a competitive market. For this reason, a community that proposes to use the grant funds for service in a city-pair market that is already served by another air carrier must explain in detail why the existing service is insufficient or unsatisfactory, or provide other compelling information to support such a proposal.

*Cost Sharing and Local Contributions:* Applications must clearly identify the level of federal funding sought for the proposed project. Applications must also identify the community's cash contributions to the proposed project, in-kind contributions from the airport, and in-kind contributions from the community. Non-federal funds will be applied proportionately to the entire scope of the project. Communities cannot use non-federal funds selectively to fund certain components of a project (see Section VI—Grant Administration—Payments for more information). Cash contributions from airport revenues must be identified separately from cash contributions from other community sources. Cash contributions from the state and/or local government should be separately identified and described as well.

*Types of contributions.* Contributions should represent a *new* financial commitment or *new* financial resources devoted to attracting new or improved service, or addressing specific high-fare or other service issues, such as improving patronage of existing service at the airport. For communities that propose to contribute to the grant project, that contribution can be in the following forms:

*Cash from non-airport revenues.* A cash contribution can include funds from the state, the county or local government, and/or from local businesses, or other private organizations in the community. Because private cash contributions are to be from local community sources, the Department will not consider as a part of these non-airport revenues any funds that a community might receive from an air carrier interested in providing service under that community's proposal. Moreover, contributions that are comprised of intangible non-cash items, such as the value of donated advertising, are considered in-kind

contributions (see further discussion below).

*Cash from airport revenues.* This includes contributions from funds generated by airport operations. Airport revenues may not be used for revenue guarantees to airlines, per 49 U.S.C. 47107 and 47133. Applications that include local contributions based on airport revenues do not receive priority consideration for selection.

*In-kind contributions from the airport.* This can include such items as waivers of landing fees, ground handling fees, terminal rents, fuel fees, and/or vehicle parking fees.

*In-kind contributions from the community.* This can include such items as donated advertising from media outlets, catering services for inaugural events, or in-kind trading, such as advertising in exchange for free air travel. Travel banks and travel commitments/pledges are considered to be in-kind contributions.

*Cash vs. in-kind contributions.* Communities that include local contributions made in cash will be viewed more favorably.

*Eligible Air Carriers:* As noted in footnote 3 above, only U.S. air carriers are eligible to receive assistance from communities under SCASDP grants. A particular U.S. carrier may hold authority to conduct operations as a certificated air carrier, a commuter air carrier, or an air taxi operator.<sup>8</sup> Communities are encouraged to verify, at an early stage of any air carrier discussions, that the air carrier does in fact hold appropriate Department authority to conduct the proposed services. Communities may verify this authority by contacting the Department's Air Carrier Fitness Division at (202) 366-9721.

*Aviation Security:* Communities proposing new or expanded air service under a SCASDP grant proposal are encouraged to contact the Transportation Security Administration (TSA) early in the process to ascertain what the security implications of such service would be with respect to the airport involved, and what measures that airport would need to take with the TSA to assure that the service would meet all applicable TSA requirements.

### III. Evaluation and Selection Process

The Department will first review each application to determine whether it has

satisfied the following eligibility requirements:

1. The applicant is an eligible applicant;
2. The application is for an eligible project (including compliance with the Same Project Limitation); and
3. The application is complete (including submission of a completed SF424 and all of the information listed in Contents of Application, in Section IV below).

To the extent that the Department determines that an application does not satisfy these eligibility requirements, the Department will deem that application ineligible and not consider it further.

The Department will then review all eligible applications based on the selection criteria outlined above in Section II. The Department will not assign specific numerical scores to projects based on the selection criteria. Rather, ratings of "highly recommended," "recommended," "acceptable," or "not recommended" will be assigned to applications. Applications that align well with one or more of the Priority Selection Criteria will be viewed more favorably than those that do not align with any Priority Selection Criteria. The Department will consider the Secondary Selection Criteria when comparing and selecting among similarly-rated projects.

The Department reserves the right to award funds for a part of the project included in an application, if a part of the project is eligible and aligns well with the selection criteria specified in this Order. In addition, as part of its review of the Secondary Selection Criterion "Other Factors," the Department will consider the geographical distribution of the applications to ensure consistency with the statutory requirement limiting awards to no more than four communities or consortia of communities, or a combination thereof, from the same state. The final selections will be limited to no more than 40 communities or consortia of communities, or a combination thereof.

Grant awards will be made as promptly as possible so that selected communities can complete the grant agreement process and implement their plans. Given the competitive nature of the grant process, the Department will not meet with applicants regarding their applications. All non-confidential portions of each application, all correspondence and ex-parte communications, and all orders will be posted in the above-captioned docket on [www.regulations.gov](http://www.regulations.gov).

The Department will announce its grant selections in a Selection Order

that will be posted in the above-captioned docket, served on all applicants and all parties served with this Solicitation Order, and posted on the Department's SCASDP Web site <https://www.transportation.gov/policy/aviation-policy/small-community-rural-air-service/SCASDP>.

### IV. How To Apply

Required Steps:

- Determine eligibility;
- Register with [www.grants.gov](http://www.grants.gov) (see Registration with [www.grants.gov](http://www.grants.gov), below);
- Submit an Application for Federal Domestic Assistance (SF424);
- Submit a completed "Summary Information" schedule. This is your application cover sheet (see Appendix B);
- Submit a detailed application of up to one-sided 20 pages (excluding the completed SF424, Summary Information schedule, and any letters from the community or an air carrier showing support for the application) that meets all required criteria (see Appendix C);
- Attach any letters from the community or an air carrier showing support for the application to the proposal, which should be addressed to: Brooke Chapman, Associate Director, Small Community Air Service Development Program; and
- Provide separate submission of confidential material, if requested. (see Appendix D)

An application will not be complete and will be deemed ineligible for a grant award until and unless all required materials, including SF424, have been submitted through [www.grants.gov](http://www.grants.gov) and time-stamped by 5:00 p.m. EDT on May 2, 2016 (the "Application Deadline").

An application consisting of more than 20 pages will be accepted by the Department, but the content in the additional pages past page 20 will not be evaluated or considered by the Department. The Department would prefer that applicants use one-inch margins and a font size not less than 12 point type.

*Late Application Notice:* Applicants who are unable to successfully submit their application package through [grants.gov](http://grants.gov) prior to the Application Deadline due to technical difficulties outside their control must submit an email to [SCASDPgrants@dot.gov](mailto:SCASDPgrants@dot.gov) with the information described in Appendix A.

*Registration with [www.grants.gov](http://www.grants.gov):* Communities must be registered with [www.grants.gov](http://www.grants.gov) in order to submit an application for funds available under this program. For consortium

<sup>8</sup>For example, an air carrier holding only air taxi authority under 14 CFR parts 298 and 135 is limited to the use of small aircraft (60 or fewer seats and a maximum payload capacity of 18,000 pounds or less, and to conducting fewer than five round-trip flights per week in a particular city-pair market.

applications, only the Legal Sponsor must be registered with [www.grants.gov](http://www.grants.gov) in order to submit its application for funds available under this program. See Appendix A for additional information on applying through [www.grants.gov](http://www.grants.gov).

**Contents of Application:** There is no set format that must be used for applications. Each application should, to the maximum extent possible, address the selection criteria set forth in Section II, above, including a clear description of the air service needs/deficiencies and present plans/strategies that directly address those needs/deficiencies. At a minimum, however, each application must include the following information:

- *A description of the community's air service needs or deficiencies*, including information about: (1) Major origin/destination markets that are not now served or are not served adequately; (2) fare levels that the community deems relevant to consideration of its application, including market analyses or studies demonstrating an understanding of local air service needs; (3) any recent air service developments that have adversely affected the community;<sup>9</sup> and (4) any air service development efforts over the past three years and the results of those efforts (including marketing and promotional efforts).

- *A strategic plan for meeting those needs under the Small Community Program*, including the community's specific project goal(s) and detailed plan for attaining such goal(s). If the application is selected, DOT will work with the grantee to incorporate the relevant elements of the application's strategic plan into the grant agreement's project scope.<sup>10</sup> Applicants should note that, once a grant agreement is signed, the agreement generally cannot be amended in a way that would alter the project scope. Applicants also are advised to obtain firm assurances from air carriers proposing to offer new air

services if a grant is awarded. Strategic plans should:

- For applications involving new or improved service, explain how the service will become self-sufficient;
  - fully and clearly outline the goals and objectives of the project; and
  - fully and clearly summarize the actual, specific steps (in bullet form, with a proposed timeline) that the community intends to take to bring about these goals and objectives.
- *A detailed description of the funding necessary for implementation of the proposed project* (including federal and non-federal contributions).
  - *An explanation of how the proposed project differs from any previous projects for which the community received SCASDP funds* (see Same Project Limitation, above).
  - *Designation of a legal sponsor responsible for administering the proposed project.* The legal sponsor of the proposed project must be a government entity, such as a state, county, or municipality. The legal sponsor must be legally, financially, and otherwise able to execute the grant agreement and administer the grant, including having the authority to sign the grant agreement and to assume and carry out the certifications, representations, warranties, assurances, covenants and other obligations required under the grant agreement with the Department and to ensure compliance by the grant recipient with the grant agreement and grant assurances. If the applicant is a public-private partnership, a public government member of the organization must be identified as the community's sponsor to receive project cost reimbursements. A community may designate only one government entity as the legal sponsor, even if it is applying as a consortium that consists of two or more local government entities. Private organizations may not be designated as the legal sponsor of a grant under the Small Community Program. The community has the responsibility to ensure that the legal sponsor and grant recipient of any funding has the legal authority under state and local laws to carry out all aspects of the grant, and the Department may require an opinion of the legal sponsor's attorney as to its legal authority to act as a sponsor and to carry out its responsibilities under the grant agreement. The applicant should also provide the name of the signatory party for the legal sponsor.

## V. Air Service Development Zone Designation

As part of the Small Community Program, the Department may also

designate one grant recipient as an "Air Service Development Zone" (ASDZ).<sup>11</sup> The purpose of the designation is to provide communities interested in attracting business to the area surrounding the airport and/or developing land-use options for the area to work with the Department on means to achieve those goals. The Department will assist the designated community in establishing contacts with and obtaining advice and assistance from appropriate government agencies, including the Department of Commerce and other offices within the Department of Transportation, and in identifying other pertinent resources that may aid the community in its efforts to attract businesses and to formulate land-use options. However, the community receiving this designation will be responsible for developing, implementing, and managing activities related to the air service development zone initiative. Only communities that are interested in these objectives and have a plan to accomplish them should apply for this designation. There are no additional funds associated with this designation, and applying for this designation will provide no special benefits or priority to the community applying for a SCASDP grant.

Grant applicants interested in selection for the Air Service Development Zone designation must include in their applications a separate section, titled, *Support for Air Service Development Zone Designation*. The community should provide as detailed a plan as possible, including what goals it expects to achieve from the air service development zone designation and the types of activities on which it would like to work with the Department in achieving those goals. The community should also indicate whether further local government approvals are required in order to implement the proposed activities.

## VI. Grant Administration

**Grant Agreements:** Communities awarded grants are required to execute a grant agreement with the Department *before* they begin to expend funds under the grant award. Applicants should not assume they have received a grant, nor should they obligate or expend local funds prior to receiving and fully executing a grant agreement with the Department. Expenditures made prior to the execution of a grant agreement, including costs associated with preparation of the grant application, will *not* be reimbursed. Moreover, there are numerous assurances that grant

<sup>9</sup>For example, if a community has lost service or been otherwise adversely affected as a result of an airline merger, the applicant should describe the situation in detail and quantify, to the extent possible, its effects on the community.

<sup>10</sup>If new service is proposed to or from a specific city or market served by multiple airports (such as New York, Chicago, Los Angeles, or Washington, DC, for example), the applicant is encouraged to identify the airport(s) in that city or market the community would be targeting under its proposal in order to facilitate the drafting of the grant agreement's project scope. Communities should carefully select, within a specific city or market, those airports for which it proposes service, as proposing multiple airports in a city or market could impact the ability of a community to seek future grants involving those airports (see Same Project Limitation, above).

<sup>11</sup> See 49 U.S.C. 41743(h).

recipients must sign and honor when federal funds are awarded. All communities receiving a grant will be required to accept and meet the obligations created by these assurances when they execute their grant agreements. Copies of assurances are available online at <http://www.dot.gov/policy/aviation-policy/small-community-rural-air-service/SCASDP>, (click on “SCASDP Grant Assurances”).

**Payments:** The Small Community Program is a reimbursable program; therefore, communities are required to make expenditures for project implementation under the program prior to seeking reimbursement from the Department. Eligible project implementation costs are reimbursable from grant funds only for services or property delivered during the grant term. Reimbursement rates are calculated as a percentage of the total federal funds requested divided by the federal funds plus the local cash contribution (which is not refundable). The percentage is determined by:  $(\text{SCASDP Grant Amount}) \div (\text{SCASDP Grant Amount} + \text{Local Cash Contribution} + \text{State Cash Contribution, if applicable})$ . For example, if a community requests \$500,000 in federal funding and provides \$100,000 in local contributions, the reimbursement rate would be 83.33 percent:  $((500,000) / (500,000 + 100,000)) = 83.33$ . Payments/expenditures in forms other than cash (e.g., in-kind) are not reimbursable.

**Grantee Reports:** Each grantee must submit quarterly reports on the progress made during the previous quarter in implementing its grant project. In addition, each community will be required to submit a final report on its project to the Department, and 10 percent of the grant funds will not be reimbursed to the community until such a final report is received. Additional information on award administration for selected communities will be provided in the grant agreement.

## VII: Questions and Clarifications

For further information concerning the technical requirements set out in this Order, please contact Brooke Chapman at [Brooke.Chapman@dot.gov](mailto:Brooke.Chapman@dot.gov) or (202) 366–0577. A TDD is available for individuals who are deaf or hard of hearing at (202) 366–3993. The Department may post answers to questions and other important clarifications in the above-captioned docket on [www.regulations.gov](http://www.regulations.gov) and on the program Web site at <https://www.transportation.gov/policy/aviation-policy/small-community-rural-air-service/SCASDP>.

This Order is issued under authority delegated in 49 CFR 1.25a(b).

Accordingly,

1. Applications for funding under the Small Community Air Service Development Program should be submitted via [www.grants.gov](http://www.grants.gov) as an attachment to the SF424 by 5:00 p.m. EDT, May 2, 2016; and

2. This Order will be published in the **Federal Register**, posted on [www.grants.gov](http://www.grants.gov) and [www.regulations.gov](http://www.regulations.gov), and served on the United States Conference of Mayors, the National League of Cities, the National Governors Association, the National Association of State Aviation Officials, County Executives of America, the American Association of Airport Executives, and the Airports Council International—North America.

Issued in Washington, DC on March 28, 2016.

By:

**Susan L. Kurland,**

*Assistant Secretary for Aviation and International Affairs.*

An electronic version of this document is available online at [www.regulations.gov](http://www.regulations.gov).

## Additional Information on Applying Through [www.Grants.Gov](http://www.Grants.Gov)

Applications must be submitted electronically through <http://www.grants.gov/web/grants/applicants/apply-for-grants.html>. To apply for funding through [www.grants.gov](http://www.grants.gov), applicants must be properly registered. The Grants.gov/Apply feature includes a simple, unified application process that makes it possible for applicants to apply for grants online. There are five “Get Registered” steps for an organization to complete at Grants.gov. Complete instructions on how to register and apply can be found at <http://www.grants.gov/web/grants/applicants/organization-registration.html>. If applicants experience difficulties at any point during registration or application process, please call the [www.grants.gov](http://www.grants.gov) Customer Support Hotline at 1–800–518–4726, Monday–Friday from 7:00 a.m. to 9:00 p.m. EDT.

Registering with [www.grants.gov](http://www.grants.gov) is a one-time process; however, processing delays may occur and it can take up to several weeks for first-time registrants to receive confirmation and a user password. It is highly recommended that applicants start the registration process as early as possible to prevent delays that may preclude submitting an application by the deadlines specified. Applications must be submitted and time-stamped not later than 5:00 p.m. EDT on May 2, 2016 (the Application Deadline), and, as set forth below,

failure to complete the registration process before the Application Deadline is not a valid reason to permit late submissions.

In order to apply for SCASDP funding through <http://www.grants.gov/web/grants/applicants/apply-for-grants.html>, all applicants are required to complete the following:

1. **DUNS Requirement.** The Office of Management and Budget requires that all businesses and nonprofit applicants for federal funds include a Dun and Bradstreet Data Universal Numbering System (DUNS) number in their applications for a new award or renewal of an existing award. A DUNS number is a unique nine-digit sequence recognized as the universal standard for identifying and keeping track of entities receiving federal funds. The identifier is used for tracking purposes and to validate address and point of contact information for federal assistance applicants, recipients, and sub-recipients. The DUNS number will be used throughout the grant life cycle. The DUNS number must be included in the data entry field labeled “Organizational DUNS” on the SF–424 form.

Instructions for obtaining DUNS number can be found at the following Web site: <http://www.grants.gov/web/grants/applicants/organization-registration/step-1-obtain-duns-number.html>.

2. **System for Award Management.** In addition to having a DUNS number, applicants applying electronically through Grants.gov must register with the federal System for Award Management (SAM). Step-by-step instructions for registering with SAM can be found here: <http://www.grants.gov/web/grants/applicants/organization-registration/step-2-register-with-sam.html>. All applicants must register with SAM in order to apply online. Failure to register with the SAM will result in your application being rejected by Grants.gov during the submissions process.

3. **Username and Password.** Acquire an Authorized Organization Representative (AOR) and a [www.grants.gov](http://www.grants.gov) username and password. Complete your AOR profile on [www.grants.gov](http://www.grants.gov) and create your username and password. You will need to use your organization’s DUNS Number to complete this step. For more information about creating a profile on Grants.gov visit: <http://www.grants.gov/web/grants/applicants/organization-registration/step-3-username-password.html>.

4. After creating a profile on Grants.gov, the E-Biz Point of Contact (E-Biz POC)—a representative from your organization who is the contact listed

for SAM—will receive an email to grant the AOR permission to submit applications on behalf of their organization. The E-Biz POC will then log in to Grants.gov and approve an applicant as the AOR, thereby giving him or her permission to submit applications. To learn more about AOR Authorization visit: <http://www.grants.gov/web/grants/applicants/organization-registration/step-4-aor-authorization.html>. To track an AOR status visit: <http://www.grants.gov/web/grants/applicants/organization-registration/step-5-track-aor-status.html>.

Applicants are, therefore, encouraged to register early. The registration process can take up to four weeks to be completed. Thus, registration should be done in sufficient time to ensure it does not impact your ability to meet required submission deadlines. You will be able to submit your application online any time after you have approved as an AOR.

5. *Electronic Signature.* Applications submitted through Grants.gov constitute a submission as electronically signed applications. The registration and account creation with Grants.gov with E-Biz POC approval establishes an Authorized Organization Representative (AOR). When you submit the application through Grants.gov, the name of your AOR on file will be inserted into the signature line of the application. Applicants must register the individual who is able to make legally binding commitments for the applicant organization as the Authorized Organization Representative (AOR);

6. Search for the Funding Opportunity on [www.grants.gov](http://www.grants.gov). Please use the following identifying information when searching for the SCASDP funding opportunity on [www.grants.gov](http://www.grants.gov). The Catalog of Federal Domestic Assistance (CFDA) number for this solicitation is 20.930, titled Payments for Small Community Air Service Development.

7. Submit an application addressing all of the requirements outlined in this funding availability announcement. Within 24–48 hours after submitting your electronic application, you should receive an email validation message from [www.grants.gov](http://www.grants.gov). The validation message will tell you whether the application has been received and validated or rejected, with an explanation. *You are urged to submit your application at least 72 hours prior to the due date of the application to allow time to receive the validation message and to correct any problems*

*that may have caused a rejection notification.*

8. *Timely Receipt Requirements and Proof of Timely Submission.* Proof of timely submission is automatically recorded by Grants.gov. An electronic timestamp is generated within the system when the application is successfully received by Grants.gov. The applicant will receive an acknowledgement of receipt and a tracking number from Grants.gov with successful transmission of the application. Applicants should print this receipt and save it, as a proof of timely submission.

9. Grants.gov allows applicants to download the application package, instructions and forms that are incorporated in the instructions, and work offline. In addition to forms that are part of the application instructions, there will be a series of electronic forms that are provided utilizing Adobe Reader.

a. *Adobe Reader.* Adobe Reader is available for free to download from the Adobe Software Compatibility page: <http://www.grants.gov/web/grants/applicants/adobe-software-compatibility.html>. Adobe Reader allows applicants to read the electronic files in a form format so that they will look like any other Standard form. The Adobe Reader forms have content sensitive help. This engages the content sensitive help for each field you will need to complete on the form. The Adobe Reader forms can be downloaded and saved on your hard drive, network drive(s), or CDs.

b. **Note:** For the Adobe Reader, Grants.gov is compatible with versions 9.0.0 and later versions. Always refer to the Adobe Software Compatibility page for compatible versions for the operating system you are using. Please do not use lower versions of the Adobe Reader.

c. *Mandatory Fields in Adobe Forms.* In the Adobe Reader forms, you will note fields that will appear with a background color on the data fields to be completed. These fields are mandatory fields and they must be completed to successfully submit your application.

**Note:** When uploading attachments please use generally accepted formats such as .pdf, .doc, and .xls. While you may imbed picture files such as .jpg, .gif, .bmp, in your files, please do not save and submit the attachment in these formats. Additionally, the following formats will not be accepted: .com, .bat, .exe, .vbs, .cfg, .dat, .db, .dbf, .dll, .ini, .log, .ora, .sys, and .zip.

*Experiencing Unforeseen  
www.grants.gov Technical Issues*

**Late Application Notice:** Applicants who are unable to successfully submit their application package through [grants.gov](http://www.grants.gov) prior to the Application Deadline due to technical difficulties outside their control must submit an email to [SCASDPgrants@dot.gov](mailto:SCASDPgrants@dot.gov) with the following information:

- The nature of the technical difficulties experienced in attempting to submit an application;
- A screenshot of the error;
- The Legal Sponsor's name; and
- The Grants.Gov tracking number (e.g. GRANT12345678).

DOT will consider late applications on a case-by-case basis and reserves the right to reject late applications that do not meet the conditions outlined in the Order Soliciting Small Community Grant Proposals. Late applications from applicants that do not provide DOT an email with the items specified above will not be considered.

If you experience unforeseen [www.grants.gov](http://www.grants.gov) technical issues beyond your control that prevent you from submitting your application by the Application Deadline, you must contact us at [SCASDPgrants@dot.gov](mailto:SCASDPgrants@dot.gov) or [Vince.Corsaro@dot.gov](mailto:Vince.Corsaro@dot.gov) or (202) 366–1842 by 5:00 p.m. EDT the day following the deadline and request approval to submit your application after the deadline has passed. At that time, DOT staff will require you to provide your DUNS number and your [www.grants.gov](http://www.grants.gov) Help Desk tracking number(s). After DOT staff review all of the information submitted and contact the [www.grants.gov](http://www.grants.gov) Help Desk to validate the technical issues you reported, DOT staff will contact you to either approve or deny your request to submit a late application through [www.grants.gov](http://www.grants.gov). If the technical issues you reported cannot be validated, your application will be rejected as untimely.

To ensure a fair competition for limited discretionary funds, the following conditions are not valid reasons to permit late submissions: (1) Failure to complete the registration process before the deadline date; (2) failure to follow [www.grants.gov](http://www.grants.gov) instructions on how to register and apply as posted on its Web site; (3) failure to follow all of the instructions in the funding availability notice; and (4) technical issues experienced with the applicant's computer or information technology (IT) environment.

**BILLING CODE 4910-9X-P**

**APPLICATION UNDER**  
**SMALL COMMUNITY AIR SERVICE DEVELOPMENT PROGRAM**  
**DOCKET DOT-OST-2016-0037**  
**SUMMARY INFORMATION<sup>1</sup>**

**All applicants must submit this Summary Information schedule, as the application coversheet, a completed standard form SF424 and the full application proposal on [www.grants.gov](http://www.grants.gov).**

**For your preparation convenience, this Summary Information schedule is located at <https://www.transportation.gov/policy/aviation-policy/small-community-rural-air-service/SCASDP>**

**A. PROVIDE THE LEGAL SPONSOR AND ITS DUN AND BRADSTREET (D&B) DATA UNIVERSAL NUMBERING SYSTEM (DUNS) NUMBER, INCLUDING +4, EMPLOYEE IDENTIFICATION NUMBER (EIN) OR TAX ID.**

**Legal Sponsor Name:**

\_\_\_\_\_  
**Name of Signatory Party for Legal Sponsor:**

\_\_\_\_\_  
**DUNS Number:**

\_\_\_\_\_  
**EIN/Tax ID:**

**B. LIST THE NAME OF THE COMMUNITY OR CONSORTIUM OF COMMUNITIES APPLYING:**

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_
4. \_\_\_\_\_

**C. PROVIDE THE FULL AIRPORT NAME AND 3-LETTER IATA AIRPORT CODE FOR THE APPLICANT(S) AIRPORT(S) (ONLY PROVIDE CODES FOR THE AIRPORT(S) THAT ARE ACTUALLY SEEKING SERVICE).**

- |          |          |
|----------|----------|
| 1. _____ | 2. _____ |
|----------|----------|

\_\_\_\_\_  
<sup>1</sup> Note that the Summary Information does not count against the 20-page limit of the SCASDP application.



3.

4.

THE AIRPORT SEEKING SERVICE IS NOT LARGER THAN A SMALL HUB AIRPORT:

- ☐ UNDER FAA HUB CLASSIFICATIONS EFFECTIVE ON THE DATE OF SERVICE OF THE ATTACHED ORDER
- ☐ AS OF CALENDAR YEAR 1997

DOES THE AIRPORT SEEKING SERVICE HOLD AN AIRPORT OPERATING CERTIFICATE ISSUED BY THE FEDERAL AVIATION ADMINISTRATION UNDER 14 CFR PART 139? (If “No”, PLEASE EXPLAIN WHETHER THE AIRPORT INTENDS TO APPLY FOR A CERTIFICATE OR WHETHER AN APPLICATION UNDER PART 139 IS PENDING.)

- ☐ Yes
- ☐ No (explain)

D. SHOW THE DRIVING DISTANCE FROM THE APPLICANT COMMUNITY TO THE NEAREST:

1. Large hub airport: \_\_\_\_\_
2. Medium hub airport: \_\_\_\_\_
3. Small hub airport: \_\_\_\_\_
4. Airport with jet service: \_\_\_\_\_

Note: Provide the airport name and distance, in miles, for each category.

E. LIST THE 2-DIGIT CONGRESSIONAL DISTRICT CODE APPLICABLE TO THE SPONSORING ORGANIZATION, AND IF A CONSORTIUM, TO EACH PARTICIPATING COMMUNITY.

1.
2.
3.
4.

**F. APPLICANT INFORMATION: (CHECK ALL THAT APPLY)**

- ☐ Not a Consortium      ☐ Interstate Consortium      ☐ Intrastate Consortium
- ☐ Community currently receives subsidized Essential Air Service, or receives assistance under the Alternate Essential Air Service Pilot Program
- ☐ Community (or Consortium member) previously received a Small Community Air Service Development Program Grant

If previous recipient: Provide year of grant(s): \_\_\_\_\_; and, the text of the grant agreement section(s) setting forth the scope of the grant project:

---



---



---



---



---

**G. PUBLIC/PRIVATE PARTNERSHIPS: (LIST ORGANIZATION NAMES)****PUBLIC****PRIVATE**

1.

1.

2.

2.

3.

3.

4.

4.

5.

5.

**H. PROJECT PROPOSAL:****1a. GRANT GOALS: (CHECK ALL THAT APPLY)**

- ☐ Launch New Carrier      ☐ Secure Additional Service      ☐ Upgrade Aircraft
- ☐ First Service      ☐ New Route      ☐ Service Restoration
- ☐ Regional Service      ☐ Surface Transportation      ☐ Professional Services<sup>2</sup>
- ☐ Other (explain below)

---

<sup>2</sup> "Professional Services" involve a community contracting with a firm to produce a product such as a marketing plan, study, air carrier proposal, etc.

**1b. GRANT GOALS: (SYNOPSIS)**

Concisely describe the scope of the proposed grant project. (For example, "Revenue guarantee to recruit, initiate, and support new daily service between \_\_\_\_\_ and \_\_\_\_\_;" or "Marketing program to support existing service between \_\_\_\_\_ and \_\_\_\_\_ by \_\_\_\_\_ Airlines.")

---

---

---

**2. FINANCIAL TOOLS TO BE USED: (CHECK ALL THAT APPLY)**

- ☐ **Marketing (including Advertising):** promotion of the air service to the public
  - ☐ **Start-up Cost Offset:** offsetting expenses to assist an air service provider in setting up a new station and starting new service (for example, ticket counter reconfiguration)
  - ☐ **Revenue Guarantee:** an agreement with an air service provider setting forth a minimum guaranteed profit margin, a portion of which is eligible for reimbursement by the community
  - ☐ **Recruitment of U.S. Air Carrier:** air service development activities to recruit new air service, including expenses for airport marketers to meet with air service providers to make the case for new air service
  - ☐ **Fee Waivers:** waiver of airport fees, such as landing fees, to encourage new air service; counted as in-kind contributions only
  - ☐ **Ground Handling Fee:** reimbursement of expenses for passenger, cabin, and ramp (below wing) services provided by third party ground handlers
  - ☐ **Travel Bank:** travel pledges, or deposited monetary funds, from participating parties for the purchase of air travel on a U.S. air carrier, with defined procedures for the subsequent use of the pledges or the deposited funds; counted as in-kind contributions only
  - ☐ **Other** (explain below)
- 
- 

**I. EXISTING LANDING AIDS AT LOCAL AIRPORT:**

- ☐ Full ILS
- ☐ Outer/Middle Marker
- ☐ Published Instrument Approach

☐ Localizer ☐ Other (specify)

**J. PROJECT COST: DO NOT ENTER TEXT IN SHADED AREA**

**REMINDER: LOCAL CASH CONTRIBUTIONS MAY NOT BE PROVIDED BY AN AIR CARRIER (SEE "TYPES OF CONTRIBUTIONS FOR REFERENCE).**

LINE	DESCRIPTION	SUB TOTAL	TOTAL AMOUNT
1	Federal amount requested		
2	State <u>cash</u> financial contribution		
	<i>Local cash financial contribution</i>		
	<b>3a</b> Airport <u>cash</u> funds		
	<b>3b</b> Non-airport <u>cash</u> funds		
3	Total local <u>cash</u> funds ( <i>3a + 3b</i> )		
4	TOTAL CASH FUNDING ( <i>1+2+3</i> )		
	<i>In-Kind contribution</i>		
	<b>5a</b> Airport <u>In-Kind</u> contribution**		
	<b>5b</b> Other <u>In-Kind</u> contribution**		
5	TOTAL IN-KIND CONTRIBUTION ( <i>5a + 5b</i> )		
6	TOTAL PROJECT COST ( <i>4+5</i> )		

**K. IN-KIND CONTRIBUTIONS\*\***

For funds in lines 5a (Airport In-Kind contribution) and 5b (Other In-Kind contribution), please describe the source(s) of fund(s) and the value (\$) of each.


**L. IS THIS APPLICATION SUBJECT TO REVIEW BY AN AFFECTED STATE UNDER EXECUTIVE ORDER 12372 PROCESS?**

- ☐ a. This application was made available to the State under the Executive Order 12372 Process for review on (date) \_\_\_\_\_.
- ☐ b. Program is subject to E.O. 12372, but has not been selected by the State for review.
- ☐ c. Program is not covered by E.O. 12372.

**M. IS THE LEAD APPLICANT OR ANY CO-APPLICANTS DELINQUENT ON ANY FEDERAL DEBT?  
(IF "YES", PROVIDE EXPLANATION)**

- ☐ No                      ☐ Yes (explain)

---

---

## APPLICATION CHECKLIST

INCLUDED?	ITEM
	<i>For Immediate Action</i>
	Determine Eligibility
	New Grants.gov users must register with <a href="http://www.grants.gov">www.grants.gov</a> . Existing Grants.gov users <i>must verify existing <a href="http://www.grants.gov">www.grants.gov</a> account has not expired and the Authorized Organization Representative (AOR) is current.</i>
	<i>For Submission by 5:00 PM EDT on May 2, 2016</i>
	Communities with active SCASDP grants: notify DOT/X50 of intent to terminate existing grant in order to be eligible for selection in FY2016
	Complete Application for Federal Domestic Assistance (SF424) via <a href="http://www.grants.gov">www.grants.gov</a>
	Summary Information schedule complete and used as cover sheet (see <b>Appendix B</b> )
	<b>Application of up to 20 one-sided pages (excluding any letters from the community or an air carrier showing support for the application), to include:</b>
	<ul style="list-style-type: none"> <li>• A description of the community's air service needs or deficiencies.</li> </ul>
	<ul style="list-style-type: none"> <li>• The driving distance, in miles, to the nearest large, medium, and small hub airports, and airport with jet service.</li> </ul>
	<ul style="list-style-type: none"> <li>• A strategic plan for meeting those needs under the Small Community Program, including a concise synopsis of the scope of the proposed grant project.</li> </ul>
	<ul style="list-style-type: none"> <li>• For service to or from a specific city or market, such as New York, Chicago, Los Angeles, or Washington, D.C., for example), a list of the airports that the applicant considers part of the market.</li> </ul>
	<ul style="list-style-type: none"> <li>• A detailed description of the funding necessary for implementation of the community's project.</li> </ul>
	<ul style="list-style-type: none"> <li>• An explanation of how the proposed project differs from any previous projects for which the community received SCASDP funds (if applicable).</li> </ul>
	<ul style="list-style-type: none"> <li>• Designation of a legal sponsor responsible for administering the program.</li> </ul>
	<ul style="list-style-type: none"> <li>• A motion for confidential treatment (if applicable) – see Appendix D below.</li> </ul>

BILLING CODE 4910-9X-C

**Confidential Commercial Information**

Applicants will be able to provide certain confidential business information relevant to their proposals on a confidential basis. Under the Department's Freedom of Information Act regulations (49 CFR 7.17), such information is limited to commercial or financial information that, if disclosed, would either likely cause substantial harm to the competitive position of a business or enterprise or make it more difficult for the Federal Government to obtain similar information in the future.

Applicants seeking confidential treatment of a portion of their applications must segregate the confidential material in a sealed envelope marked "Confidential Submission of X (the applicant) in Docket DOT-OST-2016-0037" and include with that material a request in the form of a motion seeking confidential treatment of the material under 14 CFR 302.12 ("Rule 12") of the Department's regulations. The applicant should submit an original and two copies of its motion and an original and two copies of the confidential material in the sealed envelope.

The confidential material should *not* be included with the original of the applicant's proposal that is submitted via [www.grants.gov](http://www.grants.gov). The applicant's original submission, however, should indicate clearly where the confidential material would have been inserted. If an applicant invokes Rule 12, the confidential portion of its filing will be treated as confidential pending a final determination. All confidential material must be received by 5:00 p.m. EDT, May 2, 2016, and delivered to the U.S. Department of Transportation, Office of Aviation Analysis, 8th Floor, Room W86-307, 1200 New Jersey Ave. SE., Washington, DC 20590.

[FR Doc. 2016-07286 Filed 3-28-16; 4:15 pm]

BILLING CODE 4910-9X-P

**DEPARTMENT OF TRANSPORTATION****Office of the Secretary**

[Docket No. DOT-OST-2015-0255]

**Request for Comments**

**AGENCY:** Office of the Secretary, U.S. Department of Transportation.

**ACTION:** Notice and request for comments.

**SUMMARY:** In accordance with the Paperwork Reduction Act of 1995 (44 U.S.C. 3501 *et seq.*), this notice announces that the U.S. Department of

Transportation (DOT) will forward the Information Collection Request (ICR) abstracted below to the Office of Management and Budget (OMB) for clearance. The ICR describes the nature of the information collection and its expected cost and burden hours. The **Federal Register** Notice, with a 60-day comment period soliciting comments on the questionnaire, was published on December 30, 2015, [FR Vol. 80, No. 250, page 81671]. One comment was received.

**DATES:** Comments on this notice must be received by April 29, 2016.

**ADDRESSES:** Interested persons are invited to submit comments regarding this proposal to the DOT/OST Desk Officer, Office of Information and Regulatory Affairs, Office of Management and Budget, Docket Library, Room 10102, 725 17th Street NW., Washington, DC 20503, or by email to [oira\\_submission@omb.eop.gov](mailto:oira_submission@omb.eop.gov).

**FOR FURTHER INFORMATION CONTACT:** Sam Brooks, Equal Opportunity Specialist (S-33), Departmental Office of Civil Rights, Office of the Secretary, U.S. Department of Transportation, 1200 New Jersey Avenue SE., Washington, DC 20590, 202-366-7145.

**SUPPLEMENTARY INFORMATION:**

**Form Title(s):** Voluntary Web-Based Questionnaire of Airport Concession Disadvantaged Business Enterprises and Disadvantaged Business Enterprise Firms.

**Form Number:** None.

**OMB Control Number:** None.

**Abstract:** The DOT's Operating Administrations distribute substantial funds each year to finance construction projects initiated by state and local governments, public transit and airport agencies. The DOT has the important responsibility of ensuring that firms competing for DOT-assisted contracts for these projects are not disadvantaged by unlawful discrimination. The DOT's most important tool for meeting this requirement has been its Disadvantaged Business Enterprise (DBE) program, which originally began in 1980 as a minority/women's business enterprise program established by regulation under the authority of Title VI of the Civil Rights Act of 1964 and other nondiscrimination statutes that apply to DOT financial assistance programs. The DBE program was reauthorized by Congress several times since its inception; most recently in the "Fixing America's Surface Transportation Act" or the "FAST-ACT," (P.L. 114-94, December 4, 2015). See more at: <https://www.transportation.gov/civil-rights/disadvantaged-business-enterprise#sthash.67nZv63S.dpuf>,

which funded surface transportation programs for highways, highway safety, and transit. Section 1101(b) of the Act describes Congress's findings regarding the continued need for the DBE program due to the discrimination and related barriers that pose significant obstacles for minority and women-owned businesses seeking federally-assisted surface transportation work. The DBE program focuses primarily on construction and professional services contracts, while the airport concession disadvantaged business enterprise (ACDBE) program focuses on lease and supplier agreements for food, beverage, retail, and car rental services. Congress raised concerns that discrimination and related barriers continue to pose obstacles to disadvantaged firms seeking to do business at U.S. airports. The information requested will assist DOT in measuring whether both programs are achieving the objectives to create a level playing field on which ACDBEs/DBEs can compete fairly and assist in the development of ACDBE/DBE firms to compete successfully in the marketplace.

The single comment that was received by DOT during the 60-day comment period was provided by a trade association and had four components. The association (1) asked DOT to use the data collection measure to address the issue of out-of-date DBE directories; (2) observed that prime contractors need better information on the types of construction work DBEs are able to perform; (3) requested that the questionnaire "query DBE firms on the issue of training;" and (4) asked DOT to evaluate the responses regarding perceived barriers or challenges from the perspective of all parties. After careful consideration, DOT makes due note of all four components. Only items (1) and (3) appear to request changes to proposed questions. However, as these items are not strictly germane to the stated purpose (measuring the objective of creating a level playing field) of the questionnaire, the Department respectfully declines to alter the content of the questions.

The questionnaire will be for the use of ACDBE and DBE certified firms, so that they can provide information regarding the nature of their business and bidding history, and perceived barriers/challenges that may have prevented them from receiving a contract or successfully competing in DOT's ACDBE/DBE program. A link to the questionnaire will be made available by DOT's Departmental Office of Civil Rights for use by the Department's state and local recipients, which can in turn post this link on their own Web sites.



The information collected will be used to assist DOT in measuring whether the ACDBE/DBE program is achieving its objectives. The DOT estimates that it takes an individual approximately 10 minutes to complete the questionnaire.

*Type of Request:* New information collection.

*Affected Public:* Airport Concession Disadvantaged Business Enterprises and Disadvantaged Business Enterprises certified under the authority of 49 CFR parts 23 and 26.

*Total Annual Estimated Burden:* 628 hours.

*Frequency of Collection:* An individual's completion of the questionnaire is solely voluntary.

*Comments are Invited on:* Any aspect of this information collection, including

(a) whether the proposed collection of information is necessary for the proper performance of DOT's ACDBE/DBE program; (b) the accuracy of the estimated burden; (c) ways for the Department to enhance the quality, utility and clarity of the information

collection; and (d) ways that the burden could be minimized without reducing the quality of the collected information. Comments should be sent to the address in the preamble. All responses to this notice will be summarized and included in the request for Office of Management and Budget approval. All comments will also become a matter of public record.

Issued in Washington, DC, on March 23, 2016.

**Habib Azarsina,**

*OST Privacy and PRA Officer, U.S.  
Department of Transportation.*

OMB CONTROL NUMBER: 21XX-XXXX

EXPIRATION DATE: mm/dd/yyyy

**Paperwork Reduction Act Burden Statement**

A federal agency may not conduct or sponsor, and a person is not required to respond to, nor shall a person be subject to a penalty for failure to comply with a collection of information subject to the requirements of the Paperwork Reduction Act unless that collection of information displays a currently valid OMB Control Number. The OMB Control Number for this information collection is 21XX-XXXX. Public reporting for this collection of information is estimated to be approximately 10 minutes per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, completing and reviewing the collection of information.

All responses to this collection of information are voluntary. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden to: Information Collection Clearance Officer, Office of the Secretary of Transportation, Washington, D.C. 20590.

<b>Question</b>	<b>Firm name</b>
Answer	Firm name
<b>Question</b>	<b>Home State</b>
Answer	[Drop Down]
<b>Question</b>	<b>How many years has your firm been in existence?</b>
Answer	[less than 1 year] [1-3 years] [3 or more years]
<b>Question</b>	<b>How long has your firm been certified as an ACDBE/DBE?</b>
Answer	[years/months]
<b>Question</b>	<b>On what basis did you rely in submitting your ACDBE/DBE certification application?</b>
Answer	[Black Americans] [Hispanic Americans] [Asian-Pacific Americans] [Subcontinent Asian Americans] [Non-minority women] [Non-minority economically disadvantaged male]
<b>Question</b>	<b>How would you describe your firm's primary line of business?</b>
Answer	[Trucking] [Engineering] [Heavy construction] [Environmental remediation] [Electrical contractor] [Supplier of bulk materials] [Other / text field]
<b>Question</b>	<b>Did you become ACDBE/DBE certified in order to bid on a contract let by a transportation agency?</b>
Answer	[YES/NO]
<b>Question</b>	<b>If not, did you ever bid on a transportation contract?</b>
Answer	[YES/NO]

---

<b>Question</b>	<b>How many total contracts have you bid on in the last 2 years that were let by a transportation agency?</b>
Answer	[0] [1-5] [5-10] [20 or more]
<b>Question</b>	<b>Of those bids, how many contracts did you bid on as an ACDBE/DBE?</b>
Answer	[0] [1-5] [5-10] [20 or more]
<b>Question</b>	<b>Of those bids, how many were successful?</b>
Answer	[0] [1-5] [5-10] [20 or more]
<b>Question</b>	<b>Is this the first year that you have received a federally assisted contract or lease as a ACDBE/DBE?</b>
Answer	[YES/NO]
<b>Question</b>	<b>In the last 2 years, how often have primes contacted you and asked that you bid on a particular project as an ACDBE/DBE (on average)?</b>
Answer	[0 times] [1-5 times per month] [5-10 per month] [20 or more times]
<b>Question</b>	<b>Of those, how many times did you bid?</b>
Answer	[0 times] [1-5 times per month] [5-10 per month] [20 or more times]
<b>Question</b>	<b>How many times were you successful?</b>
Answer	[0 times] [1-5 times per month] [5-10 per month] [20 or more times]
<b>Question</b>	<b>In the last 2 years, on average, how often have you performed work outside of your home state as an ACDBE/DBE?</b>
Answer	[0 times] [1-5 times per month] [5-10 per month] [20 or more times]
<b>Question</b>	<b>What barriers have you encountered that you believe have prevented you from receiving a contract or successfully competing in the ACDBE/DBE program?</b>
Answer	[Insufficient Bonding Capacity] [Lack of Necessary Equipment for job]

[Primes use same ACDBE/DBE]  
 [Scope of contract was too large for my firm]  
 [Discrimination by prime]  
 [My ACDBE/DBE firm was not certified in the NAICS Code solicited]  
 [Competition from other small firms]  
 [My firm was not promptly paid by the prime]  
 [Other, please describe]

**Question** Has your firm ever filed an ACDBE/DBE-related complaint with a local transportation agency?

**Answer** [YES/NO]

**Question** If Yes, what did the complaint involve?

**Answer** [Primes use same ACDBE/DBE]  
 [The scope of contract was too large for my firm to consider bidding on]  
 [Discrimination by prime]  
 [My firm was not promptly paid by the prime]  
 [Other, please describe]

**Question** How are you made aware of existing and future federally-assisted contracting opportunities?

**Answer** [Recipient Websites]  
 [Direct solicitation]  
 [Other, please describe]

**Question** Of the federally-assisted contracts that you have bid on in the last two years, how many included ACDBE/DBE contract goals?

**Answer** [Do not know if there were ACDBE/DBE contract goals on the contract]  
 [0]  
 [1-5]  
 [5-10]  
 [20 or more]

[FR Doc. 2016-07132 Filed 3-29-16; 8:45 am]  
 BILLING CODE 4910-9X-P

## DEPARTMENT OF THE TREASURY

### Office of the Comptroller of the Currency

#### Agency Information Collection Activities; Revision of an Approved Information Collection; Submission for OMB Review; Annual Company-Run Stress Test Reporting Template and Documentation for Covered Institutions With Total Consolidated Assets of \$10 Billion to \$50 Billion Under the Dodd-Frank Wall Street Reform and Consumer Protection Act

**AGENCY:** Office of the Comptroller of the Currency, Treasury (OCC).

**ACTION:** Notice and request for comment.

**SUMMARY:** The OCC, as part of its continuing effort to reduce paperwork and respondent burden, invites the general public and other Federal agencies to comment on a revision to this information collection, as required

by the Paperwork Reduction Act of 1995. An agency may not conduct or sponsor, and a respondent is not required to respond to, an information collection unless it displays a currently valid Office of Management and Budget (OMB) control number. The OCC is also giving notice that it has sent the collection to OMB for review.

The OCC is finalizing revisions to the collection titled "Annual Company-Run Stress Test Reporting Template and Documentation for Covered Institutions with Total Consolidated Assets of \$10 Billion to \$50 Billion under the Dodd-Frank Wall Street Reform and Consumer Protection Act." The OCC also is giving notice that it has sent the collection to OMB for review.

**DATES:** Comments must be received by April 29, 2016.

**ADDRESSES:** Because paper mail in the Washington, DC area and at the OCC is subject to delay, commenters are encouraged to submit comments by email, if possible. Comments may be sent to: Legislative and Regulatory Activities Division, Office of the Comptroller of the Currency, Attention:

1557-0311, 400 7th Street SW., Suite 3E-218, Mail Stop 9W-11, Washington, DC 20219. In addition, comments may be sent by fax to (571) 465-4326 or by electronic mail to [prainfo@occ.treas.gov](mailto:prainfo@occ.treas.gov). You may personally inspect and photocopy comments at the OCC, 400 7th Street SW., Washington, DC 20219. For security reasons, the OCC requires that visitors make an appointment to inspect comments. You may do so by calling (202) 649-6700 or, for persons who are deaf or hard of hearing, TTY, (202) 649-5597. Upon arrival, visitors will be required to present valid government-issued photo identification and to submit to security screening in order to inspect and photocopy comments.

All comments received, including attachments and other supporting materials, are part of the public record and subject to public disclosure. Do not enclose any information in your comment or supporting materials that you consider confidential or inappropriate for public disclosure.

Additionally, please send a copy of your comments by mail to: OCC Desk

Officer, 1557–0311, U.S. Office of Management and Budget, 725 17th Street NW., #10235, Washington, DC 20503, or by email to: [oir\\_submission@omb.eop.gov](mailto:oir_submission@omb.eop.gov).

**FOR FURTHER INFORMATION CONTACT:** You can request additional information from or a copy of the collection from Shaquita Merritt or Mary H. Gottlieb, Clearance Officers, (202) 649–5490, or for persons who are deaf or hard of hearing, TTY, (202) 649–5597, Legislative and Regulatory Activities Division, Office of the Comptroller of the Currency, 400 7th Street SW., Suite 3E–218, Mail Stop 9W–11, Washington, DC 20219. In addition, copies of the templates referenced in this notice can be found on the OCC's Web site under Tools and Forms (<http://www.occ.gov/tools-forms/forms/bank-operations/stress-test-reporting.html>).

**SUPPLEMENTARY INFORMATION:** The OCC is requesting comment on a revision to the following information collection:

**Title:** Annual Company-Run Stress Test Reporting Template and Documentation for Covered Institutions with Total Consolidated Assets of \$10 Billion to \$50 Billion under the Dodd-Frank Wall Street Reform and Consumer Protection Act.

**OMB Control No.:** 1557–0311.

**Description:** Section 165(i)(2) of the Dodd-Frank Wall Street Reform and Consumer Protection Act<sup>1</sup> (Dodd-Frank Act) requires certain financial companies, including national banks and Federal savings associations, to conduct annual stress tests<sup>2</sup> and requires the primary financial regulatory agency<sup>3</sup> of those financial companies to issue regulations implementing the stress test requirements.<sup>4</sup> A national bank or Federal savings association is a “covered institution,” and therefore subject to the stress test requirements, if its total consolidated assets exceed \$10 billion. Under section 165(i)(2), a covered institution is required to submit to the Board of Governors of the Federal Reserve System (Board) and to its primary financial regulatory agency a report at such time, in such form, and

containing such information as the primary financial regulatory agency may require.<sup>5</sup> On October 9, 2012, the OCC published in the **Federal Register** a final rule implementing the section 165(i)(2) annual stress test requirements.<sup>6</sup> On October 22, 2013 the OCC published in the **Federal Register** a notice describing the reports and information required under section 165(i)(2) for covered institutions with average total consolidated assets between \$10 to \$50 billion.<sup>7</sup> The OCC proposed revisions to these templates on October 20, 2015.<sup>8</sup> The OCC received one comment. The OCC is now finalizing these revisions, as described below.

The OCC is finalizing the following revisions and clarifications for the OCC DFAST 10–50 report, effective for the 2016 stress test cycle: Changing the dates on the reporting templates to match the revised “as of” date from September 30 to December 31, changing the reporting submission due date from March to July, and modifying the reporting instructions to clarify a number of items. Additionally, the line item “Qualifying subordinated debt and redeemable preferred stock” will be eliminated in the capital section of the balance sheet, and the report form will include updated references to specific reporting items on the Reports of Condition and Income (Call Report).

The OCC received one comment letter. The comment letter requested updates to several Call Report references in the reporting templates and clarification to the balance sheet capital section of the instructions. In response to this comment, the templates and instructions have been updated with revised references that the OCC believes will provide additional clarity.

The OCC has worked closely with the Board and the Federal Deposit Insurance Corporation to make the agencies' respective rules implementing the annual stress testing requirements under the Dodd-Frank Act consistent and comparable by requiring similar standards for scope of application, scenarios, data collection and reporting

forms. The OCC also has worked to minimize any potential duplication of effort related to the annual stress test requirements.

**Type of Review:** Revision to an existing collection.

**Affected Public:** Businesses or other for-profit.

**Burden Estimates:**

**Estimated Number of Respondents:** 36

**Estimated Total Annual Burden:** 16,884 hours.

The burden for each \$10 to \$50 billion covered institution that completes the revised results template is estimated to be 445 hours for a total of 14,685 hours. This burden includes 20 hours to input this data and 425 hours for work related to modeling efforts. The estimated revised burden for each \$10 to \$50 billion covered institution that completes the annual DFAST Scenarios Variables Template is estimated to be 24 hours for a total of 792 hours.

Comments submitted in response to this notice will be summarized and included in the request for OMB approval. All comments will become a matter of public record. Comments are invited on:

(a) Whether the collection of information is necessary for the proper performance of the functions of the OCC, including whether the information has practical utility;

(b) The accuracy of the OCC's estimate of the burden of the collection of information;

(c) Ways to enhance the quality, utility, and clarity of the information to be collected;

(d) Ways to minimize the burden of the collection on respondents, including through the use of automated collection techniques or other forms of information technology; and,

(e) Estimates of capital or start-up costs and costs of operation, maintenance, and purchase of services to provide information.

Dated: March 24, 2016.

**Stuart Feldstein,**

*Director, Legislative and Regulatory Activities Division.*

[FR Doc. 2016–07140 Filed 3–29–16; 8:45 am]

**BILLING CODE 4810–33–P**

<sup>1</sup> Public Law 111–203, 124 Stat. 1376, July 2010.

<sup>2</sup> 12 U.S.C. 5365(i)(2)(A).

<sup>3</sup> 12 U.S.C. 5301(12).

<sup>4</sup> 12 U.S.C. 5365(i)(2)(C).

<sup>5</sup> 12 U.S.C. 5365(i)(2)(B).

<sup>6</sup> 77 FR 61238.

<sup>7</sup> 78 FR 62942.

<sup>8</sup> 80 FR 63636.



# FEDERAL REGISTER

---

Vol. 81

Wednesday,

No. 61

March 30, 2016

---

## Part II

### Department of the Interior

---

Fish and Wildlife Service

50 CFR Part 17

Endangered and Threatened Wildlife and Plants; Designation and  
Nondesignation of Critical Habitat on Molokai, Lanai, Maui, and Kahoolawe  
for 135 Species; Final Rule

**DEPARTMENT OF THE INTERIOR****Fish and Wildlife Service****50 CFR Part 17**

[Docket No. FWS–R1–ES–2015–0071;  
4500030114]

RIN 1018–AZ25

**Endangered and Threatened Wildlife  
and Plants; Designation and  
Nondesignation of Critical Habitat on  
Molokai, Lanai, Maui, and Kahoolawe  
for 135 Species**

**AGENCY:** Fish and Wildlife Service,  
Interior.

**ACTION:** Final rule.

**SUMMARY:** We, the U.S. Fish and Wildlife Service, designate or revise critical habitat for 125 listed species on the islands of Maui, Molokai, and Kahoolawe in the State of Hawaii. We are designating critical habitat for 50 plant and animal species, and revising critical habitat for 85 plant species. In total, approximately 157,002 acres (ac) (63,537 hectares (ha)) on the islands of Molokai, Maui, and Kahoolawe fall within the boundaries of the critical habitat designation. Although we proposed critical habitat on 25,413 ac (10,284 ha) on the island of Lanai, this area is excluded from final designation under section 4(b)(2) of the Endangered Species Act. In addition, under section 4(b)(2), approximately 59,479 ac (24,070 ha) on the islands of Maui and Molokai are excluded from critical habitat designation. These exclusions mean that we are not designating critical habitat for 10 of the species included in our proposed rule. We also removed 29,170 ac (11,805 ha) of areas we determined do not meet the definition of critical habitat. In this final rule, we accept name changes or corrections for 10 endangered plants and 2 endangered birds. The effect of this rule is to conserve these 125 species and their habitats under the Endangered Species Act.

**DATE:** This rule is effective on April 29, 2016.

**ADDRESSES:** This final rule, final economic analysis, and the document “Supplementary Information for the Designation and Nondesignation of Critical Habitat on Molokai, Lanai, Maui, and Kahoolawe for 135 Species” are available on the Internet at <http://www.regulations.gov> under Docket No. FWS–R1–ES–2015–0071. Comments and materials received, as well as supporting documentation used in preparing this final rule, are available for public inspection, by appointment,

during normal business hours, at the U.S. Fish and Wildlife Service, Pacific Islands Fish and Wildlife Office, 300 Ala Moana Boulevard, Room 3–122, Honolulu, HI 96850; by telephone at 808–792–9400; or by facsimile at 808–792–9581.

The coordinates or plot points or both from which the maps are generated are included in the administrative record for this critical habitat designation and are available at <http://www.fws.gov/pacificislands>, at <http://www.regulations.gov> under Docket No. FWS–R1–ES–2015–0071, and at the Pacific Islands Fish and Wildlife Office (see **FOR FURTHER INFORMATION CONTACT**).

**FOR FURTHER INFORMATION CONTACT:** Mary Abrams, Field Supervisor, U.S. Fish and Wildlife Service, Pacific Islands Fish and Wildlife Office, 300 Ala Moana Boulevard, Room 3–122, Honolulu, HI 96850; by telephone at 808–792–9400; or by facsimile at 808–792–9581. If you use a telecommunications device for the deaf (TDD), call the Federal Information Relay Service (FIRS) at 800–877–8339.

**SUPPLEMENTARY INFORMATION:**

**Organization of the Final Rule**

This final rule describes the final critical habitat designation for 135 Maui Nui species under the Endangered Species Act of 1973, as amended (Act or ESA) (16 U.S.C. 1531 *et seq.*). The pages that follow summarize the comments and information received during multiple open comment periods and a public hearing in response to the proposed rule published on June 11, 2012 (77 FR 34464), and in response to the notice of availability of the draft economic analysis of the proposed designation published on January 31, 2013 (78 FR 6785), describe any changes from the proposed rule, and detail the final designation for the Maui Nui species. To assist the reader, the content of the document is organized as follows:

- I. Executive Summary
- II. Previous Federal Actions
- III. Background
  - Maui Nui Species Addressed in This Final Rule
  - An Ecosystem-Based Approach To Determining Primary Constituent Elements of Critical Habitat
- IV. Summary of Comments and Recommendations
  - Peer Review
  - Comments from Federal Agencies
  - Comments from State of Hawaii Elected Officials
  - Comments from State of Hawaii Agencies
  - Comments from Maui County
  - Public Comments
  - Comments on the Draft Economic Analysis (DEA)

- V. Summary of Changes From the Proposed Rule
- VI. Critical Habitat Background
- VII. Methods
  - Occupied Areas
  - Essential Physical or Biological Features
  - Special Management Considerations or Protections
  - Unoccupied Areas
  - Criteria Used To Identify Critical Habitat
- VIII. Final Critical Habitat Designation
  - Descriptions of Critical Habitat Units
- IX. Effects of Critical Habitat Designation
  - Section 7 Consultation
  - Application of the “Adverse Modification” Standard
- X. Exemptions
  - Application of Section 4(a)(3) of the Act
- XI. Exclusions
  - Application of Section 4(b)(2) of the Act
  - Exclusions Based on Economic Impacts
  - Exclusions Based on National Security Impacts
  - Exclusions Based on Other Relevant Factors
  - Summary of Exclusions Based on Other Relevant Factors
- XII. Required Determinations
- XIII. References Cited
- Regulation Promulgation

**I. Executive Summary**

*Why we need to publish a rule.* This is a final rule to designate or revise critical habitat for 135 species from the island cluster of Maui Nui (Molokai, Maui, Lanai, and Kahoolawe) in the State of Hawaii. Under the Act, any species that is determined to be an endangered or threatened species requires critical habitat to be designated, to the maximum extent prudent and determinable. Designations and revisions of critical habitat can only be completed by issuing a rule.

We, the U.S. Fish and Wildlife Service (Service), listed 96 of the 135 species as endangered or threatened species at various times (see 77 FR 34464; June 11, 2012). On June 11, 2012, we published in the **Federal Register** a proposed rule to list 38 Maui Nui species as endangered, reaffirm the listing of 2 species as endangered, and designate or revise critical habitat for 135 Maui Nui species (77 FR 34464). On May 28, 2013 (78 FR 32014) we listed 38 Maui Nui species as endangered and reaffirmed the listing of 2 species as endangered. Section 4(b)(2) of the Act states that the Secretary shall designate critical habitat on the basis of the best available scientific data after taking into consideration the economic impact, national security impact, and any other relevant impact of specifying any particular area as critical habitat.

The critical habitat areas we are designating in this rule constitute our current best assessment of the areas that meet the definition of critical habitat for

125 of the 135 Maui Nui species. Here we are designating as critical habitat approximately 157,002 acres (ac) (63,537 hectares (ha)) in 165 unique units for 125 Maui Nui species: 31,513 ac (12,753 ha) on Molokai; 119,349 ac (48,299 ha) on Maui; and 6,142 ac (2,486 ha) on Kahoolawe. No critical habitat is designated on the island of Lanai as a consequence of exclusions under section 4(b)(2) of the Act; as a consequence, final critical habitat is not designated for 10 of the Maui Nui species.

In this final rule, 29,170 ac (11,805 ha) have been removed from the area originally proposed as a result of refinement in unit areas made in response to public comments and additional field visits. We removed these areas based on our determination that they do not meet the definition of critical habitat. In addition, 84,891 ac (34,354 ha) of non-Federal lands on Maui, Molokai, and Lanai have been excluded from final designation under section 4(b)(2) of the Act. For these lands, the Secretary has determined that the benefits of exclusion outweigh the benefits of critical habitat designation and that these exclusions will not result in the extinction of the species.

In this final rule, we also recognize taxonomic changes and spelling corrections of the scientific names for 10 plant species and 2 bird species, and revise the List of Endangered and Threatened Plants and the List of Endangered and Threatened Wildlife accordingly.

We have prepared an economic analysis of the designation of critical habitat. In order to consider economic impacts, we have prepared an analysis of the economic impacts of the critical

habitat designation and related factors. We announced the availability of the draft economic analysis (DEA) in the **Federal Register** on January 31, 2013 (78 FR 6785), allowing the public to provide comment on our analysis. We also held a public information meeting and public hearing on our proposed rulemaking and associated DEA in Kihei, Maui, on February 21, 2013. We have considered the comments and have completed the final economic analysis (FEA) concurrently with this final determination.

*Peer review and public comment.* We sought comments from independent specialists to ensure that our designation is based on scientifically sound data and analyses. We obtained opinions from four knowledgeable individuals with scientific expertise to review our technical assumptions and analysis, and to determine whether or not we had used the best available scientific information. These peer reviewers generally concurred with our methods and conclusions, and provided additional information, clarifications, and suggestions to improve this final rule. Information we received from peer review is incorporated into this final designation. We also considered all comments and information we received from the public during multiple comment periods, which totaled 135 days in length.

## II. Previous Federal Actions

Federal actions for these species are outlined in our May 28, 2013 (78 FR 32014), final rule to list 38 Maui Nui species and reaffirm the listing of 2 endangered plants and in our June 11, 2012 (77 FR 34464), proposed rule to list 38 species as endangered and

designate critical habitat for 135 Maui Nui species. (Please note that because the proposed rule to designate critical habitat was originally published in conjunction with the proposed listing rule, which has already been finalized, the proposed rule critical habitat rule and associated documents, such as the draft economic analysis, are posted at <http://www.regulations.gov> under the original Docket No. FWS-R1-ES-2011-0098). Publication of the June 11, 2012, proposed rule opened a 60-day comment period, which was extended on August 9, 2012 (77 FR 47587) for an additional 30 days and closed on September 10, 2012. In addition, we published a public notice of the proposed rule on June 20, 2012, in the local Honolulu Star Advertiser, Maui Times, and Molokai Dispatch newspapers. On January 31, 2013 (78 FR 6785), we reopened the comment period for an additional 30 days on the entire June 11, 2012, proposed rule (77 FR 34464), as well as on the draft economic analysis on the proposed critical habitat designation, and announced both a public information meeting and a hearing to be held in Kihei, Maui, on February 21, 2013. This second comment period closed on March 4, 2013. We opened a final comment period on the proposed critical habitat designation for an additional 15 days on June 10, 2015 (80 FR 32922).

## III. Background

### *Maui Nui Species Addressed in This Final Rule*

The table below (Table 1) provides the common name, scientific name, and listing status for the species that are the subject of this final rule.

TABLE 1—THE MAUI NUI SPECIES ADDRESSED IN THIS FINAL RULE

[Note that many of the species share the same common name. “NCN” indicates no common name. “E” denotes endangered status under the act; “T” denotes threatened status under the act]

Scientific name	Common name(s)	Listing status	Critical habitat <sup>1</sup>
<b>Plants:</b>			
<i>Abutilon eremipetalum</i> .....	[NCN] .....	E	Final.
<i>Acaena exigua</i> .....	liliwai .....	E	Final.
<i>Adenophorus periens</i> .....	pendent kihi fern .....	E	Revised—2003.
<i>Alectryon macrococcus</i> .....	mahoe .....	E	Revised—2003.
<i>Argyroxiphium sandwicense</i> ssp. <i>macrocephalum</i> .....	ahinahina (= Haleakala silversword) .....	T	Revised—2003.
<i>Asplenium dielarectum</i> .....	asplenium-leaved diellia .....	E	Revised—2003.
<i>Asplenium peruvianum</i> var. <i>insulare</i> .....	[NCN] .....	E	Revised—2003.
<i>Bidens campylothea</i> ssp. <i>pentamera</i> .....	kookoolau .....	E	Final.
<i>Bidens campylothea</i> ssp. <i>waihoiensis</i> .....	kookoolau .....	E	Final.
<i>Bidens conjuncta</i> .....	kookoolau .....	E	Final.
<i>Bidens micrantha</i> ssp. <i>kalealaha</i> .....	kookoolau .....	E	Revised—2003.
<i>Bidens wiebkei</i> .....	kookoolau .....	E	Revised—2003.
<i>Bonamia menziesii</i> .....	[NCN] .....	E	Revised—2003.
<i>Brighamia rockii</i> .....	pua ala .....	E	Revised—2003.
<i>Calamagrostis hillebrandii</i> .....	[NCN] .....	E	Final.
<i>Canavalia molokaiensis</i> .....	awikiwiki .....	E	Revised—2003.
<i>Canavalia pubescens</i> .....	awikiwiki .....	E	Final.



TABLE 1—THE MAUI NUI SPECIES ADDRESSED IN THIS FINAL RULE—Continued

[Note that many of the species share the same common name. “NCN” indicates no common name. “E” denotes endangered status under the act; “T” denotes threatened status under the act]

Scientific name	Common name(s)	Listing status	Critical habitat <sup>1</sup>
<i>Cenchrus agrimonioides</i> .....	kamanomano (= sandbur, agrimony) .....	E	Revised—2003.
<i>Clermontia lindseyana</i> .....	oha wai .....	E	Revised—2003.
<i>Clermontia oblongifolia</i> ssp. <i>brevipes</i> .....	oha wai .....	E	Revised—2003.
<i>Clermontia oblongifolia</i> ssp. <i>mauiensis</i> .....	oha wai .....	E	Revised—2003.
<i>Clermontia peleana</i> .....	oha wai .....	E	Revised—2003.
<i>Clermontia samuelii</i> .....	oha wai .....	E	Revised—2003.
<i>Colubrina oppositifolia</i> .....	kauila .....	E	Revised—2003.
<i>Ctenitis squamigera</i> .....	pauoa .....	E	Revised—2003.
<i>Cyanea asplenifolia</i> .....	haha .....	E	Final.
<i>Cyanea copelandii</i> ssp. <i>haleakalaensis</i> .....	haha .....	E	Revised—2003.
<i>Cyanea dunbariae</i> .....	haha .....	E	Revised—2003.
<i>Cyanea duvalliorum</i> .....	haha .....	E	Final.
<i>Cyanea gibsonii</i> .....	haha .....	E	Final.
<i>Cyanea glabra</i> .....	haha .....	E	Revised—2003.
<i>Cyanea grimesiana</i> ssp. <i>grimesiana</i> .....	haha .....	E	Final.
<i>Cyanea hamatiflora</i> ssp. <i>hamatiflora</i> .....	haha .....	E	Revised—2003.
<i>Cyanea horrida</i> .....	haha nui .....	E	Final.
<i>Cyanea kunthiana</i> .....	haha .....	E	Final.
<i>Cyanea lobata</i> .....	haha .....	E	Revised—2003.
<i>Cyanea magnicalyx</i> .....	haha .....	E	Final.
<i>Cyanea mannii</i> .....	haha .....	E	Revised—2003.
<i>Cyanea maritae</i> .....	haha .....	E	Final.
<i>Cyanea mauiensis</i> .....	haha .....	E	Not Determinable
<i>Cyanea mceldowneyi</i> .....	haha .....	E	Revised—2003.
<i>Cyanea munroi</i> .....	haha .....	E	Final.
<i>Cyanea obtusa</i> .....	haha .....	E	Final.
<i>Cyanea procera</i> .....	haha .....	E	Revised—2003.
<i>Cyanea profuga</i> .....	haha .....	E	Final.
<i>Cyanea solanacea</i> .....	popolo .....	E	Final.
<i>Cyperus fauriei</i> .....	[NCN] .....	E	Revised—2003.
<i>Cyperus pennatifolius</i> .....	[NCN] .....	E	Revised—2003.
<i>Cyperus trachysanthos</i> .....	puukaa .....	E	Revised—2003.
<i>Cyrtandra ferripilosa</i> .....	haiwale .....	E	Final.
<i>Cyrtandra filipes</i> .....	haiwale .....	E	Final.
<i>Cyrtandra munroi</i> .....	haiwale .....	E	Revised—2003.
<i>Cyrtandra oxybapha</i> .....	haiwale .....	E	Final.
<i>Diplazium molokaiense</i> .....	[NCN] .....	E	Revised—2003.
<i>Dubautia plantaginea</i> ssp. <i>humilis</i> .....	naenae .....	E	Revised—2003.
<i>Eugenia koolauensis</i> .....	nioi .....	E	Revised—2003.
<i>Festuca molokaiensis</i> .....	[NCN] .....	E	Final.
<i>Flueggea neowawraea</i> .....	mehamehame .....	E	Revised—2003.
<i>Geranium arboreum</i> .....	Hawaiian red-flowered geranium .....	E	Revised—2003.
<i>Geranium hanaense</i> .....	nohoanu .....	E	Final.
<i>Geranium hillebrandii</i> .....	nohoanu .....	E	Final.
<i>Geranium multiflorum</i> .....	nohoanu .....	E	Revised—2003.
<i>Gouania hillebrandii</i> .....	[NCN] .....	E	Revised—1984
<i>Gouania vitifolia</i> .....	[NCN] .....	E	Revised—2003.
<i>Hesperomannia arborescens</i> .....	[NCN] .....	E	Revised—2003.
<i>Hesperomannia arbuscula</i> .....	[NCN] .....	E	Revised—2003.
<i>Hibiscus arnottianus</i> ssp. <i>immaculatus</i> .....	kokio keokeo .....	E	Revised—2003.
<i>Hibiscus brackenridgei</i> .....	mao hau hele .....	E	Revised—2003.
<i>Huperzia mannii</i> .....	wawaeiole .....	E	Final.
<i>Ischaemum byrone</i> .....	Hilo ischaemum .....	E	Revised—2003.
<i>Isodendron pyrifolium</i> .....	wahine noho kula .....	E	Revised—2003.
<i>Kadua cordata</i> ssp. <i>remyi</i> .....	kopa .....	E	Final.
<i>Kadua coriacea</i> .....	kioele .....	E	Revised—2003.
<i>Kadua laxiflora</i> .....	pilo .....	E	Revised—2003.
<i>Kanaloa kahoolawensis</i> .....	kohe malama malama o kanaloa .....	E	Revised—2003.
<i>Kokia cookii</i> .....	Cooke's kokio .....	E	Final.
<i>Labordia tinifolia</i> var. <i>lanaiensis</i> .....	kamakahala .....	E	Final.
<i>Labordia triflora</i> .....	kamakahala .....	E	Revised—2003.
<i>Lysimachia lydgatei</i> .....	[NCN] .....	E	Revised—2003.
<i>Lysimachia maxima</i> .....	[NCN] .....	E	Revised—2003.
<i>Marsilea villosa</i> .....	ihi ihi .....	E	Revised—2003.
<i>Melanthera kamolensis</i> .....	nehe .....	E	Revised—2003.
<i>Melicope adscendens</i> .....	alani .....	E	Revised—2003.
<i>Melicope balloui</i> .....	alani .....	E	Revised—2003.
<i>Melicope knudsenii</i> .....	alani .....	E	Revised—2003.
<i>Melicope mucronulata</i> .....	alani .....	E	Revised—2003.

TABLE 1—THE MAUI NUI SPECIES ADDRESSED IN THIS FINAL RULE—Continued

[Note that many of the species share the same common name. “NCN” indicates no common name. “E” denotes endangered status under the act; “T” denotes threatened status under the act]

Scientific name	Common name(s)	Listing status	Critical habitat <sup>1</sup>
<i>Melicope munroi</i> .....	alani .....	E	Final.
<i>Melicope ovalis</i> .....	alani .....	E	Revised—2003.
<i>Melicope reflexa</i> .....	alani .....	E	Revised—2003.
<i>Mucuna sloanei</i> var. <i>persericea</i> .....	sea bean .....	E	Final.
<i>Myrsine vaccinioides</i> .....	kolea .....	E	Final.
<i>Neraudia sericea</i> .....	[NCN] .....	E	Revised—2003.
<i>Nototrichium humile</i> .....	kului .....	E	Revised—2003.
<i>Peperomia subpetiolata</i> .....	alaala wai nui .....	E	Final.
<i>Peucedanum sandwicense</i> .....	makou .....	T	Revised—2003.
<i>Phyllostegia bracteata</i> .....	[NCN] .....	E	Final.
<i>Phyllostegia haliakalae</i> .....	[NCN] .....	E	Final.
<i>Phyllostegia hispida</i> .....	[NCN] .....	E	Final.
<i>Phyllostegia mannii</i> .....	[NCN] .....	E	Revised—2003.
<i>Phyllostegia pilosa</i> .....	[NCN] .....	E	Final.
<i>Pittosporum halophilum</i> .....	hoawa .....	E	Final.
<i>Plantago princeps</i> .....	laukahi kuahiwi .....	E	Revised—2003.
<i>Platanthera holochila</i> .....	[NCN] .....	E	Revised—2003.
<i>Pleomele fernaldii</i> .....	hala pepe .....	E	Final.
<i>Portulaca sclerocarpa</i> .....	poe .....	E	Revised—2003.
<i>Pteris lidgatei</i> .....	[NCN] .....	E	Revised—2003.
<i>Remya mauiensis</i> .....	Maui remya .....	E	Revised—2003.
<i>Sanicula purpurea</i> .....	[NCN] .....	E	Revised—2003.
<i>Santalum haleakalae</i> var. <i>lanaiense</i> .....	iliahi .....	E	Final.
<i>Schenkia sebaeoides</i> .....	awiwi .....	E	Revised—2003.
<i>Schiedea haleakalensis</i> .....	[NCN] .....	E	Revised—2003.
<i>Schiedea jacobii</i> .....	[NCN] .....	E	Final.
<i>Schiedea laui</i> .....	[NCN] .....	E	Final.
<i>Schiedea lydgatei</i> .....	[NCN] .....	E	Revised—2003.
<i>Schiedea salicaria</i> .....	[NCN] .....	E	Final.
<i>Schiedea sarmentosa</i> .....	[NCN] .....	E	Revised—2003.
<i>Sesbania tomentosa</i> .....	ohai .....	E	Revised—2003.
<i>Silene alexandri</i> .....	[NCN] .....	E	Revised—2003.
<i>Silene lanceolata</i> .....	[NCN] .....	E	Revised—2003.
<i>Solanum incompletum</i> .....	popolo ku mai .....	E	Final.
<i>Spermolepis hawaiiensis</i> .....	[NCN] .....	E	Revised—2003.
<i>Stenogyne bifida</i> .....	[NCN] .....	E	Revised—2003.
<i>Stenogyne kauaulaensis</i> .....	[NCN] .....	E	Final.
<i>Tetramolopium capillare</i> .....	pamakani .....	E	Revised—2003.
<i>Tetramolopium lepidotum</i> ssp. <i>lepidotum</i> .....	[NCN] .....	E	Revised—2003.
<i>Tetramolopium remyi</i> .....	[NCN] .....	E	Revised—2003.
<i>Tetramolopium rockii</i> .....	[NCN] .....	T	Revised—2003.
<i>Vigna o-wahuensis</i> .....	[NCN] .....	E	Revised—2003.
<i>Viola lanaiensis</i> .....	[NCN] .....	E	Final.
<i>Wikstroemia villosa</i> .....	akia .....	E	Final.
<i>Zanthoxylum hawaiiense</i> .....	ae .....	E	Revised—2003.
Animals:			
Birds:			
<i>Palmeria dolei</i> .....	Akohekohe, crested honeycreeper .....	E	Final.
<i>Pseudonestor xanthophrys</i> .....	Kiwikiu, Maui parrotbill .....	E	Final.
Snails:			
<i>Newcombia cumingi</i> .....	Newcomb's tree snail .....	E	Final.
<i>Partulina semicarinata</i> .....	Lanai tree snail .....	E	Final.
<i>Partulina variabilis</i> .....	Lanai tree snail .....	E	Final.

<sup>1</sup> Listed species for which critical habitat is designated for the first time are classified here as “Final.” If this is a revision of previously designated critical habitat, the species is classified as “Revised” followed by the year of the original designation.

#### Taxonomic Changes and Spelling Corrections Since Listing for 2 Bird Species and 10 Plant Species From Maui Nui

As described in detail in our proposed rule (June 11, 2012; 77 FR 34464), in

this final rule we are accepting name or spelling changes for 2 bird species and 10 plant species. In brief, we accept the recently adopted Hawaiian common name, kiwikiu, for the Maui parrotbill (*Pseudonestor xanthophrys*). We also add the Hawaiian common name,

akohekohe, to the listing for the crested honeycreeper (*Palmeria dolei*). Additionally, based on recent botanical work, we accept various name changes and spelling corrections for 10 endangered plant species listed between 1991 and 1999 (Table 2).

TABLE 2—NAME CHANGES AND SPELLING CORRECTIONS FOR 2 LISTED ENDANGERED HAWAIIAN BIRDS AND 10 LISTED ENDANGERED HAWAIIAN PLANTS

Listing	Family	Name as previously listed	Newly accepted name	Change in range of listed entity?
<b>Birds:</b>				
32 FR 4001 .....	Fringillidae .....	Maui parrotbill ( <i>Pseudonestor xanthophrys</i> )	Kiwikiu, Maui parrotbill ..... ( <i>Pseudonestor xanthophrys</i> ) .....	No.
32 FR 4001 .....	Fringillidae .....	Crested honeycreeper ( <i>Palmeria dolei</i> ) .....	Akohekohe, crested honeycreeper ..... ( <i>Palmeria dolei</i> ).	No.
<b>Plants:</b>				
59 FR 49025 .....	Aspleniaceae ....	<i>Asplenium fragile</i> var. <i>insulare</i> .....	<i>Asplenium peruvianum</i> var. <i>insulare</i> .....	No.
56 FR 55770 .....	Gentianaceae ...	<i>Centaurium sebaeoides</i> .....	<i>Schenkia sebaeoides</i> .....	No.
61 FR 53130 .....	Campanulaceae ..	<i>Cyanea dunbarii</i> .....	<i>Cyanea dunbariae</i> .....	No.
56 FR 47686 .....	Campanulaceae ..	<i>Cyanea macrostegia</i> ssp. <i>gibsonii</i> .....	<i>Cyanea gibsonii</i> .....	No.
59 FR 56333 .....	Aspleniaceae ....	<i>Diellia erecta</i> .....	<i>Asplenium dielerectum</i> .....	No.
64 FR 48307 .....	Rubiaceae .....	<i>Hedyotis schlechtendahlana</i> var. <i>remyi</i> .....	<i>Kadua cordata</i> ssp. <i>remyi</i> .....	No.
57 FR 46325 .....	Rubiaceae .....	<i>Hedyotis mannii</i> .....	<i>Kadua laxiflora</i> .....	No.
57 FR 20772 .....	Asteraceae .....	<i>Lipochaeta kamolensis</i> .....	<i>Melanthera kamolensis</i> .....	No.
57 FR 10305 .....	Cyperaceae .....	<i>Mariscus fauriei</i> .....	<i>Cyperus fauriei</i> .....	No.
57 FR 20772 .....	Lycopodiaceae ..	<i>Phlegmariurus mannii</i> .....	<i>Huperzia mannii</i> .....	No.

All of the aforementioned taxonomic changes and spelling corrections are currently accepted by the scientific community; detailed background information on each of the changes is provided in our supporting document “Supplementary Information for the Designation and Nondesignation of Critical Habitat on Molokai, Lanai, Maui, and Kahoolawe for 135 Species,” available at <http://www.regulations.gov> and at <http://www.fws.gov/pacificislands> (see **ADDRESSES**). In accordance with the references cited in our proposed rule (June 11, 2012; 77 FR 34464) and our supporting documentation, we are revising the List of Endangered and Threatened Plants at 50 CFR 17.12 and the List of Endangered and Threatened Wildlife at 50 CFR 17.11. In addition, we made editorial revisions to a limited number of units and species descriptions in 50 CFR 17.99(a)(1) and (b) (Kauai), 50 CFR 17.99(i) and (j) (Oahu), 50 CFR 17.99(k) and (l) (Hawaii Island) to adopt the taxonomic changes.

#### Current Status of 135 Listed Maui Nui Species Plants

In order to avoid confusion regarding the number of locations of each species, we use the word “occurrence” instead of “population.” It is important to note that a “location” or “occurrence” as used here is not the same as a “population,” as in many cases a location or occurrence may represent only one or very few representative individuals of the species present. A population, on the other hand, represents a group of interbreeding organisms sufficiently represented in

numbers of individuals, age class, and genetic diversity to remain viable over the long term in the face of demographic, environmental, and genetic stochasticity, and natural catastrophes. This distinction is particularly important in evaluating the current status of each species relative to the determination of what is essential for the conservation of the species, as guided, for example, by the recovery plan for the plant or animal species, if available (e.g., as defined for several of the plant species in this final rule in the Recovery Plan for the Maui Plant Cluster; Service 1997, pp. iv–v), or by the general guidelines of the Hawaii and Pacific Plant Recovery Coordinating Committee (HPPRCC, 1998, 32 pp. + appendices). In general, populations are considered as meeting the objectives for conservation if they are secure, stable, and naturally reproducing over some minimum period of time, depending upon their life history. As reported here, each occurrence is composed only of wild (i.e., not propagated and outplanted) individuals, unless otherwise specified. In this rule, outplanted occurrences are generally not considered as meeting specified recovery objectives because currently these outplants have not been observed to be naturally reproducing and stable (over at least two generations), and as such have not demonstrated the capacity for reproduction and recruitment necessary to maintain or increase the population over time.

*Abutilon eremitopetalum* (no common name (NCN)), a short-lived perennial shrub in the mallow family (Malvaceae), is endemic to Lanai (Bates 1999, pp. 871–872). At the time we

designated critical habitat in 2003, *A. eremitopetalum* was known from a single occurrence of seven individuals on Lanai (68 FR 1220, January 9, 2003). Currently, there are nine individuals at Puu Mahanalua in the lowland dry ecosystem (TNC 2007; HBMP 2010; PEPP 2008, p. 45; PEPP 2011, p. 49).

*Acaena exigua* (liliwai), a short-lived perennial herb in the rose family (Rosaceae), is known from west Maui and Kauai (Wagner *et al.* 1999p, pp. 1,102–1,103). *Acaena exigua* was rediscovered in 1997 at Puu Kukui on west Maui, when one individual was found growing in a bog in the montane wet ecosystem, but this individual died in 2000 (TNC 2007; Oppenheimer *et al.* 2002, p. 1). This area on west Maui was searched as recently as 2008 by botanists; however, no plants were found (Aruch 2010, in litt.). Botanists continue to survey the potentially suitable habitat in the area where this species was last observed.

*Adenophorus periens* (pendant kiki fern), a short-lived perennial fern in the grammitis family (Grammitidaceae), is epiphytic on the native tree *Acacia koa* (koa). *Adenophorus periens* is known from Kauai, Oahu, Lanai, Maui, and the island of Hawaii (Palmer 2003, p. 39). At the time we designated critical habitat in 2003 and 2012, *A. periens* was known from Kauai, Molokai, the island of Hawaii, and Oahu (68 FR 9116, February 27, 2003; 68 FR 12982, March 18, 2003; 68 FR 39624, July 2, 2003; 77 FR 57648, September 18, 2012). *Adenophorus periens* was last seen on Molokai in 1995, in the montane wet ecosystem, at the edge of Pepeopae bog (Perlman 2008b, in litt.). It was last collected in the late 1800s to early 1900s

from the montane wet ecosystem on east Maui and Lanai (TNC 2007; HBMP 2010).

*Alectryon macrococcus* (mahoe), a long-lived perennial tree in the soapberry family (Sapindaceae), is known from two varieties: *Alectryon macrococcus* var. *auwahiensis* (east Maui) and *A. macrococcus* var. *macrococcus* (Kauai, Oahu, Molokai, and Maui) (Wagner *et al.* 1999x, p. 1,225). At the time we designated critical habitat in 2003, *A. macrococcus* var. *auwahiensis* was known from three occurrences on east Maui (68 FR 25934, May 14, 2003). Currently, *A. macrococcus* var. *auwahiensis* is found in one occurrence of seven individuals in Auwahi, in the lowland dry ecosystem (TNC 2007; HBMP 2010; NTBG Provenance Report 1993; PEPP 2009, p. 33). This variety was historically found in the lowland dry, montane dry, and montane mesic ecosystems, not lower than 1,200 feet (ft) (360 meters (m)) in elevation (TNC 2007; HBMP 2010; Wagner *et al.* 1999, p. 1,225). At the time we designated critical habitat in 2003 and 2012, *A. macrococcus* var. *macrococcus* was found on Kauai, Molokai, west Maui, and Oahu (68 FR 9116, February 27, 2003; 68 FR 12982, March 18, 2003; 68 FR 25934, May 14, 2003; 77 FR 57648, September 18, 2012). Currently, on Molokai, this variety is found in three known occurrences: One individual at Kahawai, eight individuals from Kaunakakai to Kawela, and one individual in Makolelau, in the lowland mesic and montane mesic ecosystems. On west Maui, *A. macrococcus* var. *macrococcus* is found in 6 occurrences totaling 11 individuals (1 individual each at Honokowai Stream, Wahikuli, Kahoma Ditch Trail, Olowalu, and Iao Valley, and 6 individuals at Honokowai) in the lowland wet and wet cliff ecosystems. On east Maui, there are an unknown number of individuals at Kahakapao in the montane mesic ecosystem (TNC 2007; HBMP 2008; Oppenheimer 2010p, in litt.).

*Argyroxiphium sandwicense* ssp. *macrocephalum* (ahinahina, Haleakala silversword) is a short-lived perennial rosette shrub in the sunflower family (Asteraceae) and is known from within a 2,500-ac (1,000-ha) area, between 6,900 to 9,800 ft (2,100 to 3,000 m) in elevation, at the summit and crater of Haleakala on east Maui (Carr 1999a, p. 261; Service 2010, in litt.; Haleakala National Park (HNP) 2012, in litt.; Service 2015, in litt.). In 2006, seven occurrences totaled approximately 50,000 individuals (a decline from 75,000 known individuals in 1990), and span across adjoining dry cliff,

subalpine, and alpine ecosystems (TNC 2007; Perlman 2008c, in litt., p. 1; Service 2010, in litt.; HNP 2012, in litt.; Service 2015, in litt.). These seven occurrences are generally considered to represent one single population, which is greatly reduced in its distribution from its historical range on Haleakala. One individual is found in Hanawi Natural Area Reserve (NAR) in the montane mesic ecosystem (TNC 2007; Perlman 2008c, p. 1; HBMP 2010). This species is monocarpic (dies after flowering) and reaches full maturity after 15 to 50 years. The triggers for blooming are unknown, and plants flower sporadically, or sometimes all at once, from June through October (Starr *et al.* 2007, in litt.; Starr *et al.* 2009, p. 1). This species experiences reduced reproductive success in low-flowering years (Forsyth 2003; Krushelnycky *et al.* 2012, p. 8). As populations and numbers of individuals decrease in numbers, they are less likely to be visited by pollinators, and fitness is reduced as population size decreases, with extinction of these groups of plants becoming more likely as the population declines (Forsyth 2002, pp. 26–27; Krushelnycky *et al.* 2012, p. 9; Krushelnycky 2014, p. 12). In addition, this species is an obligate out-croser, meaning it cannot fertilize itself, but must have pollen from other non-related individuals to set fertile seed (Krushelnycky 2014, p. 5). Lower numbers of populations and individuals increases the distances pollinators are required to travel, also contributing to lack of pollination from other non-related individuals (Forsyth 2002, p. 40). Research also indicated that, even with greater than 2,700 individuals blooming simultaneously, there would be very little, if any, seed set (Forsyth 2002, p. 40). Furthermore, because all of the plants that flower die afterward, large numbers of individuals are lost following such an event, and without subsequent seed set and recruitment, this represents a significant loss to the total population. Given that there are very low-flowering years in the current population of approximately 50,000 individuals, it is likely that, if the population continues to decline, even fewer plants would have reproductive success (Forsyth 2002, p. 42). Altogether, this combination of life history characteristics results in a population that may appear to be relatively large, but is actually highly vulnerable to large losses of individuals very quickly under certain circumstances (such as when environmental conditions trigger large numbers of adults to flower and die all

at once). Yearly measurements in census plots indicate a population decline of 73 percent since 1982, likely associated with changing climatic conditions (Starr *et al.* 2009; in litt.; Krushelnycky *et al.* 2012, p. 8). Threats, including competition with nonnative plants, loss of native pollinators (affecting seed set), drought, predation by rats (*Rattus* spp.), slugs, and nonnative insects, and predation and competition with native pollinators by nonnative ants, continue to affect this species (Cole *et al.* 1992, pp. 1320–1321; Starr and Starr 2002, pp. 3–4; Forsyth 2002, p. 81; Krushelnycky 2014, pp. 8–10). Weather and rainfall changes resulting from climate change are potential threats, as suitable habitat to the summit of Haleakala will continue to diminish over time (Starr *et al.* 2009, in litt.). To attain delisting goals, the threats to its pollinators must be controlled, and the widespread occurrences must exceed and be maintained at over 50,000 individuals to ensure genetic variability and long-term persistence (Forsyth 2002, p. 42; Krushelnycky *et al.* 2012, p. 12). Because of its unique reproductive features, the ongoing and potential threats to this species, and the small range of its current occurrences at higher elevations on east Maui, and to accommodate loss of habitat with expected climate change, we consider the single remaining population of *A. sandwicense* ssp. *macrocephalum* to be vulnerable to extinction. The establishment of additional populations in currently unoccupied habitat (in addition to occupied habitat) is essential to this species' conservation, to achieve redundancy in populations and provide the species with the resiliency to withstand threats and respond to climate change over time. For this species in particular, with all remaining individuals highly concentrated in one small area, it is essential to achieve a widespread distribution of multiple populations across areas that are presently unoccupied to reduce risk from stochastic events, as well as to allow for blooming at different times so not all reproductive individuals in a population die simultaneously.

*Asplenium dielerectum* (asplenium-leaved diellia) (formerly *Diellia erecta*), a short-lived perennial fern in the spleenwort family (Aspleniaceae), is historically known from Kauai, Oahu, Molokai, Lanai, Maui, and the island of Hawaii (Palmer 2003, pp. 117–119). At the time we designated critical habitat in 2003 and 2012, this species was known from Kauai, Molokai, Maui, the island of Hawaii, and Oahu (68 FR 9116, February 27, 2003; 68 FR 12982, March

18, 2003; 68 FR 25934, May 14, 2003; 68 FR 39624, July 2, 2003; 77 FR 57648, 77 FR 57648). Currently, *A. dielrectum* is known from two occurrences on Molokai, where an unknown number of plants were last seen in Onini and Makolelau gulches in the 1990s, in the lowland mesic ecosystem (Lau 2010, in litt.). Historically, this species was also found in the montane mesic and lowland wet ecosystems (HBMP 2010). Botanists believe that additional individuals of this species may be found during further searches of potentially suitable habitat on Molokai (Lau 2010, in litt.). In addition, there are two occurrences totaling five individuals on Maui. Four individuals occur on west Maui at Hanaulaiki in the lowland dry ecosystem, and on east Maui, one individual occurs at Polipoli in the montane mesic ecosystem (Oppenheimer 2010q, in litt.). Historically, *A. dielrectum* was also found in the lowland mesic and lowland wet ecosystems on west Maui, and in the lowland dry and dry cliff ecosystems on Lanai (HBMP 2010).

*Asplenium peruvianum* var. *insulare* (NCN) (formerly *Asplenium fragile* var. *insulare*) is a short-lived perennial terrestrial fern in the spleenwort (Aspleniaceae) family, from Maui and the island of Hawaii (Palmer 2003, pp. 70–71). At the time we designated critical habitat in 2003, this variety was found on east Maui in 2 occurrences and on the island of Hawaii in 36 occurrences (68 FR 25934, May 14, 2003; 68 FR 39624, July 2, 2003). Currently, on east Maui, *A. peruvianum* var. *insulare* is known from five occurrences at Waikamoi Stream, at Puu Luau, east of Hosmer Grove, north of Kalapawili Ridge, and in Hanawi Natural Area Reserve. These occurrences total as many as 100 individuals, in the montane wet, montane mesic, and subalpine ecosystems (TNC 2007; HBMP 2010; Oppenheimer 2010r, in litt.).

*Bidens campylothea* ssp. *pentamera* (kookoolau), a short-lived perennial herb in the sunflower family (Asteraceae), occurs only on the island of Maui (Ganders and Nagata 1999, pp. 271, 273). Historically, *B. campylothea* ssp. *pentamera* was found on Maui's eastern volcano (Haleakala). Currently, this subspecies is found on east Maui in the montane mesic, montane wet, dry cliff, and wet cliff ecosystems of Waikamoi Preserve and Kipahulu Valley (in Haleakala National Park) (TNC 2007; Welton 2008, in litt.; National Tropical Botanical Garden (NTBGa) 2009, pp. 1–2; Fay 2010, in litt.; HBMP 2010). It is uncertain if plants observed in the Hana FR at Waihoi Valley are *B.*

*campylothea* ssp. *pentamera* (Osterneck 2010, in litt.; Haleakala National Park (HNP) 2012, in litt.). On west Maui, *B. campylothea* ssp. *pentamera* is found on and near cliff walls in the lowland dry and lowland mesic ecosystems of Papalaua Gulch (West Maui FR) and Kauaula Valley (NTBG 2009a, pp. 1–2; Perlman 2009a, in litt.). The 6 occurrences on east and west Maui total approximately 200 individuals.

*Bidens campylothea* ssp. *waihoiensis* (kookoolau), a short-lived perennial herb in the sunflower family (Asteraceae), occurs only on the island of Maui (Ganders and Nagata 1999, pp. 271, 273). Historically, *B. campylothea* ssp. *waihoiensis* was found on Maui's eastern volcano in Waihoi Valley and Kaumakani ridge (HBMP 2010). Currently, this subspecies is found in the lowland wet, montane wet, and wet cliff ecosystems in Kipahulu Valley (Haleakala National Park) and possibly in Waihoi Valley (Hana Forest Reserve) on east Maui (TNC 2007; HBMP 2010; Welton 2008, in litt.). Approximately 200 plants are scattered over an area of about 2.5 miles (mi) (4 kilometers (km)) in Kipahulu Valley (Welton 2010a, in litt.). In 1974, hundreds of individuals were observed in Waihoi Valley along Waiohonu stream (NTBG 2009b, p. 4).

*Bidens conjuncta* (kookoolau), a short-lived perennial herb in the sunflower family (Asteraceae), occurs only on west Maui (Ganders and Nagata 1999, pp. 273–274). Historically, this species was known from the mountains of the Honokohau drainage basin, from the west Maui summit to as low as 2,500 ft (760 m) elevation (Sherff 1923, p. 162; HBMP 2010). In the 1990s, this species occurred in two areas encompassing over 800 ac (330 ha). Currently, *B. conjuncta* is found scattered in nine locations at elevations above 3,000 ft (914 m) in the lowland wet, montane wet, and wet cliff ecosystems. The largest numbers of individuals are found in two upper elevation areas encompassing only 135 ac (55 ha). A rough estimate is that all known occurrences may total from 3,000 to as many as 7,000 individuals (Oppenheimer 2005–GIS data; TNC 2007; Oppenheimer 2008a, in litt.; HBMP 2010; Perlman 2010, in litt.). However, it is not known whether any of these occurrences may meet the criteria for qualifying as a self-sustaining population. Currently, the greatest threat to *B. conjuncta* is competition with nonnative plants. Other threats include habitat modification by pigs, goats, and nonnative plants, herbivory by pigs, goats, slugs, and rats, seed predation by

rats, hurricanes, and effects of climate change. To be considered for delisting, these threats must be managed or controlled, with a minimum of 8 to 10 self-sustaining populations consisting of all size classes sustained over a period of 5 years. These goals have not yet been met; in addition, all threats are not being sufficiently managed throughout all of the occurrences. Designation of unoccupied habitat (in addition to occupied habitat) is essential to the conservation of *B. conjuncta* as it remains in danger of extinction throughout its range, therefore it requires sufficient habitat to allow the species to persist in the face of ongoing threats and to provide for the expansion and reestablishment of populations in areas presently unoccupied by the species to meet recovery goals.

*Bidens micrantha* ssp. *kalealaha* (kookoolau), a short-lived perennial herb in the sunflower family (Asteraceae), is known from Lanai and Maui (Ganders and Nagata 1999, pp. 278–279). At the time we designated critical habitat in 2003, this subspecies was known from one occurrence on Lanai and four occurrences on east Maui (68 FR 1220, January 9, 2003; 68 FR 25934, May 14, 2003). Currently, *B. micrantha* ssp. *kalealaha* is known from 4 occurrences totaling over 200 individuals on Lanai and Maui. On Lanai, this subspecies is known from 1 occurrence of 12 to 14 individuals north of Waiapaa Gulch in the lowland mesic ecosystem (Puttock 2003, p. 1; TNC 2007; HBMP 2010). On east Maui, there are 4 occurrences: approximately 200 individuals south of Puu Keokea, a few individuals above Polipoli State Park, and 2 wild occurrences in Haleakala National Park (with an unreported number of individuals) (National Park Service (NPS) 2012, in litt.). The Park has outplanted 585 individuals at 18 locations (NPS 2012, in litt.). Two occurrences are in the subalpine ecosystem, and two are in the dry cliff ecosystem (TNC 2007; Oppenheimer 2010s, in litt.; NPS 2012, in litt.; HNP 2012, in litt.). On west Maui, there are four to six individuals at Honokowai in the lowland wet ecosystem (TNC 2007; HBMP 2010). This subspecies was historically known from the lowland dry and dry cliff ecosystems on Lanai, and from the montane mesic and lowland dry ecosystems on east Maui (TNC 2007; HBMP 2010).

*Bidens wiebkei* (kookoolau), a short-lived perennial herb in the sunflower family (Asteraceae), is endemic to Molokai (Ganders and Nagata 1999, pp. 282–283). At the time we designated critical habitat in 2003, this species was known from five occurrences on

Molokai (68 FR 12982, March 18, 2003). Currently, *B. wiebkei* is known from 6 occurrences totaling as many as 500 individuals. In the coastal ecosystem, several hundred plants occur on the windward sea cliffs from Papalaua Valley to Puahaunui Point, and 200 or more individuals are found on rolling hills and sea cliffs at Lamaloa Gulch. Approximately 40 individuals occur west of Waialua near Kahawaiiki Gulch in the lowland wet ecosystem, and about 10 individuals occur at Kumueli in the montane wet ecosystem. In the montane mesic ecosystem, there are 2 occurrences: 10 to 20 individuals below Puu Kolekole, and 1 individual at Kawela Gulch (Wood and Perlman 2002, pp. 1–2; Perlman 2006a, pp. 1–2; TNC 2007; Oppenheimer 2009a, in litt.; Wood 2009b, pp. 1–2; HBMP 2010).

*Bonamia menziesii* (NCN) is a short-lived perennial liana (vine) in the morning glory family (Convolvulaceae). *Bonamia menziesii* is known from Kauai, Oahu, Molokai, Lanai, Maui, and Hawaii Island (Austin 1999, p. 550; HBMP 2010). At the time we designated critical habitat in 2003 and 2012, *B. menziesii* was known from 3 occurrences on Lanai, 9 occurrences on Kauai, 6 occurrences on Maui, 2 occurrences on Hawaii Island, and 12 to 13 occurrences on Oahu (68 FR 1220, January 9, 2003; 68 FR 9116, February 27, 2003; 68 FR 25934, May 14, 2003; 68 FR 39624, July 2, 2003; 77 FR 57648, September 18, 2012). However, no critical habitat was designated for this species on Lanai or Molokai in 2003 (68 FR 1220, January 9, 2003; 68 FR 12982, March 18, 2003). Currently, *B. menziesii* is known from 6 occurrences on Lanai and Maui, totaling over 10 individuals. On Lanai, *B. menziesii* is found at Kanepuu (one individual observed dead in 2008, two other individuals not observed since 2001) and at Puhielelu Ridge (two individuals were observed in 1996) in the lowland mesic ecosystem (TNC 2007; HBMP 2010; Oppenheimer 2010t, in litt.). This species is found on west Maui at Honokowai (two individuals) in the wet cliff ecosystem, and on east Maui at Puu o Kali (one individual), Kaloi (one individual), and Kanaio NAR (four individuals), in the lowland dry ecosystem (TNC 2007; Bily 2010, in litt.; HBMP 2010). This species was last seen in the dry cliff ecosystem on west Maui in 1920 (TNC 2007; HBMP 2010). *Bonamia menziesii* has not been observed on Molokai (in the lowland dry and lowland mesic ecosystems) since the early 1900s (HBMP 2010).

*Brighamia rockii* (pua ala), a short-lived perennial stem succulent in the bellflower family (Campanulaceae), is

known from east Molokai and Lanai, and may have occurred on Maui (Lammers 1999, p. 423). At the time we designated critical habitat on Maui and Molokai in 2003, this species was known from five occurrences on Molokai (68 FR 12982, March 18, 2003; 68 FR 25934, May 14, 2003). Currently, *B. rockii* is found on Molokai at Lepau Point (one individual); at Waiehu, (four individuals), and on Huelo islet (one individual), in the coastal and wet cliff ecosystems (TNC 2007; HBMP 2010; NTBG 2009i; Oppenheimer 2010u, in litt.). This species was last observed on Lanai in 1911, in the dry cliff ecosystem (HBMP 2010). According to Lammers (1999, p. 423), *B. rockii* was likely found in the coastal ecosystem on Maui.

*Calamagrostis hillebrandii* (NCN), a short-lived perennial in the grass family (Poaceae), occurs only on the island of Maui (O'Connor 1999, p. 1,509). Historically, this species was known from Puu Kukui in the west Maui mountains (Wagner *et al.* 2005a—*Flora of the Hawaiian Islands database*). Currently, this species is found in bogs in the montane wet ecosystem in the west Maui mountains, from Honokohau to Kahoolawe ridge, including East Bog and Eke Crater, in three occurrences totaling a few hundred individuals (TNC 2007; HBMP 2010; Oppenheimer 2010a, in litt.).

*Canavalia molokaiensis* (awikiwiki), a short-lived perennial climbing herb in the pea family (Fabaceae), is endemic to east Molokai (Wagner and Herbst 1999, p. 653). At the time we designated critical habitat in 2003, this species was known from seven occurrences on Molokai (68 FR 12982, March 18, 2003). Currently, *C. molokaiensis* is found in 9 occurrences totaling approximately 170 individuals in the following locations: Kawailena drainage in Pelekunu Valley (1 individual); Kua Gulch (approximately 100 individuals); near the junction at Kupiaia Gulch (10 to 20 individuals); Waiehu (5 to 10 individuals); west Kawela Gulch (6 individuals); Kukaiwaa (approximately 15 individuals); Mokomoko Gulch (a few individuals); Wailua (10 individuals); and Waialeia Stream (a few individuals) (Perlman 2008d, pp. 1–2; HBMP 2010; Tangalin 2010, in litt.). These plants are found in the coastal, lowland mesic, lowland wet, and wet cliff ecosystems (TNC 2007).

*Canavalia pubescens* (awikiwiki), a short-lived perennial climber in the pea family (Fabaceae), is currently found only on the island of Maui, although it was also historically known from Niihau, Kauai, and Lanai (Wagner and Herbst 1999, p. 654). On Niihau, this species was known from one population

in Haao Valley that was last observed in 1949 (HBMP 2010). On Kauai, this species was known from six populations ranging from Awaawapuhi to Wainiha, where it was last observed in 1977 (HBMP 2010). On Lanai, this species was known from Kaena Point to Huawai Bay. Eight individuals were reported in the coastal ecosystem west of Hulupoe, but they have not been seen since 1998 (Oppenheimer 2007a, in litt.; HBMP 2010). At present, the only known occurrence is on east Maui, from Puu o Kali south to Pohakea, in the lowland dry ecosystem (Oppenheimer 2006a, in litt.; Starr 2006, in litt.; Altenburg 2007, pp. 12–13; Oppenheimer 2007, in litt.; Greenlee 2013, in litt.). All plants of this species that formerly were found in the Ahihi-Kinau NAR on Maui were destroyed by feral goats (*Capra hircus*) by the end of 2010 (Fell-McDonald 2010, in litt.). In addition, although approximately 20 individuals of *Canavalia pubescens* were reported from the Palaua-Keahou area as recently as 2010 (Altenberg 2010, in litt.), no individuals have been found in site visits to this area over the last 2 years (Greenlee 2013, in litt.). Greenlee (2013, in litt.) reports that these plants may have succumbed to prolonged drought. In April of 2010, *C. pubescens* totaled as many as 500 individuals; however, with the loss of the plants at Ahihi-Kinau NAR and the loss of plants at Palaua-Keahou, *C. pubescens* may currently total fewer than 200 individuals at a single location.

*Cenchrus agrimonioides* (kamanomano (also known as sandbur or agrimony)), a short-lived perennial in the grass family (Poaceae), is known from two varieties: *C. agrimonioides* var. *agrimonioides* (Lanai, Maui, Oahu, and Hawaii) and *C. agrimonioides* var. *laysanensis* (Kure Atoll, Midway Atoll, and Laysan) (O'Connor 1999, pp. 1,511–1,512). At the time we designated critical habitat in 2003 and 2012, *C. agrimonioides* was known from one occurrence on east Maui, one occurrence on west Maui, and three to six occurrences on Oahu (HBMP 2010; 68 FR 25934, May 14, 2003; 77 FR 57648, September 18, 2012). Currently, on Maui, *C. agrimonioides* is known from four occurrences totaling five individuals in the lowland dry ecosystem. On west Maui, this variety occurs in Hanaulaiki and Papalaua gulches (one individual at each location). On east Maui, *C. agrimonioides* occurs in Kanaio (2 individuals), and within the Kanaio NAR (one individual) (TNC 2007; PEPP 2008, pp. 47–48; PEPP 2009, p. 39; HBMP 2010). This plant was last observed on

Lanai in 1915, in the lowland mesic ecosystem (TNC 2007; HBMP 2010).

*Clermontia lindseyana* (oha wai), a short-lived perennial shrub or tree in the bellflower family (Campanulaceae), is known from Maui and Hawaii Island (Lammers 1999, p. 431). At the time we designated critical habitat in 2003, *C. lindseyana* was known from 2 occurrences on Maui and from 15 occurrences on Hawaii Island (68 FR 25934, May 14, 2003; 68 FR 39624, July 2, 2003). Currently, there is 1 known occurrence totaling approximately 30 individuals on east Maui at Wailaulau in the montane mesic ecosystem (Perlman 2007a, in litt.; TNC 2007; PEPP 2009, pp. 40–41; Wood 2009c, in litt.; HBMP 2010; Oppenheimer 2010a, in litt.; Oppenheimer 2010b, in litt.; Oppenheimer 2010v, in litt.; Oppenheimer 2010w, in litt.).

*Clermontia oblongifolia* ssp. *brevipes* (oha wai), a short-lived perennial shrub or tree in the bellflower family (Campanulaceae), is endemic to east Molokai (Lammers 1999, pp. 432–433). At the time we designated critical habitat in 2003, this species was known from one occurrence in Kamakou Preserve (68 FR 12982, March 18, 2003; Perlman 2009d, in litt.). Currently, *C. oblongifolia* ssp. *brevipes* is found in 1 known occurrence totaling 11 individuals on Uapa Ridge in the montane wet ecosystem (TNC 2007; HBMP 2010; Bakutis 2009a, in litt.; Perlman 2009d, in litt.). Historically, this subspecies also occurred in the lowland mesic, lowland wet, and wet cliff ecosystems (TNC 2007; HBMP 2010).

*Clermontia oblongifolia* ssp. *mauiensis* (oha wai), a short-lived perennial shrub or tree in the bellflower family (Campanulaceae), is known from Lanai and Maui (Lammers 1999, pp. 432–433). At the time we designated critical habitat in 2003, this species was known from one occurrence of two individuals on west Maui, and from historical occurrences on Lanai and east Maui (68 FR 1220, January 9, 2003; 68 FR 25934, May 14, 2003; Perlman 2009e, in litt.; HBMP 2010). However, no critical habitat was designated for this species on Maui in 2003 (68 FR 25934, May 14, 2003). Currently, *C. oblongifolia* ssp. *mauiensis* is found in one known occurrence totaling four individuals in Haipuena Gulch in the montane wet ecosystem on east Maui (TNC 2007; Perlman 2009e, in litt.; HBMP 2010). Historically, this species was also found in the lowland mesic and lowland wet ecosystem on Lanai, and the lowland wet ecosystem on Maui (TNC 2007; HBMP 2010). An examination of the type specimen and

other collections indicates that *C. oblongifolia* ssp. *mauiensis* may be a hybrid; however, further examination of specimens from Lanai and Maui are necessary (Albert 2001, in litt.; Oppenheimer 2010s, in litt.).

*Clermontia peleana* (oha wai) is a short-lived perennial shrub or tree in the bellflower family (Campanulaceae). There are two subspecies: *C. peleana* ssp. *peleana* (Hawaii Island) and *C. peleana* ssp. *singuliflora* (east Maui and Hawaii Island) (Lammers 1999, p. 435). This species is observed to be epiphytic on *Metrosideros* spp. (ohia), *Acacia koa* (koa), and *Cheirodendron* (olapa) (Lammers 1999, p. 435). At the time we designated critical habitat on Maui in 2003, *C. peleana* had not been observed on either island since the early 1900s (68 FR 25934, May 14, 2003; 68 FR 39624, July 2, 2003). Critical habitat was designated on the island of Hawaii in 2003 (68 FR 39624, July 2, 2003). Currently, there are no known individuals of *C. peleana* ssp. *singuliflora* on Maui; however, this subspecies was recently rediscovered on Hawaii Island (TNC 2010). *Clermontia peleana* ssp. *singuliflora* was last seen in 1920, on east Maui in the lowland wet ecosystem (TNC 2007; HBMP 2010).

*Clermontia samuelii* (oha wai), a short-lived perennial shrub in the bellflower family (Campanulaceae), is known from Maui (Lammers 1999, p. 436). There are two subspecies: *C. samuelii* ssp. *hanaensis*, which generally is found at lower elevations, and *C. samuelii* ssp. *samuelii* (Lammers 1995, p. 344). At the time we designated critical habitat in 2003, *C. samuelii* was known from seven occurrences on east Maui (68 FR 25934, May 14, 2003). Currently, *C. samuelii* ssp. *hanaensis* is found in bog margins in the lowland wet and montane wet ecosystems at Kopiliula, and at Kawaiipapa, with historical occurrences at Kuhiwa Valley, Palikea Stream, and Waihoi Valley (TNC 2007; HBMP 2010; Oppenheimer 2010b, in litt.; Welton 2010a, in litt.).

*Clermontia samuelii* ssp. *samuelii* is found in 2 known occurrences, in East Maui's montane wet ecosystem (TNC 2007; HBMP 2010; Welton 2010a, in litt.). Five individuals have been outplanted in two locations within Haleakala National Park (NPS 2012, in litt.). There is a report of one individual (subspecies unknown) at Papanalahou Point on west Maui (HBMP 2010).

*Colubrina oppositifolia* (kauila), a long-lived perennial tree in the buckthorn family (Rhamnaceae), is known from Maui, Oahu, and Hawaii (Wagner *et al.* 1999y, p. 1,094). At the time we designated critical habitat in 2003 and 2012, this species was known

from two occurrences on west Maui, five occurrences on Hawaii Island, and four occurrences on Oahu (68 FR 25934, May 14, 2003; 68 FR 39624, July 2, 2003; 77 FR 57648, September 18, 2012). Currently, on west Maui, there are two individuals in the lowland mesic ecosystem. Historically, this species was also reported from the lowland dry ecosystem on east Maui (TNC 2007; Perlman 2008e, in litt.; Oppenheimer 2009b, in litt.; HBMP 2010).

*Ctenitis squamigera* (pauoa), a short-lived perennial terrestrial fern in the spleenwort family (Asplenaceae), is known from Kauai, Oahu, Molokai, Lanai, Maui, and the island of Hawaii (Palmer 2003, pp. 100–102). At the time we designated critical habitat in 2003 on Kauai, Molokai, and Maui, and in 2012 on Oahu, *C. squamigera* was known from 2 occurrences on Lanai, 1 occurrence on Molokai, 12 occurrences on Maui, and 4 occurrences on Oahu (68 FR 1220, January 9, 2003; 68 FR 12982, March 18, 2003; 68 FR 25934, May 14, 2003; 77 FR 57648, September 18, 2012). No critical habitat was designated for this species on Lanai or Hawaii in 2003 (68 FR 1220, January 9, 2003; 68 FR 39624, July 2, 2003). Currently, *C. squamigera* is found in 12 known occurrences totaling over 120 individuals on Lanai, Molokai, and west Maui (Oppenheimer 2010i, in litt.). On Lanai, an unknown number of individuals occur on the leeward (south) side of the island at Waiapaa in the wet cliff ecosystem. There are historical records from the dry cliff and wet cliff ecosystems at upper Kehewai Gulch, Haalelepaakai, and Kaiholena (HBMP 2010). On Molokai, 20 individuals occur at Wawaia in the lowland mesic ecosystem. On west Maui, there are 9 occurrences totaling 80 to 84 individuals in the lowland dry, lowland mesic, lowland wet, montane mesic, and wet cliff ecosystems. *Ctenitis squamigera* is found in Honokowai Valley (20 individuals), Puu Kaeo (2 to 4 individuals), Kahana Iki (1 individual), Kahana (14 individuals), Kanaha Valley (10 individuals), Kahoma (1 individual), Puehuehunui (1 to 2 individuals), Ukumehame Valley (1 to 2 individuals), and Iao Valley (approximately 30 individuals). On east Maui, there are 28 individuals at Pohakea in the lowland dry ecosystem and a historical record from the lowland mesic ecosystem. This species was apparently found in the Kipahulu FR (Kaapahu) area on east Maui, but no further details have been provided (Wood and Perlman 2002, p. 7; East Maui Watershed Partnership 2006, p.



17; TNC 2007; HBMP 2010; Oppenheimer 2010r, in litt.).

*Cyanea asplenifolia* (haha), a short-lived perennial shrub in the bellflower family (Campanulaceae), is found only on the island of Maui. This species was known historically from Waihee Valley and Kaanapali on west Maui, and Haleakala ridge on east Maui (Lammers 1999, p. 445; HBMP 2010). On west Maui, in the lowland wet ecosystem, there are 3 occurrences totaling 14 individuals in the Puu Kukui Preserve and two occurrences totaling 5 individuals in the West Maui NAR. On east Maui, *C. asplenifolia* is found in 1 occurrence each in the lowland mesic ecosystem in Haleakala National Park (53 individuals) and Kipahulu FR (140 individuals), and 1 occurrence in the lowland wet ecosystem in the Makawao FR (5 individuals) (TNC 2007; Oppenheimer 2008b, in litt., 2010b, in litt.; PEPP 2008, p. 48; Welton and Haus 2008, p. 12; NTBG 2009c, pp. 3–5; HBMP 2010; Welton 2010a, in litt.). Currently, *C. asplenifolia* is known from 8 occurrences totaling fewer than 200 individuals. The occurrence at Haleakala National Park is protected by a temporary exclosure (Haleakala National Park (HNP) 2012, in litt.).

*Cyanea copelandii* ssp. *haleakalaensis* (haha), a short-lived perennial vine-like shrub in the bellflower family (Campanulaceae), is known from Maui (Lammers 1999, pp. 445–446). At the time we designated critical habitat in 2003, this subspecies was known from five occurrences on Maui (68 FR 25934, May 14, 2003). Currently, *C. copelandii* ssp. *haleakalaensis* is found in 7 widely distributed occurrences totaling over 600 individuals on east Maui. One occurrence of over 20 scattered individuals is found in east Makaiwa in the lowland wet ecosystem; 4 occurrences totaling approximately 100 individuals are found along streams in Keanae in the lowland wet and montane wet ecosystems; 2 occurrences totaling approximately 500 individuals are found in Kipahulu Valley, in the montane wet, wet cliff, and lowland wet ecosystems; and a few individuals are found at Kaapahu in the montane wet and lowland mesic ecosystems (HNP 2004, pp. 5–6; HNP 2005, pp. 5–6; HNP 2007, pp. 2, 4; TNC 2007; Perlman 2007b, in litt.; Bily *et al.* 2008, p. 37; Welton and Haus 2008, pp. 12–13; Wood 2009d, in litt.; HBMP 2010; Oppenheimer 2010b, in litt.; 2010x, in litt.; Welton 2010a, in litt.). Forty-six individuals have been outplanted at 10 sites within Haleakala National Park (NPS 2012, in litt.).

*Cyanea dunbariae* (haha) (formerly *Cyanea dunbarii*), is a short-lived perennial shrub in the bellflower family (Campanulaceae), and is endemic to Molokai (Lammers 1999, p. 448). At the time we designated critical habitat in 2003, this species was known from one occurrence at Mokomoko Gulch (68 FR 12982, March 18, 2003). Currently, there are 10 individuals in Mokomoko Gulch in the lowland mesic ecosystem (TNC 2007; PEPP 2008, p. 48; HBMP 2010; Oppenheimer 2010u, in litt.; NTBG 2011a). Historically, this species was also found in Molokai's lowland wet and montane mesic ecosystems (TNC 2007; HBMP 2010).

*Cyanea duvalliorum* (haha), a short-lived perennial tree in the bellflower family (Campanulaceae), is found only in the east Maui mountains (Lammers 2004, p. 89). This species was described in 2004, after the discovery of individuals of a previously unknown species of *Cyanea* at Waiohiwi Gulch (Lammers 2004, p. 91). Studies of earlier collections of sterile material extend the historical range of this species on the windward slopes of Haleakala in the lowland wet and montane wet ecosystems, east of Waiohiwi Stream, from Honomanu Stream to Wailua Iki Streams, and to Kipahulu Valley (Lammers 2004, p. 89). In 2007, one individual was observed in the lowland wet ecosystem of the Makawao FR (NTBG 2009d, p. 2). In 2008, 71 individuals were found in 2 new locations in the Makawao FR, along with many juveniles and seedlings (NTBG 2009d, p. 2). Currently there are 2 occurrences with an approximate total of 71 individuals in the montane wet ecosystem near Makawao FR, with an additional 135 individuals outplanted in Waikamoi Preserve (TNC 2007; NTBG 2009d, p. 2; Oppenheimer 2010a, in litt.).

*Cyanea gibsonii* (haha) (formerly *Cyanea macrostegia* ssp. *gibsonii*), is a short-lived perennial tree in the bellflower family (Campanulaceae), and is known from Lanai (Lammers 1999, p. 457). In 2003, this species was known from two occurrences (68 FR 1220, January 9, 2003). However, no critical habitat was designated for this species on Lanai in 2003 (68 FR 1220, January 9, 2003). Currently, there are about 10 to 20 individuals in Hauola Gulch, in the montane wet ecosystem (TNC 2007; PEPP 2009, p. 53; HBMP 2010; Oppenheimer 2010t, in litt.). Historically, this species was also found north of Lanaihale and at Puu Alii in the wet cliff and montane wet ecosystems (PEPP 2009, p. 53).

*Cyanea glabra* (haha), a short-lived perennial shrub in the bellflower family

(Campanulaceae), is endemic to Maui (Lammers 1999, pp. 449, 451). At the time we designated critical habitat in 2003, this species was known from one occurrence on west Maui (68 FR 25934, May 14, 2003). However, on west Maui, individuals identified as *C. glabra* in the lowland wet and wet cliff ecosystems may be an undescribed species related to *C. acuminata* (Lorence 2010, in litt.; Oppenheimer 2010y, in litt.). On east Maui, wild individuals of *C. glabra* in the montane wet and montane mesic ecosystems may more closely resemble the endangered *C. maritae* (Oppenheimer 2010y, in litt.). Further taxonomic study of these occurrences is needed (TNC 2007; Perlman 2009f, in litt.; HBMP 2010). In the meantime, we will continue to identify these individuals as *C. glabra*.

*Cyanea grimesiana* ssp. *grimesiana* (haha), a short-lived perennial shrub in the bellflower family (Campanulaceae), is known only from Oahu and Molokai (Lammers 2004 p. 84; Lammers 1999, pp. 449, 451; 68 FR 35950, June 17, 2003). On Molokai, this species was last observed in 1991 in the wet cliff ecosystem at Wailau Valley (PEPP 2010, p. 45). Currently, on Oahu there are five to six individuals in four occurrences in the Waianae and Koolau Mountains (U.S. Army 2006; HBMP 2010).

*Cyanea hamatiflora* ssp. *hamatiflora* (haha), a short-lived perennial palm-like tree in the bellflower family (Campanulaceae), is known from east Maui (Lammers 1999, p. 452). At the time we designated critical habitat in 2003, there were nine occurrences (68 FR 25934, May 14, 2003). Currently, there are at least 9 occurrences totaling between 458 and 558 individuals in the lowland wet and montane wet ecosystems, at Haipuaena Stream, Wailuaiki Stream, above Kuhiwa Valley, in Kipahulu Valley, and at Kaapahu (TNC 2007; PEPP 2008, pp. 50–51; Welton and Haus 2008, p. 26; HBMP 2010; Oppenheimer 2010b, in litt.; Welton 2010a, in litt.). Historically, this subspecies also occurred in the montane mesic ecosystem (TNC 2007; HBMP 2010). Seventeen individuals have been outplanted at three sites in Haleakala National Park (NPS 2012, in litt.).

*Cyanea horrida* (haha nui), a member of the bellflower family (Campanulaceae), is a short-lived perennial palm-like tree found only on the island of Maui. This species was known historically from the slopes of Haleakala (Lammers 1999, p. 453; HBMP 2010). Currently, *C. horrida* is known from 12 occurrences totaling 44 individuals in the montane mesic, montane wet, and wet cliff ecosystems in Waikamoi Preserve, Hanawai Natural



Area Reserve, and Haleakala National Park on east Maui (TNC 2007; PEPP 2009, p. 52; HBMP 2010; Oppenheimer 2010c, in litt.; PEPP 2010, pp. 46–47; TNCH 2010a, p. 1).

*Cyanea kunthiana* (haha), a short-lived perennial shrub in the bellflower family (Campanulaceae), is found only on Maui, and was historically known from both the east and west Maui mountains (Lammers 1999, p. 453; HBMP 2010). *Cyanea kunthiana* was known to occur in the montane mesic ecosystem in the east Maui mountains in upper Kipahulu Valley, in Haleakala National Park and Kipahulu FR (HBMP 2010). Currently, in the east Maui mountains, *C. kunthiana* occurs in the lowland wet and montane wet ecosystems in Waikamoi Preserve, Hanawi NAR, East Bog, Kaapahu, and Kipahulu Valley. In the west Maui mountains, *C. kunthiana* occurs in the lowland wet and montane wet ecosystems at Eke Crater, Kahoolawe ridge, and at the junction of the Honokowai, Hahakea, and Honokohau gulches (TNC 2007; HBMP 2008; NTBG 2009e, pp. 1–3; HBMP 2010; Oppenheimer 2010a, in litt.; Perlman 2010, in litt.). The 15 occurrences total 165 individuals, although botanists speculate that this species may total as many as 400 individuals with further surveys of potential habitat on east and west Maui (TNC 2007; HBMP 2010; Fay 2010, in litt.; Oppenheimer 2010a, in litt.; Osternak 2010, in litt.).

*Cyanea lobata* (haha), a short-lived perennial shrub in the bellflower family (Campanulaceae), is known from two subspecies, *C. lobata* ssp. *baldwinii* (Lanai) and *C. lobata* ssp. *lobata* (west Maui) (Lammers 1999, pp. 451, 454). At the time we designated critical habitat on Maui in 2003, there were no known occurrences of *C. lobata* ssp. *baldwinii* on Lanai and five occurrences of *C. lobata* ssp. *lobata* on west Maui (68 FR 1220, January 9, 2003; 68 FR 25934, May 14, 2003). However, no critical habitat was designated for this species on Lanai in 2003 (68 FR 1220, January 9, 2003). In 2006, *C. lobata* ssp. *baldwinii* was rediscovered around Hauola on Lanai, in the montane wet ecosystem (Wood 2006a, p. 15; TNC 2007; Wood 2009e, in litt.). Currently, there are three to four individuals at this location (Perlman 2007c, in litt.; Oppenheimer 2009c, in litt.; PEPP 2009, p. 53). On west Maui, there are five occurrences of *C. lobata* ssp. *lobata* totaling eight individuals at Honokohau, Honokowai, and Mahinahina, in the lowland wet and wet cliff ecosystems (TNC 2007; HBMP 2010; Oppenheimer 2010i, in litt.).

*Cyanea magnicalyx* (haha), a short-lived perennial shrub in the bellflower family (Campanulaceae), is known from west Maui (Lammers 1999, pp. 449, 451; Lammers 2004, p. 84). Currently, there are seven individuals in three occurrences on west Maui: Two individuals in Kaluanui, a subgulch of Honokohau Valley, in the lowland wet ecosystem; four individuals in Iao Valley in the wet cliff ecosystem; and one individual in a small drainage south of the Kauaula rim, in the montane mesic ecosystem (Lammers 2004, p. 87; Perlman 2009b in litt.; Wood 2009d, in litt.).

*Cyanea mannii* (haha), a short-lived perennial shrub in the bellflower family (Campanulaceae), is endemic to east Molokai (Lammers 1999, p. 456). At the time we designated critical habitat in 2003, there were eight occurrences at Puu Kolekole and Kawela Gulch (68 FR 12982, March 18, 2003). Currently, there are fewer than 200 individuals in 11 occurrences extending across the summit area from Mokomoko Gulch to Kua Gulch, in the lowland mesic, montane mesic, and montane wet ecosystems (Perlman 2002a, in litt.; Wood and Perlman 2002, p. 2; TNC 2007; Wood 2009f, in litt.; HBMP 2010; Oppenheimer 2010u, in litt.).

*Cyanea maritae* (haha), a short-lived perennial shrub in the bellflower family (Campanulaceae), is found only on Maui (Lammers 2004, p. 92). Sterile specimens were collected from the northwestern slopes of Haleakala in the Waiohiwi watershed and east to Kipahulu in the early 1900s. Between 2000 and 2002, fewer than 20 individuals were found in the Waiohiwi area (Lammers 2004, pp. 92, 93). Currently, there are 4 occurrences, totaling between 23 and 50 individuals in Kipahulu, Kaapahu, west Kahakapao, and in the Koolau FR in the lowland wet and montane wet ecosystems on east Maui (TNC 2007; Oppenheimer 2010b, in litt.; Welton 2010b, in litt.).

*Cyanea mauensis* (haha), a short-lived perennial shrub in the bellflower family (Campanulaceae), was last observed on Maui about 100 years ago (Lammers 2004, pp. 84–85; TNC 2007). Although there are no documented occurrences of this species known today, botanists believe this species may still be extant as all potentially suitable lowland mesic and dry cliff habitat has not been surveyed.

*Cyanea mceldowneyi* (haha), a short-lived perennial shrub in the bellflower family (Campanulaceae), is found on east Maui (Lammers 1999, p. 457). At the time we designated critical habitat in 2003, this species was known from 11 occurrences (68 FR 25934, May 14,

2003). Currently, *C. mceldowneyi* is known from at least 10 occurrences totaling over 100 individuals in the lowland wet, montane wet, and montane mesic ecosystems (PEPP 2007, p. 39; TNC 2007; PEPP 2008, pp. 53–54; PEPP 2009, pp. 53, 57; HBMP 2010; Oppenheimer 2010b, in litt.).

*Cyanea munroi* (haha), a short-lived perennial shrub in the bellflower family (Campanulaceae), is known from Molokai and Lanai (Lammers 1999, pp. 449, 451; Lammers 2004, pp. 84–87). Currently, there are no known individuals on Molokai (last observed in 2001), and only two individuals on Lanai at a single location, in the wet cliff ecosystem (TNC 2007; Perlman 2008a, in litt.; Wood 2009a, in litt.; HBMP 2010; Oppenheimer 2010d, in litt.).

*Cyanea obtusa* (haha), a short-lived perennial shrub in the bellflower family (Campanulaceae), is found only on Maui (Lammers 1999, p. 458). Historically, this species was found in both the east and west Maui mountains (Hillebrand 1888, p. 254; HBMP 2010). Not reported since 1919 (Lammers 1999, p. 458), *C. obtusa* was rediscovered in the early 1980s at one site each on east and west Maui. However, by 1989, plants in both locations had disappeared (Hobdy *et al.* 1991, p. 3; Medeiros 1996, in litt.). In 1997, 4 individuals were observed in Manawainui Gulch in Kahikinui, and another occurrence of 5 to 10 individuals was found in Kahakapao Gulch, both in the montane mesic ecosystem on east Maui (Wood and Perlman 1997, p. 11; Lau 2001, in litt.). However, the individuals found at Kahakapao Gulch are now considered to be *Cyanea elliptica* or hybrids between *C. obtusa* and *C. elliptica* (PEPP 2007, p. 40). In 2001, several individuals were seen in Hanaula and Pohakea gulches on west Maui; however, only hybrids are currently known in this area (NTBG 2009f, p. 3). It is unknown if individuals of *C. obtusa* remain at Kahikinui, as access to the area to ascertain the status of these plants is difficult and has not been attempted since 2001 (PEPP 2008, p. 55; PEPP 2009, p. 58). Two individuals were observed on a cliff along Wailaulau Stream in the montane mesic ecosystem on east Maui in 2009 (Duvall 2010, in litt.). Currently, this species is known from one occurrence of only a few individuals in the montane mesic ecosystem on east Maui. Historically, this species also occurred in the lowland dry ecosystem at Manawainui on west Maui and at Ulupalakua on east Maui (HBMP 2010).

*Cyanea procera* (haha), a short-lived perennial tree in the bellflower family (Campanulaceae), is known from

Molokai (Lammers 1999, p. 460). At the time we designated critical habitat in 2003, this species was known from five occurrences (68 FR 12982, March 18, 2003). Currently, there are one to two individuals near Puuokaeha in Kawela Gulch in the montane mesic ecosystem (TNC 2007; PEPP 2008, pp. 55–56; Oppenheimer 2010u, in litt.; NTBG 2011b). Historically, this species was also found in the lowland mesic and montane wet ecosystems (TNC 2007; HBMP 2010).

*Cyanea profuga* (haha), a short-lived perennial shrub in the bellflower family (Campanulaceae), occurs only on Molokai (Lammers 1999, pp. 461–462; Wood and Perlman 2002, p. 4). Historically, this species was found in Mapulehu Valley and along Pelekunu Trail, and has not been seen in those locations since the early 1900s (Wood and Perlman 2002, p. 4). In 2002, six individuals were discovered along a stream in Wawaia Gulch (Wood and Perlman 2002, p. 4). In 2007, seven individuals were known from Wawaia Gulch, and an additional six individuals were found in Kumueli (Wood 2005, p. 17; USFWS 2007a; PEPP 2010, p. 55). In 2009, only four individuals remained at Wawaia Gulch; however, nine were found in Kumueli Gulch (Bakutis 2010, in litt.; Oppenheimer 2010e, in litt.; Perlman 2010, in litt.; PEPP 2010, p. 55). Currently, there are 4 occurrences totaling up to 34 individuals in the lowland mesic and montane wet ecosystems on Molokai (TNC 2007; Bakutis 2010, in litt.; Perlman 2010, in litt.).

*Cyanea solanacea* (popolo, haha nui), a short-lived perennial shrub in the bellflower family (Campanulaceae), is found only on Molokai. According to Lammers (1999, p. 464) and Wagner (*et al.* 2005a—*Flora of the Hawaiian Islands database*) the range of *C. solanacea* includes Molokai and may also include west Maui. In his treatment of the species of the Hawaiian endemic genus *Cyanea*, Lammers (1999, p. 464) included a few sterile specimens of *Cyanea* from Puu Kukui, west Maui and the type specimen (now destroyed) for *C. scabra* var. *sinuata* from west Maui in *C. solanacea*. However, Oppenheimer recently reported (Oppenheimer 2010a, in litt.) that the plants on west Maui were misidentified as *C. solanacea* and are actually *C. macrostegia*. Based on Oppenheimer's recent field observations, the range of *C. solanacea* is limited to Molokai. Historically, *Cyanea solanacea* ranged from central Molokai at Kalae, eastward to Pukoo in the lowland mesic, lowland wet, and montane mesic ecosystems (HBMP 2010). Currently, there are four small

occurrences at Hanalilolilo, near Pepeopae Bog, Kaunakakai Gulch, and Kawela Gulch, in the montane wet ecosystem. These occurrences total 26 individuals (Bakutis 2010, in litt.; Oppenheimer 2010a, in litt.; TNCH 2011, pp. 21, 57).

*Cyperus fauriei* (formerly *Mariscus fauriei*) (NCN), is a short-lived perennial in the sedge family (Cyperaceae), and is known from Molokai, Lanai, and the island of Hawaii (Koyama 1999, p. 1,417). At the time we designated critical habitat in 2003, *C. fauriei* was known from 1 occurrence of 20 to 30 individuals on Molokai and 2 occurrences on the island of Hawaii (68 FR 12982, March 18, 2003; 68 FR 39624, July 2, 2003). Currently, on Molokai, an unknown number of individuals are found in the area of Makolelau, at Kamakou Preserve at Makakupaia, at Waihanau drainage, and at Kamalo, in the lowland mesic and montane mesic ecosystems (TNC 20007; HBMP 2010; Oppenheimer 2010u, in litt.). *Cyperus fauriei* was last observed on Lanai in the early 1900s, in the lowland dry ecosystem (TNC 2007; HBMP 2010).

*Cyperus pennatifolius* (NCN), a short-lived perennial in the sedge family (Cyperaceae), is known from Laysan Island, Kauai, Oahu, east Maui, and the island of Hawaii (Koyama 1999, pp. 1,421–1,423). There are two varieties: *C. pennatifolius* var. *bryanii* (Laysan) and *C. pennatifolius* var. *pennatifolius* (main Hawaiian Islands). At the time we designated critical habitat on Laysan, Kauai, and Maui in 2003, and on Oahu in 2012, this species was known from only one occurrence (totaling an unknown number of individuals) on Laysan Island (*C. pennatifolius* var. *bryanii*), and one occurrence (totaling 30 individuals) on east Maui (*C. pennatifolius* var. *pennatifolius*) (68 FR 9116, February 27, 2003; 68 FR 25934, May 14, 2003; 68 FR 28054, May 22, 2003; 77 FR 57648, September 18, 2012). Both occurrences were in the coastal ecosystem (68 FR 25934, May 14, 2003; 68 FR 28054, May 22, 2003). The known occurrence of *C. pennatifolius* var. *pennatifolius* in the coastal ecosystem on east Maui has not been relocated (Wagner *et al.* 2005; HBMP 2010).

*Cyperus trachysanthos* (puukaa), a short-lived grass-like perennial in the sedge family (Cyperaceae), is known from the islands of Niihau, Kauai, Oahu, Molokai, and Lanai (Koyama 1999, pp. 1,399–1,400). At the time we designated critical habitat in 2003 and 2012, *C. trachysanthos* was found on Kauai and Oahu, respectively (68 FR 9116, February 27, 2003; 77 FR 57648, September 18, 2012). This species has

not been observed on the islands of Lanai and Molokai, in the lowland dry ecosystems since 1912 and 1919, respectively (TNC 2007; HBMP 2010).

*Cyrtandra ferripilosa* (haiwale), a short-lived perennial shrub in the African violet family (Gesneriaceae), occurs only on Maui (St. John 1987, pp. 497–498; Wagner and Herbst 2003, p. 29). This species was discovered in 1980 in the east Maui mountains at Kuiki in Kipahulu Valley (St. John 1987, pp. 497–498; Wagner *et al.* 2005a—*Flora of the Hawaiian Islands database*). Currently, there are a few individuals each in two occurrences at Kuiki and on the Manawainui plane in the montane mesic and montane wet ecosystems (Oppenheimer 2010f, in litt.; Welton 2010a, in litt.).

*Cyrtandra filipes* (haiwale), a short-lived perennial shrub in the African violet family (Gesneriaceae), is found on Maui (Wagner *et al.* 1999d, pp. 753–754; Oppenheimer 2006b, in litt.). According to Wagner *et al.* (1999d, p. 754), the range of *C. filipes* includes Maui and Molokai. Historical collections from Kapunakea (1800) and Olowalu (1971) on Maui indicate it once had a wider range on this island. In 2004, it was believed there were over 2,000 plants at Honokohau and Waihee in the west Maui mountains; however, recent studies have shown that these plants do not match the description for *C. filipes* (Oppenheimer 2006b, in litt.). Currently, there are between 134 and 155 individuals in 4 occurrences in the lowland wet and wet cliff ecosystems at Kapalaoa, Honokowai, Honolua, and Waihee Valley on west Maui, and approximately 7 individuals at Mapulehu in the lowland mesic ecosystem on Molokai, with an historical occurrence in the lowland wet ecosystem (Oppenheimer 2010c, in litt.).

*Cyrtandra munroi* (haiwale), a short-lived perennial shrub in the African violet family (Gesneriaceae), is known from Lanai and west Maui (Wagner *et al.* 1999d, p. 770; 68 FR 25934, May 14, 2003). At the time we designated critical habitat on Maui in 2003, *C. munroi* was known from two occurrences on Lanai and five occurrences on west Maui (68 FR 1220, January 9, 2003; 68 FR 25934, May 14, 2003). However, no critical habitat was designated for this species on Lanai (68 FR 1220, January 9, 2003). Currently, on Lanai, *C. munroi* is found in 3 occurrences totaling 23 individuals at Puu Alii (20 individuals), Waiialala Gulch (1 individual), and Lanaihale (2 individuals), in the montane wet and wet cliff ecosystems (TNC 2007; HBMP 2010; Oppenheimer 2010u, in litt.). On west Maui, *C. munroi* is found in 6 occurrences totaling 45 individuals at

Makamakaole Gulch (1 individual), Honokohau Gulch (1 individual), Kahana Valley (1 individual), Hahakea Gulch (1 individual), Kapunakea Preserve (12 individuals), and Amalu Stream (29 individuals), in the lowland wet and wet cliff ecosystems (TNC 2007; HBMP 2010; Oppenheimer 2010i, in litt.).

*Cyrtandra oxybapha* (haiwale), a short-lived perennial shrub in the African violet family (Gesneriaceae), is found on Maui (Wagner *et al.* 1999d, p. 771). This species was discovered in the upper Pohakea Gulch in Hanaula in the west Maui mountains in 1986 (Wagner *et al.* 1989, p. 100; TNC 2007). Currently, there are 2 known occurrences with a total of 137 to 250 individuals. *Cyrtandra oxybapha* occurs in the montane wet ecosystem on west Maui, from Hanaula to Pohakea Gulch. This occurrence totals between 87 and 97 known individuals, with perhaps as many as 150 or more (Oppenheimer 2008c, in litt.). The current status of the 50 to 100 individuals in the montane mesic ecosystem in Manawainui Gulch on east Maui is unknown, as these plants have not been surveyed since 1997 (Oppenheimer 2010a, in litt.).

*Diplazium molokaiense* (NCN), a short-lived perennial terrestrial fern in the spleenwort family (Aspleniaceae), is known from all of the major Hawaiian Islands except Hawaii Island (Palmer 2003, p. 125). At the time we designated critical habitat on Kauai, Molokai, and Maui, in 2003, and on Oahu in 2012, *D. molokaiense* was known only from east Maui (68 FR 9116, February 27, 2003; 68 FR 12982, March 18, 2003; 68 FR 25934, May 14, 2003; 77 FR 57648, September 18, 2012). Currently, *D. molokaiense* is known from three occurrences on Maui. On west Maui, there are five individuals at Puehuhunui in the montane mesic ecosystem. On east Maui, there are 2 occurrences, one at Honomanu (about 15 individuals) in the montane wet ecosystem, and one in the Kula FR (about 50 individuals) in the montane mesic ecosystem (Wood 2006b, pp. 32–34; TNC 2007; Wood 2007, p. 14; PEPP 2009, p. 71; HBMP 2010). *Diplazium molokaiense* occurred historically in the dry cliff ecosystem on east Maui, and the lowland wet and dry cliff ecosystems on west Maui (TNC 2007; HBMP 2010). It was also found in the lowland mesic and dry cliff ecosystems on Lanai, and in the lowland mesic ecosystem on Molokai (TNC 2007; HBMP 2010).

*Dubautia plantaginea* ssp. *humilis* (naenae), a short-lived perennial shrub or small tree in the sunflower family (Asteraceae), is known from west Maui (Carr 1999b, pp. 304–305). At the time

we designated critical habitat in 2003, *D. plantaginea* ssp. *humilis* was known from 2 occurrences totaling 60 to 65 individuals on west Maui (68 FR 25934, May 14, 2003). Currently, *D. plantaginea* ssp. *humilis* is known from 1 occurrence of 35 individuals in Iao Valley, in the wet cliff ecosystem (TNC 2007; PEPP 2009, p. 72; HBMP 2010; Oppenheimer 2010i, in litt.).

*Eugenia koolauensis* (nioi), a long-lived perennial shrub or small tree in the myrtle family (Myrtaceae), is known from Oahu and Molokai (Wagner *et al.* 1999w, p. 960). At the time we designated critical habitat on Molokai in 2003 and on Oahu in 2012, this species was only known from 13 occurrences on Oahu (68 FR 12982, March 18, 2003; 77 FR 57648, September 18, 2012). Currently, *E. koolauensis* is extant only on Oahu. This species was last seen on Molokai in 1920, in the lowland dry ecosystem (TNC 2007; HBMP 2010).

*Festuca molokaiensis* (NCN), a short-lived perennial in the grass family (Poaceae), is found on Molokai (Catalan *et al.* 2009, p. 54). This species is only known from the type locality at Kupaia Gulch, in the lowland mesic ecosystem (Catalan *et al.* 2009, p. 55). Last seen in 2009, the current number of individuals is unknown; however, field surveys for *F. molokaiensis* at Kupaia Gulch are planned for 2011 (Oppenheimer 2010g, in litt.). Oppenheimer (2011, pers. comm.) suggests that the drought over the past couple of years on Molokai may have suppressed the growth of *F. molokaiensis* and prevented its observation by botanists in the field. He also suggested that this species may be an annual whose growth will be stimulated by normal rainfall patterns.

*Flueggea neowawraea* (mehamehame) is a long-lived perennial tree in the family Euphorbiaceae. This species is known from Kauai, Oahu, Molokai, Maui, and the island of Hawaii (Hayden 1999, pp. 620–621). At the time we designated critical habitat in 2003, there were 100 occurrences on Kauai, 4 occurrences on Maui, and 2 occurrences on the island of Hawaii; in 2012, there were 18 occurrences on Oahu, (68 FR 9116, February 27, 2003; 68 FR 12982, March 18, 2003; 68 FR 25934, May 14, 2003; 68 FR 39624, July 2, 2003; 77 FR 57648, September 18, 2012). *Flueggea neowawraea* was last observed at Waihi on Molokai in 1931 (HBMP 2010). Currently, two individuals of *F. neowawraea* are found on east Maui's southern flank of Haleakala at Auwahi, in the lowland dry ecosystem (PEPP 2009, p. 73; Oppenheimer 2010b, in litt.). *Flueggea neowawraea* was last observed on Molokai in 1931 at

Waiianui, in the lowland mesic ecosystem (HBMP 2010).

*Geranium arboreum* (Hawaiian red-flowered geranium), a short-lived perennial shrub in the geranium family (Geraniaceae), is known from east Maui (Wagner *et al.* 1999e, p. 729). At the time we designated critical habitat in 2003, there were 12 occurrences totaling 158 individuals (68 FR 25934, May 14, 2003). Currently, there are 5 occurrences totaling fewer than 30 individuals in east Maui's montane mesic and subalpine ecosystems. Historically, *G. arboreum* was also found in the montane dry ecosystem (TNC 2007; Oppenheimer 2009d, in litt.; Perlman 2009g, in litt.; Wood 2009g, in litt.; HBMP 2010; Oppenheimer 2010b, in litt.; Welton 2010a, in litt.). One hundred and eighty-nine individuals have been outplanted at 11 sites within Haleakala National Park (NPS 2012, in litt.).

*Geranium hanaense* (nohoanu), a short-lived perennial shrub in the geranium family (Geraniaceae), is found on Maui (Wagner *et al.* 1999e, pp. 730–732). This species was first collected in 1973, from two adjacent montane bogs on the northeast rift of Haleakala, east Maui (Medeiros and St. John 1988, pp. 214–220). At that time, there were an estimated 500 to 700 individuals (Medeiros and St. John 1988, pp. 214–220). Currently, *G. hanaense* occurs in “Big Bog” and “Mid Camp Bog” in the montane wet ecosystem on the northeast rift of Haleakala, with the same number of estimated individuals (Welton 2008, in litt.; Welton 2010a, in litt.; Welton 2010b, in litt.).

*Geranium hillebrandii* (nohoanu), a short-lived perennial shrub in the geranium family (Geraniaceae), is found on Maui (Aedo and Munoz Garmendia 1997, p. 725; Wagner *et al.* 1999e, pp. 732–733; Wagner and Herbst 2003, p. 28). Little is known of the historical locations of *G. hillebrandii*, other than the type collection made in the 1800s at Eke Crater, in the west Maui mountains (Hillebrand 1888, p. 56). Currently, 4 occurrences total over 10,000 individuals, with the largest 2 occurrences in the west Maui bogs, from Puu Kukui to East Bog and Kahoolewa ridge. A third occurrence is at Eke Crater and the surrounding area, and the fourth occurrence is at Lihau (HBMP 2010; Oppenheimer 2010h, in litt.). These occurrences are found in the montane wet and montane mesic ecosystems on west Maui (TNC 2007).

*Geranium multiflorum* (nohoanu), a short-lived perennial shrub in the geranium family (Geraniaceae), is known from east Maui (Wagner *et al.* 1999e, pp. 733–734). At the time we

designated critical habitat in 2003, there were 13 occurrences. Due to the inaccessibility of the plants, and the difficulty in determining the number of individuals (because of the plant's multi-branched form), the total number of individuals of this species was not known; however, it was assumed to not exceed 3,000 (68 FR 25934, May 14, 2003). Currently, *G. multiflorum* is found in nine occurrences on east Maui, from Koolau Gap to Kalapawili Ridge, in the subalpine, montane mesic, montane wet, and dry cliff ecosystems. It is estimated there may be as many as 500 to 1,000 individuals (Bily *et al.* 2003, pp. 4–5; TNC 2007; Perlman 2009h, in litt.; Wood 2009h, in litt.; HBMP 2010; Oppenheimer 2010b, in litt.; HNP 2012, in litt.). One hundred and fifty plants have been outplanted at eight locations within Haleakala National Park (NPS 2012, in litt.).

*Gouania hillebrandii* (NCN), a short-lived perennial shrub in the buckthorn family (Rhamnaceae), is known from Molokai, Lanai, Maui, and Kahoolawe (Wagner *et al.* 1999z, p. 1,095). At the time we designated critical habitat in 1984 on Maui, there was one occurrence (49 FR 44753, November 9, 1984). Currently, on Molokai, there is 1 occurrence of about 50 individuals at Puu Kolekole in the lowland mesic ecosystem (USFWS 1990, pp. 4–10; TNC 2007; PEPP 2008, p. 61; Perlman 2008f, in litt.; Wood 2009i, in litt.). On west Maui, there are fewer than 1,000 individuals in the lowland dry ecosystem (TNC 2007; HBMP 2010; Oppenheimer 2010i, in litt.). This species was last observed on Lanai and Kahoolawe in the 1800s (HBMP 2010).

*Gouania vitifolia* (NCN), a short-lived perennial climbing shrub or woody vine in the buckthorn family (Rhamnaceae), is known from Oahu, Maui, and the island of Hawaii (Wagner *et al.* 1999z, p. 1,097). At the time we designated critical habitat on Maui and Hawaii in 2003 and Oahu in 2012, *G. vitifolia* was only known from one occurrence on the island of Hawaii and two occurrences on Oahu (68 FR 25934, May 14, 2003; 68 FR 39624, July 2, 2003; 77 FR 57648, September 18, 2012). Currently, botanists are searching potentially suitable habitat in the wet cliff ecosystem on west Maui where *G. vitifolia* was last seen in the 1800s (TNC 2007; HBMP 2010; Oppenheimer 2010z, in litt.).

*Hesperomannia arborescens* (NCN), a short-lived perennial shrubby tree in the sunflower family (Asteraceae), is known from Oahu, Molokai, Lanai, and Maui (Wagner *et al.* 1999m, p. 325). At the time we designated critical habitat on Molokai and Maui in 2003 and on Oahu

in 2012, *H. arborescens* was known from 1 occurrence on Molokai, 4 occurrences on west Maui, and 19 occurrences on Oahu (68 FR 12982, March 18, 2003; 68 FR 25934, May 14, 2003; 77 FR 57648, September 18, 2012). However, no critical habitat was designated for this species on Maui in 2003 (68 FR 25934, May 14, 2003). Currently, there are five or six occurrences on Molokai and Maui totaling 122 to 125 individuals. On Molokai, there are 30 individuals between Wailau and Pelekunu in the wet cliff ecosystem. Historically, this species was also reported from the montane wet ecosystem (HBMP 2010). On west Maui, 4 or 5 occurrences totaling 92 to 95 individuals are found in the lowland wet and wet cliff ecosystems, in Honokohau (30 individuals), Waihee (approximately 60 individuals), Kapilau Ridge (1 individual), and Lanilili (1 individual). There is some question regarding the identification of three individuals in Iao Valley (HBMP 2010; Oppenheimer 2010i, in litt.). This species has not been observed since 1940 on Lanai, in the wet cliff ecosystem (TNC 2007; HBMP 2010). The results of a recent research study indicate that the plants on Oahu may be genetically distinct from plants on Molokai, Maui, and Lanai (Ching-Harbin 2003, p. 81; Morden and Harbin 2013).

*Hesperomannia arbuscula* (NCN), a short-lived perennial tree or shrub in the sunflower family (Asteraceae), is known from Oahu and west Maui (Wagner *et al.* 1999m, p. 325). At the time we designated critical habitat in 2003 on Maui and in 2012 on Oahu, eight occurrences were found on west Maui, and five occurrences were known from Oahu (68 FR 25934, May 14, 2003; 77 FR 57648, September 18, 2012). Currently, on west Maui, there are three individuals in Iao Valley, in the lowland wet ecosystem (TNC 2007; HBMP 2010; Oppenheimer 2010aa, in litt.). This species was last observed in the 1990s in the wet cliff, dry cliff, and lowland dry ecosystems on west Maui (TNC 2007; HBMP 2010). The results of a recent research study indicate that the plants on west Maui may be *H. arborescens*; if a taxonomic change should be required, we will address that change in a future rulemaking (Ching-Harbin 2003, p. 81; Morden and Harbin 2013).

*Hibiscus arnottianus* ssp. *immaculatus* (kokio keokeo), a long-lived perennial tree in the mallow family (Malvaceae), is endemic to east Molokai (Bates 1999, pp. 882–883). At the time we designated critical habitat in 2003, this subspecies was known

from three occurrences on east Molokai (68 FR 12982, March 18, 2003). Currently, *H. arnottianus* ssp.

*immaculatus* is found in 5 occurrences, totaling fewer than 100 individuals, from Waiehu to Papalaua in the coastal and wet cliff ecosystems (Perlman 2002b, in litt.; TNC 2007; NTBG 2009j; Wood 2009j, in litt.; HBMP 2010; Oppenheimer 2010u, in litt.).

*Hibiscus brackenridgei* (mao hau hele) is a short-lived perennial shrub or small tree in the mallow family (Malvaceae). This species is known from the islands of Kauai, Oahu, Molokai, Lanai, Maui, Hawaii, and possibly Kahoolawe. There are three subspecies: *H. brackenridgei* ssp. *brackenridgei* (Lanai, Maui, and Hawaii), *H. brackenridgei* ssp. *mokuleianus* (Kauai and Oahu), and *H. brackenridgei* ssp. *molokaiana* (Molokai and Oahu) (Wilson 1993, p. 278; Bates 1999, pp. 885–886). At the time we designated critical habitat on Molokai, Maui, and Hawaii in 2003 and on Oahu in 2012, *H. brackenridgei* ssp. *brackenridgei* was known from 2 occurrences on Lanai, 5 occurrences on Maui, and 4 occurrences on Hawaii, and *H. brackenridgei* ssp. *mokuleianus* was known from 7 occurrences totaling between 47 and 50 individuals on Oahu. *Hibiscus brackenridgei* ssp. *molokaiana* was reported from one occurrence on Oahu and had not been seen on Molokai since 1920 (68 FR 12982, March 18, 2003; 68 FR 25934, May 14, 2003; 68 FR 39624, July 2, 2003; 77 FR 57648, September 18, 2012). No critical habitat was designated for this species on Lanai in 2003 (68 FR 1220, January 9, 2003). Currently, *H. brackenridgei* ssp. *brackenridgei* is extant on the islands of Lanai, Maui, and Hawaii. On Lanai, there are two individuals near Keomuku Road, and one individual at Kaena, both in the lowland dry ecosystem.

Historically, this subspecies was also known from Lanai's coastal ecosystem (TNC 2007; Oppenheimer 2010t, in litt.). On west Maui, there are a few individuals in Kaonohue Gulch in the lowland dry ecosystem. On east Maui, there is 1 occurrence of about 10 individuals at Keokea, in the lowland dry ecosystem (TNC 2007; PEPP 2008, pp. 64–65; PEPP 2009, pp. 76–78; Oppenheimer 2010t, in litt.; 2010u, in litt.; 2010bb, in litt.; PEPP 2011, p. 118). Historically, on Molokai, *Hibiscus brackenridgei* ssp. *molokaiana* was found in the coastal ecosystem at Kihaapilani (TNC 2007; HBMP 2010).

*Huperzia mannii* (wawaeiole), is a short-lived perennial fern ally in the hanging fir-moss family (Lycopodiaceae) that is typically epiphytic on native plants such as *Metrosideros polymorpha* or *Acacia koa*. This species is known

from Kauai, Maui, and the island of Hawaii (Palmer 2003, p. 256). At the time we designated critical habitat on Kauai and Maui in 2003, this species was known from Maui and the island of Hawaii (68 FR 25934, May 14, 2003). No critical habitat was designated for this species on Hawaii in 2003 (68 FR 39624, July 2, 2003). Currently, on Maui there are 6 occurrences totaling 97 to 100 individuals. On west Maui, 14 to 17 individuals of *H. mannii* occur in the West Maui NAR, in the montane mesic ecosystem. This species also occurred historically in the lowland wet and montane wet ecosystems (HBMP 2010). On east Maui, 2 individuals are reported north of Waikamoi Preserve in the montane wet ecosystem; 10 individuals occur at Kipahulu in the lowland wet ecosystem; approximately 40 individuals occur at Cable Ridge in the lowland mesic ecosystem; approximately 30 individuals occur at Kaapahu in the lowland mesic ecosystem; and 1 individual was observed at Manawainui (Kipahulu FR) in the montane mesic ecosystem (HNP 2004, pp. 5–7; HNP 2006, p. 3; TNC 2007; Welton and Haus 2008, pp. 12–13; Perlman 2009i, in litt., 2009j, in litt.; Wood 2009k, in litt.; HBMP 2010; Welton 2010a, in litt.). Sixty-seven plants have been outplanted at eight locations within Haleakala National Park (NPS 2012, in litt.).

*Ischaemum byrone* (Hilo ischaemum) is a short-lived stoloniferous (creeping along the ground with rooting from nodes) perennial in the grass family (Poaceae) known from Kauai, Oahu (historical), Molokai, east Maui, and Hawaii island (O'Connor 1999, pp. 1,556–1,557). At the time we designated critical habitat in 2003 and 2012, *I. byrone* was known from two occurrences on Kauai (2 individuals, last observed in 1993); two occurrences on Molokai (100 to 1,000 individuals, last observed in 1994), six occurrences on Maui (fewer than 2,000 individuals), and six occurrences on Hawaii Island (unknown numbers, last observed in 1997) (68 FR 9116, February 27, 2003; 68 FR 12982, March 18, 2003; 68 FR 25934, May 14, 2003; 68 FR 39624, July 2, 2003; Pratt 2009, in litt.; Wood 2009, in litt.). In 2004, *I. byrone* was re-observed on Hawaii Island (unknown number of individuals) (HBMP 2010). Currently, *I. byrone* is known from six occurrences on Molokai and Maui, possibly totaling several thousand individuals (HBMP 2010). On Molokai, *I. byrone* is found in the coastal ecosystem from Wailau to Waiehu (approximately 200 individuals) (TNC 2007; Oppenheimer 2009e, in litt.;

HBMP 2010). On east Maui, there are an unknown number of individuals at Pauwahu Point; 20 individuals in scattered patches at Mokuhuki islet; many individuals at Keawaiki Bay; and an unknown number of individuals at Kalahu Point, and at Waiohonu Stream and Muolea Point, all in the coastal ecosystem. These occurrences may total several thousands of individuals, depending on rainfall (TNC 2007; HBMP 2010; Oppenheimer 2010b, in litt.); however, exact numbers of individuals are difficult to determine because of its growth habit. Overall, the numbers of individuals have decreased from the more than 5,000 reported in 2010 to possibly several thousand individuals in 2015, with the highest numbers occurring along the northeast coast of Maui (Service 2010, in litt.). Current threats to this species are significant and include grazing by feral ungulates and deer, competition with nonnative plants, drought, hurricanes, and human use of coastal areas. Potential effects of climate change include sea level rise. In addition, the recently established nonnative plant, *Polypogon interruptus* (ditch polypogon), occupies the same coastal habitat as *I. byrone* on Molokai and Maui and is observed to displace *I. byrone* (Warshauer *et al.* 2009, in litt.). Fortini *et al.* (2013, p. 78) conducted a landscape-based assessment of climate change vulnerability for *I. byrone* and concluded that this species is highly vulnerable to the impacts of climate change. Furthermore, this study identified this species as one that will have no overlapping area between its current and future climate envelope (areas that contain the full range of climate conditions under which the species is known to occur) by 2100. To be considered for delisting, threats to this species must be managed or controlled (e.g., by fencing) and the species must be represented in an *ex situ* (at other than the plant's natural location, such as a nursery or arboretum) collection. In addition, a minimum of 8 to 10 self-sustaining populations (over a period of at least 5 years), consisting of all size classes, should be documented on the islands of Maui, Molokai, and if possible, at least one other island where it now occurs or occurred historically. The delisting goals for this species have not been met, and no separate occurrences total more than 300 mature individuals. In addition, all threats are not being sufficiently managed throughout all of the occurrences. Therefore, designation of unoccupied habitat (in addition to occupied habitat) is essential to the

conservation of *I. byrone* as it remains in danger of extinction throughout its range, and the species will require the expansion or reestablishment of populations in areas presently unoccupied by the species to withstand ongoing and future threats and to meet recovery goals.

*Isodendron pyrifolium* (wahine noho kula), a short-lived perennial shrub in the violet family (Violaceae), is known from Niihau, Oahu, Molokai, Lanai, Maui, and Hawaii (Wagner *et al.* 1999aa, p. 1,331). At the time we designated critical habitat on Molokai, and Maui in 2003, and on Oahu in 2012, *I. pyrifolium* was known from a single occurrence on the island of Hawaii (68 FR 12982, March 18, 2003; 68 FR 39624, July 2, 2003; 77 FR 57648, September 18, 2012). Currently, there are no extant occurrences on Lanai, Molokai, or Maui. Historically, *I. pyrifolium* was found on Molokai in the lowland mesic ecosystem, and on west Maui in the lowland wet, dry cliff, and wet cliff ecosystems. We have no habitat information for the historical occurrences on Lanai (TNC 2007; PEPP 2008, p. 103; HBMP 2010).

*Kadua cordata* ssp. *remyi* (formerly *Hedyotis schlechtendahlana* var. *remyi*) (kopa), is a short-lived perennial subshrub in the coffee family (Rubiaceae), and is known from Lanai (Wagner *et al.* 1999a, pp. 1,150–1,152). In 2003, this subspecies was known from eight individuals; however, no critical habitat was designated for this subspecies on Lanai (68 FR 1220, January 9, 2003). Currently, two wild and three out-planted individuals are reported from Kaiholena–Hulopoe ridge, in the lowland wet ecosystem. Historically, this species also occurred in the lowland mesic ecosystem (TNC 2007; PEPP 2009, pp. 5, 82; HBMP 2010; Oppenheimer 2010cc, in litt.).

*Kadua coriacea* (kioele) is a short-lived perennial shrub in the coffee family (Rubiaceae), and is known from Oahu, Maui, and the island of Hawaii (Wagner *et al.* 1999a, p. 1,141). At the time we designated critical habitat on Maui in 2003 and on Oahu in 2012, this species was known from one individual in the lowland dry ecosystem at Lihau, on west Maui, and four occurrences on the island of Hawaii (68 FR 25934, May 14, 2003; 77 FR 57648, September 18, 2012). However, no critical habitat was designated for this species on Hawaii in 2003 (68 FR 39624, July 2, 2003). In 2008, the only known individual on Maui was burned during a wildfire and died (PEPP 2008, p. 67).

*Kadua laxiflora* (formerly *Hedyotis mannii*) (pilo) is a short-lived perennial subshrub in the coffee family

(Rubiaceae), and is known from Molokai, Lanai, and west Maui (Wagner *et al.* 1999a, p. 1,148). At the time we designated critical habitat on Maui in 2003, this species was known from a total of five occurrences on Lanai (two occurrences), Molokai (one occurrence), and west Maui (two occurrences) (68 FR 1220, January 9, 2003; 68 FR 12982, March 18, 2003; 68 FR 25934, May 14, 2003). However, no critical habitat was designated for this species on Lanai or Molokai in 2003 (68 FR 1220, January 9, 2003; 68 FR 12982, March 18, 2003). Currently, on Lanai, there are two individuals at Hauola Gulch in the montane wet ecosystem. There are historical reports from the lowland mesic, lowland wet, and wet cliff ecosystems on this island. On west Maui, there are four individuals at Kauaula Valley, in the wet cliff ecosystem. Historically, this species was also reported from the lowland wet and dry cliff ecosystems (TNC 2007; Perlman 2008g, in litt.; Oppenheimer 2009f, in litt.; PEPP 2009, pp. 3, 14, 24, 82–83; HBMP 2010). There are no extant individuals on Molokai, although there are historical reports from the lowland mesic and montane mesic ecosystems (TNC 2007; HBMP 2010).

*Kanaloa kahoolawensis* (kohe malama malama o kanaloa), a short-lived perennial shrub in the pea family (Fabaceae), occurs only on Kahoolawe (Lorence and Wood 1994, p. 137). Soil cores suggest *K. kahoolawensis* was quite widespread in lowland dry areas throughout the main Hawaiian Islands during the early Pleistocene (Burney *et al.* 2001, p. 632; Athens 2002 *et al.*, p. 74). At the time we designated critical habitat in 2003, *K. kahoolawensis* was known from two individuals on the Aleale sea stack on the south central coast of Kahoolawe (68 FR 25934, May 14, 2003). Currently, *K. kahoolawensis* is known from the same location with one surviving individual, in the coastal ecosystem (TNC 2007; NTBG 2008; HBMP 2010).

*Kokia cookei* (Cooke's kokio), a short-lived perennial small tree in the mallow family (Malvaceae), is known from Molokai, historically in the lowland dry ecosystem (Bates 1999, p. 890; TNC 2007; HBMP 2010). At the time *K. cookei* was listed in 1979, there were no individuals remaining in the wild, and one individual in an arboretum on Oahu; no critical habitat was designated for this species on Molokai (44 FR 62470, October 30, 1979; 68 FR 12982, March 18, 2003). Currently, one individual is in cultivation at Waimea Arboretum, and there are propagules at the Volcano Rare Plant Facility, Lyon Arboretum, Amy Greenwell

Ethnobotanical Garden, Leeward Community College, Hoolawa Farms, and Maui Nui Botanical Garden (Orr 2007, in litt.; Seidman 2007, in litt.).

*Labordia tinifolia* var. *lanaiensis* (kamakahala), a short-lived perennial shrub or small tree in the logania family (Loganiaceae), is known from Lanai (Wagner *et al.* 1999z, pp. 861–862). In 2003, this variety was known from one occurrence totaling three to eight individuals along the summit of Lanaihale; however, no critical habitat was designated for this species on Lanai (68 FR 1220, January 9, 2003). Currently, *L. tinifolia* var. *lanaiensis* is found in one occurrence of at least five individuals in Awehi Gulch in the wet cliff ecosystem. This variety was historically also found in the lowland mesic, lowland wet, and montane wet ecosystems (TNC 2007; HBMP 2010; Oppenheimer 2010t, in litt.; Oppenheimer 2010d, in litt.).

*Labordia triflora* (kamakahala), a short-lived perennial shrub or small tree in the logania family (Loganiaceae), is known from east Molokai (Wagner *et al.* 1999z, p. 423). At the time we designated critical habitat in 2003, this species was known from 10 individuals (68 FR 12982, March 18, 2003). Currently, 4 occurrences totaling 20 individuals are reported from Kua, Wawaia, Kumueli, and Manawai Gulch, in the lowland mesic ecosystem (TNC 2007; PEPP 2007, p. 48; PEPP 2008, p. 85; HBMP 2010).

*Lysimachia lydgatei* (NCN), a short-lived perennial shrub in the primrose family (Primulaceae), is known from west Maui (Wagner *et al.* 1999bb, p. 1,082). At the time we designated critical habitat in 2003, there were four occurrences (68 FR 25934, May 14, 2003). Currently, there are 2 occurrences totaling approximately 30 individuals. Both occurrences are found at Puehuhunui, in the montane mesic and wet cliff ecosystems (Perlman 1997, in litt.; TNC 2007; Wood 2009l, in litt.; HBMP 2010; Oppenheimer 2010dd, in litt.). This species is also historically known from the lowland dry ecosystem on west Maui (TNC 2007; HBMP 2010).

*Lysimachia maxima* (NCN), a short-lived perennial shrub in the primrose family (Primulaceae), is known from Molokai (Wagner *et al.* 1999bb, p. 1,083). At the time we designated critical habitat in 2003, this species was known from one occurrence (68 FR 12982, March 18, 2003). Currently, *L. maxima* is known from 2 occurrences totaling 28 individuals on east Molokai. There are 20 individuals near Ohialele, and 8 individuals in 2 distinct patches in east Kawela Gulch, in the lowland wet and montane wet ecosystems (PEPP

2007, p. 48; TNC 2007; PEPP 2008, p. 85; HBMP 2010).

*Marsilea villosa* (ihi ihi), a short-lived perennial fern in the marsilea family (Marsileaceae), is known from Niihau, Oahu, and Molokai (Palmer 2003, pp. 180–182). At the time we designated critical habitat on Molokai in 2003 and on Oahu in 2012, this species was found in four occurrences on Molokai, and in five to six occurrences on Oahu (68 FR 12982, March 18, 2003; 77 FR 57648, September 18, 2012). No critical habitat was designated for this species on Molokai in 2003 (68 FR 12982, March 18, 2003). Currently, *M. villosa* is known from eight occurrences on Molokai, totaling possibly thousands of individuals in areas that flood periodically, such as small depressions and flood plains with clay soils. There is one small occurrence at Kamakaipo, and seven occurrences between Kaa and Ilio Point, covering areas from 20 square (sq) ft (6 sq m) to over 2 ac (0.8 ha), all in the coastal ecosystem (Perlman 2006b, in litt.; TNC 2007; Bakutis 2009b, in litt.; Wood 2009m, in litt.; Chau 2010, in litt.; Garnett 2010b in litt.; HBMP 2010; Oppenheimer 2010u, in litt.).

*Melanthera kamolensis* (formerly *Lipochaeta kamolensis*) (nehe) is a short-lived perennial herb in the sunflower family (Asteraceae), and is known from east Maui (Wagner *et al.* 1990a, p. 337). At the time we designated critical habitat in 2003, this species was known from one occurrence (68 FR 25934, May 14, 2003). Currently, a single occurrence of *M. kamolensis* is found in Kamole Gulch, totaling between 30 and 40 individuals, in the lowland dry ecosystem. A second occurrence just west of Kamole appears to be a hybrid swarm (hybrids between parent species, and subsequently formed progeny from crosses among hybrids and crosses of hybrids to parental species) of *M. kamolensis* and *M. rockii*, with approximately 100 individuals (TNC 2007; HBMP 2010; Medeiros 2010, in litt.).

*Melicope adscendens* (alani), a short-lived perennial sprawling shrub in the rue family (Rutaceae), is known from Maui (Stone *et al.* 1999, p. 1,183). At the time we designated critical habitat in 2003, there were 16 occurrences (68 FR 25934, May 14, 2003). Currently, *M. adscendens* is known from 2 occurrences totaling 33 individuals at Auwahi, in the lowland dry and montane mesic ecosystems on east Maui (TNC 2007; PEPP 2009, p. 85; Buckman 2010, in litt.; HBMP 2010). Historically, this species has not been observed below 3,200 ft (975 m) (Wagner *et al.* 1999, p. 1,183).



*Melicope balloui* (alani), a short-lived perennial tree or shrub in the rue family (Rutaceae), is known from east Maui (Stone *et al.* 1999, pp. 1,183–1,184). At the time we designated critical habitat in 2003, there were 3 occurrences totaling 50 individuals (68 FR 25934, May 14, 2003). Currently, there are approximately 50 individuals near Palikea Stream, in the lowland wet ecosystem, and a few individuals at Puuokakae in the montane wet ecosystem (TNC 2007; Wood 2009n, in litt.; HBMP 2010). The status and taxonomic certainty of the occurrence within Haleakala National Park is in question (NPS 2012, in litt.).

*Melicope knudsenii* (alani), a long-lived perennial tree in the rue family (Rutaceae), is known from Kauai and Maui (Stone *et al.* 1999, pp. 1,192–1,193). At the time we designated critical habitat in 2003, there were 10 occurrences on Kauai and 4 occurrences on Maui (68 FR 9116, February 27, 2003; 68 FR 25934, May 14, 2003). Currently, on east Maui, there are two individuals at Auwahi, in the montane dry ecosystem (TNC 20007; HBMP 2010; Oppenheimer 2010b, in litt.).

*Melicope mucronulata* (alani), a long-lived perennial tree in the rue family (Rutaceae), is known from Molokai and east Maui (Stone *et al.* 1999, p. 1,196). At the time we designated critical habitat on Molokai and Maui in 2003, there were two occurrences on Molokai and two occurrences on east Maui (68 FR 12982, March 18, 2003; 68 FR 25934, May 14, 2003). Currently, there are two occurrences on Molokai, one individual at Kupaia Gulch, and three individuals at Onini Gulch, in the lowland mesic ecosystem (TNC 2007; PEPP 2008, p. 69; PEPP 2009, p. 86; HBMP 2010;). This species was historically also found in the montane mesic ecosystem on Molokai (TNC 2007; HBMP 2010). The occurrence status of *M. mucronulata* in the lowland dry and montane dry ecosystems on east Maui is unknown.

*Melicope munroi* (alani), a short-lived perennial shrub in the rue family (Rutaceae), is known from Lanai and Molokai (Stone *et al.* 1999, p. 1,196). In 2003, there were two occurrences on Lanai; however, no critical habitat was designated for this species on Lanai or Molokai (68 FR 1220, January 9, 2003; 68 FR 12982, March 18, 2003). Currently, on Lanai, *M. munroi* is known from at least 2 occurrences of fewer than 40 individuals on the Lanaihale summit and the ridge of Waialala Gulch, in the montane wet and wet cliff ecosystems (TNC 2007; HBMP 2010; Oppenheimer 2010t, in litt.). This species has not been seen on Molokai since 1910, where it was last observed

in the lowland mesic ecosystem (68 FR 12982, March 18, 2003).

*Melicope ovalis* (alani), a long-lived perennial tree in the rue family (Rutaceae), is known from east Maui (Stone *et al.* 1999, p. 1,198). At the time we designated critical habitat in 2003, there were two occurrences (68 FR 25934, May 14, 2003). Currently, there are approximately 50 individuals in 4 occurrences in the lowland wet ecosystem in Keanae Valley, and in the montane wet and wet cliff ecosystems at Kipahulu Valley and Palikea Stream (TNC 2007; Bily *et al.* 2008 p. 45; Wood 2009o, in litt.; HBMP 2010; Oppenheimer 2010b, in litt.; Welton 2010a, in litt.). Forty-five individuals were outplanted in nine locations within Haleakala National Park (NPS 2012, in litt.).

*Melicope reflexa* (alani), a short-lived perennial sprawling shrub in the rue family (Rutaceae), is endemic to east Molokai (Stone *et al.* 1999, p. 1,203). At the time we designated critical habitat in 2003, there were three occurrences (68 FR 12982, March 18, 2003). Currently, there are two occurrences totaling at least six individuals. There are at least five individuals at Puuohelo and one individual at Puniuohua in the lowland wet ecosystem (TNC 2007; HBMP 2010; Oppenheimer 2010ee, in litt.). Historically, this species was also found in the lowland mesic and montane wet ecosystems (TNC 2007; HBMP 2010; Oppenheimer 2010u, in litt.; Wood 2010b, in litt.).

*Mucuna sloanei* var. *persericea* (sea bean), a short-lived perennial vine in the pea family (Fabaceae), is found on Maui (Wilmot-Dear 1990, pp. 27–29; Wagner *et al.* 2005a–*Flora of the Hawaiian Islands database*). In her revision of *Mucuna* in the Pacific Islands, Wilmot-Dear recognized this variety from Maui based on leaf indumentum (covering of fine hairs or bristles) (Wilmot-Dear 1990, p. 29). At the time of Wilmot-Dear's publication, *M. sloanei* var. *persericea* ranged from Makawao to Wailua Iki, on the windward slopes of the east Maui mountains (Wagner *et al.* 2005a–*Flora of the Hawaiian Islands database*). Currently, there are possibly a few hundred individuals in five occurrences: Ulalena Hill, north of Kawaipapa Gulch, lower Nahiku, Koki Beach, and Piinau Road, all in the lowland wet ecosystem on east Maui (Duvall 2010, in litt.; Hobdy 2010, in litt.).

*Myrsine vaccinioides* (kolea), a short-lived perennial shrub in the myrsine family (Myrsinaceae), is found on Maui (Wagner *et al.* 1999f, p. 946; HBMP 2010). This species was historically

known from shrubby bogs near Violet Lake on west Maui (Wagner *et al.* 1999f, p. 946). In 2005, three occurrences of a few hundred individuals were reported at Eke, Puu Kukui and near Violet Lake (Oppenheimer 2006c, in litt.). Currently, there are estimated to be several hundred, but fewer than 1,000, individuals scattered in the summit area of the west Maui mountains at Eke Crater, Puu Kukui, Honokowai-Honolua, and Kahoolewa, in the montane wet ecosystem (Oppenheimer 2010i, in litt.).

*Neraudia sericea* (NCN), a short-lived perennial shrub in the nettle family (Urticaceae), is known from Molokai, Lanai, Maui, and Kahoolawe (Wagner *et al.* 1999cc, p. 1,304). At the time we designated critical habitat in 2003, *N. sericea* was known from Molokai and Maui (68 FR 12982, March 18, 2003; 68 FR 25934, May 14, 2003). Currently, this species is found only on east Maui at Kahikinui, where there are fewer than five individuals in the montane mesic ecosystem. This species has not been observed in the lowland dry ecosystem on east Maui since the early 1900s. Historically, *N. sericea* was found in the lowland dry and dry cliff ecosystems on Lanai, the lowland mesic and montane mesic ecosystems on Molokai, the lowland dry and dry cliff ecosystems on west Maui, and the lowland dry ecosystem on Kahoolawe (TNC 2007; HBMP 2010; Medeiros 2010, in litt.).

*Nototrichium humile* (kului), a short-lived perennial trailing shrub in the amaranth family (Amaranthaceae), is known from Oahu and east Maui (Wagner *et al.* 1999dd, pp. 193–194). At the time we designated critical habitat on Maui in 2003 and Oahu in 2012, *N. humile* was only known from 12 occurrences on Oahu (68 FR 25934, May 14, 2003; 77 FR 57648, September 18, 2012). This species has not been seen on Maui since 1976, when one individual was reported from the lowland dry ecosystem (TNC 2007; HBMP 2010).

*Peperomia subpetiolata* (alaala wai nui), a short-lived perennial herb in the pepper family (Piperaceae), is found on Maui (Wagner *et al.* 1999g, p. 1035; HBMP 2010). Historically, *P. subpetiolata* was known only from the lower Waikamoi (Kula pipeline) area on the windward side of Haleakala on east Maui (Wagner *et al.* 1999g, p. 1,035; HBMP 2010). In 2001, it was estimated that 40 individuals occurred just west of the Makawao-Koolau FR boundary, in the montane wet ecosystem. *Peperomia cookiana* and *P. hirtipetiola* also occur in this area, and are known to hybridize with *P. subpetiolata* (NTBG 2009g, p. 2; Oppenheimer 2010j, in litt.). In 2007, 20 to 30 hybrid plants were observed at Maile Trail, and at three areas near the

Waikamoi Flume road (NTBG 2009g, p. 2). Based on the 2007 and 2010 surveys, all known plants are now considered to be hybrids mostly between *P. subpetiolata* and *P. cookiana*, with a smaller number of hybrids between *P. subpetiolata* and *P. hirtipetiolata* (NTBG 2009g, p. 2; Lau 2011, in litt.). *Peperomia subpetiolata* is recognized as a valid species, and botanists continue to search for plants in its previously known locations as well as in new locations with potentially suitable habitat (NTBG 2009g, p. 2; PEPP 2010, p. 96; Lau 2011, pers. comm.).

*Peucedanum sandwicense* (makou), a short-lived perennial herb in the parsley family (Apiaceae), is known from Kauai, Oahu, Molokai, Maui, and Keopuka islet off the coast of east Maui (Constance and Affolter 1999, p. 208). At the time we designated critical habitat in 2003, *P. sandwicense* was known from 15 occurrences on Kauai, 5 occurrences on Molokai, 3 occurrences on Maui; and, in 2012 from 2 occurrences on Oahu (68 FR 9116, February 27, 2003; 68 FR 12982, March 18, 2003; 68 FR 25934, May 14, 2003; 77 FR 57648, September 18, 2012). Currently, *P. sandwicense* is known from 6 occurrences totaling over 45 individuals on Molokai and east Maui. On Molokai, there are 3 occurrences totaling 32 to 37 individuals, at Mokapu islet (25 individuals), Lepau Point (2 individuals), and Kalaupapa Trail (5 to 10 individuals), all in the coastal ecosystem. There is a report of an individual found near the lowland wet ecosystem, but this plant has not been relocated since 1989 (TNC 2007; HBMP 2010; NTBG 2010a, in litt.; NTBG 2010b, in litt.). On east Maui, *P. sandwicense* occurs on Keopuka islet (15 individuals), Pauwalu Point (an unknown number of individuals), and Honolulu Nui (an unknown number of individuals), in the coastal ecosystem. Historically, this species was found on west Maui in the lowland wet ecosystem (TNC 2007; HBMP 2010; NTBG 2010a, in litt.; NTBG 2010b, in litt.).

*Phyllostegia bracteata* (NCN), a short-lived perennial herb in the mint family (Lamiaceae), is found on Maui (Wagner *et al.* 1999h, pp. 814–815). Historically, this species was known from the east Maui mountains at Ukulele, Puu Niania, Waikamoi Gulch, Koolau Gap, Kipahulu, Nahiku-Kuhiwa trail, Waihoi Valley, and Manawainui; and from the west Maui mountains at Puu Kukui and Hanakao (HBMP 2010). This species appears to be short-lived, ephemeral, and disturbance-dependent, in the lowland wet, montane mesic, montane wet, subalpine, and wet cliff ecosystems

(NTBG 2009h, p. 1). There have been several reported sightings of *P. bracteata* between 1981 and 2001, at Waihoi Crater Bog, Waikamoi Preserve, Waikamoi flume, and Kipahulu on east Maui, and at Pohakea Gulch on west Maui; however, none of these individuals were extant as of 2009 (PEPP 2009, pp. 89–90). In 2009, one individual was found at Kipahulu, near Delta Camp, on east Maui, but was not relocated on a follow-up survey during that same year (NTBG 2009h, p. 3). Botanists continue to search for *P. bracteata* in previously reported locations, as well as in other areas with potentially suitable habitat (NTBG 2009h, p. 3; PEPP 2009, pp. 89–90).

*Phyllostegia haliakalae* (NCN), a short-lived perennial vine in the mint family (Lamiaceae), is known from Molokai, Lanai, and east Maui (Wagner 1999, p. 269). The type specimen was collected by Wawra in 1869 or 1870, in a dry ravine at the foot of Haleakala. An individual was found in flower on the eastern slope of Haleakala, in the wet cliff ecosystem, in 2009; however, this plant has died (TNC 2007; Oppenheimer 2010b, in litt.). Collections were made before the plant died, and propagules outplanted in the Puu Mahoe Arboretum (three plants) and Olinda Rare Plant Facility (four plants) (Oppenheimer 2011b, in litt.). In addition, this species has been outplanted in the lowland wet, montane wet, and montane mesic ecosystems of Haleakala National Park (HNP 2012, in litt.). Botanists continue to search in areas with potentially suitable habitat for wild individuals of this plant (Oppenheimer 2010b, in litt.). *Phyllostegia haliakalae* was last reported from the lowland mesic ecosystem on Molokai in 1928, and from the dry cliff and wet cliff ecosystems on Lanai in the early 1900s (TNC 2007; HBMP 2010). Currently no individuals are known in the wild on Maui, Molokai, or Lanai; however, over 100 individuals have been outplanted (HNP 2012, in litt.).

*Phyllostegia hispida* (NCN), a short-lived perennial vine in the mint family (Lamiaceae), is known from Molokai (Wagner *et al.* 1999h, pp. 817–818). Until an individual was rediscovered in 1996, *P. hispida* was thought to be extinct in the wild. This individual died in 1998, and *P. hispida* was thought to be extirpated, until another plant was found in 2005. Propagules were taken and propagated; however, the wild individual died. This sequence of events occurred again in 2006 and 2007 (74 FR 11319, March 17, 2009). At the time we listed *P. hispida* in 2009, no critical habitat was designated for this species

on Molokai (74 FR 11319, March 17, 2009). Currently *P. hispida* is known from 4 occurrences totaling 25 individuals in the montane wet and wet cliff ecosystems on Molokai (TNC 2007; PEPP 2009, pp. 7, 15, 90–93). Historically, this species also occurred in the lowland wet ecosystem (TNC 2007; HBMP 2010).

*Phyllostegia mannii* (NCN), a short-lived perennial vine in the mint family (Lamiaceae), is known from Molokai and Maui (Wagner *et al.* 1999h, pp. 820–821). At the time we designated critical habitat on Molokai and Maui in 2003, this species was only known from one individual on east Molokai. It had not been observed on Maui for over 70 years (68 FR 25934, May 14, 2003). Currently, on Molokai, there are three individuals in Hanalilolilo, in the montane wet ecosystem. Historically, *P. mannii* occurred in Molokai's lowland mesic and lowland wet ecosystems, and the montane wet and montane mesic ecosystems on east Maui (TNC 2007; Perlman 2009k, in litt.; HBMP 2010; Oppenheimer 2010u, in litt.; Wood 2010c, in litt.).

*Phyllostegia pilosa* (NCN), a short-lived perennial vine in the mint family (Lamiaceae), is known from east Maui (Wagner 1999, p. 274). There are two occurrences totaling seven individuals west of Puu o Kakae on east Maui, in the montane wet ecosystem (TNC 2007; HBMP 2010). The individuals identified as *P. pilosa* on Molokai, at Kamoku Flats (montane wet ecosystem) and at Mooloa (lowland mesic ecosystem), have not been observed since the early 1900s (TNC 2007; HBMP 2010).

*Pittosporum halophilum* (hoawa), a short-lived perennial shrub or small tree in the pittosporum family (Pittosporaceae), is found on Molokai (Wood 2005, pp. 2, 41). This species was reported from Huelo islet, Mokapu Island, Okala Island, and Kukaiwaa peninsula. On Huelo islet, there were two individuals in 1994, and in 2001, only one individual remained (Wood *et al.* 2001, p. 12; Wood *et al.* 2002, pp. 18–19). The current status of this species on Huelo islet is unknown. On Mokapu Island, there were 15 individuals in the coastal ecosystem in 2001, and in 2005, 10 individuals remained. On Okala Island, there were two individuals in 2005, and one individual on the sea cliff at Kukaiwaa peninsula (Wainene) (Wood 2005, pp. 2, 41). As of 2010, there were three occurrences totaling five individuals: three individuals on Mokapu Island, one individual on Okala Island, and one individual on Kukaiwaa peninsula (Bakutis 2010, in litt.; Hobdy 2010, in litt.; Perlman 2010, in litt.). At least 17



individuals have been outplanted at 3 sites on the coastline of the nearby Kalaupapa peninsula (Garnett 2010a, in litt.).

*Plantago princeps* (laukahi kuahiwi), a short-lived perennial shrub or herb in the plantain family (Plantaginaceae), is known from the islands of Kauai, Oahu, Molokai, Maui, and Hawaii (Wagner *et al.* 1999ee, pp. 1,054–1,055). Wagner *et al.* recognize four varieties of *P. princeps*: *P. princeps* var. *anomala* (Kauai and Oahu), *P. princeps* var. *laxiflora* (Molokai, Maui, and Hawaii), *P. princeps* var. *longibracteata* (Kauai and Oahu), and *P. princeps* var. *princeps* (Oahu) (Wagner *et al.* 1999ee, pp. 1,054–1,055). At the time we designated critical habitat on Kauai, Molokai, and Maui, in 2003, and on Oahu in 2012, there was one known occurrence of *P. princeps* var. *laxiflora* on Molokai and eight occurrences on Maui (68 FR 9116, February 27, 2003; 68 FR 12982, March 18, 2003; 68 FR 25934, May 14, 2003; 77 FR 57648, September 18, 2012). Currently, *P. princeps* var. *laxiflora* is known from 6 occurrences totaling approximately 70 individuals on Maui (Oppenheimer 2010a, in litt.). On east Maui, there are 3 occurrences totaling 41 to 46 individuals in the dry cliff and wet cliff ecosystems, at Waikau (1 individual), Kaupo Gap (about 30 individuals), and Palikea (10 to 15 individuals). On west Maui, there are 3 occurrences totaling 15 individuals in the wet cliff ecosystem, in Kauaula Valley, Nakalaloa Stream, and in Iao Valley (TNC 2007; Oppenheimer 2009g, in litt.; HBMP 2010). Almost 500 individuals have been outplanted at 43 sites within Haleakala National Park (NPS 2012, in litt.). On Molokai, this species was found in the lowland wet and montane mesic ecosystems as recently as 1987 (TNC 2007; HBMP 2008; Oppenheimer 2010u, in litt.).

*Platanthera holochila* (NCN), a short-lived perennial herb in the orchid family (Orchidaceae), is known from Kauai, Oahu, Molokai, and Maui (Wagner *et al.* 1999ff, p. 1,474). At the time we designated critical habitat on Kauai, Maui in 2003, and on Oahu in 2012, there were two known occurrences on Kauai, one occurrence on Molokai, and six occurrences on Maui (68 FR 9116, February 27, 2003; 68 FR 25934, May 14, 2003; 77 FR 57648, September 18, 2012). No critical habitat was designated for this species on Molokai in 2003 (68 FR 12982, March 18, 2003). Currently, there are 4 known occurrences totaling 44 individuals on Molokai and west Maui. On Molokai, there is 1 occurrence at Hanalilolilo totaling 24 individuals in the montane wet ecosystem. There are 3 occurrences

on west Maui, at Waihee Valley in the wet cliff ecosystem (12 individuals), Waihee Valley in the wet cliff ecosystem (6 individuals), and Pohakea Gulch in the montane wet ecosystem (2 individuals). Historically, this species was also found in the montane wet ecosystem on east Maui (TNC 2007; HBMP 2010; Oppenheimer 2010u, in litt.).

*Pleomele fernaldii* (hala pepe), a long-lived perennial tree in the asparagus family (Asparagaceae), is found only on the island of Lanai (Wagner *et al.* 1999i, p. 1,352; Wagner and Herbst 2003, p. 67). Historically known throughout Lanai, this species is currently found in the lowland dry, lowland mesic, lowland wet, dry cliff, and wet cliff ecosystems, from Hulopaa and Kanoa gulches southeast to Waiakeakua and Puhielelu (St. John 1947, pp. 39–42 cited in St. John 1985, pp. 171, 177–179; HBMP 2006; PEPP 2008, p. 75; HBMP 2010; Oppenheimer 2010d, in litt.). Currently, there are several hundred to perhaps as many as 1,000 individuals. The number of individuals has decreased by about one-half in the past 10 years (there were more than 2,000 individuals in 1999), with very little recruitment observed recently (Oppenheimer 2008d, in litt.).

*Portulaca sclerocarpa* (poe), a short-lived perennial herb in the purslane family (Portulacaceae), is known from a single collection from Poopoo islet off the south coast of Lanai, and from the island of Hawaii (Wagner *et al.* 1999gg, p. 1,074). At the time we designated critical habitat in 2003, there was 1 known occurrence on Poopoo islet and 24 occurrences on Hawaii Island (68 FR 1220, January 9, 2003; 68 FR 39624, July 2, 2003). Currently, on Lanai, this species is only known from an unknown number of individuals in the coastal ecosystem on Poopoo islet (TNC 2007; HBMP 2010).

*Pteris lidgatei* (NCN), a short-lived perennial terrestrial fern in the maidenhair fern family (Adiantaceae), is known from Oahu, Molokai, and Maui (Palmer 2003, p. 229). At the time we designated critical habitat on Molokai and Maui in 2003, and on Oahu in 2012, this species was known from two occurrences on Maui and five occurrences on Oahu (68 FR 12982, March 18, 2003; 68 FR 25934, May 14, 2003; 77 FR 57648, September 18, 2012). Currently, *P. lidgatei* is known from four occurrences totaling over nine individuals on Molokai and Maui. On Molokai, there are six to eight individuals in Kumueli Gulch in the montane wet ecosystem. Historically, this species was also found in Molokai's wet cliff ecosystem. On west Maui, *P.*

*lidgatei* is known from a single individual at Kauaula Valley in the wet cliff ecosystem, an unknown number of individuals in both the upper Kauaula Valley in the lowland wet ecosystem and upper Kahakuloa Stream in the wet cliff ecosystem (PEPP 2007, pp. 54–55; TNC 2007; PEPP 2009, p. 103; HBMP 2010; Oppenheimer 2010i, in litt.; Oppenheimer 2010u, in litt.).

*Remya mauiensis* (Maui remya), a short-lived perennial shrub in the sunflower family (Asteraceae), is known from west Maui (Wagner *et al.* 1999m, p. 353). At the time we designated critical habitat in 2003, there were 5 known occurrences totaling 21 individuals (68 FR 25934, May 14, 2003). Currently, *R. mauiensis* is found in 6 occurrences totaling approximately 500 individuals at Kauaula (lowland mesic ecosystem), Puehuhunui (lowland mesic and montane mesic ecosystems), Ukumehame (wet cliff ecosystem), Papalaua (montane mesic ecosystem), Pohakea (lowland dry ecosystem), and Manawainui (lowland dry ecosystem) (TNC 2007; HBMP 2010; Oppenheimer 2010ff, in litt.). Historically, this species also occurred in Maui's lowland wet ecosystem (TNC 2007; HBMP 2010).

*Sanicula purpurea* (NCN), a short-lived perennial herb in the parsley family (Apiaceae), is known from bogs and surrounding wet forest on Oahu and west Maui (Constance and Affolter 1999, p. 210). At the time we designated critical habitat in 2003 (Maui) and 2012 (Oahu), this species was known from seven occurrences on west Maui and five occurrences on Oahu (68 FR 25934, May 14, 2003; 77 FR 57648, September 18, 2012). Currently, on west Maui, as many as 50 individuals are found in 4 known occurrences in bogs in the montane wet ecosystem (TNC 2007; Perlman 2007d, in litt.; HBMP 2010; Oppenheimer 2010gg, in litt.; Wood 2010d, in litt.).

*Santalum haleakalae* var. *lanaiense* (iliahi, Lanai sandalwood) is a long-lived perennial tree in the sandalwood family (Santalaceae). Currently, *S. haleakalae* var. *lanaiense* is known from Molokai, Lanai, and Maui, in 26 occurrences totaling fewer than 100 individuals (Wagner *et al.* 1999c, pp. 1,221–1,222; HBMP 2010; Harbaugh *et al.* 2010, pp. 834–835). On Molokai, there are more than 12 individuals in 4 occurrences from Kikiakala to Kamoku Flats and Puu Kokekole, with the largest concentration at Kumueli Gulch, in the montane mesic and lowland mesic ecosystems (Harbaugh *et al.* 2010, pp. 834–835). On Lanai, there are approximately 10 occurrences totaling 30 to 40 individuals: Kanepuu, in the

lowland mesic ecosystem (5 individuals); the headwaters of Waiopae Gulch in the lowland wet ecosystem (3 individuals); the windward side of Hauola on the upper side of Waiopae Gulch in the lowland mesic ecosystem (1 individual); the drainage to the north of Puhielelu Ridge and enclosure, in the headwaters of Lopa Gulch in the lowland mesic ecosystem (3 individuals); 6 occurrences near Lanaihale in the montane wet ecosystem (21 individuals); and the mountains east of Lanai City in the lowland wet ecosystem (a few individuals) (HBMP 2008; Harbaugh *et al.* 2010, pp. 834–835; HBMP 2010; Wood 2010a, in litt.). On west Maui, there are eight single-individual occurrences: Hanaulaiki Gulch in the lowland dry ecosystem; Kauaula and Puehuhunui Gulches in the lowland mesic, montane mesic, and wet cliff ecosystems; Kahanahaiki Gulch and Honokowai Gulch in the lowland wet ecosystem; Wakahuli in the wet cliff ecosystem; and Manawainui Gulch in the montane mesic and lowland dry ecosystems (HBMP 2010; Harbaugh *et al.* 2010, pp. 834–835; Wood 2010a, in litt.). On east Maui, there are 4 occurrences (10 individuals) in Auwahi, in the montane mesic, montane dry, and lowland dry ecosystems (TNC 2007; HBMP 2010; Harbaugh *et al.* 2010, pp. 834–835).

*Schenkia sebaeoides* (formerly *Centaurium sebaeoides*) (awiiwi) is a short-lived annual herb in the gentian family (Gentianaceae) known from the islands of Kauai, Oahu, Molokai, Lanai, and west Maui (Wagner *et al.* 1990b, p. 725; 68 FR 1220, January 9, 2003). At the time we designated critical habitat on Kauai, Molokai, and Maui in 2003, and on Oahu in 2012, the species was reported from one occurrence on Lanai, three occurrences on Kauai, two occurrences on Molokai, three occurrences on Maui, and two occurrences on Oahu (68 FR 1220, January 9, 2003; 68 FR 9116, February 27, 2003; 68 FR 12982, March 18, 2003; 68 FR 25934, May 14, 2003; 77 FR 57648, September 18, 2012). No critical habitat was designated for this species on Lanai in 2003 (68 FR 1220, January 9, 2003). Currently, on Lanai, Molokai, and Maui, there are at least eight occurrences, with the highest number of individuals on Molokai. The annual number of individuals on each island varies widely depending upon rainfall (Oppenheimer 2009i, in litt.; HBMP 2010). On Lanai, there is 1 occurrence totaling between 20 and 30 individuals, in the lowland dry ecosystem (TNC 2007; HBMP 2010). On Molokai, there are 2 or more occurrences containing

thousands of individuals in the coastal ecosystem (TNC 2007; HBMP 2010). On west Maui, there are 5 occurrences, totaling several thousand individuals, along the north coast from Haewa Point to Puu Kahulanapa, in the coastal ecosystem (Oppenheimer 2010i, in litt.).

*Schiedea haleakalensis* (NCN), a short-lived perennial shrub in the pink family (Caryophyllaceae), is known from east Maui (Wagner *et al.* 1999j, pp. 512–514). At the time we designated critical habitat in 2003, this species was known from two occurrences in Haleakala National Park (68 FR 25934, May 14, 2003). Currently, *S. haleakalensis* is found in 2 occurrences totaling fewer than 50 individuals, at Leleiwai Pali and Kaupo Gap in the subalpine and dry cliff ecosystems, within Haleakala National Park (Welton 2010a, in litt.). One hundred forty-three individuals have been outplanted at 11 sites within Haleakala National Park (NPS 2012, in litt.).

*Schiedea jacobii* (NCN), a short-lived perennial herb or subshrub in the pink family (Caryophyllaceae), occurs only on Maui (Wagner *et al.* 1999j, p. 284). Discovered in 1992, the single occurrence consisted of nine individuals along wet cliffs between Hanawi Stream and Kuhiwa drainage (in Hanawi NAR), in the montane wet ecosystem on east Maui (Wagner *et al.* 1999j, p. 286). By 1995, only four plants could be relocated in this location. It appeared that the other five known individuals had been destroyed by a landslide (Wagner *et al.* 1999j, p. 286). In 2004, one seedling was observed in the same location, and in 2010, no individuals were relocated (Perlman 2010, in litt.). The State of Hawaii plans to outplant propagated individuals in a fenced area in Hanawi Natural Area Reserve in 2011 (Oppenheimer 2010a, in litt.; Perlman 2010, in litt.).

*Schiedea laui* (NCN), a short-lived perennial herb or subshrub in the pink family (Caryophyllaceae), is found only on Molokai (Wagner *et al.* 2005b, pp. 90–92). In 1998, when this species was first observed, there were 19 individuals located in a cave along a narrow stream corridor at the base of a waterfall in the Kamakou Preserve, in the montane wet ecosystem (Wagner *et al.* 2005b, pp. 90–92). By 2000, only 9 individuals with a few immature plants and seedlings were relocated, and in 2006, 13 plants were seen (Wagner *et al.* 2005b, pp. 90–92; PEPP 2007, p. 57). Currently, there are 24 to 34 individuals in the same location in Kamakou Preserve (Bakutis 2010, in litt.).

*Schiedea lydgatei* (NCN), a short-lived perennial subshrub in the pink family (Caryophyllaceae), is known from east

Molokai (Wagner *et al.* 1999j, p. 516). At the time we designated critical habitat in 2003, this species was known from four occurrences totaling more than 1,000 individuals (68 FR 12982, March 18, 2003). Currently, there are over 200 individuals between Kawela and Makolelau gulches, in the lowland mesic ecosystem (TNC 2007; PEPP 2009, p. 109; HBMP 2010; Oppenheimer 2010u, in litt.).

*Schiedea salicaria* (NCN), a short-lived perennial shrub in the pink family (Caryophyllaceae), occurs on Maui (Wagner *et al.* 1999j, pp. 519–520). It is historically known from a small area on west Maui, from Lahaina to Waikapu. Currently, this species is found in three occurrences: Kaunoahua gulch (500 to 1,000 individuals), Puu Hona (about 50 individuals), and Waikapu Stream (3 to 5 individuals), in the lowland dry ecosystem on west Maui (TNC 2007; Oppenheimer 2010k, in litt.; Oppenheimer 2010l, in litt.). Hybrids and hybrid swarms between *S. salicaria* and *S. menziesii* are known on the western side of west Maui (Wagner *et al.* 2005b, p. 138). However, according to Weller (2012, in litt.) the hybridization process is natural when *S. salicaria* and *S. menziesii* co-occur and because of the dynamics in this hybrid zone, traits of *S. salicaria* prevail and replace those of *S. menziesii*. Weller (2012, in litt.) notes that populations of both species will likely remain distinct because the two species do not overlap throughout much of their range.

*Schiedea sarmentosa* (NCN), a short-lived perennial herb in the pink family (Caryophyllaceae), is endemic to Molokai (Wagner *et al.* 2005b, pp. 116–119). At the time we designated critical habitat in 2003, this species was known from five occurrences with an estimated total of over 1,000 individuals (68 FR 12982, March 18, 2003). Currently, *S. sarmentosa* is known from three occurrences from Onini Gulch to Makolelau, with as many as several thousand individuals, in the lowland mesic ecosystem (TNC 2007; Perlman 2009l, in litt.; HBMP 2010; Oppenheimer 2010hh, in litt.; Perlman 2010, in litt.; Wood 2010e, in litt.).

*Sesbania tomentosa* (ohai) is a short-lived perennial shrub or small tree in the pea family (Fabaceae) (Geesink *et al.* 1999, pp. 704–705). At the time we designated critical habitat in 2003, *S. tomentosa* was known from 1 occurrence on Kauai, 9 occurrences on Molokai, 7 occurrences on Maui, several thousand individuals on Nihoa Island, “in great abundance” on Necker Island, 31 occurrences on Hawaii Island; and, in 2012, from 3 occurrences on Oahu (68 FR 9116, February 27, 2003; 68 FR

12982, March 18, 2003; 68 FR 25934, May 14, 2003; 68 FR 28054, May 22, 2003; 68 FR 39624, July 2, 2003; 77 FR 57648, September 18, 2012). Historically widespread throughout the Hawaiian Islands and the Northwestern Hawaiian Islands (NWHI), this species now occurs in larger numbers only on Nihoa and Necker (NWHI, approximately 5,500 individuals), with relatively few occurrences persisting on the eight main Hawaiian islands. Currently, on the eight main Hawaiian Islands, *S. tomentosa* is known from Kauai, Molokai, Maui, Kahoolawe, Oahu, and Hawaii (possibly totaling as many as 2,000 individuals). The number of individuals at any one location varies widely, depending on rainfall (TNC 2007; NTBG 2009k). On Molokai, there is one occurrence on the northwest shore from Moomomi to Nenehanaupo (35 individuals), and about 1,000 or more individuals on the south coast scattered from Kamiloloa to the Kawela plain, in the coastal and lowland dry ecosystems. Historically, this species also occurred in Molokai's lowland mesic ecosystem (TNC 2007; Cole 2008, in litt.; NTBG 2009k). On west Maui, there are 3 occurrences totaling 80 individuals from Nakalele Point to Mokolea Point, in the coastal ecosystem. Historically, this species also occurred in the lowland dry ecosystem on west Maui (TNC 2007; NTBG 2009k; Oppenheimer 2009h, in litt.). On east Maui, there is one occurrence of 10 individuals in the lowland dry ecosystem (TNC 2007; Cole 2008, in litt.; Oppenheimer 2009h, in litt.; Oppenheimer 2010i, in litt.). On Kahoolawe, about 300 individuals occur in the coastal ecosystem on Puu Koae islet. *Sesbania tomentosa* has not been seen in the coastal and lowland dry ecosystems on Lanai for over 50 years (TNC 2007; HBMP 2010). Current threats to this species are significant and include herbivory by feral ungulates, deer, nonnative insects (borers and scale), and slugs, seed predation by rats, fire, drought, and low fruit set resulting from lack of pollinators or self-incompatibility, and low seedling recruitment. Herbivory by the nonnative gray bird grasshopper, *Schistocerca nitens*, is a threat to occurrences on Nihoa (Latchininsky 2008, 15 pp.). Fortini *et al.* (2013, p. 89) conducted a landscape-based assessment of climate change vulnerability for *S. tomentosa*, and concluded that this species is moderately vulnerable to the impacts of climate change. To be considered for delisting, threats to *S. tomentosa* must be managed or controlled, and there must be a minimum of 8 to 10 self-

sustaining populations consisting of all size classes, over a period of 5 years, that should be documented on 2 to 3 of the eight main Hawaiian islands where it now occurs or occurred historically. These goals have not been met, as currently no population on the main Hawaiian Islands is considered sufficiently large and self-sustaining; in addition, all threats are not being sufficiently managed throughout all of the occurrences, even at the more remote occurrences on the NWHI. Designation of unoccupied habitat (in addition to occupied habitat) is essential to the conservation of *S. tomentosa* as it remains in danger of extinction throughout its range, therefore it requires sufficient habitat to persist in the face of ongoing and future threats, and for the expansion or reestablishment of multiple, self-sustaining populations in areas presently not occupied by the species to meet recovery goals.

*Silene alexandri* (NCN), a short-lived perennial subshrub in the pink family (Caryophyllaceae), is known from Molokai (Wagner *et al.* 1999j, p. 522). At the time we designated critical habitat in 2003, *S. alexandri* was extirpated in the wild, but individuals remained in cultivation (68 FR 12982, March 18, 2003). Currently, *S. alexandri* is known from 1 occurrence of 25 individuals near Kawela Gulch, in the lowland mesic ecosystem (TNC 2007; HBMP 2008; PEPP 2009, p. 111; HBMP 2010; Oppenheimer 2010u, in litt.).

*Silene lanceolata* (NCN), a short-lived perennial subshrub in the pink family (Caryophyllaceae), is known from Kauai, Oahu, Molokai, Lanai, and the island of Hawaii (Wagner *et al.* 1999j, p. 523). At the time we designated critical habitat on Molokai in 2003 and on Oahu in 2012, *S. lanceolata* was known from Molokai, Oahu, and the island of Hawaii (68 FR 12982, March 18, 2003; 68 FR 39624, July 2, 2003; 77 FR 57648, September 18, 2012). However, no critical habitat was designated for this species on Lanai, Kauai, or Hawaii in 2003 (68 FR 1220, January 9, 2003; 68 FR 9116, February 27, 2003; 68 FR 39624, July 2, 2003). Currently, on Molokai, there are 2 occurrences totaling approximately 200 individuals at Kapuaokoolau and along cliffs between Kawela and Makolelau, in the lowland mesic ecosystem (TNC 2007; HBMP 2008; Oppenheimer 2010u, in litt.). This species has not been observed in the lowland dry ecosystem on Lanai since the 1930s (TNC 2007; HBMP 2010).

*Solanum incompletum* (popolo ku mai), a short-lived perennial shrub in the nightshade family (Solanaceae), is

reported from Kauai, Molokai, Lanai, Maui, and the island of Hawaii (Symon 1999, pp. 1,270–1,271). At the time we designated critical habitat in 2003, this species was only known from one occurrence on the island of Hawaii (68 FR 39624, July 2, 2003). Currently, there are no known occurrences on Lanai, Molokai, or Maui (HBMP 2008; PEPP 2009, p. 112; HBMP 2010). Historically, this species occurred in the lowland dry, lowland mesic, and dry cliff ecosystems on Lanai, and in the lowland dry and lowland mesic ecosystems on east Maui. It is unclear when and where this plant was collected on Molokai (TNC 2007; HBMP 2010).

*Spermolepis hawaiiensis* (NCN), an annual herb in the parsley family (Apiaceae), is known from Kauai, Oahu, Molokai, Lanai, and the island of Hawaii (Constance and Affolter 1999, p. 212). At the time we designated critical habitat on Kauai, Molokai, and Maui in 2003, and on Oahu in 2012, *S. hawaiiensis* was known from 3 occurrences on Lanai, 2 occurrences on Kauai, 1 occurrence on Molokai, 5 occurrences on Maui, 30 occurrences on Hawaii Island, and 4 occurrences on Oahu (68 FR 1220, January 9, 2003; 68 FR 9116, February 27, 2003; 68 FR 12982, March 18, 2003; 68 FR 25934, May 14, 2003; 77 FR 57648, September 18, 2012). No critical habitat was designated for this species on Hawaii Island in 2003 (68 FR 39624, July 2, 2003). Currently in Maui Nui there are nine occurrences totaling possible a several thousand individuals. On Lanai, there are 3 occurrences at Makiki Ridge, Kahewai Gulch to Puhialelu Ridge, and Kapoho Gulch, totaling between 500 and 600 individuals in the lowland dry and lowland mesic ecosystems. On Molokai, there are thousands of individuals at Makolelau and Kapuaokoolau, in the lowland mesic and montane mesic ecosystems (Perlman 2007e, in litt.; TNC 2007; HBMP 2010; Oppenheimer 2010u, in litt.). On east Maui, there is one occurrence at Kanaio, with possibly 1,000 individuals, in the lowland dry ecosystem. On west Maui, there are at least 3 occurrences that may total over 1,000 individuals at Puu Hipa, Olowalu, and Ukumehame in the lowland dry ecosystem. A recent (2010) fire at Olowalu burned at least 50 individuals (TNC 2007; HBMP 2010; Oppenheimer 2010b, in litt. 2010i, in litt.). Because of this species' annual growth habit (grows, blooms, seeds, and dies within 1 year), larger numbers of individuals (as compared to long-lived perennials) are required to ensure long-term

persistence as reproduction is dependent on the longevity of the seedbank. Overall, the numbers of individuals have declined from the approximately 13,000 wild individuals reported in 2010 to approximately 6,000 wild individuals reported in 2015 (Service 2010, in litt.; Service 2015, in litt.). Current threats to this species are herbivory by feral pigs, goats, sheep, deer, and mouflon; competition with nonnative plants; fire; erosion; landslides; rockslides; and drought (Service 1999, in litt.; Service 2015, in litt.). Fortini *et al.* (2013, p. 89) conducted a landscape-based assessment of climate change vulnerability for *S. hawaiiensis* and concluded that this species has moderately low vulnerability to the impacts of climate change. Since *S. hawaiiensis* is an annual plant, to be considered for delisting, a minimum of 5 to 7 naturally reproducing populations of at least 500 individuals each must be stable or increasing in numbers on islands where it now occurs or occurred historically. These goals have not been met and threats are not being sufficiently managed. Designation of unoccupied habitat (in addition to occupied habitat) is essential to the conservation of *S. hawaiiensis* as it remains in danger of extinction throughout its range, therefore sufficient habitat is required to allow the species to persist in the face of ongoing and future threats, and for the expansion or reestablishment of multiple, self-sustaining populations in areas presently not occupied by the species to meet recovery goals.

*Stenogyne bifida* (NCN), a short-lived climbing perennial herb in the mint family (Lamiaceae), is known from Molokai (Weller and Sakai 1999, p. 835). At the time we designated critical habitat in 2003, there were five known occurrences (68 FR 12982, March 18, 2003). Currently, *S. bifida* is known from one individual in Kawela Gulch, in the montane wet ecosystem (TNC 2007; HBMP 2008; PEPP 2009, p. 113; Tangalin 2009, in litt.; HBMP 2010). The status of the plants in the montane mesic ecosystem, farther west, is unknown (Oppenheimer 2009i, in litt.). Historically, this species was also found in Molokai's lowland mesic, lowland wet, montane mesic, and wet cliff ecosystems (TNC 2007; HBMP 2010).

*Stenogyne kauaulaensis* (NCN), a short-lived perennial vine in the mint family (Lamiaceae), occurs on Maui. This recently described (2008) plant is found only along the southeastern rim of Kauaula Valley, in the montane mesic ecosystem on west Maui (TNC 2007; Wood and Oppenheimer 2008, pp. 544–

545). At the time *S. kauaulaensis* was described, the authors reported a total of 15 individuals in one occurrence. However, one of the authors reports that due to the clonal (genetic duplicate) growth habit of this species, botanists believe it is currently represented by only three genetically distinct individuals (Oppenheimer 2010k, in litt.).

*Tetramolopium capillare* (pamakani), a short-lived perennial sprawling shrub in the sunflower family (Asteraceae), is known from west Maui (Lowrey 1999, p. 363). At the time we designated critical habitat in 2003, this species was known from five occurrences (68 FR 25934, May 14, 2003). Although *Tetramolopium capillare* was last observed in the wet cliff (Kauaula) and dry cliff (Ukumehame) ecosystems in 2001, and in the lowland dry ecosystem (Ukumehame) in 1995, these plants are no longer extant (TNC 2007; HBMP 2010; Oppenheimer 2010i, in litt.). Currently, there are no known occurrences on west Maui (PEPP 2009, p. 113).

*Tetramolopium lepidotum* ssp. *lepidotum* (NCN), a short-lived perennial shrub in the sunflower family (Asteraceae), is known from Oahu and Lanai (Lowrey 1999, p. 376). At the time we designated critical habitat in 2012, this subspecies was only known from three occurrences on Oahu (77 FR 57648, September 18, 2012). Currently, *T. lepidotum* ssp. *lepidotum* is only found on Oahu. This subspecies was last observed in the lowland dry ecosystem on Lanai in the early 1900s (TNC 2007; HBMP 2008; PEPP 2009, pp. 113–114; HBMP 2010).

*Tetramolopium remyi* (NCN), a short-lived perennial shrub in the sunflower family (Asteraceae), is known from Lanai and west Maui (Lowrey 1999, pp. 367–368). At the time we designated critical habitat in 2003, there was one occurrence on Lanai totaling approximately 150 individuals, and there were an unknown number of individuals in the Kuia area on west Maui (68 FR 1220, January 9, 2003; 68 FR 25934, May 14, 2003). Currently, there is one known individual on Lanai at Awehi, in the lowland dry ecosystem (TNC 2007; HBMP 2010; Oppenheimer 2010ii, in litt.; Perlman 2008h, in litt.). There are an unknown number of individuals in the Kuia area on west Maui in the lowland dry ecosystem (TNC 2007; HBMP 2010).

*Tetramolopium rockii* (NCN), a short-lived perennial shrub in the sunflower family (Asteraceae), is endemic to the island of Molokai (Lowrey 1999, p. 368). There are two varieties: *T. rockii* var. *calcisabulorum* and *T. rockii* var. *rockii*

(Lowrey 1999, p. 368). At the time we designated critical habitat in 2003, *T. rockii* was known from four occurrences totaling thousands of individuals (68 FR 12982, March 18, 2003). *Tetramolopium rockii* var. *calcisabulorum* was reported from Kaiehu Point to Kapalauoa, intergrading with var. *rockii*.

*Tetramolopium rockii* var. *rockii* occurred from Kalawao to Kahinaakalani, Kaiehu point to Kapalauoa, and Moomomi to Kahinaakalani. Currently, numbers fluctuate considerably from year to year but remain in the thousands, and occurrences are found along the northwest shore of Molokai, from Kaa Gulch to Kahinaakalani, and on Kalaupapa peninsula from Alau to Makalii, in the coastal ecosystem (Canfield 1990, p. 20; Perlman 2006c, in litt.; TNC 2007; HBMP 2008; NTBG 2009l; HBMP 2010; Wood 2010f, in litt.).

*Vigna o-wahuensis* (NCN), a twining, short-lived perennial herb in the pea family (Fabaceae), is known from all of the main Hawaiian Islands except Kauai (Geesink *et al.* 1999, pp. 720–721). At the time we designated critical habitat on Maui and Hawaii in 2003 and Oahu in 2012, *V. o-wahuensis* was known from 6 occurrences totaling approximately 30 individuals on Lanai, Molokai, Maui, and Kahoolawe, and the island of Hawaii (68 FR 1220, January 9, 2003; 68 FR 12982, March 18, 2003; 68 FR 25934, May 14, 2003; 68 FR 39624, July 2, 2003; 77 FR 57648, September 18, 2012). However, no critical habitat was designated for this species on Lanai or Molokai in 2003 (68 FR 1220, January 9, 2003; 68 FR 12982, March 18, 2003). Currently, there are 22 individuals in 3 occurrences on Molokai, Maui, and Kahoolawe. On Molokai, 2 occurrences totaling 12 individuals are known from Makakupaia and Makolelau, in the lowland mesic ecosystem. On east Maui, there are approximately 10 individuals at Kanaio Beach in the coastal ecosystem. On Kahoolawe, there is one individual in the lowland dry ecosystem. Historically, *V. o-wahuensis* was found in the lowland dry and lowland mesic ecosystems on Lanai, and in the coastal ecosystem on Kahoolawe (Perlman 2005, in litt.; TNC 2007; HBMP 2010; Wood 2010g, in litt.).

*Viola lanaiensis* (NCN), a short-lived perennial subshrub in the violet family (Violaceae), is known from Lanai (Wagner *et al.* 1999aa, pp. 1,334–1,336). In 2003, there were 2 known occurrences totaling fewer than 80 individuals; however, no critical habitat was designated for this species on Lanai (68 FR 1220, January 9, 2003).

Currently, 6 individuals are found in Awehi Gulch, in the wet cliff ecosystem on Lanai. Historically, this species was also reported in the montane wet and dry cliff ecosystems on Lanai (TNC 2007; HBMP 2008; PEPP 2008, p. 84; PEPP 2009, p. 117; HBMP 2010). A new population of over 140 individuals of *V. lanaiensis* was recently discovered on Helu Peak, west Maui, in the montane mesic ecosystem (Havran *et al.* 2012). This information extends the known range for *V. lanaiensis* to the island of Maui. However, we will reevaluate the listing status of this species in a future proposed rulemaking.

*Wikstroemia villosa* (akia), a short-lived perennial shrub or tree in the akia family (Thymelaeaceae), is found on Maui (Peterson 1999, pp. 1,290–1,291). Historically known from the lowland wet, montane wet, and montane mesic ecosystems on east and west Maui, this species is currently known from a recent discovery (2007) of one individual on the windward side of Haleakala (on east Maui), in the montane wet ecosystem (Peterson 1999, p. 1,291; TNC 2007; HBMP 2010). As of 2010, there was one individual and one seedling at the same location (Oppenheimer 2010m, in litt.). In addition, three individuals have been outplanted in Waikamoi Preserve (Oppenheimer 2010m, in litt.).

*Zanthoxylum hawaiiense* (ae), a long-lived perennial tree in the rue family (Rutaceae), is known from Kauai, Molokai, Lanai, Maui, and the island of Hawaii (Stone *et al.* 1999, pp. 1,214–1,215). At the time we designated critical habitat on Kauai, Molokai, and Maui in 2003, *Z. hawaiiense* was known from 3 occurrences on Kauai, 5 individuals on Molokai, 9 occurrences on Maui, and 186 occurrences on the island of Hawaii (68 FR 9116, February 27, 2003; 68 FR 12982, March 18, 2003; 68 FR 25934, May 14, 2003; 68 FR 39624, July 2, 2003). No critical habitat was designated for this species on Hawaii in 2003 (68 FR 39624, July 2, 2003). Currently, on Molokai and Maui, this species is known from 5 or 6 occurrences totaling 14 individuals. On Molokai, there are two mature individuals in the lowland wet ecosystem, one individual above Kamalo in the montane wet ecosystem, and one individual in Makolelau Gulch in the lowland mesic ecosystem. On west Maui, there are seven individuals at Puehuhunui in the montane mesic and lowland mesic ecosystems. On east Maui, at Auwahi, there are three individuals in the montane dry and lowland dry ecosystems. Historically, this species also occurred in Maui's subalpine and montane mesic ecosystems (Perlman 2001, in litt.;

Evans *et al.* 2003, pp. 41, 47; NTBG 2005; TNC 2007; Wood 2007, in litt.; HBMP 2008; PEPP 2009, pp. 22, 27, 119; HBMP 2010). *Zanthoxylum hawaiiense* was last seen on Lanai in the lowland wet ecosystem in 1947 (TNC 2007; HBMP 2010).

#### Animals

##### Birds

##### Kiwikiu

The Maui parrotbill, or kiwikiu (*Pseudonestor xanthophrys*), is a small Hawaiian honeycreeper found only on the island of Maui, currently in the mid- to upper-elevation montane mesic and montane wet ecosystems (USFWS 2006, p. 2–79; TNC 2007). The Hawaiian honeycreepers are in the subfamily Drepanidinae of the finch family, Fringillidae (AOU 1998, p. 673). The kiwikiu is most common in wet forests dominated by *Metrosideros polymorpha* trees and a few mesic areas dominated by *M. polymorpha* and *Acacia koa* trees with an intact, dense, diverse native understory and subcanopy of ferns, sedges, epiphytes, shrubs and small to medium trees (USFWS 2006, p. 2–79). In 1980, the number of kiwikiu was estimated by the Hawaii Forest Bird Survey (HFBS) at  $500 \pm 230$  (95 percent confidence interval) birds with an average density of 10 birds per 0.39 sq mi (1 sq km) (Scott *et al.* 1986, p. 115). Currently, the kiwikiu is found only on Haleakala on east Maui, in an area of 12,355 ac (50 sq km) at elevations between 4,500 and 6,500 ft (1,360 to 1,970 m) (NPS 2012, in litt.). The kiwikiu is insectivorous and often feeds in a deliberate manner, using its massive hooked bill to dig, tear, crack, crush, and chisel the bark and softer woods on a variety of understory native shrubs and small- to medium-sized subcanopy trees, especially *Rubus hawaiiensis* (akala), *Broussaisia arguta* (kanawao), and *M. polymorpha* (USFWS 2006, p. 2–77; NPS 2012, in litt.). Kiwikiu also pluck and bite open fruits, especially *B. arguta* fruits, in search of insects, but do not eat the fruit itself (USFWS 2006, pp. 2–77–2–78). The open cup nest, composed mainly of lichens (*Usnea* sp.) and *Leptecophylla tameiameiae* (pukiawe) twigs, is built by the female an average of 40 ft (12 m) above the ground in a forked branch just under the outer canopy foliage (USFWS 2006, p. 2–78). Based on collections of subfossil bones, the current geographic range is much restricted compared to the known prehistorical range, which included mesic leeward forests and low elevations between 660 and 1,000 ft (200 to 300 m) on east Maui as well as Molokai (James and Olson 1991, p. 80;

Olson and James 1991, pp. 14–15; TNC 2007). Surveys from 1995 to 1997 at Hanawi, a study site located in the core of the species' range, showed that the kiwikiu occurred there at approximately the same density (40 birds per 0.39 sq mi (1 sq km)) as in 1980 (Simon *et al.* 2002, p. 477). However, subsequent surveys across the species' range have not conclusively shown that its densities are stable (Camp *et al.* 2009, p. 39).

##### Akohekohe

The crested honeycreeper, or akohekohe (*Palmeria dolei*), is a small forest bird found only on the island of Maui, currently in the mid- to upper-elevation montane mesic and montane wet ecosystems (USFWS 2006, p. 2–139; TNC 2007). Like the kiwikiu, the akohekohe is also a Hawaiian honeycreeper in the subfamily Drepanidinae of the finch family, Fringillidae (AOU 1998, p. 678). The akohekohe is most common in the wet forest habitat described above for the kiwikiu, except that the lower limit of the akohekohe's elevational range is higher (roughly 5,000 ft (1,525 m)) than the lower limit of the kiwikiu's elevational range (USFWS 2006, p. 2–139; NPS 2012, in litt.). In 1980, the number of akohekohe was estimated by the HFBS at  $3,800 \pm 700$  (95 percent confidence interval) individuals (Scott *et al.* 1986, p. 168). Currently the akohekohe is found only on Haleakala, east Maui, in 14,080 ac (58 sq km) at elevations between 5,000 and 6,500 ft (1,500 to 1,970 m) at Manawainui, Kipahulu Valley, and the upper Hana rainforest (USFWS 2006, p. 2–140; NPS 2012, in litt.). The akohekohe is primarily nectarivorous, but also feeds on caterpillars, spiders, and dipterans (flies) (USFWS 2006, p. 2–138). Nectar is primarily sought from flowers of *Metrosideros polymorpha* trees but also from several subcanopy tree and shrub species when *M. polymorpha* trees are not in bloom (USFWS 2006, p. 2–139; NPS 2012, in litt.). The open cup nest is built by the female an average 46 ft (14 m) above the ground in the terminal ends of branches below the canopy foliage of *M. polymorpha* trees (USFWS 2006, p. 2–139). Based on collections of subfossil bones, the current geographic range is much restricted compared to the known prehistorical range, which included dry leeward areas of east and west Maui, and Molokai (Berlin and VanGelder 1999, p. 3). The HFBS and subsequent surveys of the akohekohe range yielded densities of  $81 \pm 10$  birds per 0.39 sq mi (1 sq km) in 1980,  $98 \pm 11$  birds per 0.39 sq mi (1 sq km) from 1992 to 1996, and  $116 \pm 14$  birds per 0.39 sq

mi (1 sq km) between 1997 and 2001 (Camp *et al.* 2009, p. 81; Gorresen *et al.* 2009, pp. 123–124). Densities in the core of the species' range within the Hanawi Natural Area Reserve were  $183 \pm 59$  birds per 0.39 sq mi (1 sq km) in 1988, and  $290 \pm 10$  birds per 0.39 sq mi (1 sq km) from 1995 to 1997 (Berlin and VanGelder 1999, p. 11). These results indicate that the species' rangewide and core densities have both increased and the current population may be larger than previously estimated (Gorresen *et al.* 2009, p. 124).

#### Tree Snails

Newcomb's tree snail (*Newcombia cumingi*), a member of the family Achatinellidae and the endemic Hawaiian subfamily Achatinellinae (Newcomb 1853, p. 25), is known only from the island of Maui (Cowie *et al.* 1995, p. 62). The exact life span and fecundity of the Newcomb's tree snail is unknown, but they attain adult size within 4 to 5 years (Thacker and Hadfield 1998, p. 2). Newcomb's tree snail is believed to exhibit the low reproductive rate of other Hawaiian tree snails belonging to the same family (Thacker and Hadfield 1998, p. 2). It feeds on fungi and algae that grow on the leaves and trunks of its native host plant, the tree *Metrosideros polymorpha* (Pilsbry and Cooke 1912–1914, p. 103). Historically, Newcomb's tree snail was distributed from the west Maui mountains (near Lahaina and Wailuku) to the slopes of Haleakala (Makawao) on east Maui (Pilsbry and Cooke 1912–1914, p. 10). In 1994, a small population of Newcomb's tree snail was found on a single ridge on the northeastern slope of the west Maui mountains, in the lowland wet ecosystem (Thacker and Hadfield 1998, p. 3; TNC 2007). Eighty-six snails were documented in the same location in 1998; in 2006, only nine individuals were located; and, in 2012, only one individual was located (Thacker and Hadfield 1998, p. 2; Hadfield 2007, p. 8; Higashino 2013, in litt.).

*Partulina semicarinata* (Lanai tree snail, pupu kani oe), a member of the family Achatinellidae and the endemic Hawaiian subfamily Achatinellinae, is known only from the island of Lanai (Pilsbry and Cooke 1912–1914, p. 86). Adults may attain an age exceeding 15 to 20 years, and reproductive output is low, with an adult snail giving birth to 4 to 6 live young per year (Hadfield and Miller 1989, pp. 10–12). *Partulina semicarinata* is arboreal and nocturnal, and grazes on fungi and algae growing on leaf surfaces (Pilsbry and Cooke 1912–1914, p. 103). This snail species is found on the following native host

plants: *Metrosideros polymorpha*, *Broussaisia arguta* (kanawao), *Psychotria* spp. (kopiko), *Coprosma* spp. (pilo), *Melicope* spp. (alani), and dead *Cibotium glaucum* (tree fern, hapuu). Occasionally the snail is found on nonnative plants such as *Psidium guajava* (guava), *Cordyline australis* (New Zealand tea tree), and *Phormium tenax* (New Zealand flax) (Hadfield 1994, p. 2). Historically, *P. semicarinata* was found in wet and mesic *M. polymorpha* forests on Lanai. There are no historical population estimates for this snail, but qualitative accounts of Hawaiian tree snails indicates they were once widespread and abundant, possibly numbering in the tens of thousands between the 1800s and early 1900s (Hadfield 1986, p. 69). In 1993, 105 individuals of *P. semicarinata* were found during surveys conducted in its historical range. Subsequent surveys in 1994, 2000, 2001, and 2005 documented 55, 12, 4, and 29 individuals, respectively, in the lowland wet, montane wet, and wet cliff ecosystems in central Lanai (Hadfield 2005, pp. 3–5; TNC 2007).

*Partulina variabilis* (Lanai tree snail, pupu kani oe), a member of the family Achatinellidae and the endemic Hawaiian subfamily Achatinellinae, is known only from the island of Lanai (Pilsbry and Cooke 1912–1914, p. 86). Adults may attain an age exceeding 15 to 20 years, and reproductive output is low, with an adult snail giving birth to 4 to 6 live young per year (Hadfield and Miller 1989, pp. 10–12). *Partulina variabilis* is arboreal and nocturnal, and grazes on fungi and algae growing on leaf surfaces (Pilsbry and Cooke 1912–1914, p. 103). This snail is found on the following native host plants: *Metrosideros polymorpha*, *Broussaisia arguta*, *Psychotria* spp., *Coprosma* spp., *Melicope* spp., and dead *Cibotium glaucum*. Occasionally *Partulina variabilis* is found on nonnative plants such as *Psidium guajava* and *Cordyline australis* (Hadfield 1994, p. 2). Historically, *Partulina variabilis* was found in wet and mesic *M. polymorpha* forests on Lanai. There are no historical population estimates for this snail, but qualitative accounts of Hawaiian tree snails indicate they were widespread and abundant, possibly numbering in the tens of thousands between the 1800s and early 1900s (Hadfield 1986, p. 69). In 1993, 111 individuals of *P. variabilis* were found during surveys conducted in its historical range. Subsequent surveys in 1994, 2000, 2001, and 2005 documented 175, 14, 6, and 90 individuals, respectively, in the lowland wet, montane wet, and wet cliff

ecosystems in central Lanai (Hadfield 2005, pp. 3–5; TNC 2007).

#### *An Ecosystem-Based Approach To Determining Primary Constituent Elements of Critical Habitat*

Under section 4(a)(3)(A) of the Endangered Species Act of 1973, as amended (16 U.S.C. 1531 *et seq.*), we are required to designate critical habitat to the maximum extent prudent and determinable concurrently with the publication of a final determination that a species is endangered or threatened. In this final rule, we are designating critical habitat for 125 endangered or threatened species (122 plants, 1 tree snail, and 2 forest birds) on the islands of Molokai, Maui, and Kahoolawe. As described in our June 11, 2012, proposed rule (77 FR 34464), we proposed critical habitat for the first time for 50 plant and animal species (37 newly listed and 2 species for which we reaffirmed listed status, as well as 11 previously listed plant and animal species that did not have designated critical habitat (May 28, 2013; 78 FR 32014)), and proposed to revise critical habitat for 85 listed plant species, for a total of 135 species. As noted above, as a result of exclusions under section 4(b)(2) of the Act, no critical habitat is designated for 10 of those species, therefore we are finalizing critical habitat for 125 of those 135 species.

In this final rule, we are designating critical habitat for 125 species in 165 unique critical habitat units. Although critical habitat is identified for each species individually, we have found that the conservation of each depends, at least in part, on the successful functioning of the physical or biological features of their commonly shared ecosystem. Each critical habitat unit identified in this final rule contains the physical or biological features essential to the conservation of those individual species that occupy that particular unit, or areas essential for the conservation of those species identified that do not presently occupy that particular unit. Where the unit is not occupied by a particular species, we conclude it is still essential for the conservation of that species because the designation allows for the expansion of its range and reintroduction of individuals into areas where it occurred historically, and provides area for recovery in the case of stochastic events that otherwise hold the potential to eliminate the species from the one or more locations where it may presently be found. Under current conditions, many of these species are so rare in the wild that they are at high risk of extirpation or even extinction from various stochastic events, such as



hurricanes or landslides. Therefore, building up resilience and redundancy in these species through the establishment of multiple, robust populations is a key component of recovery.

Each of the areas designated represents critical habitat for multiple species, based upon their shared habitat requirements (*i.e.*, physical or biological features) essential for their conservation. This designation of critical habitat also takes into account any species-specific conservation needs. For example, the presence of a seasonally wet area within the coastal ecosystem is essential for the conservation of the plant *Marsilea villosa*, but is not a requirement shared by all of the other species within that same ecosystem; this is an example of a species-specific requirement. However, a broader, functioning ecosystem is also essential to *M. villosa* because it provides the “ecosystem-level” physical or biological features required to support its specific life-history requirements.

In the interest of reducing the length of this document, we have provided detailed background information regarding the islands of Maui Nui, as well as descriptions of the relevant Maui Nui ecosystems that provide habitat for these species, in our supporting document “Supplemental Information for the Designation and Nondesignation of Critical Habitat on Molokai, Lanai, Maui, and Kahoolawe for 135 Species,” available at <http://www.regulations.gov> (see **ADDRESSES**).

#### IV. Summary of Comments and Recommendations

On June 11, 2012, we published a proposed rule to list 38 Maui Nui species (35 plants and 3 tree snails) as endangered and reevaluate the listing of 2 Maui Nui plant species as endangered throughout their ranges, and to designate critical habitat for 135 species (77 FR 34464). The proposed rule opened a 60-day comment period. On August 9, 2012 (77 FR 47587), we extended the comment period for the proposed rule for an additional 30 days, ending on September 10, 2012. We requested that all interested parties submit comments or information concerning the proposed listing and designation of critical habitat for 135 species. We contacted all appropriate State and Federal agencies, county governments, elected officials, scientific organizations, and other interested parties and invited them to comment. In addition, we published a public notice of the proposed rule on June 20, 2012, in the local Honolulu Star Advertiser, Maui Times, and Molokai Dispatch

newspapers, at the beginning of the comment period. We received three requests for public hearings. On January 31, 2013, we published a document (78 FR 6785) reopening the comment period on the June 11, 2012, proposed rule (77 FR 34464), announcing the availability of our draft economic analysis (DEA) on the proposed critical habitat, and requesting comments on both the proposed rule and the DEA. This comment period closed on March 4, 2013. In addition, in that same document (January 31, 2013; 78 FR 6785) we announced a public information meeting and hearing, which we held in Kihei, Maui, on February 21, 2013. On June 10, 2015, we again reopened the comment period on the proposed critical habitat for an additional 15 days (80 FR 32922); this comment period closed on June 25, 2015.

In addition, on February 25, 2013, during a meeting of the Maui County Council’s Policy and Intergovernmental Affairs (PIA) Committee in Wailuku, Maui, the council received public testimony on the Service’s June 11, 2012 (77 FR 34464), proposed rule. Fourteen individuals present at the meeting provided oral testimony, and 4 individuals provided only written testimony, on the proposed designation of critical habitat for 135 species.

During the comment periods, we received a total of 150 unique comment letters on the proposed listing of 38 species, reevaluation of listing for 2 species, and proposed designation of critical habitat. In addition, we received 5,107 copies of an electronic form letter in support of critical habitat designation from a Web site available to a worldwide audience. No additional scientific information was provided in these form letters. We also received a petition entitled “Maui Hunters Oppose Maui Nui Critical Habitat Designation,” signed by 93 individuals. Of the 150 commenters, 11 were State of Hawaii or Maui County elected officials, three were Federal agencies (Pacific West Region of the National Park Service, Haleakala National Park, and Kalaupapa National Historical Park), four were State of Hawaii agencies (Hawaii Department of Health (although they did not provide any comments specific to critical habitat), Hawaii Department of Agriculture, Hawaii Division of Forestry and Wildlife, Hawaii Department of Hawaiian Homelands), three were affiliated with Maui County (Maui County Police Department, Maui County Planning Department, and Maui County Council Committee on Policy and Intergovernmental Affairs), and 129 were nongovernmental organizations or

individuals; and, counted separately, the 5,107 electronic form letters (as described above). During the February 21, 2013, public hearing, 25 individuals or organizations made comments on the proposed designation of critical habitat for 135 species and the DEA. Due to the nature of the proposed rule, we received combined comments from the public and peer reviewers on both the listing action and the critical habitat designation. Comments relevant to the proposed listing of the 38 species and reevaluation of 2 species were addressed in the final listing rule published May 28, 2013 (78 FR 32014). In this final rule, we address only those comments relevant to the designation of critical habitat.

All substantive information provided during the comment periods related to the critical habitat designation has either been incorporated directly into this final rule as appropriate or is addressed below. Comments we received are grouped into comments specifically relating to the proposed critical habitat designation, the Lanai Memorandum of Understanding (MOU), or the DEA. For readers’ convenience, we have combined similar comments into single comments and responses.

#### Peer Review

In accordance with our peer review policy published in the **Federal Register** on July 1, 1994 (59 FR 34270), we solicited expert opinions from 10 knowledgeable individuals with scientific expertise on the Maui Nui plants, snails, and forest birds and their habitats, including familiarity with the species, the geographic region in which these species occur, and conservation biology principles. We received responses from four of these individuals. Of these four peer reviewers, three provided comments on the proposed critical habitat designation (the other reviewer commented only on the proposed listings). These peer reviewers generally supported our methodology and conclusions. We reviewed all comments we received from the peer reviewers for substantive issues and new information regarding the proposed designation of critical habitat for 135 species. Peer reviewer comments are addressed in the following summary and incorporated into the final rule as appropriate.

#### General Peer Review Comments

(1) *Comment:* One peer reviewer noted the absence of a literature cited section for the proposed rule.

*Our Response:* Although not included with the proposed rule itself, information on how to obtain a list of

our supporting documentation used was provided in the proposed rule under the sections Public Comments and References Cited (77 FR 34464; June 11, 2012). In addition, the lists of references cited in the proposed rule (77 FR 34464; June 11, 2012) and in this final rule are available on the Internet at <http://www.regulations.gov> at Docket Nos. FWS-R1-ES-2011-0098 and FWS-R1-ES-2015-0071, respectively, in the "Supporting Documents" section, and upon request from the Pacific Islands Fish and Wildlife Office (see **FOR FURTHER INFORMATION CONTACT**).

(2) *Comment*: One peer reviewer provided additional information regarding the biogeographical differences between east and west Maui.

*Our Response*: We have included this information in this final rule and corrected statements about the range of annual rainfall on east Maui (Giambelluca *et al.* 2011—online Rainfall Atlas of Hawaii), the diversity of vegetation in the mesic and wet ecosystems of east Maui relative to west Maui (Price 2004, p. 493), and the geologic age of the youngest lava flows found within the Cape Kinau region of east Maui (Sherrod *et al.* 2006, p. 40) (see *The Islands of Maui Nui* in our supporting document "Supplemental Information for the Designation and Nondesignation of Critical Habitat on Molokai, Lanai, Maui, and Kahoolawe for 135 Species," available at <http://www.regulations.gov> (see **ADDRESSES**)).

Peer Reviewer Comments on Critical Habitat for Plants

(3) *Comment*: One peer reviewer pointed out that, based on personal observations and information from Wagner *et al.* (2005, pp. 3 and 135), *Schiedea lydgatei*, a listed endangered plant for which we proposed revised critical habitat in the lowland mesic ecosystem on Molokai, occurs in lowland dry shrublands. In addition, this same reviewer noted that the endangered *Schiedea sarmentosa*, for which we proposed revised critical habitat in lowland mesic ecosystem on Molokai, occurs in lowland dry forest and shrubland on steep slopes and cliffs.

*Our Response*: We believe that both *Schiedea lydgatei* and *S. sarmentosa* are appropriately characterized as occupants of the lowland mesic ecosystem. According to the Hawaii State geodatabase dataset for annual rainfall in Hawaii (Giambelluca *et al.* 1986, digitized in ArcMap), *Schiedea lydgatei* and *S. sarmentosa* occur within the area defined as mesic, with rainfall between 50 to 75 inches (in) (127 to 190 centimeters (cm)) per year. In addition,

this area is within mesic habitat defined by The Nature Conservancy's GIS database for "An Ecoregional Assessment of Biodiversity Conservation for the Hawaiian High Islands" (<http://www.hawaiiecoregionplan.info/>). Portions of this area are affected by erosion resulting from browsing and trampling by feral ungulates and may be locally drier from lack of ground cover and exposure to wind, making it appear that this area should be characterized as "lowland dry." However, for the reasons cited above, we believe it is characterized correctly within the mesic ecosystem.

(4) *Comment*: One peer reviewer suggested that it may be appropriate to exclude certain State lands pursuant to the criteria under section 4(b)(2) of the Act from designated critical habitat for plants. These State lands include State Natural Area Reserves (NARs) that are fenced, ungulate-free, and staffed, and that are Priority I watershed areas according to the State's 'Rain Follows the Forest' plan (Hawaii Department of Land and Natural Resources (HDLNR) 2011, entire), or State lands covered by the HDLNR and Watershed Partnerships' Watershed Protection and Restoration Plan and that have permanent management teams of watershed partnership staff. The reviewer identified the following specific areas to consider excluding from critical habitat: Fenced, ungulate-free NARs of the west Maui mountains, ungulate-free portions of Hanawi NAR, and Puu Alii and Olokui NARs on Molokai.

*Our Response*: We commend the State of Hawaii for its dedication of staff and resources toward protection and management of species and their habitats through the 'Rain Follows the Forest' plan, management plans for individual State NARs, and watershed partnerships programs throughout the State. These initiatives, plans, and programs serve to focus conservation efforts and educate the public on the importance of these areas. The DLNR-DOFAW expressed support for the management goals of the critical habitat designation for west Maui, but were concerned that designation of critical habitat on lands actively managed for watershed and species protection on west Maui could have undesirable impacts on those private landowners who are conservation partners and members of the West Maui Mountains Watershed Partnership. We have taken those conservation efforts by these partners under consideration, and as a result of this evaluation, we have excluded all such private landowners

from the designation of critical habitat in this final rule, based on the demonstrated beneficial conservation efforts of those landowners (see *Exclusions Based on Other Relevant Factors*).

We support and value the conservation efforts by the State and recognize the necessity of actions taken on State lands for conservation of species and their habitats. We also agree that, if fenced, and maintained as ungulate-free, these areas on State lands would provide benefits to the species and their habitats. However, we note that the West Maui NAR-Kahakuloa section is within a public hunting area (pigs, goats, and birds) with daily bag limits, Hanawi NAR is within a public hunting area (goats and pigs) with daily bag limits, and Puu Alii NAR and Olokui NAR on Molokai are also within public hunting areas (goats and pigs) with daily bag limits, implying these areas are not yet entirely ungulate-free. Therefore, any beneficial management actions to address the threats from nonnative species in the NARs (*e.g.*, fencing, weed control) may be negated by the presence of ungulates. In addition, we considered the State's comments that "the Department [of Land and Natural Resources] does not have concerns or objections to the designation of CH [critical habitat] as proposed for Department lands within the West Maui mountains," nor did the State express concerns or object to critical habitat designation with regard to any of the NARs suggested by the peer reviewer. Although the State did not specifically request exclusion of any State lands under section 4(b)(2) of the Act, they did request that some areas be removed from the designation based on a conflict between the State's intended use of those areas (*e.g.*, recreational hunting) and critical habitat, or suggested that some of these areas were not necessary for the recovery of the species, and that recovery could be achieved elsewhere. We concluded that the suggested areas meet the definition of critical habitat. Further, the State offered no explanation as to why the benefit of exclusion of any State lands may outweigh the benefit of inclusion in critical habitat. Consequently, the Secretary has chosen not to exercise her discretionary authority to exclude any State lands from this final designation of critical habitat for the Maui Nui species.

Peer Reviewer Comments on Critical Habitat for Akohekohe and Kiwikiu

(5) *Comment*: Two peer reviewers stated that we did not adequately discuss the basis for proposing extensive areas of unoccupied habitat



for the two honeycreepers on west Maui and on Molokai. It was suggested that we include additional discussion on the significance of risk to isolated populations and their susceptibility to stochastic events. Additionally it was recommended that we elaborate upon the need for establishing secondary populations of the honeycreepers and to explain the feasibility of captive breeding to support these planned introduced populations.

*Our Response:* We appreciate the peer reviewers' comments. In this final rule we have included additional information to explain the need to designate unoccupied habitat for the two honeycreepers on west Maui and on Molokai (see "Recovery Strategy for Two Forest Birds," below). These forest birds now occur in low numbers and have experienced significant range restrictions. They face threats from natural processes such as inbreeding depression and natural and manmade stochastic events such as hurricanes, wildfires, and changes in habitat vegetation such as periodic dieback events (Revised Recovery Plan for Hawaiian Forest Birds (Recovery Plan), Service 2006, pp. ix–x). For both of these birds, long-term recovery cannot be achieved based solely upon the protection of existing populations. Population growth and expansion is essential to the conservation of these species, which will require sufficient areas of suitable unoccupied habitat within their historical range. In proposing areas of unoccupied habitat, we used the recovery areas identified for the akohekohe and kiwikiu in the Recovery Plan, the known locations of the species, The Nature Conservancy's Ecoregional Assessment of the Hawaiian High Islands (2006) and ecosystem maps (TNC 2007), published and unpublished reports, and GIS layers (see Methods, below). According to the Recovery Plan, the recovery areas are areas that will allow for the long-term survival and recovery of these two Hawaiian forest birds.

In this final rule we have also outlined the recovery criteria, as identified in the Recovery Plan, to ensure the conservation of the akohekohe and kiwikiu within their existing occupied habitat and those unoccupied habitats identified as essential for their conservation (see "Recovery Strategy for Two Forest Birds," below).

(6) *Comment:* One peer reviewer prioritized proposed critical habitat in order of importance to the akohekohe and kiwikiu. The reviewer suggested the following: First priority critical habitat units should include units with

populations of one or both of the honeycreepers and units adjacent to these areas within the same ecosystem designations; second priority critical habitat units should include adjacent habitat areas with the potential of linking isolated populations and/or providing contiguous habitat around Haleakala; third priority critical habitat units should include mesic *Acacia koa* (koa) woodlands above the current distribution of the two birds. Regarding these third priority areas, the reviewer emphasized that they are essential habitat because koa woodlands may represent a more optimal foraging habitat for the honeycreepers, and higher elevation habitat may provide a cooler refuge from encroaching disease (avian malaria, transmitted by mosquitoes) as local mean temperatures continue to rise. The reviewer went on to suggest that even heavily grazed and logged areas in the mesic koa woodlands should not be exempt from critical habitat, as areas with active or planned koa reforestation projects may have the greatest potential for sustaining higher densities of honeycreepers through their capacity to support the birds' arthropod prey.

*Our Response:* We appreciate the thorough consideration given by this peer reviewer to our proposed critical habitat for the akohekohe and kiwikiu. However, under the Act and our regulations at 50 CFR 424.12, critical habitat areas are not prioritized or ranked in any way at the time they are designated. However, the information provided by the peer reviewer may be germane to the prioritization of recovery actions for the akohekohe and kiwikiu, therefore we have provided it to the Hawaiian Forest Bird Recovery Team so that it may be incorporated into future planning efforts, as appropriate, possibly including revision of the 2006 Recovery Plan. As explained above, we used the recovery areas identified for the akohekohe and kiwikiu in the Recovery Plan, and other information (see also Methods, below) to identify critical habitat boundaries. According to the Recovery Plan, the recovery areas are areas that will provide for the long-term survival and recovery of these two Hawaiian forest birds. Recovery areas encompass existing endangered forest bird populations, as well as habitat areas from which these species have disappeared in the recent past, but which still provide or could provide the conditions and resources essential to support populations of endangered forest bird species. The recovery plan recognizes that to ensure the potential for population increase, additional

unoccupied but potentially suitable habitat will require restoration. These areas include koa forest and grazed areas that have potential for reforestation upslope from current populations, as suggested by the peer reviewer (see, for example, Service 2006, pp. 2–84–2–85, regarding habitat restoration needs for the kiwikiu, with particular attention to koa forests). In addition, the recovery area identified includes high-elevation forest habitat (up to the maximum elevation available on west Maui, excluding only the highest slopes of Haleakala on east Maui above treeline), thereby capturing as much potentially disease- and vector-free habitat as possible. We incorporated these areas as they are described in the Revised Recovery Plan for Hawaiian Forest Birds (Service 2006, pp. 2–80) into the forest bird critical habitat designation; we believe the areas we have designated are in agreement with the conservation principles suggested for the akohekohe and kiwikiu by the peer reviewer.

(7) *Comment:* One peer reviewer stated that actively managing for annual disease mortality may be essential for population expansion of the honeycreepers within the mesic and wet lowland areas proposed for critical habitat in order to ultimately restore the birds to their original altitudinal distribution.

*Our Response:* We agree that active management for disease mortality is likely essential for expansion of the honeycreeper into lowland mesic and wet areas where they no longer occur. In this final rule, we have provided additional background information on disease management within the lowland units proposed as critical habitat for the two honeycreepers (see "Disease and Disease Vectors" in the section *Special Management Considerations or Protections*, below). In addition, the importance of mosquito control due to the threat to Hawaiian forest birds, including the akohekohe and kiwikiu, from mosquito-borne diseases at lower elevations is discussed in the Recovery Plan (Service 2006, pp. 2–85, 2–143, and pp. 4–62–4–82), Ahumada *et al.* in Pratt *et al.* (2010, pp. 331–355), and LaPointe *et al.* in Pratt *et al.* (2010, pp. 405–424).

(8) *Comment:* One peer reviewer noted that our proposed designation of critical habitat for the honeycreepers within unoccupied lowland to montane mesic forest habitat on west Maui and Molokai would help to restore these species to their historic and prehistoric ranges and, more importantly, would provide habitat for secondary populations to insure against the

impacts resulting from disease or stochastic events including hurricanes or fires. However, the reviewer suggested that despite the benefit of being more distant from the current honeycreeper populations on east Maui, proposed units on Molokai were more likely to require management for avian malaria due to the lower elevation compared to proposed units on west Maui. The reviewer suggested that proposed higher elevation units on west Maui would be more suitable for translocations of the honeycreepers.

*Our Response:* In the proposed rule, we proposed critical habitat in unoccupied areas on east and west Maui and Molokai to support the recovery strategy of expanding the range of the two species of honeycreepers beyond the currently limited habitat surrounding the summit of east Maui (Service 2006, pp. 2–83, 2–143). According to the Recovery Plan, reestablishment of the akohekohe and kiwikiu on west Maui or Molokai is an important component of the recovery strategies for these two species in order to reduce the threat from catastrophic events such as hurricanes and epizootics of disease (in this case, epizootics refers to contributing factors of a disease that is temporarily prevalent in an animal population). We agree that critical habitat units on Molokai are more likely to require management for avian malaria due to their lower elevation compared to critical habitat units on west Maui. Selection of sites for translocation of these species will be determined by the Hawaiian Forest Bird Recovery Team.

(9) *Comment:* One peer reviewer emphasized that the successful conservation of the two honeycreepers within designated lands will require control of feral pigs in order to provide the healthy and diverse understory necessary as foraging substrate and alternative nectar and arthropod food resources for the two birds. Additionally, the reviewer stated that feral pig control will also reduce the available larval mosquito habitat and, dependent on the surface hydrology, may go a long way toward eliminating disease transmission in the designated units. Lastly, the reviewer asserted that both cattle ranching and the management of feral pigs as game animals within State and privately owned designated lands would continue to increase the detrimental impacts to the honeycreepers' habitat.

*Our Response:* We agree that a healthy and diverse understory is necessary for the successful conservation of native forest birds on the Maui Nui islands. The Recovery Plan provides details

regarding the recovery strategies for the akohekohe and kiwikiu. These strategies include the protection, restoration, and management of native high-elevation forests on east Maui, research to understand threats from disease and predation, and captive propagation to produce birds and translocation of birds for reestablishment of wild populations on west Maui or Molokai (Service 2006, p. 2–83 and p. 2–143). Habitat management and restoration will include fencing and removal of feral ungulates (in particular feral pigs) that degrade and destroy native forest bird habitat. In addition, fencing and removal of feral ungulates may contribute to the control of avian disease in these two birds by reducing or eliminating larval mosquito habitat in wet forests created by the feeding and wallowing habits of feral pigs (LaPointe *et al.* in Pratt *et al.* 2010, pp. 405–424).

Game mammal hunting is a recreational and cultural activity in Hawaii that is regulated by the HDLNR on State and private lands (HDLNR 2002, entire). Critical habitat does not give the Federal government authority to control or otherwise manage feral animals on non-Federal land. These land management options continue to be landowner decisions and, absent Federal involvement, are not affected by the designation of critical habitat. It is well-known that game mammals affect listed plant and animal species in Hawaii. We believe it is important to develop and implement management programs that provide for the recovery of listed species, but also acknowledge the importance of continued ungulate hunting in game management areas. We welcome opportunities to work closely with the State and other partners to ensure that game management programs are implemented in a manner consistent with both of these needs.

(10) *Comment:* One peer reviewer suggested the final rule be shortened and made more accessible to the general public by including a more simple listing or graphic depiction of the relevant facts including both former and current species' ranges, current population sizes, current densities, territory sizes, minimal viable population sizes, and ranges of limiting factors.

*Our Response:* We appreciate the suggestions offered by this peer reviewer and agree that the status information on the akohekohe and kiwikiu (77 FR 34464, June 11, 2012, pp. 34525–34526) in the proposed rule may not be as accessible to the public as desired, although it is provided in the same format as the status information on the other listed species. The akohekohe

and kiwikiu were listed as endangered species in 1967 (32 FR 4001; March 11, 1967) and at that time critical habitat was not designated for these two species because it was not provided for by the statute at that time. Since 1967, detailed information on ranges, densities, territory sizes, and recovery actions needed for native Hawaiian forest birds, including the akohekohe and kiwikiu, can be found in several published and unpublished documents (*e.g.*, Service 2006 and Pratt *et al.* 2010, entire) and is not repeated in this final rule. The Revised Recovery Plan for Hawaiian Forest Birds, for example, contains an excellent short description of each species and their status (Service 2006; kiwikiu, pp. 2–77–2–85, akohekohe, pp. 2–138–2–143). In this final rule we are not reevaluating the listing as endangered of these two forest birds, we are only designating critical habitat for them.

(11) *Comment:* One peer reviewer suggested that recovery areas identified in the 2006 Recovery Plan be renamed and addressed in our rule as “Maui Nui critical habitat areas and needed recovery actions for critical habitat parcels.” Additionally, the reviewer recommended that the recovery actions listed in the Recovery Plan are appropriate actions to promote, fund, and implement in designated critical habitat for the Hawaiian honeycreepers.

*Our Response:* In our description of the information we used to identify the areas that contain the physical or biological features essential for the conservation of the akohekohe and kiwikiu, we state that we developed this information by considering the “recovery area as determined in the revised Recovery Plan” (see Methods), in addition to other published and unpublished data sources. The areas designated as critical habitat in this final rule are not equivalent to, or the same as, the recovery areas in the Recovery Plan. The Recovery Plan is a planning document, to aid in the conservation and recovery of the species, and has no regulatory authority. Critical habitat, on the other hand, is a term defined and used in the Act, and imposes regulatory authority over Federal activities. Critical habitat is a specific geographic area(s) that contains features essential for the conservation of an endangered or threatened species and that may require special management and protection, and areas outside the geographical area occupied by the species at the time it is listed, upon a determination by the Secretary that such areas are essential for the conservation of the species. Under the Act, Federal agencies are required to

consult with the Fish and Wildlife Service on actions they carry out, fund, or authorize to ensure that their actions will not destroy or adversely modify critical habitat. In this way, a critical habitat designation protects areas that are necessary for the conservation of the species. We agree with the reviewer that the recovery actions listed in the Recovery Plan are appropriate actions to promote, fund, and implement, as appropriate, in designated critical habitat areas.

#### Peer Reviewer Comments on Critical Habitat for Lanai Tree Snails

(12) *Comment:* One peer reviewer provided us with maps created in the early 1900s by renowned ornithologist and botanist, George Munro, showing the distribution of the Lanai tree snails within the Lanaihale Mountains. The peer reviewer recommended that the boundaries of the final critical habitat designation for these species be adjusted accordingly, in conjunction with careful review of the remaining available habitat in the Lanaihale Mountains.

*Our Response:* The Service appreciates this additional information concerning the historical range of the snails. We have examined the maps provided and analyzed the best available information regarding the snails' habitat requirements based upon the physical and biological features essential to their conservation and which may require special management considerations or protection, unoccupied habitat essential to the conservation of the snails, and the current status of habitat within the Lanaihale mountains. For the reasons described below (see *Exclusions Based on Other Relevant Factors*), critical habitat is not designated on the island of Lanai in this final rule, as a consequence of exclusions under section 4(b)(2) of the Act. However, it is important to understand that any exclusion does not reflect a determination that the area in question does not meet the definition of critical habitat or is not important for the conservation of the species; an exclusion only reflects the Secretary's determination that the benefits of excluding that area from critical habitat outweigh the benefits of including it in the designation.

#### Comments From Federal Agencies

We received comments from the National Park Service (Pacific West Region), Haleakala National Park (on Maui), and Kalaupapa National Historical Park (on Molokai). Haleakala National Park provided information on one or more of the plant and forest bird

species addressed in this final rule that occur in the Park, and this information was incorporated, as appropriate, into the final rule listing 38 species on Molokai, Lanai, and Maui as endangered, which published on May 28, 2013 (78 FR 32014), or into this final rule and its supporting documentation.

(13) *Comment:* The National Park Service (NPS) supported the intent concerning exclusions of "developed areas such as buildings, paved areas, and other structures that lack the physical or biological features essential for the conservation of the species." However, the NPS suggested that all such areas within Haleakala National Park be excluded from critical habitat designation and that the exclusion include a buffer area.

*Our Response:* In our proposed rule published on June 11, 2012 (77 FR 34464), and in this final rule, we state that existing manmade features and structures such as buildings, and developed or paved areas, including trails, are not designated as critical habitat. Federal actions involving these areas would not trigger section 7 consultation unless the specific action would also affect adjacent critical habitat or its primary constituent elements. This would include existing manmade features and structures in Haleakala National Park. There are, however, no predefined "buffer areas" that are included in the textual exclusion of existing manmade features and structures. Mapping every structure, building, developed area, paved area, or trail, and the surrounding physical or biological features, may prove confusing and indecipherable to the general public, and in any case, is not a realistic possibility at the scale of mapping provided in the Code of Federal Regulations. Therefore, in this final rule, as with all critical habitat rules, we made every effort to avoid including manmade features and structures that may be contained within critical habitat, but the scale of the maps we prepared under the parameters for publication within the Code of Federal Regulations may not reflect the exclusion of such developed areas. Any such structures and the lands under them that are inside critical habitat boundaries shown on the maps in this final rule are excluded by text in this final rule and are not designated as critical habitat (see below, *Criteria Used to Identify Critical Habitat*).

(14) *Comment:* The NPS urged us to only designate occupied critical habitat for the two forest birds (akohekohe and kiwikiu) and not currently unoccupied areas. According to their letter, including areas for critical habitat

designation where akohekohe and kiwikiu do not currently exist is based on assumptions that: (1) Unoccupied areas will produce all the elements necessary for the survival of the species; (2) unoccupied areas will not contain elements that are detrimental to the species (e.g., invasive, nonnative species and mosquitoes); and (3) reintroduction of the species into unoccupied areas will be successful (e.g., the species will persist in the area). Data from Haleakala National Park show that some invasive plants are difficult, if not impossible, to control after feral ungulates are removed. In addition, there is no effective way to remove mosquitoes from an area.

*Our Response:* We appreciate the NPS' comments but disagree with its rationale for removing all unoccupied areas from critical habitat; we consider all unoccupied areas designated as critical habitat for the two forest birds to be essential to the conservation of the species, because the areas presently occupied by these forest birds are not adequate to ensure their conservation, for the reasons detailed here. Each of these bird species has been reduced to a single population, resulting in significant vulnerability of each species to extinction. The conservation of these species will require a significant increase in numbers of individuals and populations; in addition, there is evidence that these species are presently restricted to suboptimal habitats. The akohekohe is currently found in one population on east Maui within approximately 14,080 ac (58 sq km) at elevations between 5,000 and 6,900 ft (1,500 to 2,100 m). This species has been reduced to an estimated 5 percent of its former historical range on Maui, and has been extirpated from the island of Molokai. The kiwikiu is now found in only one population on Haleakala Volcano on Maui, and is restricted to an area of 12,400 ac (50 sq km) of wet montane forests at high elevation (4,000 to 7,700 ft (1,200 to 2,350 m). This species formerly occupied dry leeward forests and low elevation areas on east Maui as well, and has also been extirpated from Molokai.

The Revised Recovery Plan for Hawaiian Forest Birds recognizes that the long-term recovery strategy for the akohekohe and kiwikiu are similar because they inhabit similar geographic areas and face similar threats (Service 2006, p. 2–141). Historically, kiwikiu favored koa forests for foraging, but such forests have been largely lost to past logging and ranching, such that kiwikiu are now restricted to wet montane forests with low numbers of koa that are likely marginal habitat for the species

(Service 2006, pp. 2–81, 2–84). The specialized foraging behavior of the kiwikiu requires the birds to defend large territories year-round, resulting in relatively low densities of birds (Service 2006, p. 2–78); this additionally translates into relatively large areas of habitat required to support populations of kiwikiu. Likewise the akohekohe was initially observed in koa forests on Maui, but is now absent due to the widespread destruction of these forest types (Service 2006, p. 2–140). Akohekohe also use relatively large areas of habitat, as, being nectarivorous, they migrate altitudinally for foraging in response to the timing of flowering of various trees and shrubs. Akohekohe are now restricted to high elevation forests due to the presence of mosquito-borne diseases at lower elevations, but are additionally restricted at upper elevations in some areas by destruction of forest habitat.

Areas currently unoccupied by the two bird species are essential to their conservation for multiple reasons. Primary amongst these is the high risk of extinction faced by any species that occurs in only a single population; this risk may be from a predictable threat such as disease, or a stochastic threat, such as a hurricane. For both the akohekohe and kiwikiu, the reestablishment of additional populations is needed to reduce this elevated risk of extinction (Service 2006, pp. 2–83, 2–143); this risk could be reduced from the establishment of additional populations on Maui, and possibly by reestablishing the species on Molokai as well. The risk of extinction for these species is such that one of the recovery criteria for listed Hawaiian forest birds is the requirement that the species occurs in two or more viable populations or a viable metapopulation (Service 2006, pp. 2–83–2–84, 2–143, 3–5–3–6). The establishment of additional populations in currently unoccupied areas reduces the likelihood of significant impacts to the species as a whole from risks associated with disease, as well as catastrophes such as hurricanes and fires, and increases the ecological breadth of the species to help buffer against climatic fluctuations. Additional or larger populations will additionally promote natural demographic and evolutionary processes to increase the long-term viability of the species. Unoccupied areas can help facilitate the dispersal of birds, including seasonal movements, which can increase gene flow between isolated populations and increase the viability of established and newer populations. For all of these reasons, we

have concluded that a critical habitat designation limited to the areas presently occupied by the akohekohe and kiwikiu is inadequate to ensure the conservation of the species, and we have therefore designated as critical habitat certain areas outside of the present range of the akohekohe and kiwikiu that we have determined are essential to the conservation of these species.

(15) *Comment:* Kalaupapa National Historical Park (KNHP) agreed with our ecosystem-based approach for grouping plants and defining their habitat consistently. According to KNHP, this approach will aid in the management of endangered and threatened plants as part of the collection of native communities across the landscape. According to their letter, much of the proposed critical habitat falls on areas with intact native plant communities or areas already under protection by decree or due to their remote locations, and added that proposing critical habitat in intact native plant communities or protected conservation areas or areas with difficult access will favor public acceptance of the proposed critical habitat.

*Our Response:* We appreciate KNHP's comments regarding the proposal to designate critical habitat for 135 species on the islands of Maui, Molokai, Lanai, and Kahoolawe. We agree that using an ecosystem-based approach to organize this rule and designate critical habitat will help provide for more focused conservation efforts and concerted management efforts to address the common threats that occur across these ecosystems.

*Comments From State of Hawaii Elected Officials*

(16) *Comment:* Maui Senator Rosalyn Baker commented that the Service did not discuss the proposal or its potential impacts with most of the owners of the affected lands. Senator Baker also stated that many landowners have not been offered the opportunity to work collaboratively with the Service to determine if their lands are currently occupied by the species or if their lands are essential to the species.

*Our Response:* We appreciate the Senator's comments and suggestions to work collaboratively with Maui landowners regarding critical habitat. We also appreciate the Senator's suggestions to increase our outreach efforts to the Maui community, particularly to individual landowners, and we plan to adopt these suggestions as we move forward with conservation in Maui Nui. We used the best available scientific information to determine

habitat essential to the species (see Methods, below), and incorporated new information received since publication of the proposed rule on June 11, 2012 (77 FR 34464), and release of our draft economic analysis (DEA) on January 31, 2013 (78 FR 6785), to further refine the critical habitat boundaries. Our notification process followed Service policies; our regulations at 50 CFR 424.16(c); and the Act, as amended, at section 4(b)(5) in paragraphs (A), (C), (D), and (E). We contacted all appropriate State and Federal agencies, county governments, elected officials, scientific organizations, and other interested parties and invited them to comment. In addition, we published a public notice of the proposed rule on June 20, 2012, in the local Honolulu Star Advertiser, Molokai Dispatch, and Maui News newspapers, at the beginning of the comment period. The proposed rule also directed reviewers to contact the Service for further clarification on any part of the proposed rule, and provided contact information (77 FR 34464; June 11, 2012). During the initial comment period on our proposed rule we became aware that there were errors in the landownership information in the geospatial data sets associated with parcel data from Maui County (2008), which were used to identify affected landowners. We recognize that some landowners whose properties overlapped with the proposed critical habitat did not receive notification letters due to errors in landownership information we received from the State, or missing landowner information in the State's geospatial data sets. However, we subsequently received updated landownership information for the parcel data for the County of Maui (2010). Shortly after publishing our January 31, 2013 (78 FR 6785), document announcing the DEA, reopening the comment period on the DEA and the proposed rule, and announcing the public information meeting and public hearing, we sent letters to all of the affected landowners that we were able to identify. In that letter we provided information on the proposed rule, the DEA, and the public information meeting and hearing held on February 21, 2013, in Kihei, Maui. In addition, we again contacted all appropriate State and Federal agencies, county governments, elected officials, scientific organizations, and other interested parties and invited them to comment. We met with the State Division of Forestry and Wildlife, Department of Hawaiian Home Lands, Hawaii Cattlemen's Council (including a representative of the Hawaii Farm

Bureau Federation), Maui Land and Pineapple Co., Inc., Ulupalakua Ranch, Haleakala Ranch, Alexander and Baldwin (including East Maui Irrigation Co., Inc.), West Maui Mountains Watershed Partnership, Leeward Haleakala Watershed Restoration Partnership, East Maui Watershed Partnership, and Castle and Cooke Resorts. We also provided maps of parcel-specificity to every landowner who contacted us and requested them following publication of the 2012 proposed rule and the 2013 notice. In order to reach as many interested individuals as possible on Maui Nui we believe we used the best approach afforded by our staff levels and resources and fully complied with our statutory and regulatory requirements for public notice.

(17) *Comment:* Senator Baker commented that proposed critical habitat on State, county, and private lands will have a direct and negative impact on Maui County, and is essentially a “taking” without compensation. The Senator added that the designation will also affect property values, trigger rezoning of lands to conservation status, and place the landowner at risk of third-party lawsuits that may prohibit future land use activities.

*Our Response:* We appreciate the Senator’s comments and have addressed the issues she raised below (see our responses to Comments (22), (50), and (59) (regarding rezoning), (55) (regarding “Federal nexus”), (56) (regarding “taking”), and (59) (regarding property values)). Our final economic analysis (FEA) dated September 23, 2015, acknowledges the potential for critical habitat designation to increase the possibility of legal challenges that may affect private entities (IEC 2015, pp. 3–3–3–4, 5–17, 5–20). Due to significant uncertainties regarding the extent to which the designation will increase the probability of legal challenges (over and above the presence of the listed species or other designated critical habitat (*e.g.*, Blackburn’s sphinx moth (*Manduca blackburni*) critical habitat)), the direct costs of legal fees and time spent on lawsuits, and the potential outcome of lawsuits, the DEA (and subsequent FEA) does not estimate a monetary cost from potential third-party lawsuits. The FEA does, however, recognize the possibility of lawsuits as a consequence of the designation, and presents a qualitative assessment of this and other potential indirect effects that are subject to significant uncertainty in Section 5.3.2 (IEC 2015, pp. 5–16–5–23); our final designation of critical habitat takes all of

these potential effects into consideration.

(18) *Comment:* The chair of the Maui County Council (Council), Ms. Gladys Baisa, and the chair of the Council’s Policy and Intergovernmental Affairs Committee, Mr. G. Riki Hokama, commented that the Service failed to consult with individuals in the community, native Hawaiian groups, private landowners, ranchers and farmers, and others who, in their view, may suffer devastating economic and cultural impacts from the designation of critical habitat.

*Our Response:* We thank the chairs for their comments. We discussed with key stakeholders the likelihood of potential indirect impacts of the critical habitat designation, based on the consequences of previous designations on Maui (IEC 2015, p. 5–16). As noted in our response to *Comment* (16), above, there is significant uncertainty surrounding the likelihood, timing, and magnitude of any of these potential indirect impacts, therefore we were unable to monetize such impacts; we do, however, evaluate them qualitatively (IEC 2015, pp. 5–16–5–23), and this final designation of critical habitat reflects our thorough consideration of these indirect impacts. In terms of quantified impacts, our FEA projects a total of approximately \$120,000 in incremental impacts over 20 years from critical habitat designation (IEC 2015, p. 1–7).

(19) *Comment:* The Council’s chair commented that Maui County farmers and ranchers who fund their operations with Federal funds or may seek Federal funding in the future will be (negatively) affected by the proposed critical habitat.

*Our Response:* See our response to *Comment* (59), below.

(20) *Comment:* The Council’s chair suggested that the designation of critical habitat should include all policy-making entities, including the Hawaii State legislature, State and County departments, and the Maui County Council.

*Our Response:* We appreciate the suggestions to work collaboratively with Hawaii State and Maui County policy makers. Section 4(a)(3)(A) of the Act provides the Secretary with the authority to designate critical habitat for endangered or threatened species. The Act defines “Secretary” as the Secretary of the Interior or the Secretary of Commerce. For the species at issue here, it is the Secretary of the Interior who is vested with this authority. However, the Service and the Secretary are committed to working with our conservation partners in State agencies and County and local jurisdictions, and specifically

invite the comments of such agencies on our proposed rulemakings. We give full and careful consideration to such comments in the development of our final rulemakings.

(21) *Comment:* The Council’s chair expressed concerns with the economic analysis and suggested that a more detailed approach that recognizes the differences in the opportunity cost of the land is needed. In addition, she stated that potential price increases due to costs associated with critical habitat rules and regulations could jeopardize Hawaii’s efforts towards food sustainability.

*Our Response:* We appreciate the Council chair’s comments. See also our response to *Comments* (37) and (60), below.

(22) *Comment:* The Council’s chair commented that designation of critical habitat within areas currently zoned for agriculture may cause the State to reclassify them to conservation. Rezoning to conservation will subject the landowner to additional permitting requirements and restrictions on the use of the land.

*Our Response:* The relevant State endangered and threatened species statute contains no reference to designated critical habitat. Also, unlike the automatic conferral of State law protection for all federally listed species, State law does not require initiation of the amendment process for federally designated critical habitat. (Compare HRS section 195D–5.1 with HRS section 195D–4(a)). Although the State of Hawaii has a relatively long history of critical habitat designation, there is no record of such rezoning ever having occurred in response to critical habitat. See also our response to *Comments* (50) and (55), below.

(23) *Comment:* The Maui County Council’s Policy and Intergovernmental Affairs Committee (PIA Committee) commented that native Hawaiian groups had not been consulted regarding proposed critical habitat in Maui County, per section 106 of the National Historic Preservation Act of 1966, which “requires open, good faith consultation with interested parties.”

*Our Response:* The intent of the National Historic Preservation Act of 1966 (NHPA; 16 U.S.C. 470 *et seq.*) is to preserve historical and archaeological sites in the United States. Under the NHPA, Federal undertakings with a potential to cause effects to historic properties must complete the process set out in NHPA’s section 106 and its implementing regulations. However, the designation of critical habitat does not cause effects to historic properties or direct future agency actions that may

affect historic properties. The designation of critical habitat simply requires a Federal agency proposing an activity to consult with us pursuant to section 7(a)(2) of the Act to ensure that the activity does not destroy or adversely modify critical habitat. If the Federal agency activity itself may result in effects to historic properties, it is the responsibility of the Federal agency proposing the activity to ensure that the activity complies with the NHPA. Therefore, we have determined that the designation of critical habitat has no potential to cause effects to historic properties pursuant to 36 CFR 800.3(a)(1) (Initiation of the section 106 process [NHPA]).

(24) *Comment:* The Maui County Council's PIA Committee commented that it is unacceptable that the Maui Nui proposed rule will be finalized without holding public hearings on the islands of Lanai and Molokai, and that many residents are probably unaware of the proposed rule.

*Our Response:* Under the Act at section 4(b)(5)(E) and our regulations at 50 CFR 424.16(c)(3), we are directed to hold at least one public hearing on a proposed rule (*i.e.*, proposed listing and/or critical habitat designation), if requested. We received three requests for public hearings, all from Maui residents. We regret that we were not able to hold public hearings on the islands of Lanai and Molokai due to our limited resources, but in accordance with the requirements of the Act, we held a public hearing on the island of Maui, where the County government and most of the County population are located. See our response to *Comment* (16), above, regarding our notification process to all interested parties, including residents of Lanai and Molokai.

(25) *Comment:* The Maui County Council's PIA Committee commented that many parties who provided public testimony during the Committee's meeting on February 25, 2013, already engage in significant voluntary conservation efforts and that finalizing critical habitat as proposed may result in fewer voluntary actions. The Committee suggested that by working collaboratively with affected parties the Service will encourage ongoing conservation efforts.

*Our Response:* We appreciate the comments and suggestion, and acknowledge and fully support the current and ongoing voluntary conservation actions undertaken by the State watershed partnerships, other State and Federal agencies, nonprofit organizations, and individual landowners. Service staff made

themselves available at the February 25, 2013, meeting of the Maui County Council's PIA Committee, to provide information on the proposed critical habitat, and answered numerous questions on the proposed rule for the members of the committee and others present. We appreciate the concerns of potentially affected parties, and we intend to continue working collaboratively with these partnerships, agencies, organizations, and landowners; we will also seek to include others as we conduct conservation in the Hawaiian Islands.

*Comments from State of Hawaii Agencies*

(26) *Comment:* The Hawaii Department of Land and Natural Resources (DLNR) commented that they support the proposal to designate critical habitat for 135 species on the islands of Maui Nui and that they also support the proposed exclusions. They, and the landowner, asked that the Service reevaluate the exclusion of 8,746 ac of land owned by Haleakala Ranch on east Maui and reflect that amount to be 9,796 ac.

*Our Response:* The original amount of acreage of proposed critical habitat only overlapped 8,746 ac (3,539 ha) of Haleakala Ranch lands. The statement "Designation of critical habitat on the 9,796 ac of Haleakala Ranch Company Lands" was an estimate of the total area under consideration, but not proposed, at the time of the proposed rule. In this rule, we are excluding 8,716 ac (3,527 ha) of proposed critical habitat on Haleakala Ranch lands. The 30-ac difference from the proposed 8,746 ac results from the sale of 30 ac (12 ha) of Haleakala Ranch lands within proposed Maui—Lowland Dry—Unit 2 to another landowner between the time of publication of the proposed and final critical habitat rules.

The Hawaii DLNR's Division of Forestry and Wildlife (DOFAW) provided extensive comments on the proposed rule. Those comments are organized by island and by region, and we address them accordingly, below.

*West Maui*

(27) *Comment:* DOFAW supported the goals of critical habitat designation proposed for west Maui, and stated that they have no concerns or objections to the designation of CH [critical habitat] as proposed for Department lands within the West Maui mountains. They did express concern, however, that the designation may have undesirable impacts on the activities of some of its conservation partners. DOFAW fears that designation of those lands as

critical habitat will not appreciably enhance conservation efforts for listed species but may impose regulatory and administrative burdens on landowners that have, for years, been committed to conservation efforts on their lands. DOFAW urged the Service to evaluate exclusion from critical habitat under section 4(b)(2) of the Act for landowners in this partnership (West Maui Mountains Watershed Partnership), and to meet and discuss the option with interested landowners. DOFAW believes that the benefits of such exclusion outweigh the benefits of specifying the area as critical habitat, but defers to the comments and desires of the private landowners on the matter.

*Our Response:* We appreciate DOFAW's comments and agree that many landowners in the West Maui Mountains Watershed Partnership (WMMWP) are committed to conservation efforts on their lands and are active participants in the WMMWP, which provides or accepts funds and enters into agreements with State or Federal agencies to implement effective conservation actions that benefit listed species and their habitat. Under section 4(b)(2) of the Act, we consider other relevant impacts, in addition to economic impacts and impacts to national security, in identifying areas to exclude from critical habitat. We received several requests for exclusion from parties to the WMMWP, and in each case we carefully considered whether the benefits of exclusion would outweigh the benefits of including the areas in question in critical habitat. In the majority of cases, this consideration resulted in the exclusion of landowners who are active members of the WMMWP and have demonstrated the positive conservation benefits of their participation, and as a consequence, critical habitat is not designated on any private lands within WMMWP boundaries in this final rule (see *Exclusions Based on Other Relevant Factors*, below).

*East Maui*

*Kipahulu Forest Reserve to Koolau Forest Reserve*

(28) *Comment:* DOFAW suggested that the lower boundary of critical habitat in this area follow both current and the State's recently proposed management fence line boundaries in these forest reserves (FRs). According to DOFAW, listed species at lower elevations can be protected and recovered within the RFF ("Rain Follows the Forest" plan) priority watershed areas.

*Our Response:* DOFAW's recommendation would entail removing or excluding lands proposed for designation so that the designation would be co-extensive with RFF priority watershed areas. We agree with and support the goals and intent of the RFF but are concerned about the scope of the RFF goals and the timeline to accomplish these goals. Currently, only 10 percent of the State's priority watershed protection areas are fenced from hooved animals, although we recognize the State's goal is to double the area protected in the next 10 years. The State asserts that the first goals of the RFF are to remove all hooved animals from Priority I and II areas; that fencing 840,000 acres of these areas will be incremental and will depend upon landowner approval; and that "decades of work will be required." Approximately 35 percent of the Priority I areas are on State lands; however, only 4 percent of these lands are currently fenced. In addition, Priority I and II areas do not include lowland dry and mesic ecosystems on Maui, the most critically imperiled ecosystems throughout the State. Under the RFF, beneficial management actions to address the threats from nonnative species to these ecosystems may not be undertaken for decades, and perhaps not at all. In addition, the designation of critical habitat serves to educate the public about the importance of these areas for conservation of the Maui Nui species. For all of these reasons, we consider there to be benefits to the inclusion of these areas in critical habitat for the Maui Nui species, thus we are not aligning the lower boundary of critical habitat with the current and recently proposed management fence line boundaries proposed by the State. Although there are some potential benefits to exclusion in terms of maintaining our partnership with the State, at the present time, because the effectiveness and timing of the described management actions under the RFF plan are unknown and do not address threats on many of the areas we proposed as critical habitat, and because of the great importance of these lowland dry and mesic habitats to the Maui Nui species, we are unable to conclude that the benefits of excluding these areas outweigh the benefits of including them in the final critical habitat designation.

Makawao and Kula Forest Reserves

(29) *Comment:* DOFAW stated that it is seeking to have much of the lands in the Makawao and Kula FRs available for customary practice and recreation, and that they will conduct management for listed species recovery on other State

lands. DOFAW also stated that it will protect any known listed species within the Makawao and Kula FRs by constructing protective fencing around listed species to prevent access by feral ungulates and suggested that these two FRs be removed from critical habitat.

*Our Response:* We have considered DOFAW's request to remove Makawao and Kula FRs from critical habitat. We understand DOFAW's mandate to provide multipurpose public use on some of their lands, including customary practice and recreation. Within the Kula and Makawao FRs, DOFAW plans to provide public recreational use, which may include public hunting opportunities. We support DOFAW's commitment to provide in-situ protection to listed species that currently occur within Makawao and Kula FRs. Protective fencing around listed plant occurrences will protect them from immediate disturbance and predation by feral ungulates. However, while such localized efforts may contribute to the protection of individuals of the species, they will not provide for the expansion and growth of populations that is essential to the conservation of the species. We further note that while the State proposes to conduct management for listed species recovery on other Department lands, no specific plans or details are provided that would lead us to conclude that the benefits of excluding the Makawao and Kula FRs would outweigh the benefits of including these areas in critical habitat.

Portions of three proposed critical habitat units (plant critical habitat units Maui—Montane Mesic—Unit 1 (1,777 ac, 719 ha), Maui—Subalpine—Unit 1 (3,060 ac, 1,238 ha), and Maui—Alpine—Unit 1 (13 ac, 5 ha); and the corresponding forest bird critical habitat units Unit 18—Montane Mesic and Unit 24—Subalpine) overlapped a total of 4,899 ac (1,984 ha) in Kula FR. In this final rule, we are designating the same areas within Kula FR as critical habitat for 29 species (27 plants and 2 forest birds) in these units. Each of these five critical habitat units provides the physical or biological features essential to the conservation of the species and requires special management considerations or protections (e.g., feral ungulate control) (occupied habitat) or habitat that is essential to the conservation and recovery of the species (unoccupied habitat). For example, the Kula FR contains the only known occurrences of the endangered plant *Geranium arboreum* (totaling fewer than 40 individuals). Fencing these individuals will provide immediate direct protection from feral ungulates;

however, fencing these individuals will not provide for recovery of the species. Due to the small numbers of individuals and low population size of this species, suitable habitat and space for expansion or reintroduction are essential to achieving population levels necessary for recovery. The recovery guidelines (i.e., the steps needed to reach recovery and delist a species) for a long-lived perennial plant species such as *G. arboreum* call for 8 to 10 populations of 100 individuals per population, sustained over a minimum of 5 years (Service 1997, pp. 91–93). Therefore, in addition to the habitat containing the currently known individuals, areas of suitable habitat within the historical range of *G. arboreum* (northern and southern Haleakala, and slopes of western Haleakala) are needed for recovery of this species. Due to their small numbers of individuals or low population sizes, suitable habitat and space for expansion or reintroduction are essential to achieving population levels necessary for the recovery of all of these 29 plant and 2 bird species.

In Makawao FR, portions of three proposed critical habitat units (plant critical habitat units Maui—Lowland Wet—Unit 1, Maui—Montane Wet—Unit 1, and Maui—Montane Mesic—Unit 1; and the corresponding forest bird critical habitat Unit 2—Lowland Wet, Unit 10—Montane Wet, and Unit 18—Montane Mesic) overlapped a total of 1,912 ac (774 ha) in Makawao FR. These units are critical habitat for 45 species (43 plants and 2 forest birds). Each of these six critical habitat units provides the physical or biological features essential to the conservation of the 45 species, is within the historical range of these plant and bird species, and requires special management (occupied habitat) or these units provide the primary constituent elements (PCEs) necessary for the reestablishment of wild populations within their historical range and are essential to the conservation of the species (unoccupied habitat). Due to their small numbers of individuals or low population sizes, suitable habitat and space for expansion or reintroduction are essential to achieving population levels necessary for the recovery of the 45 plant and bird species. We revised the unit boundaries for Maui—Lowland Wet—Unit 1 and Maui—Montane Mesic—Unit 1 that overlapped with Makawao FR, which resulted in acreage reductions in these units as follows: Maui—Lowland Wet—Unit 1: reduced by 138 ac (56 ha) and Maui—Montane Mesic—Unit 1: reduced by 470 ac (191 ha), with 282 ac (114 ha) redefined as part of Maui—Montane



Wet—Unit 1. These revisions were based on comments from DOFAW, as well as other interested parties indicating that: (a) Changes in land use had occurred within the proposed critical habitat units that would preclude certain areas from supporting the physical and biological features; or (b) the areas in question were not essential to the conservation of the species.

Although DOFAW requested that we remove all portions of Kula FR and Makawao FR from critical habitat, we did not entirely remove these forest reserves from critical habitat designation in this final rule. The portions of the five plant critical habitat units (Maui—Lowland Wet—Unit 1, Maui—Montane Wet—Unit 1, Maui—Montane Mesic—Unit 1, Maui—Subalpine—Unit 1, and Maui—Alpine—Unit 1) and the corresponding forest bird critical habitat units (Unit 2—Lowland Wet, Unit 10—Montane Wet, Unit 18—Montane Mesic, and Unit 24—Subalpine) that overlap with the Kula and Makawao FRs are located on the west side of Haleakala, and none of this area is within the State's Priority I watershed protection area (RFF). Therefore, beneficial management actions to address the threats from nonnative species to these ecosystems may not be undertaken for decades, and perhaps not at all. As described above, in response to information received from DOFAW and other parties, we removed an area of approximately 608 ac (247 ha) that overlapped with the Makawao FR upon a determination that this area does not meet the definition of critical habitat. All remaining areas, however, do meet the definition of critical habitat for the reasons described in detail above. DOFAW has proposed some management actions in these areas, but it is unclear whether these actions will be implemented, and in any case, the actions proposed are not likely to make a meaningful contribution to the conservation of the species (e.g., fencing off individuals plants to protect them from ungulates, while a potentially useful defensive mechanism, does not actively promote the recovery of the species). Based on these considerations, we could not conclude that the benefit of excluding these areas outweigh the benefit of including them in the final designation.

Kaupo to Kahikinui and Na Kula Natural Area Reserve

(30) *Comment:* According to its letter, DOFAW is working with the Leeward Haleakala Watershed Restoration Partnership (LHWRP) to restore and protect mauka (mountain) lands from

Kaupo to the western boundary of the Department of Hawaiian Home Lands (DHHL) lands of Kahikinui moku (section of land), and recognizes the need to protect coastal lands from Nu'u Makai to Keonioio. DOFAW suggested that the critical habitat boundary from Kaupo to Kahikinui follow the LHWRP fenceline. DOFAW stated that the areas proposed at mid-elevation are larger than needed for recovery of certain species. In addition, DOFAW is concerned that the designation may have undesirable impacts on the activities of some of its conservation partners and will not appreciably enhance conservation efforts for listed species but may impose regulatory and administrative burdens on landowners. DOFAW urged the Service to evaluate a section 4(b)(2) exclusion from critical habitat for the private landowners in the LHWRP, and believes that the benefits of exclusion outweigh the benefits of specifying the area as critical habitat, but defers to the comments and desires of the private landowners.

*Our Response:* We appreciate DOFAW's comments and support the goals and intent of the LHWRP and believe that management actions such as those conducted by LHWRP provide some conservation benefits to listed species and their habitat. We did not realign the critical habitat boundary to follow the LHWRP fenceline as the fence traverses two different habitat types for multiple species, and removing areas in elevations above the fenceline would fragment adjoining habitat in subalpine and dry cliff habitats. In addition, for the reasons described in this document, we have determined that all areas identified here as critical habitat are essential for the conservation of the species. However, for the reasons described below (see *Exclusions Based on Other Relevant Factors*, below), critical habitat is not designated on private lands in the LHWRP in this final rule, where landowners provided us with information demonstrating their participation in conservation efforts that benefit the species. Approximately 7 mi (11 km) of fenceline from Kaupo to Kahikinui is above 7,000 ft (2,134 m) elevation, and is on private lands or is within Haleakala National Park boundaries. The forest bird recovery area (Service 2006, map data) and critical habitat for the two forest birds is below this elevation in the fenceline area for about half of the fence distance. See also our responses to *Comments* (66) and (67), below.

In addition, we revised the unit boundary we proposed for Maui—Lowland Dry—Unit 1, and this revision

resulted in a reduction in Maui—Lowland Dry—Unit 1 by 1,607 ac (650 ha). This revision was based on comments from DOFAW, as well as other interested parties and recent site visits indicating that: (1) Changes in land use had occurred within the proposed critical habitat unit that would preclude certain areas from supporting the physical and biological features; or (2) the area in question was not essential to the conservation of the species. Based upon this information we concluded that the areas in question do not meet the definition of critical habitat, therefore they were removed from the final designation.

Honuaula and Kanaio

(31) *Comment:* DOFAW did not object to the designation of critical habitat for most of the areas proposed within the moku (section of land) of Honuaula and the ahupuaa (tract of land from summit to ocean) of Kanaio. However, included in the proposed critical habitat within Kanaio is an area that is proposed for use for recreational hunting. DOFAW asked that this area be removed from critical habitat, and suggested that the species can be recovered in protected areas nearby, such as the Kanaio NAR and private lands held by partners committed to protection of those resources.

*Our Response:* We appreciate DOFAW's comments regarding Honuaula and Kanaio. We understand DOFAW's mandate to provide multipurpose public use on some of their lands, including public recreational use such as public hunting opportunities within the ahupuaa of Kanaio. However, at this time we have not removed Kanaio NAR or the area west of the NAR from critical habitat unit Maui—Lowland Dry—Unit 1; this area is essential for 19 endangered plant species due to the small numbers and low population sizes of these 19 species, as the area provides suitable habitat and space for expansion or reintroduction, which are essential to achieving population levels necessary for recovery of these species. As we have determined that this area is essential for the conservation of these species, and the area in question is planned for recreational hunting (therefore ungulates would be present), we could find no benefit to exclusion of this area that would outweigh the benefit of including it in critical habitat, therefore it was not excluded from the final designation. We did, however, re-evaluate and remove an area from critical habitat designation on State lands surrounding Puu Pimoe (146 ac (59 ha)) after site visits determined that



changes in land use had occurred within the area that would preclude it from supporting the physical and biological features (see *Comment* (30), above). As the area in question therefore does not meet the definition of critical habitat, it was removed from the final designation.

In addition, although DOFAW suggests that these species can be recovered in nearby protected areas such as Kanaio NAR and private lands, the southern portion of the NAR and private lands are not yet protected from feral ungulates, a major threat to listed species in this area. Kanaio NAR extends from 1,000 to 3,000 ft (305 to 900 m) elevation, an area that is not suitable for recovery of coastal or lowland dry species, or species that occur at higher elevations. Conservation management actions such as ungulate eradication from these areas have not yet been funded or implemented. Based on our consideration of all of these factors, we could not conclude that the benefits of excluding this area outweigh the benefits of including it in the final designation of critical habitat.

#### Lanai

(32) *Comment*: DOFAW did not object to the designation of critical habitat for most of the areas proposed for Lanai but was concerned that the proposed critical habitat would establish boundaries on the landscape that would be difficult to identify in the field. In particular, DOFAW was concerned that unfenced critical habitat may be inadvertently accessed from the public hunting areas, and requested that we remove two areas from proposed critical habitat: (1) The area near Honopu Road, because it believes no listed species occur there and other areas can provide recovery habitat; and (2) the apparent “buffer” that extends around the lands of Kanepuu Preserve.

*Our Response*: We appreciate DOFAW's request. For the reasons described below (see *Exclusions Based on Other Relevant Factors*, below), critical habitat is not designated on the island of Lanai in this final rule, as a consequence of exclusions under section 4(b)(2) of the Act.

#### Molokai

(33) *Comment*: DOFAW suggested that certain lands be removed from the western section of proposed critical habitat as they are not needed for recovery and the affected species can be better managed and recovered elsewhere on Molokai, including Kahanui, Kapuna, and Pukaawa sections of the Molokai FR. DOFAW clarified that the western section of proposed critical

habitat referred to the western portion of critical habitat Molokai—Lowland Mesic—Unit 1, during a meeting with Service staff on August 14, 2012.

*Our Response*: We have considered DOFAW's request to remove the western section of Molokai—Lowland Mesic—Unit 1 from critical habitat. Maps provided by DOFAW for their “Priority Watershed Areas” of Molokai indicate the westernmost section of Molokai—Lowland Mesic—Unit 1 is within the State's “Priority II” area, and, therefore, is of lower priority to DOFAW in terms of future on-the-ground management and protection, although these conservation management actions have not yet been funded or implemented. Our analysis indicates that DOFAW is requesting we remove approximately 3,224 ac (1,305 ha) or approximately one-third of critical habitat in the lowland mesic ecosystem on Molokai. This unit is critical habitat for 37 plant species and the two forest birds; 17 of the plant species currently occur in this unit (see below, *Descriptions of Critical Habitat Units*). This unit provides the physical or biological features essential to the conservation of the species and requires special management considerations or protections (e.g., nonnative species control) (occupied habitat) or habitat that is essential to the conservation and recovery of the species (unoccupied habitat). For example, the only known occurrence, totaling 10 individuals, of the endangered plant *Cyanea dunbariae* (a Molokai endemic) and 5 of the 11 occurrences, totaling approximately 150 of the 200 known individuals, of the endangered *C. mannii* (a Molokai endemic), are on State lands within Molokai—Lowland Mesic—Unit 1. Due to the small numbers of individuals and low population sizes of these species, suitable habitat and space for expansion or reintroduction are essential to achieving population levels necessary for recovery. The recovery guidelines for short-lived perennial plant species such as *Cyanea dunbariae* and *C. mannii* are 8 to 10 populations of 300 individuals per population, sustained over a minimum of 5 years (Service 1996, p. iv). Therefore, areas of suitable habitat within the historical ranges of *C. dunbariae* and *C. mannii* (including lowland wet, montane mesic, and montane wet ecosystems), in addition to the lowland mesic ecosystem containing the currently known individuals, are needed for recovery of these two species. For *C. dunbariae*, this area is only found in the lowland mesic ecosystem (Molokai—Lowland Mesic—Unit 1), the only known location of this

species, and the lowland wet and montane mesic ecosystems, within its historical range but where the species no longer occurs. For *C. mannii*, areas of suitable habitat within its historical range are only found in the lowland mesic ecosystem (Molokai—Lowland Mesic—Unit 1), and montane wet and montane mesic ecosystems, where only 11 occurrences and 200 total individuals of this species are found. Molokai—Lowland Mesic—Unit 1 is the only unit within its lowland habitat determined to be essential for its recovery and in need of special management or protections. Therefore, we disagree with DOFAW's statement that the western section of Molokai—Lowland Mesic—Unit 1 is not needed for recovery. Molokai—Lowland Mesic—Unit 1 is essential for the conservation of *C. dunbariae* and *C. mannii* and the other 35 endangered plant species and the two endangered forest birds due to the small numbers and low population sizes of these 39 species because this unit provides suitable habitat and space for expansion or reintroduction, which are essential to achieving population levels necessary for recovery of these species. Therefore, the western section of Molokai—Lowland Mesic—Unit 1 is included in this final critical habitat designation.

(34) *Comment*: The Department of Hawaiian Home Lands (DHHL) requested that all of its lands within proposed critical habitat be excluded from final designation. The DHHL supported the Service's new approach of multi- versus single-species protection, and sees economic benefits to taking a comprehensive planning and management approach. However, the DHHL feels that its current land use and management practices are sufficient to protect the species and their habitat. The DHHL also recommended that the Service consult with the Hawaiian Homes Commission, the Department of Hawaiian Home Lands, the Office of Native Hawaiian Relations, and their beneficiaries to include native intelligence and knowledge of species, habitat, and place-based management and protection prior to designation of critical habitat. The DHHL stated that they rely on Federal funding, and section 7 consultations could lead to direct negative economic impacts to them.

*Our Response*: We support the DHHL's ongoing management on Maui at Auwahi for seabird protection, Kahikihui for koa (*Acacia koa*) forest ecosystem protection, Puu o Kali for wiliwili (*Erythrina sandwicensis*) dryland forest protection, and, on Molokai at Moomomi Park for shoreline

and associated resource protection and Kapaakea Mauka for community pasture lands and stewardship, including the development of fire breaks.

Prior to publishing our proposed rule (77 FR 34464; June 11, 2012), we met with representatives of the DHHL on July 22, 2011, and August 30, 2011. At those meetings we provided information regarding our compilation of available information on species and habitat areas on Maui, and requested updated information from the DHHL. The DHHL provided information on its currently developed lands and their lands slated for future homesteads and other development. The DHHL did not express concern regarding critical habitat on lands on which they are conducting conservation actions, such as at Puu o Kali, on Maui. At the time we published our proposed rule (77 FR 34464; June 11, 2012), we notified elected officials, the Maui County Planning Department, and several Hawaiian organizations including Kamehameha Schools, the Office of Hawaiian Affairs (offices for Honolulu, Maui, Molokai, and Lanai), the DHHL, the State Historic Preservation Division, the Kahoolawe Island Reserve Commission, and Kahea-The Hawaiian-Environmental Alliance. Following publication of our proposed rule, we again met with DHHL representatives (October 11, 2012). At that meeting, DHHL staff stated that they need to be able to use their lands to “their fullest ability” and that they may develop wind and geothermal energy projects on the islands of Maui and Molokai in the future. The DHHL provided information on future development and current grazing leases on its lands in proposed critical habitat. In addition, the DHHL expressed interest in developing conservation partnership projects with the Service in the future.

Based on information provided by the DHHL in its March 1, 2013, and June 23, 2015, letters, and at the October 11, 2012, meeting, we reviewed and incorporated new information, and made changes to 4 of the 9 critical habitat units on Maui and all 4 critical habitat units on Molokai that overlapped DHHL’s lands. These revisions were based on comments indicating that: (a) Changes in land use had occurred within the proposed critical habitat units that would preclude certain unoccupied areas from supporting the primary constituent elements; and (b) the areas in question were not essential to the conservation of the species. Following our review of the information provided, we removed those unoccupied areas that we determined did not meet the definition

of critical habitat. For the remaining areas, while we appreciate any management efforts implemented by DHHL, the fact that management is already taking place does not mean that the area in question does not meet the definition of critical habitat. The Courts have been clear that the statutory standard does not specify that “additional” special management considerations or protections may be required, and the very fact that areas are being actively managed or protected serves as evidence that special management considerations or protections may be required, in accordance with the statutory definition of critical habitat.

Although the DHHL stated that section 7 consultation (due to a nexus created by Federal funding provided to the DHHL) on designated critical habitat on its lands could lead to direct negative economic impacts, they did not indicate how, specifically, they foresee a consultation resulting in such impacts. Our FEA specifically considered the potential effects of critical habitat designation on DHHL lands (IEC 2015, p. 3–6). In communications with DHHL, it was established that most lands proposed as critical habitat are within DHHL’s own conservation land use district, so existing management is consistent with the needs of critical habitat. For the proposed critical habitat that overlaps with DHHL’s special use district, which may potentially be subject to future energy development, there were no specific plans for any projects, and DHHL stated that they are trying to avoid any development in critical habitat (IEC 2015, p. 3–6). We therefore do not have information to suggest any likely direct negative economic impacts of the designation on DHHL.

(35) *Comment:* The DHHL requested that the Secretaries (of the Department of Interior and the Department of Commerce) consider the effects of designation of critical habitat on Hawaiian Home Lands in a manner similar to the effects it has on tribal lands, including the impact on tribal sovereignty. DHHL states that the United States maintained authority over consents to the Hawaiian Homes Commission Act (HHCA) amendments and exchanges involving Hawaiian home lands. It further states that the United States has the responsibility to ensure that the State of Hawaii is carrying out its trust duties under the HHCA and may sue for breach of trust.

*Our Response:* In accordance with the President’s memorandum of April 29, 1994 (Government-to-Government Relations With Native American Tribal

Governments; 59 FR 22951), Executive Order 13175 (Consultation and Coordination With Indian Tribal Governments), and the Department of the Interior’s manual at 512 DM 2, we readily acknowledge our responsibility to communicate meaningfully with recognized Federal Tribes on a government-to-government basis. In accordance with Secretarial Order 3206 of June 5, 1997 (American Indian Tribal Rights, Federal-Tribal Trust Responsibilities, and the Endangered Species Act), we readily acknowledge our responsibilities to work directly with tribes in developing programs for healthy ecosystems, to incorporate native intelligence and knowledge of species, habitat, and place-based management and protection, to acknowledge that tribal lands are not subject to the same controls as Federal public lands, to remain sensitive to Indian culture, and to make information available to tribes. In addition, a 2004 consolidated appropriations bill (Pub. L. 118 Statute 444, Section 148) established the Office of Native Hawaiian Relations within the Secretary’s Office and its duties include effectuating and implementing the special legal relationship between the Native Hawaiian people and the United States; and fully integrating the principle and practice of meaningful, regular, and appropriate consultation with the Native Hawaiian people by assuring timely notification of and prior consultation with the Native Hawaiian people before any Federal agency takes any actions that may have the potential to significantly affect Native Hawaiian resources, rights, or lands. A 2011 Memorandum of Understanding (MOU) signed by the Department of the Interior states that “Federal agencies are required to consult with Native Hawaiian organizations before taking any action that may have the potential to significantly affect Native Hawaiian resources, rights, or lands.” Although native Hawaiians are not technically a “recognized Federal tribe” as referenced in the above Executive and Secretarial Orders, we endeavor to fully engage and work directly with native Hawaiians as much as possible. At the time we published our proposed rule (77 FR 34464; June 11, 2012), we notified several Hawaiian organizations including the DHHL, Kamehameha Schools, the Office of Hawaiian Affairs (offices for Honolulu, Maui, Molokai, and Lanai), the State Historic Preservation Division, the Kahoolawe Island Reserve Commission (KIRC), and Kahea-The Hawaiian-Environmental Alliance. We attended meetings with

staff from DHHL (July and August, 2011, and October, 2012), Kamehameha Schools (July 2011), and KIRC (July 2012), to discuss the proposal and address any concerns regarding the proposed listings and proposed critical habitat, and have considered all comments provided by these organizations in this final rule.

(36) *Comment:* The University of Hawaii, Institute for Astronomy (IfA) was concerned regarding proposed critical habitat on Map 23, Maui—Alpine—Unit 1 and Maui—Subalpine—Unit 1, as it appears to include buildings, roads, and other paved areas, owned and managed by the University of Hawaii, as part of the Haleakala High Altitude Observatory Site (HO). In 1961, State of Hawaii Executive Order No. 1987 set aside approximately 18 ac (7.3 ha) of land for the HO to be used for observatory site purposes only. The IfA requested that the HO be excluded from critical habitat designation.

*Our Response:* We carefully reviewed the areas proposed as critical habitat that overlap lands owned by the State and the University of Hawaii. Maui—Alpine—Unit 1, at the summit of Haleakala, encompasses a total of 2,107 ac (853 ha). The parcel referred to above, Tax Map Key (TMK) (2) 2–2–007:008 (18 ac; 7 ha) represents a small portion of the unit. The other larger parcels (TMK (2) 2–0–007:006 (138 ac; 56 ha) and TMK (2) 2–2–007:005 (161 ac; 65 ha) overlap both Maui—Alpine—Unit 1 and Maui—Subalpine—Unit 1. As a result of this examination, we have determined that these unoccupied parcels, and other small areas within these parcels that include astronomical facilities, are too degraded or modified by buildings and roads to support the species, that changes in land use have occurred within the proposed critical habitat units that would preclude certain areas from supporting the species, and therefore these areas are not essential for the conservation of the species for which they were proposed as critical habitat. We have therefore removed 295 acres (120 ha) of Maui—Alpine—Unit 1 and 44 acres (18 ha) of Maui—Subalpine—Unit 1, areas surrounding the HO, from designation as critical habitat (see below, Summary of Changes from Proposed Rule).

(37) *Comment:* The Hawaii State Department of Agriculture (HDOA) stated that exclusion of agricultural lands from critical habitat designation is important for Hawaii's food sustainability. The HDOA indicated that compensation will help landowners to efficiently increase food production or purchase additional lands for agricultural production should critical

habitat be designated on agricultural lands.

*Our Response:* Following publication of our proposed rule we received additional information from the public and concerned landowners regarding lands within proposed critical habitat that are in active crop production or actively managed for cattle ranching. We appreciate this new information, and, based on the information we received, we have removed areas from the final designation that are too degraded or modified to support the species (*i.e.*, where the essential physical or biological features are lacking in occupied habitat), where changes in land use have occurred within the proposed critical habitat units that would preclude certain areas from supporting the primary constituent elements, and, in the case of unoccupied areas, upon a determination that these areas are not essential for the conservation of the species for which they were proposed as critical habitat. In addition, we have excluded approximately 62,490 ac (25,289 ha) of privately owned lands under agricultural production for cattle ranching from critical habitat under section 4(b)(2) of the Act (see *Exclusions Based on Other Relevant Factors*, below). See our response to *Comment* (58, 59, and 60) regarding economically viable use of property and the effects of critical habitat designation. We have no information to suggest that critical habitat will have any impact on food sustainability in the State of Hawaii.

(38) *Comment:* The HDOA stated that the section 7 consultation process is slow and cumbersome, and lacks a clear administrative appeal process. Formal consultations can take up to 90 days plus an additional 45 days to prepare a biological opinion. The consultation process can result in modifications to the project, up to and including stopping the project from proceeding altogether. The HDOA believes the timeframe for formal consultations should be limited to 60 days in order to reduce uncertainty and risk for agricultural landowners. According to HDOA, if it is determined that a project will jeopardize a listed species or adversely modify designated critical habitat, a private landowner should have the ability to appeal the consultation finding without expending significant amounts of resources.

*Our Response:* We appreciate the HDOA's concerns. Both the Act and the Code of Federal Regulations (CFR) direct the process and timing of how the Service conducts consultation (see sections 7(a)(4), 7(b)(1)(A), and 7(b)(1)(B) of the Act, and 50 CFR

402.14(e), (f), and (g)). Included is the process whereby a private landowner requiring a permit or license from a Federal agency may become an applicant to the process. Applicant status includes specific privileges with regard to timing and application for exemption from section 7(a)(2) of the Act.

#### *Comments From Maui County*

(39) *Comment:* The Maui County Police Department requested that their communications facilities be excluded from critical habitat for public safety reasons. Their specific concerns are Lanai—Montane Wet—Unit 3 and Lanai—Wet Cliff—Unit 5, and Maui—Montane Mesic—Unit 1 and Maui—Subalpine—Units 1 and 2.

*Our Response:* As developed areas or manmade structures such as the communications facilities referenced here (towers, roads, etc.) do not provide the physical or biological features essential for the conservation of the Maui Nui species, they are not considered critical habitat; any such areas are not included in this designation. We make every effort to avoid including developed areas such as buildings, pavement, and other structures within the boundaries of critical habitat; however, the scale of the maps we prepared under the parameters for publication within the Code of Federal Regulations may not reflect the exclusion of such developed lands. Any such lands that have been inadvertently left inside critical habitat boundaries shown on the maps of this final rule, including the communications facilities in the five critical habitat units referenced by the Maui County Police Department, have been excluded by text in the rule and are not designated as critical habitat. Therefore, a Federal action involving these lands will not trigger section 7 consultation with respect to critical habitat and the requirement of no adverse modification unless the action may affect the adjacent critical habitat. Maintenance of communications towers that result in minimal ground disturbance are unlikely to pose a threat to Maui Nui critical habitat. In most cases, the Service's concern with respect to these projects relates to the potential for effects to bird species resulting from collisions.

(40) *Comment:* The Maui County Planning Department requested that we remove county lands from critical habitat within Lanai—Lowland Mesic—Unit 1, Maui—Lowland Dry—Unit 3, and Maui—Montane Mesic—Unit 1. All of the county lands described in their

letter contain buildings, structures (e.g., water tanks, reservoirs), or roads.

*Our Response:* We appreciate the information provided by the county and carefully reviewed these county lands in proposed critical habitat. As explained in our response to *Comment* (39), above, developed areas or manmade structures lacking the physical or biological features essential to the conservation of the Maui Nui species are excluded by text in the rule and are not designated as critical habitat. Such is the case here for the county lands in Lanai—Lowland Mesic—Unit 1, which appeared to be within the boundaries of the proposed critical habitat due only to the scale of mapping; these developed areas are not included in the final designation. In addition, we removed county lands proposed for critical habitat in Maui—Montane Mesic—Unit 1 because these lands are too degraded or modified to support the species or because changes in land use had occurred within the proposed critical habitat units that would preclude certain areas from supporting the primary constituent elements (occupied areas), or because these areas are not essential for the conservation and recovery of the species for which they were proposed as critical habitat (unoccupied areas). These areas therefore do not meet the definition of critical habitat. The county facility within proposed Maui—Lowland Dry—Unit 3 is not included within the unit; however, this may not have been apparent due to the resolution of the map printed in the June 11, 2012, proposed rule (77 FR 34464).

(41) *Comment:* The Maui County Planning Department requested that we provide a mechanism in our proposed rule to exclude lands in the future from critical habitat based on the development of management plans that meet the criteria described in *Exclusions Based on Other Relevant Factors* (see 77 FR 34464; June 11, 2012).

*Our Response:* In considering whether to exclude a particular area from the designation, we must identify the benefits of including the area in the designation, identify the benefits of excluding the area from the designation, determine whether the benefits of exclusion outweigh the benefits of inclusion, and conclude that the exclusion under consideration will not result in the extinction of the species. A revision to the critical habitat regulation requires a new rulemaking published in the **Federal Register** (see section 4(a)(3) of the Act and 50 CFR 424.12), with notification of all interested parties. In our June 11, 2012, proposed rule and in this final rule we state that we consider a number of factors in evaluating an

exclusion under the “other relevant factors” provision of the statute, including whether the landowners have developed any conservation plans or other management plans for areas determined to be essential to the species, or whether there are conservation partnerships that would be encouraged by designation of, or exclusion from, critical habitat. Currently, the County of Maui is a participating member in the Hawaii Association of Watershed Partnerships and provides funding for various fencing, survey, and invasive species projects on Maui, Lanai, and Molokai. Participating in a watershed partnership is only one aspect of the many landowner conservation activities we examine when determining whether exclusion from critical habitat outweighs the benefits of inclusion in critical habitat. We also consider the additional regulatory benefits that area would receive from the protection from adverse modification or destruction as a result of actions with a Federal nexus, the educational benefits of mapping habitat essential for recovery of the listed species, and any benefits that may result from a designation due to State or Federal laws that may apply to critical habitat. In evaluating a conservation plan, we consider a variety of factors including, but not limited to, whether the plan is finalized; how it provides for the conservation of the essential physical or biological features; whether there is a reasonable expectation that the conservation management strategies and actions contained in the plan are likely to be implemented into the future; whether the plan’s strategies are likely to be effective; and whether the plan contains a monitoring program or adaptive management to ensure that the conservation measures are effective and can be adapted in the future in response to new information.

We must base our consideration of potential exclusions on the evidence available to us at the time of rulemaking; there is no mechanism for forecasting exclusions into the future based on conservation plans that have yet to be developed. However, after going through a new rulemaking process, we can revise a critical habitat designation in the future if appropriate.

(42) *Comment:* The Maui County Planning Department requested that we consider excluding the Kanepuu Preserve and the Lanaihale Forest Conservation area, both on Lanai.

*Our Response:* The areas referenced by the Maui County Planning Department are covered by the Lanai Memorandum of Understanding (see below) and are excluded from the final

designation, as critical habitat is not designated on the island of Lanai as a consequence of exclusions under section 4(b)(2) of the Act, for the reasons described below (see *Exclusions Based on Other Relevant Factors*).

(43) *Comment:* The Maui County Planning Department commented on an extensive trail system on the island of Lanai, and stated that use of these trails for hunting, recreation, and cultural activities is part of Lanai’s economy. The Planning Department requested clarification for how these uses could be compatible with critical habitat designation.

*Our Response:* We have no information to suggest that critical habitat designation impacts trail usage. Regardless, for the reasons described below (see *Exclusions Based on Other Relevant Factors*), critical habitat is not designated on the island of Lanai in this final rule, as a consequence of exclusions under section 4(b)(2) of the Act.

#### Public Comments

(44) *Comment:* Several commenters noted that on Maui all individuals of the endangered plant *Canavalia pubescens* are found on recent lava flows, and suggested that these flows be considered critical habitat for this plant. In addition, many lowland dry species flourish on recent lava flows (less than 10,000 years old) as these areas exhibit healthy recruitment of native plant species such as *C. pubescens*, and appear to offer protection from wildfires and other threats. Another commenter noted that the aa (basaltic lava having a rough surface) substrate supports the greatest remaining native lowland dry forest biodiversity. One commenter suggested three factors that may contribute to the survival of native species on this substrate: (a) The sparseness of vegetation on aa prevents the percolation of wildfires; (b) the ruggedness of the terrain and its sparse vegetation discourages ungulate browsers; and (c) the sparseness of soil prevents ecosystem domination by alien grasses. The same commenter also raised the possibility that the harshness of the habitats with aa substrate and shallow soils currently function as ecological sinks (i.e., areas where populations of species may be extirpated without input from population sources outside the area) for endangered species in the lowland dry ecosystem, as evidenced by the lack of recruitment of certain native tree species in these areas. The commenter hypothesized that areas currently devoid of native species and characterized by older (over 500,000

years old), deeper soils previously supported the highest densities of these species and served as the source populations for their colonization of aa flows. Therefore, the commenter supported designation of areas with older, deeper soils in the lowland dry ecosystem.

**Our Response:** We appreciate the comments provided and agree that recent lava flows provide important habitat for the endangered plant *Canavalia pubescens*. Recent lava flows may be characterized by little-weathered lava substrate that is one of the physical and biological features of the lowland dry ecosystem in which *C. pubescens* is known to occur. The occurrence of *C. pubescens* and other native plant species on recent lava flows indicates the importance of these areas to their conservation. The ruggedness of recent lava flow substrates may function as a deterrent to ingress of ungulates thereby preventing herbivory of native plant species. The limited accumulation of soil due to the lack of weathering on recent lava flow substrates may also prevent ingress of nonnative grasses, which typically prefer areas with greater soil formation, thereby allowing native vegetation that is adapted to these conditions to flourish. In addition, information in our files indicates that *C. pubescens* occurs on substrates ranging in age from 3,000 to 5,000 years old to 140,000 to 780,000 years old (Sherrod *et al.* 2006, p. 2; HBMP 2010). In this final rule, we designate four units on east Maui (Maui—Lowland Dry—Unit 1 through Maui—Lowland Dry—Unit 4) totaling 16,841 ac (6,816 ha) for *C. pubescens*, as well as 18 other plant species in the lowland dry ecosystem. The recovery guidelines for a short-lived perennial plant species such as *C. pubescens* are 8 to 10 populations of 300 individuals per population, sustained over a minimum of 5 years (Service 1999, p. iv). In addition, these four critical habitat units provide varied substrate types, including those mentioned by the commenter (over 500,000 years old) in the lowland dry ecosystem.

(45) **Comment:** Two commenters faulted the Service for not providing adequate notification of the proposed rule to potentially impacted Maui residents. In addition, one commenter stated that the letters the Service sent out were vague and not specific to the lands that may be affected.

**Our Response:** We appreciate the comments and regret that some landowners did not receive our notification letters. Unfortunately, we are not able to send personalized letters and maps to all affected and interested

parties. We did, however, provide maps of parcel-specificity to every landowner who contacted us and requested them following publication of the June 11, 2012, proposed rule and the January 31, 2013, document reopening the comment period on the proposed rule. Please see our response to *Comment* (16), above, for a detailed explanation of the notification process we used to reach as many potentially interested parties as possible regarding this rulemaking.

(46) **Comment:** One commenter stated that “the proposed rule expressly fails to provide any detailed narrative description of appropriate specificity to allow fair comment” and cited 77 FR 34688 at (x)(B) “[Reserved for textual description of Unit 3]”. The commenter also stated that the proposed rule contains only generalized “maps,” such as Map 10 on 77 FR 34689, to indicate the areas proposed for designation. Another commenter added that more detailed mapping is required for landowners to accurately assess the impact of the proposed designation and assist the Service in determining the appropriateness of the designation.

**Our Response:** The commenter misunderstands the bracketed information cited above. The bracketed information cited above does not infer a “word” description of the unit. A word description of each critical habitat unit is found in *Descriptions of Proposed Critical Habitat Units* in the June 11, 2012 (77 FR 34464), proposed rule. The description for Maui—Lowland Dry—Unit 3 is found at 77 FR 34551 (77 FR 34464; June 11, 2012). The “textual description” of Unit 3 (Maui—Lowland Dry—Unit 3) refers to the UTM coordinates (mapping vertices) for unit delineation using GIS, which, until recently, were identified and published in the **Federal Register** in final rulemakings. However, on May 1, 2012 (77 FR 25611), the Service published a final rule revising the regulations for requirements to publish textual descriptions of final critical habitat boundaries in the **Federal Register**. As a result, as of May 31, 2012 (the effective date of the May 1, 2012, rule), the Service no longer publishes the UTM coordinates for critical habitat boundaries in the **Federal Register**. Because the publication process for our proposed rule had already begun on May 31, 2012, the text reading “reserved for textual description” (which applied to the old method of providing UTM coordinates) had not been removed before publication of the proposed rule for the Maui Nui species on June 11, 2012. Currently, the coordinates on which each map is based are available to the public at the Federal eRulemaking portal ([http://](http://www.regulations.gov)

[www.regulations.gov](http://www.regulations.gov)) using the docket number for the rulemaking (in this case, FWS–R1–ES–2015–0071), and at the Web site of the field office responsible for the critical habitat (<http://www.fws.gov/pacificislands>) for the final critical habitat for 125 Maui Nui species. The proposed rule included maps to identify the areas proposed for critical habitat designation. The proposed rule also directed reviewers to contact the Service for further clarification on any part of the proposed rule, and provided contact information. Although we did not include parcel-specific maps in the proposed rule, we did provide maps of this specificity to every landowner who contacted us and requested them following publication of the proposed rule and the January 31, 2013, document reopening the comment period on the proposed rule.

(47) **Comment:** One commenter questioned the Service’s determination of the status of a species within a given critical habitat unit as both “Species occupied” and “Species unoccupied” at the same time, and cited 77 FR 34710 at (xxix) “Table of Protected Species Within Each Critical Habitat Unit.”

**Our Response:** We appreciate the comment and in this final rule have modified the “Table of Protected Species Within Each Critical Habitat Unit,” first, by changing the title to “Occupancy of Species by Designated Critical Habitat Units for [Island],” and secondly, to accurately reflect whether a unit was either occupied or unoccupied by a species at the time of listing. In addition, each unit description provides a clear description of whether a unit is occupied or unoccupied by each species for which the unit is being designated (see *Descriptions of Critical Habitat Units*).

(48) **Comment:** One commenter stated that it is naïve to assume historical distribution patterns can be a guide to suitable locations for recovery efforts of rare species.

**Our Response:** In this final rule, we use information on the present and historical distribution of each species, based on the best available scientific data, to determine the locations of past and current occurrences and to determine the physical or biological features essential to support the species in those locations. It is Service policy that listed species will not be relocated or transplanted by the Service outside their historical range without specific case-by-case approval from the Director (65 FR 56916; September 20, 2000), therefore we look first to areas within the historical range to guide recovery efforts for listed species. Furthermore, our implementing regulations at 50 CFR

424.12(b) state that, in determining what areas are critical habitat, the Secretary shall consider “habitats . . . representative of the historic geographical and ecological distributions of a species.” We recognize that not all areas within the historical distribution of a species will necessarily retain the physical or biological features essential to support the species under contemporary conditions; in many cases, the formerly occupied habitat has either been eliminated or has become severely degraded. In identifying areas for designation as critical habitat, we used information regarding the past and current locations of species, the past and current status of the habitat, and whether or not the habitat, including that in need of management, could provide the essential physical and biological features for the species for which it is designated. We note that in several cases, in response to public comment, we have removed areas from this final designation of critical habitat upon the receipt of information indicating that the areas in question are no longer capable of supporting the species.

(49) *Comment:* One commenter stated that reliance on unpublished, non-public data that is not readily available to the public is contrary to legal requirements. Withholding this information deprives the public of a full and fair opportunity to comment on the rule. The rule should therefore be withdrawn.

*Our Response:* Under section 4(b)(2), we are required to designate, and make revisions to, critical habitat based on the best scientific data available and after taking into consideration the economic impact, the impact on national security, and any other relevant impact. In the June 11, 2012, proposed rule and in this final rule, we used the best scientific information available, including but not limited to, the State’s Hawaii Biodiversity and Mapping Program databases, the National Tropical Botanical Garden’s plant databases, TNC’s High Island Ecoregion Plan (along with the accompanying GIS ecosystem data), and our own rare plant species database. These databases include information from numerous sources including, but not limited to, expert field observations, museum collections, and published and unpublished literature, and are, in our opinion, sources of the best scientific data available. These data sources are often the best available information for the species. See also, Methods, below.

As stated in the proposed rule, the supporting documentation we used in

developing the proposed critical habitat was available to the public through a combination of online access through <http://www.regulations.gov>, or by appointment at the Pacific Islands Fish and Wildlife Office. We provided direction as to how to obtain a list of the supporting documentation used under both the Public Comments and References Cited sections of the proposed rule. In addition, a list of references cited in the proposed rule and in this final rule is available on the Internet at <http://www.regulations.gov>, and upon request from the Pacific Islands Fish and Wildlife Office (see **FOR FURTHER INFORMATION CONTACT**).

(50) *Comment:* Several commenters expressed concern about the potential negative effects of critical habitat designation on their lands because of the interplay of Federal and Hawaii State law. For example, they were concerned that designation of critical habitat could lead to reclassification of land by the State into the conservation district pursuant to Hawaii Revised Statutes (HRS) 195D–5.1 and HRS 205–1(3). In addition, they stated that although there are no prohibitions for adverse modification of habitat on private lands under the Endangered Species Act, such prohibitions exist under Hawaii endangered species law (HRS Chapter 195–D) and environmental impact statement law (HRS Chapter 343), and these State prohibitions may negatively impact landowners with critical habitat designation.

*Our Response:* These concerns are addressed below, separated by topic.

*Reclassification of Land Due to Critical Habitat Designation—*HRS section 195D–5.1 states that the Department of Land and Natural Resources (DLNR) “shall initiate amendments to the conservation district boundaries consistent with section 205–4 in order to include high quality native forests and the habitat of rare native species of flora and fauna within the conservation district.” HRS section 205–2(e) specifies that “conservation districts shall include areas necessary for \* \* \* conserving indigenous or endemic plants, fish and wildlife, including those which are threatened or endangered \* \* \*.” Unlike the automatic conferral of State law protection for all federally listed species (see HRS 195D–4(a)), these provisions do not explicitly reference federally designated critical habitat, and DLNR has no history of proposing amendments to include designated critical habitat in the conservation district.

As described in section 3.1 of the FEA, the analysis integrates the best available information regarding the potential effects of critical habitat on State and county land management based on interviews with staff from the Department of Land and Natural Resources (DLNR)’s Office of Conservation and Coastal Lands (OCCL) and the State Office of Planning, as well as the County of Maui’s Department of Planning. According to the State Office of Planning, critical habitat is taken into consideration during the redistricting process, but does not itself generate a redistricting of lands to the Conservation District. According to the County Department of Planning, the presence of critical habitat is one of many factors under consideration during the rezoning process. Representatives from OCCL, the State, and the county were unable to identify an instance in which the presence of critical habitat specifically drove decisions related to redistricting or rezoning. As such, it has not been the State’s practice thus far to redistrict critical habitat areas as conservation district lands. The FEA does, however, describe uncertainty with regard to future State and county management of these lands in section 3.4. In addition, section 5.3.2 of the FEA describes the potential indirect effects of critical habitat designation, including concern that the designation may result in costly lawsuits. Uncertainty exists regarding the potential for, as well as the number, timing, and outcome of, such lawsuits, thus associated impacts are not monetized in the economic analysis.

*Prohibitions Under Hawaii Endangered Species Law and Environmental Impact Statement Law With Critical Habitat Designation—*HRS 195D covers conservation of aquatic life, wildlife, and land plants in the State of Hawaii. Only two sections of HRS 195D are relevant to this discussion, HRS section 195D–4 and 195D–5.1. HRS section 195D–4 recognizes the Federal status (endangered or threatened) of flora and fauna in Hawaii as determined by the Department of the Interior. This section also outlines State regulations for possession, trade, or other uses of these species. HRS section 195D–5.1 “Protection of Hawaii’s unique flora and fauna” states that the DLNR shall initiate amendments to the conservation district boundaries consistent with section 205–4 in order to include high-quality native forests and the habitat for rare native species of flora and fauna within the conservation district. Neither of these sections of HRS 195D includes

automatic prohibitions against adversely modifying habitat on private lands.

HRS 343 provides a comprehensive review of the environmental impact statement (EIS) process, and describes the applicability and requirements for environmental assessments (EA), regardless of the underlying land classification. It states that an environmental impact statement is required for any proposed land reclassifications under 343–5(2) and 343–5(7) and “any use within any land classified as a conservation district by the State land use commission under Chapter 205.” HRS 343, therefore, provides guidelines for the EIS process and EA process regarding: (a) Land reclassification, and (b) proposed actions or proposed land use changes on lands that are classified as conservation. HRS 343 does not trigger land reclassification as a result of critical habitat designation nor does it prohibit any actions or proposed land use changes in areas designated as critical habitat, whether or not these areas are in the conservation district.

(51) *Comment:* One commenter stated that an area that is not inhabited by the species is not essential to the conservation of the species. However, another commenter supported the inclusion of areas no longer occupied by the endangered species, but which are critical for their recovery.

*Our Response:* By definition in section 3(5)(A) of the Act, critical habitat for an endangered or threatened species includes: (i) The specific areas within the geographical area occupied by a species, at the time it is listed in accordance with the Act, on which are found those physical or biological features (I) essential to the conservation of the species and (II) which may require special management considerations or protection; and (ii) specific areas outside the geographical area occupied by a species at the time it is listed, upon a determination that such areas are essential for the conservation of the species.

In this final rule, the critical habitat designation is a combination of areas occupied by the species, as well as areas that are unoccupied (see below, “Recovery Strategy for Hawaiian Plants,” “Recovery Strategy for Two Forest Birds,” and “Recovery Strategy for Three Tree Snails”). For areas considered occupied, the best available scientific information suggests that these species occupied these areas at the time of listing. However, due to the small population sizes, few numbers of individuals, and reduced geographic range of each of the 125 species for which we are designating critical habitat

in this rule, we have determined that a designation limited to the known present range of each species would be inadequate to achieve the conservation of those species. The areas that may have been unoccupied at the time of listing have been determined to be essential for the conservation and recovery of the species because they provide the physical or biological features necessary for the expansion of existing wild populations and reestablishment of wild populations within the historical range of the species.

(52) *Comment:* Two commenters disputed the use of an ecosystem-based approach in our determination of primary constituent elements (PCEs) for each species and cited the regulations for determining critical habitat at 50 CFR 424.12 (b). In addition, one commenter cited *Middle Rio Grande Conservancy District v. Babbitt*, 206 F.Supp.2d 1156 (D. N.M. 2000) and argued that the proposed ecosystem critical habitat designations are overly generalized and, therefore, lack the necessary analysis and explanation required by the Act for each species.

*Our Response:* Under the Act and its implementing regulations, we are required to identify the physical and biological features essential to the conservation of the 135 species for which we proposed critical habitat. We identified the physical and biological features that support the successful functioning of the ecosystem(s) upon which each species individually depends, and that may require special management considerations or protection. Table 5 (see below) identifies the physical or biological features of a functioning ecosystem for each of the ecosystem types identified as essential to the conservation of the 125 species for which we are designating critical habitat in this final rule (critical habitat is not designated for 10 species due to exclusions). These features provide the environmental conditions essential to meeting the fundamental requirements of each species. In many cases, due to our limited knowledge of specific life-history requirements for the species that are little-studied and occur in remote and inaccessible areas, the more general description of the physical and biological features that provide for the successful functioning of the ecosystem represents the best (and, in many cases, the only) scientific information available. Accordingly, the physical and biological features of a properly functioning ecosystem are, at least in part, the physical and biological features essential to the conservation of the 125

species. In this final rule the PCEs for each species are defined based on those physical or biological features essential to support the life-history processes for each species within the ecosystems in which they occur, and reflects a distribution that we conclude is essential to the species’ conservation needs within those ecosystems. The ecosystems’ features include the appropriate microclimatic conditions for germination and growth of the plants (e.g., light availability, soil nutrients, hydrologic regime, and temperature) and space within the appropriate habitats for population growth and expansion, as well as to maintain the historical geographical and ecological distribution of each species. The features are defined by elevation, annual levels of precipitation, substrate type and slope, and the potential to maintain characteristic native plant genera in the canopy, subcanopy, and understory levels of the vegetative community. Where further information was available indicating additional, specific, life-history requirements for some species, the PCEs relating to these requirements are described separately; for example, we have identified bogs as a unique PCE for several species. The physical and biological features essential to the conservation of these species are described in Table 5 of this final rule.

(53) *Comment:* One commenter stated that proposed critical habitat designations based on the presence of one or few individuals of the native canopy, subcanopy, or understory species listed as physical or biological features for each ecosystem (associated native plant genera as identified in Table 5) do not achieve the ecosystem approach or satisfy the requirement of having the physical and biological features of that ecosystem.

*Our Response:* See our response to *Comment* (52), above, regarding the methods for identification of physical and biological features for each of the species for which occupied final critical habitat is designated. For the species that are the subject of this rule, the essential physical and biological features are described as the elevation, precipitation, and substrate required by the species, in combination with presence of one or more of the associated native plants that occur within that elevation, precipitation, and substrate range. We consider the presence of one or more of the identified native canopy, subcanopy, or understory species as indicative of the capability of that area to likewise support the threatened or endangered Maui Nui species that also depend on that habitat type.



(54) *Comment:* One commenter stated that the primary constituent elements (PCEs) for a given species are non-determinable in areas that are unoccupied by the species.

*Our Response:* Although the presence of the PCEs may make an area presently unoccupied by the species particularly desirable as a site for potential recovery, the Act does not require that areas outside the geographical area occupied by the species at the time it is listed contain the PCEs; instead, unoccupied areas must be essential for the conservation of the species. The recovery guidelines published in our recovery plans for the Maui Nui species spell out the criteria (e.g., number of populations and number of individuals) necessary to recover or remove the species from protection under the Act. Due to the small numbers of individuals and low population sizes of the 125 Maui Nui species for which we are designating critical habitat in this final rule, suitable habitat and space for expansion of existing populations or reintroduction are essential to achieving population levels necessary for the conservation of these species. As explained in detail in the Methods section of this document (see “Unoccupied Areas”), these areas are essential to achieving these goals. We carefully considered the historical distribution of each species, its specific habitat requirements, and its current population status relative to the goals set for recovery to determine those unoccupied areas that are essential to achieve the abundance and distribution of self-sustaining populations needed to attain the conservation of each species.

(55) *Comment:* One commenter stated that the Regulatory Flexibility Act (RFA, 5 U.S.C. 601 *et seq.*) analysis in the proposed rule failed to take into account the activities associated with the Honuaula Partners, LLC (HP), development, and disagreed with the initial finding that the proposed designation of critical habitat for the 135 species will not have a significant effect on a substantial number of entities. The commenter further stated that the construction and development activities envisioned by HP will likely require the services of numerous small businesses ranging from contractors and subcontractors to landscapers and suppliers of materials, engineers, architects, planners, and others. In addition, the commenter stated that the analysis is inaccurate because it relied upon earlier economic analyses in 2003 and 2008, which did not take into account the HP project.

*Our Response:* Under the RFA, we are required to evaluate the potential

impacts of critical habitat on small businesses, but this evaluation may be limited to impacts to directly regulated entities. The designation of critical habitat only has direct regulatory impact through section 7 of the Act, in which a Federal action agency is required to consult with us on any project that is implemented, funded, permitted, or otherwise authorized by that agency (that is, a “Federal nexus” exists) and that may affect designated critical habitat. Critical habitat has no regulatory effect under the Act on actions that do not have a Federal nexus. Since Federal action agencies are the only directly regulated entities as a result of the designation of critical habitat, the designation will not have a significant impact on a substantial number of small business entities. For a further discussion of this issue, please see below (Required Determinations) and our final economic analysis (IEC 2015, Appendix A).

(56) *Comment:* Several commenters stated that the designation of critical habitat is a taking of property without just compensation.

*Our Response:* The designation of critical habitat does not deny anyone economically viable use of their property. There are no automatic restrictions or prohibitions on uses of areas designated as critical habitat under the Act. The regulatory effect of the Act is the requirement under section 7(a)(2) that Federal agency actions avoid the destruction or adverse modification of designated critical habitat. Furthermore, if in the course of a consultation with a Federal agency, the resulting biological opinion concludes that a proposed action is likely to result in destruction or adverse modification of critical habitat, we are required to suggest reasonable and prudent alternatives that can be implemented in a manner consistent with the intended purpose of the action, that can be implemented consistent with the scope of the Federal agency’s legal authority and jurisdiction, and that are economically and technologically feasible.

(57) *Comment:* Two commenters stated that the takings analysis is inadequate and violates the letter and intent of Executive Order 12630 (“Governmental Actions and Interference with Constitutionally Protected Property Rights”). Because a taking implications assessment (TIA) has not been published with the proposed rule, landowners are deprived of the ability to rationally or reasonably comment on the conclusion of the Service that the “designation of critical habitat for each of these species does

not pose significant takings implications within or affected by the proposed designation” at 77 FR 34464 (June 11, 2012).

*Our Response:* Executive Order 12630 only requires that a taking implications assessment (TIA) be discussed in proposed and final rulemakings and be made available to the public if there are significant takings implications. If there are not significant takings implications, there is no requirement that this issue be addressed in a rulemaking. In our proposed rule (77 FR 34464; June 11, 2012), we stated that we analyzed the potential takings implications of critical habitat designation for 135 species and found that this designation of critical habitat does not pose significant takings implications for lands within or affected by the proposed designation. We have prepared a TIA for this final rulemaking and found that the designation of critical habitat for the Maui Nui species does not pose significant takings implications for lands within or affected by the designation.

(58) *Comment:* One commenter stated that the proposed rule does not take into account the additional costs that will be imposed on State and county governments by the proposed critical habitat designation. The commenter suggested that the proposed designation of critical habitat on the Makena Property will delay the widening and extension of Piilani Highway. The ATC Makena Holdings (ATC), along with three other private landowners, plans to fund and construct the widening of Piilani Highway. The ATC is also considering plans to extend Piilani Highway onto the Makena property in order to provide an alternative access route to serve the Makena Resort. The proposed rule does not address the significant economic impacts that could be faced by the Hawaii Department of Transportation or the County of Maui if the planned roadway improvements are not constructed by private developers. The commenter suggested that in the absence of private funding, Federal, State, or county funds will be required.

*Our Response:* The final economic analysis (FEA) incorporates additional discussion regarding the potential expansion of the Piilani Highway within Maui—Lowland Dry—Unit 3. Although the timing, nature, and location of the project is currently uncertain, we forecast costs associated with a formal section 7 consultation on the project in 2015. The Service has determined that the potential project area for the highway expansion overlaps with the probable range of the Blackburn’s sphinx moth. Consultation on this project would be required due to the



presence of the Blackburn's sphinx moth regardless of whether critical habitat is designated for the Maui Nui species. As discussed in section 2.3 of the DEA, critical habitat designation for the Maui Nui species is not likely to generate additional conservation recommendations beyond what would be recommended due to the presence of the moth. Accordingly, it is unlikely that critical habitat for the Maui Nui species will generate substantial additional costs with respect to this highway project. However, we note in section 3.3 of the FEA that should the Service recommend that the project incorporate additional conservation efforts specifically in order to avoid adverse modification of critical habitat, these would be considered incremental impacts of the designation.

(59) *Comment:* One commenter stated that most of Hawaii's farmers and ranchers are small entities and would be unfairly disadvantaged by this proposal. Critical habitat designation may adversely impact farmers and ranchers by placing potentially inappropriate restrictions on future use, adversely impacting the value and mortgageability of the land, and encouraging other land use regulators to further restrict these lands in the future.

*Our Response:* We appreciate the commenter's concerns. We address these concerns below.

*Direct impacts to farmers and ranchers*—According to the FEA, the direct impacts of critical habitat designation on grazing and farming (*i.e.*, impacts generated by section 7 consultation and associated conservation recommendations) are expected to be minor (Section 5.3). The only section 7 consultations that occur on farming and grazing activities are associated with Federal assistance programs, such as the Natural Resources Conservation Service's (NRCS) EQIP (Environmental Quality Incentives Program) and WHIP (Wildlife Habitat Incentive Program) programs, which generally support ecologically beneficial projects. Outside of participation in these programs, we have not consulted on farming and grazing activities in Maui Nui over the last 10 years since critical habitat was first designated for 107 plant and animal species in the Maui Nui islands. All of the consultations with NRCS were informal, were ecologically beneficial to listed species or designated critical habitat, and have not been time-intensive and have not resulted in modifications to projects or activities. According to the FEA, it is unlikely that critical habitat designation will result in modifications to farming and grazing activities through

section 7 consultation. Therefore, the direct effects of the designation are most likely to be limited to additional administrative effort (by the Federal agencies involved in the consultation) as part of future section 7 consultations (IEC 2015, Section 5.3.1). We cannot foresee any direct impacts to farmers and ranchers as a consequence of critical habitat designation. We note that the analysis under the Small Business Regulatory Enforcement Act (SBREFA) in Appendix A of the FEA acknowledges the possibility of some indirect impacts on farmers and ranchers, however, such effects are not quantified due to the significant uncertainty surrounding the likelihood and potential magnitude of any such potential effects (IEC 2015, p. A–7).

*Impacts on the value and mortgageability of the land*—We understand the commenter's concern that critical habitat designation may adversely impact the value and mortgageability of the land, and encourage other land use regulators to further restrict these lands in the future. The FEA (IEC 2015, Section 5.3.2) recognizes that these indirect effects of the critical habitat designation are of concern, but also found significant uncertainty regarding the potential for these economic impacts to occur. According to the FEA, no studies have evaluated the potential perceptual effect of critical habitat on land values in Hawaii (*i.e.*, regardless of actual regulatory effects, potential buyers, lenders, and appraisers may perceive that critical habitat designation restricts land use and thus reduces the value of the land). However, there are studies that show that critical habitat has the potential to change behavior of the public outside of the regulatory changes associated with the designation. A 2009 California study showed that critical habitat designation *within urban growth areas* [emphasis ours] resulted in measurable reductions in land values. The study did not identify statistically significant effects of critical habitat designation on land values *outside of urban growth areas* [emphasis ours]. Approximately 0.10 percent (160 ac (65 ha)) of the total area designated as critical habitat in Maui Nui in this final rule is in the State's urban district. Therefore, while we acknowledge the concern regarding the potential perceptual effect of critical habitat on land values in Hawaii, we are unable to measure the cost of this indirect impact to a landowner, or state with certainty the probability of such an effect being realized.

*Future restrictions on these lands*—According to the State's Office of

Conservation and Coastal Lands and the State Office of Planning, critical habitat designation does not automatically generate a district reclassification, although it is one factor taken into consideration both during the 5-year boundary reviews and review of petitions for boundary amendments (IEC 2015, Section 5.3.2). See also our response to *Comment* (50), above.

(60) *Comment:* One commenter stated a concern regarding the ability of farmers and ranchers to meet the food supply needs of residents and visitors with the proposed designation. The 1.3 million plus residents and over 7 million tourists per year are dependent upon food and energy imports for nearly all their needs.

*Our Response:* We appreciate the commenter's concern. Section 5.3 of the FEA highlights the concern that critical habitat has the potential to hinder the State's food sustainability goal (IEC 2015, p. 5–16). As described in section 5.3, the designation is not likely to change how NRCS and the Service manage and regulate farming and grazing activities. Section 5.3.2 discusses the potential for critical habitat to result in indirect effects that hinder the State's goal to work toward food sustainability. As described in that section, the extent to which the designation will limit agricultural production occurring within the critical habitat area is uncertain. However, only a small fraction of the total State agricultural production overlaps the proposed critical habitat area.

(61) *Comment:* One commenter stated that some of the proposed critical habitat areas are State-owned parcels that may be leased to farmers and ranchers. The commenter added that some also include irrigation infrastructure and are within irrigation water lease areas, raising serious concerns about diminished irrigation water availability, especially important to farmers and ranchers in this time of severe drought. According to this commenter, these areas should be excluded from designation.

*Our Response:* When delineating critical habitat units, we made an effort to avoid developed areas such as towns, agricultural lands, and other lands with similar features that do not contain the primary constituent elements. Most of the area within critical habitat designated in this final rule is within the conservation district, with less than 10 percent of the critical habitat within the agricultural district. However, some species, such as *Canavalia pubescens*, *Melanthra kamolensis*, and *Sesbania tomentosa*, only occur in, and historically occurred in, low-elevation

areas where agriculture is most common. Habitat containing primary constituent elements or otherwise essential to the conservation of these species is not available in areas outside the agricultural district.

We made every attempt to avoid including irrigation systems and their related developed structures to support irrigation within the critical habitat areas, as these systems and structures normally do not contain, and are not likely to develop, primary constituent elements and are not otherwise essential to the conservation of these species. Even if we have not been able to exclude every such development from these mapped units, they are not included in critical habitat pursuant to the text of this final rule because they are manmade features. Thus, unless the operation and maintenance of irrigation systems and related developed structures would indirectly affect critical habitat, these systems and structures should not be affected by section 7 of the Act. As for the areas surrounding these structures, in the absence of a Federal nexus (as described above; see response to *Comment* (55)), critical habitat will have no effect on the delivery of water for agriculture. In addition, none of the 125 species are entirely aquatic, although a few require bogs or seasonally wet habitats; however, we have no information to suggest that conservation activities for these species would cause a reduction in water diversion or irrigation water.

(62) *Comment*: Three commenters provided information on a potential wind energy project that may be sited in or adjacent to proposed Molokai—Coastal—Unit 2. One commenter requested that the area proposed as critical habitat be modified to increase the distance of the critical habitat unit from the potential impact of an industrial-scale wind energy project.

*Our Response*: We appreciate the information provided by the commenters. Based on the information provided and information in our FEA (IEC 2015, pp. 4–7, 4–9–4–10, and A–6–A–7), Molokai Renewables, LLC, a joint venture between Pattern Energy Group LP and Bio-Logical Capital, LLC, plans to develop a wind energy farm on Molokai Ranch lands, near proposed Molokai—Coastal—Unit 1 and Molokai—Lowland Dry—Unit 1. Energy would be transmitted to Oahu via an undersea transmission cable that may potentially run through proposed Molokai—Coastal—Unit 2. This proposed project is in the initial planning phase and information on the timing, scale, location, and likelihood of construction of an industrial scale wind

energy project is not available. Molokai—Coastal—Unit 2 totals 977 ac (396 ha) on State and private land. This unit provides the physical and biological features for 12 endangered plants and for the maintenance and expansion of the existing wild occurrences of one of these species that occupies the unit, and provides the habitat for reestablishment of populations, within their historical range, for the other 11 plant species. Due to their small numbers of individuals or low population sizes, suitable habitat and space for expansion or reintroduction are essential to achieving population levels necessary for recovery. Lacking information on the location of the proposed wind farm, we are unable to modify Molokai—Coastal—Unit 2 to increase its distance from the proposed wind farm.

(63) *Comment*: One commenter stated that many farmers participate in the U.S. Department of Agriculture (USDA)—NRCS and other Federal programs, and thus formal consultation with the Service will be triggered in order to determine whether the habitat will be adversely impacted (regardless of whether any endangered species are actually present). This consultation can result in costly delays and modifications to the project up to and including stopping the activity from proceeding altogether.

*Our Response*: We appreciate the commenter's concerns. See our response to *Comment* (59), above.

(64) *Comment*: One commenter stated that the Service should reevaluate the ecosystem-based management units of possible habitat for Maui Nui species by focusing on only those areas that are essential for the conservation of the species and eliminating areas that do not currently contain the PCEs, especially grazing land. Courts have consistently held that such a generalization of critical habitat is unacceptable. See *Home Builders of No. California*, 616 F.3d 983, *Cape Hatteras Access Pres. Alliance*, 344 F. Supp. 2d 108, *Middle Rio Grande Conservancy District v. Babbitt*, 206 F. Supp.2d 1156 (D. N.M. 2000).

*Our Response*: On the islands of Maui Nui (Molokai, Lanai, Maui, and Kahoolawe), native species that occur in the same habitat types (ecosystems) depend on the same biological or physical features because they are dependent on the successful functioning of the ecosystem they have in common to survive. While we have used this methodology because it, along with species-specific habitat requirements, represents the best available scientific information, this approach may also

provide efficiencies in identifying conservation actions at the ecosystem scale, to enhance or restore critical ecological processes and provide for long-term viability of those species in their native environment. Upon receipt of public comments from landowners and biologists, we have re-evaluated areas proposed as critical habitat, and have further refined the critical habitat units to remove areas where the land use has changed or the land has been otherwise modified so that it no longer contains the PCEs and therefore does not meet the definition of critical habitat (for areas occupied by the listed species). In all cases, we only designate unoccupied areas as critical habitat upon a determination that such areas are essential for the conservation of the species. In cases where, based upon public comments from landowners and biologists, we found that some unoccupied areas initially proposed as critical habitat are not in fact essential for the conservation of the species, we have removed those areas from this final designation.

(65) *Comment*: According to one commenter, the overly broad critical habitat designation effectively places the cost and burden of disproving the presence of critical habitat on the private landowner. In addition, the proposed rule does not analyze how land uses will or will not affect the protections that critical habitat is supposed to offer.

*Our Response*: Critical habitat protections are only triggered if there is a Federal nexus (an action authorized, funded, or carried out by a Federal agency). In cases where there is such a Federal nexus, it is not the duty of the private landowner to disprove the presence of critical habitat; rather, it is the duty of the Federal agency to ensure that it complies with section 7 of the Act. If, through the section 7 consultation process, it is determined that a Federal agency action may result in “destruction or adverse modification of critical habitat” (as those terms are used in section 7), we suggest those reasonable and prudent alternatives that can be taken by the Federal agency or applicant in implementing the agency action.

(66) *Comment*: Several commenters stated that they, or others, are members of State watershed partnerships and participate in voluntary conservation actions. The designation of critical habitat on their lands will burden landowners and alienate the very group that can help the most with species and habitat conservation.

*Our Response*: We fully support the voluntary watershed partnerships in the

State of Hawaii, including the four partnerships in Maui Nui (West Maui Mountains Watershed Partnership, East Maui Watershed Partnership, East Molokai Watershed Partnership, and Leeward Haleakala Watershed Restoration Partnership). These partnerships are voluntary alliances of public and private landowners “committed to the common value of protecting forested watersheds for water recharge, conservation, and other ecosystem services through collaborative management” (<http://hawp.org/partnerships>). Most of the ongoing conservation management actions undertaken by the watershed partnerships address threats to upland habitat from nonnative species (e.g., feral ungulates, nonnative plants) and may include fencing, ungulate removal, nonnative plant control, and outplanting of native (including rare native) species on lands within the partnership. Funding for the watershed partnerships is provided through a variety of State and Federal sources (including funding provided by the Service), public and private grants, and in-kind services provided by the partners or volunteers. Landowner participation in the voluntary watershed partnerships in the State of Hawaii, resulting in many cases in significant conservation benefits to native and listed species, is an important consideration in our weighing of the benefits of exclusion versus inclusion in critical habitat under section 4(b)(2) of the Act. The Secretary places great value on such partnerships; participation in the watershed partnerships of Maui, Molokai, or Lanai was one of the considerations in each of the exclusions from critical habitat in this final rule. At the same time, however, we are judicious in our exclusions, and we carefully considered whether we had evidence that each landowner is implementing conservation measures as a member of a voluntary watershed partnership that result in significant benefits to the listed species in our weighing of the benefits of exclusion versus inclusion. We did not exclude areas from critical habitat if the landowner is a member of a watershed partnership, but could not demonstrate a history of implementing conservation actions for the benefit of native or listed species.

(67) *Comment:* Several commenters stated that designation of critical habitat would interfere with their ability to obtain Federal funding and cause delays associated with Act consultations over effects on critical habitat and the

inflexible requirements that there be no adverse modification of critical habitat.

*Our Response:* Both the Act and the Code of Federal Regulations (CFR) direct the process and timing of how the Service conducts consultation (see sections 7(b)(1) and 7(2) of the Act, and 50 CFR 402.14(e)). Pursuant to section 7(a)(2) of the Act, Federal agencies must consult with the Service to ensure that any action authorized, funded, or carried out by such agency that may affect critical habitat is not likely to result in the destruction or adverse modification of critical habitat. To avoid destruction or adverse modification of critical habitat, the Federal agency may, during consultation, modify the proposed action to minimize or avoid adverse impacts to critical habitat. If we issue a biological opinion concluding that a project is likely to result in the destruction or adverse modification of critical habitat, we also provide “reasonable and prudent alternatives” to the project, if any are identifiable. Reasonable and prudent alternatives are defined at 50 CFR 402.02 as alternative actions identified during consultation that can be implemented in a manner consistent with the intended purpose of the action, that are consistent with the scope of the Federal agency’s legal authority and jurisdiction, that are economically and technologically feasible, and that the Director believes would avoid the likelihood of the destruction or adverse modification of critical habitat. In our experience, it is unusual for a project to proceed to this point; usually we can agree upon project modifications earlier in the process that address any concerns, thereby allowing the project to proceed. However, in those rare cases in which we do find that destruction or adverse modification of critical habitat is likely, we attempt to provide alternatives to avoid that outcome.

Our FEA considers the direct impacts of critical habitat designation to stem from the consideration of the potential for destruction or adverse modification of critical habitat during section 7 consultations. The administrative costs of conducting section 7 consultation is a direct impact of a designation, as is the implementation of any conservation efforts that might be taken by the action agency in conjunction with section 7 consultation to avoid potential destruction or adverse modification of critical habitat. The total quantified incremental impacts of the critical habitat designation are estimated to be approximately \$20,000 on an annualized basis over 10 years (IEC 2015, p. ES–7). The potential for time delays that may be associated with the

need to reinitiate section 7 consultation or compliance with other laws triggered by the designation are considered indirect impacts of the designation.

Although the FEA highlights which projects or activities may be affected by critical habitat designation, significant uncertainty and data limitations largely preclude the quantification of indirect impacts (IEC 2015, p. ES–7).

(68) *Comment:* Several commenters stated that designation of critical habitat would cause the Federal Government to dramatically reduce or cut off human access to water, or prevent the landowner from developing water resources. Subsequently, the State Water Commission would take steps to reduce off-stream water usage where it competes with water necessary to sustain endangered plants. This could affect ranches and entire communities.

*Our Response:* None of the Maui Nui species addressed in this rule is entirely aquatic, and although some species do depend on bogs or seasonal wetland type habitats, there is no information to suggest that critical habitat for the Maui Nui species would lead to a reduction in water diversion or prevent the development of water resources. Water infrastructure is considered a manmade feature, and, therefore, these features and structures do not contain, and are not likely to develop, any primary constituent elements. There is no expectation that ranches or communities will in any way be affected by a reduction in water supplies as a consequence of critical habitat.

(69) *Comment:* Several commenters stated that designation of critical habitat would trigger rezoning procedures under State law to more restrictive zoning on private property. In addition, the commenters believe that other provisions of Hawaii State law would then burden the use of their property. For example, commenters believed that new projects on lands designated as critical habitat will require a conservation district use permit, and an environmental impact statement (EIS) instead of a less comprehensive environmental assessment (EA), and that development in, or a change in use of, coastal lands that are designated critical habitat will make it more difficult to obtain a special management permit, pursuant to the Coastal Zone Management Act (16 U.S.C. 1451 *et seq.*).

*Our Response:* Regarding potential rezoning or restrictions on property use, please see above, our responses to *Comments* (50) and (59). Under the Coastal Zone Management Act (CZMA), an applicant for a required Federal license or permit to conduct an activity

that affects any land or water use or natural resource of the coastal zone must provide a certification that the proposed activity complies with policies of the State's approved coastal zone management program. Therefore, regardless of the designation of critical habitat, an applicant is required to obtain certification from the State that a proposed activity in the coastal zone complies with the State's coastal zone management program. The 1990 implementation plan for the State of Hawaii's coastal zone management program was last updated in 2006, and evaluation findings for 2004–2008 were completed in 2010 (NOAA 2010, 45 pp), and there is no reference in these documents to the treatment of critical habitat for federally listed species (Hawaii Coastal Zone Management Program 1990, entire; Hawaii Ocean Resources Management Plan 2013, entire). The 2013 management plan refers to the presence of, and concern for, endangered species in the marine environment and for endangered waterbirds and states that such species are of Statewide conservation concern (Hawaii Ocean Resources Management Plan 2013, p. 16). The plan also discusses the importance of watershed management as watersheds affect water quantity and quality, ultimately affecting ocean water quality and reef systems (Hawaii Ocean Resources Management Plan 2013, p. 27). In sum, although the 2013 Hawaii Ocean Resources Management Plan states that balancing protection of endangered species with other priorities of ocean resource management is critical, the plan does not mandate or prohibit any actions with specific regard to critical habitat.

(70) *Comment:* Some commenters stated that their lands were not included in studies or site inspections, or were apparently done without the owners' knowledge or consent. The commenters believe that if their lands were inspected, it would be determined that there were no primary constituent elements.

*Our Response:* As required by section 4(b) of the Act, we used the best scientific data available in determining those areas that contain the physical or biological features essential to the conservation of the Maui Nui species by identifying the occurrence data for each species and determining the characteristics of the habitat types upon which they depend. The information we used is described in detail in our June 11, 2012, proposed rule (77 FR 34464) and in this final rule (see Methods); also see our response to *Comment* (121) for a description of the information we used

to derive the primary constituent elements.

Both before and following publication of our June 11, 2012, proposed rule (77 FR 34464), the Service contacted many landowners. Some allowed site visits, and some did not reply to our requests, or did not state that they desired a site visit by Service biologists. Much of our identification of the physical or biological features can be achieved using remote sensing data; in no case did Service staff enter private lands without the express permission of the landowner. Based on comments and information provided during the public comment periods indicating that information in our proposed rule was in error, or there had been changes in land use that would preclude certain areas from supporting the primary constituent elements (occupied areas), or the areas in question were not essential to the conservation of the species (unoccupied areas), we have removed such areas from the final designation because they do not meet the definition of critical habitat. In addition, some areas were excluded from critical habitat under section 4(b)(2) of the Act. All of these changes to areas proposed as critical habitat are described in the Summary of Changes from Proposed Rule, below.

(71) *Comment:* One commenter stated that the regulatory flexibility analysis provided in the proposed rule was inadequate, as commercial activities are not limited to only three proposed critical habitat units. Commercial activities (specifically cattle ranching) also occur in proposed units Maui—Montane Dry—Unit 1, Maui—Lowland Dry—Unit 1, Maui—Lowland Mesic—Unit 1, and Maui—Coastal—Unit 7. The commenter has applied for Federal funding previously, including NRCS funding from the EQIP program, and believes that, if critical habitat is designated, any future use of Federal funding would be subject to consultation under the Act. The commenter expressed concern over the potential negative economic impacts as a consequence of such consultation.

*Our Response:* This comment was submitted prior to the release of the DEA, which included a complete regulatory flexibility analysis in Appendix A. The regulatory flexibility analysis in the economic analysis draws from the findings of the report with respect to the likelihood of projects or activities with a Federal nexus triggering section 7 consultation. The economic analysis identifies the commercial activities (agriculture and grazing) occurring within the units highlighted by the commenter. Section 5.3.1 of the economic analysis further

recognizes that grazing and farming operations that have participated in Federal assistance programs, such as NRCS' EQIP and WHIP, have been subject to section 7 consultation considering potential effects on listed species and critical habitats. The NRCS has stated that, regardless of critical habitat designation, these programs only support projects that are ecologically beneficial. As a result, all previous consultations on NRCS-funded projects have been informal and have resulted in a not likely to adversely affect (NLAA) determination for listed species and critical habitats. The NRCS stated that these consultations have not been time-intensive and have not resulted in modifications to projects or activities. The NRCS and Service do not expect that critical habitat will affect the ability of projects funded through these programs to be implemented, as planned. In any case, for the reasons described below (see *Exclusions Based on Other Relevant Factors*), critical habitat is not designated on the ranch lands that were the focus of concern of this commenter, as a consequence of exclusions under section 4(b)(2) of the Act.

(72) *Comment:* Two commenters stated that the Service must prepare a NEPA analysis on the proposed rule to ensure that we make an informed decision regarding the impact of critical habitat designation on the environment. Unlike the Act, NEPA sets forth procedural requirements for all Federal government agencies. It requires that Federal agencies undertaking Federal actions undertake an extensive examination of all the environmental impacts (including cultural impacts as required under the National Historic Preservation Act) of its actions. Given the magnitude of the Service's critical habitat proposal, the large number of industries that it will likely affect, and its impact to the local and State economy, a thorough examination and disclosure of the proposal is needed with substantial opportunities for public input.

*Our Response:* It is the Service's position that, outside the jurisdiction of the Circuit Court of the United States for the Tenth Circuit, we do not need to prepare environmental analyses as defined by NEPA (42 U.S.C. 4321 *et seq.*) in connection with designating critical habitat under the Act. This position was upheld by the U.S. Court of Appeals for the Ninth Circuit (*Douglas County v. Babbitt*, 48 F.3d 1495 (9th Cir. 1995), cert. denied 516 U.S. 1042 (1996)).

(73) *Comment:* Two commenters expressed their support for our

proposed designation of critical habitat in Maui County. Conservation is needed for Hawaiian endangered plants and animals and has been demonstrably successful in places like Waikamoi Preserve. One commenter was especially appreciative of being able to visit places that are being protected from invasive, nonnative species and evoke Hawaiian ecosystems that her ancestors frequented.

*Our Response:* We appreciate the comments.

(74) *Comment:* One commenter requested that the Service designate critical habitat in 170 acres of land above the Wailea Emerald Golf Course because of the potential for development in this area. According to this commenter, this is the site of a functioning ecosystem that includes mature wiliwili (*Erythrina sandwicensis*) and the endangered awikiwiki (*Canavalia pubescens*).

*Our Response:* The area referred to by this commenter was proposed as critical habitat in our June 11, 2012, proposed rule (77 FR 34464). In this final rule, we excluded 901 ac (365 ha) under section 4(b)(2) of the Act (see *Exclusions Based on Other Relevant Factors*, below), and designate 188 ac (76 ha) of Maui—Lowland Dry—Unit 3 as critical habitat. The area referred to by the commenter was excluded as part of the Ulupalakua Ranch property (see *Exclusions Based on Other Relevant Factors*). However, we emphasize that exclusion under section 4(b)(2) of the Act does not signal that an area is not essential for the conservation of the species, only that the Secretary has determined that the benefits of excluding that area outweigh the benefits of including it in critical habitat (and such exclusion will not result in the extinction of the species).

(75) *Comment:* One commenter suggested that the Service work collaboratively with the community, including landowners and homeowners, to provide conservation measures for plants and animals so that critical habitat designation is not necessary. This same commenter stated that protecting habitat for native plants will also protect the coastal reefs and the ocean environment.

*Our Response:* We appreciate the suggestions and fully support collaborative conservation planning and implementation with landowners and other interested parties. Time and resources permitting, we will continue to seek avenues of collaborative conservation efforts with private landowners in Maui Nui. See also our responses to *Comments* (25) and (66), above.

(76) *Comment:* Several commenters remarked that there is no evidence to show that critical habitat designation will protect endangered species and that a more thorough job should be done with available resources on lands already dedicated to conservation.

*Our Response:* We appreciate the comments. In this final rule, we are designating critical habitat for 125 listed endangered or threatened species (122 plants, 1 tree snail, and 2 forest birds) on the islands of Molokai, Maui, and Kahoolawe using an ecosystem-based approach in identifying the physical and biological features essential to the conservation of these species, and unoccupied areas essential to their conservation, that we believe will ultimately provide for greater public understanding of the conservation and recovery needs for each of the species addressed in this final rule. The recovery criteria for these species include both conservation of existing populations of these species, as well as reestablishment of populations in suitable habitat within the species' historical range. We further note, as stated earlier, that the designation of critical habitat for listed species is a requirement under section 4(a)(3) of the Act, and is not a discretionary action.

We agree that more could be done to help ameliorate the threats to these 125 species and their habitats. Conservation efforts are challenged by the number of threats, the extent of these threats across the landscape, and the lack of sufficient resources (e.g., funding) to control or eradicate them from all areas where these 125 species occur now or occurred historically. In addition, not all of the habitat essential to the conservation and recovery of these species is contained within areas dedicated to conservation.

(77) *Comment:* One commenter stated that he was denied the opportunity at the public hearing to poll the audience regarding their position on the proposed critical habitat designation.

*Our Response:* Per our guidelines (USFWS Endangered Species Act Public Hearings Handbook, N.D. 19 pp.), our public hearing officer respectfully informed the individual that he could question the audience when the public hearing was formally concluded but that he would not be recorded unless he was presenting testimony. The commenter then declined to provide testimony.

(78) *Comment:* Several commenters questioned the lack of information regarding trespass and liability on private lands that are designated as critical habitat. They were concerned that no guidelines are provided regarding allowable activities on these lands. They also stated their concern

regarding lawsuits by environmental organizations if critical habitat is harmed. There also is no process for third-party appeal.

*Our Response:* State law provisions regarding trespass on privately owned lands are effective regardless of the designation of critical habitat. The designation of critical habitat does not create a wilderness area, preserve, or wildlife refuge, nor does it open a privately owned area to human access or use. It does not alter State law with regard to trespass on privately owned lands.

In response to the second concern, the designation of critical habitat on private lands would only affect current or ongoing land management practices when there is a Federal nexus. In our June 11, 2012, proposed rule (77 FR 34464) and in this final rule (see *Application of the "Adverse Modification" Standard*, below), we state that activities funded, carried out, or authorized (e.g., issue a permit) by a Federal agency that may destroy or adversely modify critical habitat for the Maui Nui species include, but are not limited to:

(1) Federal actions that would appreciably degrade or destroy the physical or biological features for the species including, but not limited to, the following: Overgrazing; maintaining or increasing feral ungulate levels; clearing or cutting native live trees and shrubs (e.g., woodcutting, bulldozing, construction, road building, mining, herbicide application); and taking actions that pose a risk of fire.

(2) Federal actions that would alter watershed characteristics in ways that would appreciably reduce groundwater recharge or alter natural, wetland, aquatic, or vegetative communities. Such actions include new water diversion or impoundment, excess groundwater pumping, and manipulation of vegetation through activities such as the ones mentioned in (1), above.

(3) Recreational activities that may appreciably degrade vegetation.

(4) Mining sand or other minerals.

(5) Introducing or encouraging the spread of nonnative plant species.

(6) Importing nonnative species for research, agriculture, and aquaculture, and releasing biological control agents.

Our FEA acknowledges the potential for critical habitat designation to increase the vulnerability of private landowners to legal challenges regarding their operations (IEC 2015, pp. 5–20). Due to significant uncertainties regarding the extent to which the designation will increase the probability of legal challenges (over and above the

presence of the listed species or other critical habitat designations (e.g., Blackburn's sphinx moth critical habitat)), the direct costs of legal fees and time spent on lawsuits, and the potential outcome of lawsuits, the FEA does not estimate a monetary cost from potential third-party lawsuits.

(79) *Comment:* Several commenters stated the following: (a) The proposed rule does not comply with legal requirements (i.e., it does not use the best scientific information available) because no public input in the collection and analysis of a broad range of information was used; (b) broad brush strokes were used, resulting in a far-reaching designation on State, county, and private lands that will have a direct and negative impact on Maui County and its economic well-being; (c) areas proposed for critical habitat do not have critical habitat; and (d) the Service has not addressed the comments in a manner that reflects or acknowledges their concerns.

*Our Response:* See our responses to *Comments* (16) and (120). In this final rule, we address all comments we received on the proposed critical habitat designations described in the June 11, 2012, proposed rule (77 FR 34464) and the DEA. We are unable to address statement (c) above in the absence of additional details.

(80) *Comment:* Several commenters expressed concern that the designation of critical habitat will reduce subsistence hunting and gathering.

*Our Response:* Game mammal hunting is a recreational and cultural activity in Hawaii that is regulated by the Hawaii Department of Land and Natural Resources on State and private lands (Hawaii Department of Land and Natural Resources 2002). Critical habitat does not give the Federal Government authority to control or otherwise manage feral animals on non-Federal land. Absent Federal involvement, these land management decisions are not affected by the designation of critical habitat. It is well-known that game mammals affect listed plant and animal species in Hawaii. We believe it is important to develop and implement management programs that provide for the recovery of listed species and acknowledge the importance of continued ungulate hunting in game management areas when it is compatible with the recovery of endangered species. In general, the establishment of game management areas is not compatible with recovery in areas needed for recovery. We welcome opportunities to work closely with the State and other partners to ensure that game management programs are

implemented in a manner consistent with both of these needs.

Critical habitat does not give the Federal Government authority to control or otherwise manage gathering of plants on non-Federal land or in the absence of some other Federal action. However, the State of Hawaii regulates the gathering of plants that are State listed as endangered or threatened on both private and State lands (HRS (section 195D-4(e), 4(f), and 4(g)). Gathering of native plants that are not State listed on private lands is not regulated by the State of Hawaii. Gathering of native plants that are not State listed on State lands is regulated by the State (Hawaii Administrative Rules—Title 13).

(81) *Comment:* Several commenters stated that this overly broad proposed rule is inconsistent with the State's New Day Initiative because it has the potential to remove farms and ranches that produce local products, including food, from production while providing no certainty that these critical habitat designations will result in benefit to the species.

*Our Response:* Governor Abercrombie's 2010 New Day Initiative proposes many important agricultural goals for Hawaii, including, but not limited to, preserving and growing more food on Hawaii's agricultural lands, repairing old irrigation systems, assisting community-based farming entrepreneurial endeavors, raising the demand for local food, and developing educational programs to improve community and cultural understanding of growing food locally. Designation of critical habitat would not affect the ability of private landowners or lessees of publicly owned agricultural lands to conduct any of these or related agricultural activities, absent a Federal nexus. Even in the case of a Federal nexus, critical habitat would not prevent the use of agricultural lands, but could result in the consideration of potential project modifications or alternatives to avoid the destruction or adverse modification of critical habitat in the course of implementing the intended purpose of the action. See also our response to *Comment* (59), above.

(82) *Comment:* One commenter requested that the area proposed as critical habitat for Newcomb's tree snail (*Newcombia cumingi*) on Puu Kukui Watershed Preserve be excluded because the landowner can accomplish the conservation goals for this tree snail without critical habitat designation. The request is based on the existence of a long-term management plan for the preserve; a history of self-funding conservation actions on the preserve;

past and current cooperative agreements with the Service, including a current agreement to protect and enhance habitat for this tree snail; and ongoing implementation of actions that benefit the conservation of endangered and threatened species.

*Our Response:* We proposed critical habitat for Newcomb's tree snail on Puu Kukui Watershed Preserve because these lands support the only known population of this tree snail and contain the physical or biological features of its lowland wet ecosystem habitat and suitable habitat and space for expansion or reintroduction to achieve population levels that could approach recovery. As described by the commenter, recently the Service and the private landowner entered into a cooperative agreement to protect and enhance habitat for this tree snail. For the reasons described below (see "*Exclusions Based on Other Relevant Factors*"), we are excluding 8,931 ac (3,614 ha) of land on Puu Kukui Watershed Preserve from critical habitat, including the portion proposed for Newcomb's tree snail critical habitat.

(83) *Comment:* Several commenters stated that they conduct conservation actions to control erosion and feral ungulates, and that designation of critical habitat may impede conservation actions in the future.

*Our Response:* We appreciate the commenters' concerns, and recognize that private landowners conduct voluntary conservation efforts, such as efforts to control erosion or soil loss, and fencing to exclude nonnative pigs, axis deer, and goats from private lands. It is unclear to us if the second part of the comment implies that the designation of critical habitat will impede the implementation of conservation actions or that the private landowners may not support voluntary conservation actions on their private lands in the future if those lands are designated critical habitat. The designation of critical habitat will not impede the implementation of conservation actions described by these commenters, and in all likelihood provide additional support for these habitat-enhancing actions that will also benefit listed species. We are concerned and deeply regret that some private landowners may not support voluntary conservation actions on their private lands in the future should critical habitat be designated on their lands. The purpose of designating critical habitat is to contribute to the conservation of endangered and threatened species and the ecosystems upon which they depend. The outcome of the designation, triggering regulatory requirements for actions funded,

authorized, or carried out by Federal agencies under section 7(a)(2) of the Act, can sometimes appear to be a disincentive to conservation on non-Federal lands. Thus, the benefits of excluding areas that are covered by partnerships or voluntary conservation efforts can, in specific circumstances, be high. For the reasons described below (see “*Exclusions Based on Other Relevant Factors*”), we are excluding 84,891 ac (34,354 ha) of private lands on Maui, Lanai, and Molokai from critical habitat. Again we note that in the absence of a Federal nexus, the designation of critical habitat has no direct regulatory impact on private landowners.

(84) *Comment:* Several commenters stated that public notice of the proposed designation of private land as critical habitat has been inadequate. These commenters suggested conducting information meetings using a “talk-story” approach. That is, conduct informal meetings with the public, including landowners with lands within already designated critical habitat who can address questions such as the impact(s) of critical habitat on their land, including the impact on land values, and the benefits, if any, of critical habitat on their land, including getting grants for conservation projects such as fences to exclude nonnative animals.

*Our Response:* We appreciate the concerns regarding our notification process of the proposed rule. See also our response, above, to *Comment* (16). We also appreciate the suggestions provided by these commenters regarding public information meetings. Although our ability to conduct one-on-one meetings with various interest groups throughout Hawaii (e.g., community associations, nonprofit interest groups, State and Federal agencies, *aha mokus*) is currently constrained by our resource limitations, we will seriously consider adopting a “talk-story” approach as part of our community outreach efforts as our limited staff and resources allow.

(85) *Comment:* Several commenters stated that the designation of critical habitat would be devastating to an already struggling industry (i.e., ranching) due to the effects of the recent drought. In addition, a critical habitat designation will burden a private landowner with additional Federal, State and local regulations. Critical habitat designation could put an end to their livelihood.

*Our Response:* See our responses to *Comments* (50), (55), (56), and (59), above. Absent a Federal nexus for a proposed action on private property, a

critical habitat designation does not prevent or prohibit an activity such as ranching on private or State property. As described earlier, even in the case of a potential Federal nexus, critical habitat does not prevent a private landowner from using their lands for ranching or other activities, but requires the Federal action agency to ensure that their action does not destroy or adversely modify critical habitat, through potential project modifications or other measures to minimize and mitigate the effects of the action.

(86) *Comment:* One commenter was concerned regarding a portion of an irrigation ditch system within Maui—Lowland Wet—Unit 1 and requested that the Service adjust the boundary of the unit above the upper ditch system.

*Our Response:* We have carefully examined the area of concern and have determined that changes in land use had occurred within the proposed critical habitat unit that would preclude the area identified by the commenter from supporting the primary constituent elements (for those species that occupy this unit) and further, the area in question is not essential to the conservation of any of the species (for those species for which this unit was proposed as unoccupied critical habitat). As a consequence, we have concluded that this area does not meet our definition of critical habitat and we have removed it from the final designation of Maui—Lowland Wet—Unit 1. See also Summary of Changes from Proposed Rule, below.

(87) *Comment:* One commenter stated that the Service must accord native Hawaiians with the same special considerations that are given to native Americans, that native Hawaiians have rights vested by law and are wards of the State, and that it is our fiduciary duty not to impose on those rights.

*Our Response:* See our response to *Comment* (35), above.

#### Public Comments on Proposed Maui—Lowland Dry—Unit 3

Several commenters submitted comments regarding the designation of critical habitat in proposed Maui—Lowland Dry—Unit 3, and we grouped similar comments together relating specifically to this unit below.

(88) *Comment:* Four commenters supported designation of the lowland dry ecosystem and described Hawaiian lowland dry forests as the most critically endangered ecosystem in Hawaii, with less than 3 percent remaining Statewide and 5 percent remaining on Maui. Several commenters also strongly supported designation of Maui—Lowland Dry—Unit 3. Another

commenter supported the revision (reevaluation) of critical habitat for the currently listed dry forest species using the ecosystem approach.

*Our Response:* We appreciate these comments. Habitat loss and degradation of the lowland dry ecosystem is demonstrated by the current and ongoing threats of development and urbanization, introduced ungulates, nonnative plants, fire, and hurricanes to species and their habitat in the lowland dry ecosystem (see *The Present or Threatened Destruction, Modification, or Curtailment of Its Habitat or Range* in our final rule to list as endangered 38 species on the islands of Maui, Molokai, and Lanai (78 FR 32014; May 28, 2013)). In this final rule, we are designating critical habitat in six units (Maui—Lowland Dry—Unit 1 through Maui—Lowland Dry—Unit 6) totaling 20,740 ac (8,392 ha) for 30 species in the lowland dry ecosystem on Maui. Twelve of the plant species occur only on east Maui, 11 occur only on west Maui, and 7 occur on both east and west Maui. These lowland dry units provide the areas that contain the physical and biological features essential to the conservation of the 30 species and require special management considerations or protections (e.g., nonnative species control) (occupied habitat) or habitat that is essential to the conservation and recovery of the species (unoccupied habitat). Maui—Lowland Dry—Unit 3 is particularly unique because, even though close to developed or otherwise badly degraded areas, it contains a high concentration of native plant species, many comprising the PCEs for species that occur within the lowland dry forest, including canopy trees such as *Erythrina sandwicensis* (wiliwili) and *Myoporum sandwicense* (naio), and subcanopy and understory plants such as *Capparis sandwichiana* (maiapilo), *Chamaesyce celastroides* (akoko), *Dodonaea viscosa* (aalii), *Ipomoea* sp. (koaliawa and moon flower), *Plumbago zeylanica* (iliee), *Sicyos* sp. (anunu), *Sida fallax* (ilima), and *Waltheria indica* (uhaloa). The very rough lava substrate in the area is apparently not preferred by feral ungulates, resulting in less herbivory of native plant species, thus threats are reduced in this unit and native plant species have a greater chance of survival. Due to the currently limited numbers of individuals and populations, the expansion or reestablishment of listed plant populations in unoccupied areas are essential to the conservation of the species and to meet recovery goals. Because of the uniqueness and rarity of



this area in the lowland dry ecosystem on east Maui, we conclude this unit is essential to the recovery of *Canavalia pubescens* and 16 other lowland dry plant species. See also our response to *Comment* (109), below.

(89) *Comment*: Several commenters noted the threat of deer and goats to *Canavalia pubescens* throughout its range on Maui, with specific impacts to populations on the Palauea lava flow and Ahihi-Kinau. In addition, the large loss of *C. pubescens* individuals at Ahihi-Kinau Natural Area Reserve (NAR) illustrates the need for multiple viable habitats for this species and increases the significance for protection of other areas such as those found within Maui—Lowland Dry—Unit 3. The commenters also recommended that fenced areas and regular monitoring are necessary to protect this species from the threat of ungulates in these areas.

*Our Response*: We agree that herbivory and habitat modification by deer and goats constitute threats to the lowland dry ecosystem in which *Canavalia pubescens* is known to occur on Maui (see *The Present or Threatened Destruction, Modification, or Curtailment of Its Habitat or Range and Disease or Predation* in our final rule to list as endangered 38 species on the islands of Maui, Molokai, and Lanai (78 FR 32014; May 28, 2013)). We also agree that recovery of this species will require multiple viable sites and that conservation efforts, such as fencing and regular monitoring, are necessary to address threats to *C. pubescens* and its habitat from ungulates. In this final rule, for the reasons described above (see our response to *Comment* (44) and (88)), we are designating critical habitat in a total of 16,841 ac (6,816 ha) in critical habitat units Maui—Lowland Dry—Unit 1 through Maui—Lowland Dry—Unit 4 for *C. pubescens* and 18 other lowland dry plant species. These lowland dry units provide the physical or biological features essential to the conservation of the species and require special management considerations or protections (e.g., nonnative species control) (occupied habitat) or habitat that is essential to the conservation and recovery of the species (unoccupied habitat).

(90) *Comment*: Several commenters recommended inclusion of additional areas to Maui—Lowland Dry—Unit 3, such as the 22-ac Palauea Cultural Preserve, and portions of land owned by Makena Holdings (Tax Map Key (2) 2–1–008:90), based on the presence of lava flows of similar geologic age and origin. These commenters noted that the presence of *Canavalia pubescens* in the Palauea Cultural Preserve supports

designation of this area as critical habitat. One commenter noted that a native plant restoration plan was created for the Palauea Cultural Preserve and that the preserve is currently being transferred to joint management by the Office of Hawaiian Affairs and the University of Hawaii.

*Our Response*: We appreciate the information provided regarding the Palauea Cultural Preserve and Tax Map Key (2) 2–1–008:90. We carefully reviewed the areas proposed as critical habitat and the recovery needs (see *Comment* (44), (88), and (89)) of *Canavalia pubescens* on the island of Maui. In this final rule, we are designating critical habitat in four units in the lowland dry ecosystem on east Maui (Maui—Lowland Dry—Unit 1 through Maui—Lowland Dry—Unit 4) totaling 16,841 ac (6,816 ha) for 19 species in the lowland dry ecosystem. A critical habitat designation does not signal that habitat outside the designated area (e.g., the Palauea Cultural Preserve or portions of TMK (2) 2–1–008:90) is unimportant or may not be needed for the recovery of the species. However, we do note that the Palauea Cultural Preserve is a cultivated garden setting, and that individuals of *C. pubescens* have been planted there. Although such an area supports individuals of this endangered species, these individual plants in a garden setting do not contribute to a self-sustaining occurrence in the wild. For recovery to occur, populations must be viable in the wild, where they have the potential to contribute further to population growth and expansion. To achieve population growth and expansion, there must be evidence that the plants are reproducing on their own, meaning that multiple generations are successfully produced. Areas that are important to the conservation of *C. pubescens*, both inside and outside the critical habitat designation, will continue to be subject to: (1) Conservation actions implemented under section 7(a)(1) of the Act, and (2) regulatory protections afforded by the requirement in section 7(a)(2) of the Act for Federal agencies to insure their actions are not likely to jeopardize the continued existence of any endangered or threatened species or result in the destruction or adverse modification of critical habitat. These protections and management actions will continue to contribute to the conservation of this species. Similarly, critical habitat designations made on the basis of the best available information at the time of designation will not control the direction and substance of future

recovery plans, habitat conservation plans (HCPs), or other species conservation planning efforts if new information available at the time of these planning efforts calls for a different outcome. We hope to work collaboratively in the future with the Office of Hawaiian Affairs and the University of Hawaii regarding the Palauea Cultural Preserve native plant restoration plan.

(91) *Comment*: One commenter noted that the accessibility of proposed Maui—Lowland Dry—Unit 3 provides a potential benefit to the species that would allow regular monitoring, as well as easy access for educational tours and community-based restoration efforts. The commenter also noted that the proximity of Maui—Lowland Dry—Unit 3 to schools, churches, and visitor populations is an ideal location to promote ongoing community involvement.

*Our Response*: We appreciate the comments and agree that accessibility may be an important component of the management required for the recovery of endangered species. In addition, critical habitat designation increases public awareness of the presence of listed species and the importance of habitat protection, and provides educational benefits resulting from identification of the features essential to the conservation of the 17 species for which critical habitat is designated in Maui—Lowland Dry—Unit 3 and the delineation of areas important for their recovery.

(92) *Comment*: One commenter stated that critical habitat designation should benefit property owners who wish to develop ecotourism industries by increasing their ability to draw tourists to natural resource assets on their lands. In addition, the commenter stated that development projects adjacent to areas designated as critical habitat can also increase their property values by marketing pedestrian access to nature preserves. The commenter felt this was particularly applicable for Maui—Lowland Dry—Unit 3.

*Our Response*: Section 6.3 of the DEA (also Section 6.3 of the FEA) describes the potential incremental benefits of conservation efforts for the Maui Nui species, including the potential for property value benefits that may result from open space or decreased density of development and increased potential for recreation or tourism. We thank the commenter for the statements, as the benefits of critical habitat are frequently not acknowledged. We are aware that not all property owners share the same views regarding beneficial impacts of critical habitat designation on their lands.



(93) *Comment*: One commenter stated that the Service failed to provide documentation for the occurrence of the listed plant, *Hibiscus brackenridgei*, in Maui—Lowland Dry—Unit 3. The commenter provided the results of a botanical survey (Guinther 2012, pp. 7–8), which did not detect the presence of *H. brackenridgei* on the parcel owned by ATC Makena Holdings, LLC (TMK (2) 2–1–008: 108), located within Maui—Lowland Dry—Unit 3.

*Our Response*: The best available information in our files indicates the occurrence of *Hibiscus brackenridgei* within Maui—Lowland Dry—Unit 3 as recently as 2011 (Oppenheimer 2010bb, in litt.; PEPP 2011, p. 118). Documentation for this record was cited in our June 11, 2012, proposed rule (77 FR 34464) and in the references cited for this final rule and available at <http://www.regulations.gov>. The references cited in our proposed rule and in this final rule are available by contacting the Pacific Islands Fish and Wildlife Office (see **FOR FURTHER INFORMATION CONTACT**). Although *H. brackenridgei* was not detected during the survey cited above on the parcel owned by ATC Makena Holdings, LLC, this species is present elsewhere in the proposed unit. In addition, we have determined that Maui—Lowland Dry—Unit 3, including the area in the ATC Makena Holdings, LLC, parcel, is essential for the conservation of *H. brackenridgei* and 16 other species for which it is designated critical habitat in this unit of the lowland dry ecosystem. Maui—Lowland Dry—Unit 3 contains one or more of the physical and biological features of the lowland dry ecosystem (see also responses to *Comment* (88), (89), and (109), as well as Table 5). Maui—Lowland Dry—Unit 3 is essential to the conservation of these species because it is one of the few remaining areas of the lowland dry ecosystem that provides multiple essential physical or biological features in the requisite combination of appropriate substrate, rainfall, and native plant components to potentially successfully support viable populations of these species. Maui—Lowland Dry—Unit 3 additionally has the benefit of being geographically separated from Maui—Lowland Dry—Unit 1, Maui—Lowland Dry—Unit 2, and Maui—Lowland Dry—Unit 4, thus providing potential redundancy so that species that occur in this unit or are reestablished in this unit are more likely to survive and provide for the conservation of species dependent on the lowland dry ecosystem in case of catastrophic events such as drought and fire.

Once known from the islands of Kauai, Oahu, Molokai, Lanai, Maui, Hawaii, and possibly Kahoolawe, *H. brackenridgei* is now known only from Lanai, Maui, and Hawaii. On Lanai, there are only two individuals of the species remaining. On Maui, two occurrences of the species are known, one in east Maui (about 10 individuals) and one in west Maui (a few individuals), both in the lowland dry ecosystem. The recovery guidelines for short-lived perennial plant species such as *H. brackenridgei* are 8 to 10 populations of 300 individuals per population sustained over a minimum of 5 years (Service 1999, pp. iv–v); this translates to a minimum recovery goal of approximately 2,400 to 3,000 individuals in total, in 8 to 10 self-sustaining populations. To meet such a goal, areas of currently unoccupied but suitable habitat within the historical range of *H. brackenridgei* in the lowland dry ecosystem on east Maui are essential for the recovery of this species. With so few individuals left, extensive population growth and reestablishment of additional populations will be required in areas that are not currently occupied by *H. brackenridgei* or other of the Maui Nui species. Maui—Lowland Dry—Unit 3 provides one of the best remaining examples of the lowland dry ecosystem type, with good potential to support the population growth, expansion, and reestablishment essential to achieve the conservation of *H. brackenridgei* and the 16 other species native to the lowland dry ecosystem on Maui for which critical habitat is designated in this unit (see also responses to *Comment* (88), (89), and (109) regarding the characteristics specific to Maui—Lowland Dry—Unit 3 that we conclude are essential to the conservation of the Maui Nui species).

(94) *Comment*: One commenter stated that Maui—Lowland Dry—Unit 3 may not be suitable habitat for *Alectryon macrococcus* (mahoe) because this species is a dryland forest tree found above 1,200 ft elevation. The commenter stated that Wagner *et al.* (1990) attributed the decline of this species to seed predation by boring insects and rats. According to the commenter, neither of these threats could be easily controlled for this species within Maui—Lowland Dry—Unit 3 at Makena, so the proposed critical habitat unit is not suitable. In addition, the commenter implied that the few individuals known from the lowland dry environment likely occur in the enclosures at Auwahi above 3,300 ft, based on the references provided by the Service in the proposed rule.

*Our Response*: Wagner *et al.* (1999, p. 1,225) describes the elevational range of *Alectryon macrococcus* as occurring between 1,200 ft to 3,500 ft (360 to 1,070 m). Based on this information, and historical and current occurrence data in our files, Maui—Lowland Dry—Unit 3 may not be suitable for this species because the elevation of this unit, 320 to 1,200 ft (100 to 360 m), is below the elevational range described for *A. macrococcus* by Wagner *et al.* (1999, p. 1,225). Despite the lack of more comprehensive survey data and the possibility for the discovery of new and unknown populations of native plant species, the best available scientific data on current and historical occurrences for this species does not support the designation of critical habitat in Maui—Lowland Dry—Unit 3 for *A. macrococcus*. Therefore, we are not designating critical habitat for *A. macrococcus* (var. *auwahiensis*) in critical habitat unit Maui—Lowland Dry—Unit 3 at this time.

(95) *Comment*: One commenter stated that Maui—Lowland Dry—Unit 3 may not be suitable habitat for *Bonamia menziesii* because only a few individuals are known from the lowland dry ecosystem (at Puu o Kali, Kaloi, and Kanaio), and cited the information on page 77 FR 34515 in our proposed rule published on June 11, 2012. The commenter added that this species is possibly not an endemic species (Wagner *et al.* 1990, p. 550).

*Our Response*: We disagree with the commenter's statement that Maui—Lowland Dry—Unit 3 is not suitable for *Bonamia menziesii* for the following reasons: The occurrence of only a few individuals within a particular area does not necessarily indicate that the area is unsuitable. This species was historically wide-ranging in the lowland dry areas of east Maui, and has since declined in numbers (HBMP 2010). The locations cited by the commenter where *B. menziesii* currently occurs (within Maui—Lowland Dry—Unit 1 and Maui—Lowland Dry—Unit 2) contain one or more of the physical and biological features that are present within Maui—Lowland Dry—Unit 3. Also, since publication of our proposed rule (June 11, 2012; 77 FR 34464) and during the public comment periods, we received information that additional individuals of *B. menziesii* have been found in the lowland dry ecosystem of east Maui (on State lands in Maui—Lowland Dry—Unit 1; Higashino 2013, pers. comm.), adding to the number of individuals of the species known from the lowland dry ecosystem. The recovery guidelines for short-lived perennial plant species such as *B.*

*menziesii* are 8 to 10 populations of 300 individuals per population, sustained over a minimum of 5 years (Service 1999, pp. iv–v). Therefore, areas of suitable habitat within the historical range of *B. menziesii* in the lowland dry ecosystem on east Maui are essential for the conservation of this species, as significant growth and reestablishment of *B. menziesii* populations in areas not currently occupied by the species will be required to achieve these goals. Maui—Lowland Dry—Unit 3 contains one or more of the physical and biological features of the lowland dry ecosystem (see Table 5), similar to those at the locations cited by the commenter; it also provides a site with particularly good potential for supporting future populations, due to the combination of essential features that occur there (see our responses to *Comment* (88), (89), and (93), above, and (109), below). Maui—Lowland Dry—Unit 3 provides the physical or biological features essential for the reestablishment of wild populations of the species. Due to the currently limited numbers of individuals and populations, the expansion or reestablishment of populations in unoccupied areas are essential to the conservation of the species and to meet recovery goals.

We believe the commenter's second point regarding the endemism of *B. menziesii* incorrectly interprets Austin's discussion in Wagner *et al.* (1999, p. 550). In the *Manual of Flowering Plants of Hawaii*, Austin (1999, p. 550) questioned the origin of the genus, not the species. Austin concluded that “*Bonamia menziesii* apparently has close affinities with taxa of northwestern South and Central America,” which we interpret as suggesting a possible origin of the Hawaiian species, and not a suggestion that there is a lack of distinction between the Hawaiian and potential Central and South American members of this genus at the species level.

(96) *Comment*: One commenter stated that *Colubrina oppositifolia* is easy to propagate in lowland dry to mesic areas and easily incorporated into landscaping in these ecosystems, which suggests Maui—Lowland Dry—Unit 3 is not critical to its recovery. The commenter also appeared to question the suitability of Maui—Lowland Dry—Unit 3 due to the recent discovery (1995) of *C. oppositifolia* in the lowland mesic ecosystem on west Maui, and unpublished reports of its historical occurrence in the lowland dry ecosystem on east Maui, citing information at 77 FR 34516 in our June 11, 2012, proposed rule.

*Our Response*: The historical occurrence of *Colubrina oppositifolia* on east Maui in the lowland dry ecosystem (HBMP 2010) and its “recent discovery on west Maui in 1995” in the lowland mesic ecosystem indicates the need for critical habitat on both east and west Maui in those respective ecosystems. In fact, the commenter's statement that *C. oppositifolia* is easy to propagate and easily incorporated into landscaping in the lowland dry and mesic ecosystems also suggests that Maui—Lowland Dry—Unit 3 contains suitable habitat for this species. Remaining areas of suitable habitat in the lowland dry ecosystem are essential to the conservation of the species, as evidenced by the wide gap between the recovery goals for a species such as *C. oppositifolia* and its current status. The recovery guidelines for long-lived perennial plant species such as *C. oppositifolia* are 8 to 10 populations of 100 individuals per population, sustained over a minimum of 5 years (Service 1996, p. iv), or approximately 800 to 1,000 individuals in total in 8 to 10 self-sustaining populations. Currently, in Maui Nui, this species is known only from about five individuals in two locations on west Maui, and from one possible individual on east Maui that has not been relocated in over 20 years. Therefore, areas of suitable habitat within the historical range of *C. oppositifolia* (including lowland dry and lowland mesic ecosystems) on both east and west Maui are essential to achieve the increase in numbers of individuals and occurrences of this species to provide for its conservation and recovery. Maui—Lowland Dry—Unit 3 provides the physical or biological features essential for the reestablishment of wild populations of the species, and is a site with particularly good potential for supporting future populations, due to the combination of essential features that occur there (see also our responses to *Comment* (88), (89), and (93), above, and (109), below).

(97) *Comment*: One commenter questioned the suitability of Maui—Lowland Dry—Unit 3 for *Ctenitis squamigera* based on Palmer's (2003) description of the habitat of this species as the mesic forest floor above 590 ft on all the main Hawaiian Islands except Hawaii Island and possibly Kauai. The commenter also suggested that the occurrence records for this species cited at 77 FR 34516 in our June 11, 2012, proposed rule lack specificity, but tend to support the Palmer description.

*Our Response*: The information provided by the commenter regarding the geographic range and elevation at which *Ctenitis squamigera* may occur is

accurate. Historically, this species was found on Kauai, Oahu, Molokai, Maui, Lanai, and Hawaii. Currently, there are 12 occurrences, totaling approximately 100 individuals, on the islands of Lanai, Molokai, and Maui. Data in our files indicate that *C. squamigera* is known from the lowland dry ecosystem on east Maui (HBMP 2010). Maui—Lowland Dry—Unit 3 is not known to be occupied by *C. squamigera*, but contains one or more of the physical and biological features of the lowland dry ecosystem (see *Comment* (88), (89), (93), (109), and Table 5), including the appropriate native plant species, rainfall, and substrate to support the species, and also includes the elevation cited by the commenter. The recovery guidelines for short-lived perennial plant species such as *C. squamigera* are 8 to 10 populations of 300 individuals per population, sustained over a minimum of 5 years (Service 1998, p. iv), or an objective of a minimum of approximately 2,400 to 3,000 individuals. Areas of suitable habitat in the lowland dry ecosystem are limited within the historical range of this species. Because of the low number of individuals at known locations of this species (100 individuals across 12 scattered occurrences, and recalling that an occurrence is not equivalent to a self-sustaining population), areas of unoccupied suitable habitat including Maui—Lowland Dry—Unit 3 are essential for the reestablishment of populations that will be required to achieve the conservation and recovery of *C. squamigera*. See also our response to *Comment* (109), below.

(98) *Comment*: One commenter stated that Maui—Lowland Dry—Unit 3 may not be suitable habitat for *Flueggea neowawraea*. The commenter acknowledged that individuals of this species are reported at 820 ft elevation and above, in the lowland dry ecosystem at Auwahi. However, according to the commenter, the environment in Maui—Lowland Dry—Unit 3 is far too dry in contrast to the Auwahi exclosures, where this species is currently found, and which are located above 3,100 elevation, receive regular fog drip, and are able to support kikuyu (*Pennisetum clandestinum*), a widespread nonnative pasture grass and dominant ground cover.

*Our Response*: The information provided by the commenter regarding the elevation and occurrence of *Flueggea neowawraea* in the Auwahi exclosures is accurate. Data in our files indicate that *F. neowawraea* is known from the lowland dry ecosystem on east Maui (HBMP 2010). Maui—Lowland Dry—Unit 3 contains one or more of the

physical and biological features of the lowland dry ecosystem (see Table 5), including the elevational range cited by the commenter. The recovery guidelines for long-lived perennial plant species such as *F. neowawraea* are 8 to 10 populations of 100 individuals per population, sustained over a minimum of 5 years (Service 1999, pp. iv–v), for an objective of roughly 800 to 1,000 individuals total in these multiple populations. Historically, *F. neowawraea* was known from Kauai, Oahu, Molokai, Maui, and Hawaii. Currently, there are 5 occurrences on Kauai (26 individuals), 1 occurrence on Oahu (1 individual), 2 individuals on Maui, 4 occurrences on Hawaii (8 individuals), and no known occurrences on Molokai (PEPP 2009, p. 25; PEPP 2012). Although there are multiple occurrences of *F. neowawraea*, most are of only 1 or a few individuals, for a total of fewer than 40 plants known. The species is far from meeting the recovery objective of 800 to 1,000 individuals in 8 to 10 self-sustaining populations of at least 100 individuals each. Therefore, areas of suitable habitat within the historical range of *F. neowawraea* in the lowland dry ecosystem on east Maui are essential for the recovery of this species. Although areas of suitable habitat in the lowland dry ecosystem are now limited, Maui—Lowland Dry—Unit 3 provides one of the few remaining areas that includes several of the physical or biological features essential to the conservation of the plant species that depend upon this habitat type, including appropriate elevation, substrate, rainfall, and associated native plant species (see *Comment* (88), (89), and (93), above, and (109), below, for additional information on the characteristics specific to this unit that we have determined are essential for the conservation of the Maui Nui species). Maui—Lowland Dry—Unit 3 also provides unoccupied habitat separated from Maui—Lowland Dry—Unit 1, Maui—Lowland Dry—Unit 2, and Maui—Lowland Dry—Unit 4, so that, in case of catastrophic events such as drought and fire, one or more occurrences of this species could persist and provide for its conservation.

(99) *Comment*: One commenter stated that Maui—Lowland Dry—Unit 3 may not be suitable habitat for *Melanthera kamolensis*. The reason provided by the commenter was that this species is “extremely rare; known only from a small population in Kamole Gulch, southeastern Maui (Wagner *et al.* 1990, p. 337).”

*Our Response*: The information provided by the commenter regarding the known location of *Melanthera*

*kamolensis* is accurate. However, *M. kamolensis* is known historically from three collections in an area extending approximately 1 mile (1,000 m) on east Maui (Wagner *et al.* 1999, p. 337), and currently known only from a single occurrence with 30 to 40 individuals in the lowland dry ecosystem on east Maui (HBMP 2010, Medeiros 2010, in litt.). Maui—Lowland Dry—Unit 3 contains one or more of the physical and biological features of the lowland dry ecosystem (Table 5), similar to those at the location cited by the commenter. The recovery guidelines for short-lived perennial plant species such as *M. kamolensis* are 8 to 10 populations of 300 individuals per population, sustained over a minimum of 5 years (Service 1997, pp. iv–v), for a total of 2,400 to 3,000 individuals in 8 to 10 self-sustaining populations. With a single known occurrence of only 30 to 40 individuals at present, population growth will be essential to the conservation of the species, as will the reestablishment of multiple new populations in areas of currently unoccupied lowland dry habitat. Therefore, additional areas of suitable habitat within the historical range of *M. kamolensis* in the lowland dry ecosystem on east Maui are essential for the recovery of this species. Although areas of suitable habitat in the lowland dry ecosystem are now limited, Maui—Lowland Dry—Unit 3 provides one of the few remaining areas that includes several of the physical or biological features essential to the conservation of the plant species that depend upon this habitat type, including appropriate elevation, substrate, rainfall, and associated native plant species. Maui—Lowland Dry—Unit 3 provides unoccupied habitat separated from Maui—Lowland Dry—Unit 1, Maui—Lowland Dry—Unit 2, and Maui—Lowland Dry—Unit 4, so that, in case of catastrophic events such as drought and fire, an occurrence of this species could persist. See also responses to *Comment* (88), (89), (93), and (109) for additional details of the characteristics specific to this unit that we have determined are essential to the conservation of the Maui Nui species.

(100) *Comment*: One commenter stated that Maui—Lowland Dry—Unit 3 may not be suitable habitat for *Melicope adscendens*. The primary reason provided by the commenter was that this species is “known only from mesic forest at Auwahi (Wagner *et al.* 1990, p. 1,183).” In addition, the commenter argued that the environment in Maui—Lowland Dry—Unit 3 is far too dry in contrast to the Auwahi exclosures,

which are situated above 3,100 ft, receive regular fog drip, and are able to support kikuyu, the widespread nonnative pasture grass, as the dominant ground cover.

*Our Response*: The information provided by the commenter from Wagner *et al.* (1990, p. 1,183) regarding the geographic range of *Melicope adscendens* in mesic forest on east Maui is accurate, although Wagner *et al.* do not give an elevational range for this species. The elevation of the Auwahi exclosures range from 3,200 to 4,400 ft (980 to 1,340 m) in the dry and mesic forest ecosystems on east Maui (TNC 2007; LHWRP 2010, pp. 1–4). We have determined, based on the best available scientific data for this species, that Maui—Lowland Dry—Unit 3 does not provide the physical or biological feature of elevation that is considered essential for the conservation of *M. adscendens*, and that this unoccupied area is not essential to the conservation of the species. Currently, there are areas within the required elevational range of the species within Maui—Lowland Dry—Unit 1 that provide habitat for this species’ conservation. Therefore, based on the best scientific data available at this time, Maui—Lowland Dry—Unit 3 is not designated as critical habitat for *M. adscendens* in this final rule as it does not meet the definition of critical habitat for this species (see Summary of Changes from Proposed Rule, below).

(101) *Comment*: One commenter stated that Maui—Lowland Dry—Unit 3 may not be suitable habitat for *Melicope mucronulata*. The primary reason provided by the commenter was a statement cited in Wagner *et al.* (1990, p. 1,196) that this species was “not seen on Maui in recent time, but previously collected from the south slope of east Maui mountain.” The commenter also cited our June 11, 2012, proposed rule (77 FR 34464) that this species is “not known to be an inhabitant of the lowland dry ecosystem.”

*Our Response*: The tree species *Melicope mucronulata* currently occurs only on the island of Molokai, where a total of four individuals are known to occur, three in one location, and one in another. Its current status on Maui is not known, although on east Maui, *M. mucronulata* is known historically from one occurrence in the lowland dry ecosystem, and from one occurrence in the montane dry ecosystem (TNC 2007; HBMP 2010). The recovery guidelines for long-lived perennial plant species such as *M. mucronulata* are 8 to 10 populations of 100 individuals per population, sustained over a minimum of 5 years and within its historical range (Service 1997, pp. iv–v). This translates

to a total of at least 800 to 1,000 individuals in 8 to 10 populations across its historical range. Significant population growth and the reestablishment of populations in suitable habitat across its historical range will be required to achieve the conservation of this species. Areas of suitable habitat within the historical range of *M. mucronulata* include the lowland dry ecosystem on east Maui (TNC 2007; HBMP 2010). Maui—Lowland Dry—Unit 3 contains one or more of the physical and biological features of the lowland dry ecosystem (see *Comment* (88), (89), (93), (109), and Table 5). This unit is considered particularly important for the recovery and conservation of *M. mucronulata* because the last known location of an individual of this species was located in or near Maui—Lowland Dry—Unit 3. We therefore consider Maui—Lowland Dry—Unit 3 essential to the conservation of this species, as the last known occurrence of the species there indicates this specific area has a high likelihood of either supporting unknown remaining representatives of the species, or at least the potential to support the species in response to recovery efforts. We are unable to find the statement cited by the commenter that *M. mucronulata* is “not known to be an inhabitant of the lowland dry ecosystem.” Our June 11, 2012, proposed rule (see 77 FR 34521) states, “The occurrence status of *M. mucronulata* in the lowland dry and montane dry ecosystems on east Maui is unknown.”

(102) *Comment*: One commenter stated that Maui—Lowland Dry—Unit 3 may not be suitable habitat for *Neraudia sericea*. The primary reason provided by the commenter was that this species is “found above 2,200 ft in mesic to dry forest (Wagner *et al.* 1990, p. 1,304).” The commenter also cited information in our proposed rule (June 11, 2012; 77 FR 34464) that “on east Maui, (this species) is now known only from Kahikinui, and not observed in lowland dry ecosystem since 1900.”

*Our Response*: On east Maui, *Neraudia sericea* is known historically from the lowland dry and montane dry ecosystem, and currently from multiple occurrences in the montane dry ecosystem (TNC 2007; HBMP 2010). Historical information for *N. sericea* indicates it was once wide-ranging on east Maui and well within the lowland dry ecosystem, and at elevations as low as 900 ft (270 m) (HBMP 2010), and also was known from Molokai, Lanai, and Kahoolawe (Wagner *et al.* 1999cc, p. 1,304). The recovery guidelines for short-lived perennial plant species such

as *N. sericea* are 8 to 10 populations of 300 individuals per population, sustained over a minimum of 5 years and within its historical range (Service 1999, pp. iv–v). The conservation of this species will therefore require attaining a total of 2,400 to 3,000 individuals in 8 to 10 self-sustaining populations across its historical range. Currently, this species is known from a total of five individuals at a single location, at Kahikinui on east Maui (HBMP 2010; Medeiros 2010, in litt.). Significant population growth, expansion and reestablishment in suitable habitat across its historical range will be essential to the conservation of this species. Although areas of suitable habitat in the lowland dry ecosystem are now limited, Maui—Lowland Dry—Unit 3 provides one of the few remaining areas that includes several of the physical or biological features essential to the conservation of the plant species that depend upon this habitat type, including appropriate elevation, substrate, rainfall, and associated native plant species (see also *Comment* (88), (89), (93), and (109)). Areas of suitable habitat within the historical range of *N. sericea* include the lowland dry ecosystem on east Maui. Considering all of this information, we have determined that Maui—Lowland Dry—Unit 3 is within the historical range of this species, contains one or more of the physical and biological features of the lowland dry ecosystem (see Table 5), and is essential to its conservation to attain the recovery goals as stated above.

(103) *Comment*: One commenter stated that Maui—Lowland Dry—Unit 3 may not be suitable habitat for *Solanum incompletum*. The primary reason provided by the commenter was that this species is “found above 2,200 ft in mesic to dry forest (Wagner *et al.* 1990, p. 1,271).” The commenter also cited information in our June 11, 2012, proposed rule (77 FR 34464) that this species is “apparently no longer extant on Maui.”

*Our Response*: According to Symon (in Wagner *et al.* 1999, p. 1,271), *Solanum incompletum* occurs in dry to mesic forest, diverse mesic forest, and subalpine forest, from 2,000 to 6,600 ft (600 to 2,020 m) on Kauai, Molokai, Lanai, Maui, and Hawaii Island. The broad elevational range and distribution among islands suggests that *S. incompletum* may occupy a broad range of ecosystems. Although this species no longer occurs on Maui, historically it was reported from the lowland dry ecosystem in the area of Maui—Lowland Dry—Unit 3 on east Maui (TNC 2007; HBMP 2010). The recovery guidelines for short-lived perennial

plant species such as *S. incompletum* are 8 to 10 populations of 300 individuals per population, sustained over a minimum of 5 years and within its historical range (Service 1999, pp. iv–v). The conservation of this species will therefore require a total of approximately 2,400 to 3,000 individuals in 8 to 10 self-sustaining populations across its historical range, which formerly included five islands. Currently, this species is known from 3 occurrences totaling 14 individuals on the single island of Hawaii (PEPP 2009, p. 26). Significant population growth, expansion, and reestablishment in suitable habitat across its historical range will be essential to the conservation of this species. Areas of suitable habitat within the historical range of *S. incompletum* include the lowland dry ecosystem on east Maui. Maui—Lowland Dry—Unit 3 is in the area where *S. incompletum* was once found on east Maui, and is essential to the conservation of the species because it provides one of the few remaining areas that includes several of the physical or biological features essential to the conservation of the plant species that depend upon this habitat type, including appropriate elevation, substrate, rainfall, and associated native plant species (see responses to *Comment* (88), (89), and (93), as well as (109)). We therefore conclude that Maui—Lowland Dry—Unit 3 is essential to the conservation of the species in order to attain the recovery goals for this species.

(104) *Comment*: Several commenters noted the occurrence of the endangered plant *Canavalia pubescens* (awikiwiki) on lands owned by Honuaula Partners and the threat of development posed by the proposed Honuaula (also known as Wailea 670) development within Maui—Lowland Dry—Unit 3. The commenters supported Maui—Lowland Dry—Unit 3 as proposed, and likewise did not support the developer’s proposal to set aside an area less than the maximum acreage specified by County zoning conditions. One commenter recommended extending the northern boundary of the unit to include the historic rock wall “that demarcates the remnant dry forest habitat from the deep soil habitat which is devoid of native plant species.” The commenters also did not support the conservation measures included in the developer’s draft State and Federal habitat conservation plan (HCP).

*Our Response*: We are aware that *Canavalia pubescens* occurs on lands owned by Honuaula Partners and appreciate the commenters’ support for Maui—Lowland Dry—Unit 3. We note

the suggestion to extend the northern boundary of the unit but were provided no supporting information to justify this change in the unit boundary. Honuaula Partners, LLC, has been working with the State Department of Land and Natural Resources (DLNR) and the Service to develop a State and Federal HCP that addresses impacts to the endangered Blackburn's sphinx moth, the endangered plant *C. pubescens*, and other listed plant species and their habitat. A draft of this plan has been released for public comment by the Hawaii Department of Land and Natural Resources. The HCP applicant is revising the draft HCP and we anticipate a request for public comments based on the updated draft. As this HCP is being considered in a separate regulatory process that is not yet completed, it is inappropriate for us to respond to the statements regarding the land acreage set aside and County zoning conditions, and the conservation measures included in the draft HCP in this rule.

(105) *Comment*: One commenter stated that all remaining habitat for *Canavalia pubescens* is essential to its conservation, and exclusion of habitat in the Wailea 670 (Honuaula Partners, LLC) development would very likely contribute to the extinction of the species.

*Our Response*: We carefully reviewed the areas proposed as critical habitat and the recovery needs of *Canavalia pubescens* in the lowland dry and coastal ecosystems on the islands of Maui and Lanai, respectively (77 FR 34464). In this final rule, for the reasons described above (see our response to *Comment* (44), (74), (88), (89), (93), and (109)), critical habitat is designated for *C. pubescens* and 18 other plants in four lowland dry critical habitat units (Maui—Lowland Dry—Unit 1 through Maui—Lowland Dry—Unit 4). Proposed critical habitat on Lanai is excluded from final designation under section 4(b)(2) of the Act (see *Exclusions Based on Other Relevant Factors*, below).

(106) *Comment*: One commenter requested that the land owned by Honuaula Partners, LLC, in Maui—Lowland Dry—Unit 3 be excluded from critical habitat designation pursuant to the criteria under section 4(b)(2) of the Act and on the basis of the draft habitat conservation plan under development. The commenter also added that Honuaula Partners, LLC, wishes to use its lands in a way that would actively help conserve and assist in the recovery of endangered and threatened species, and added that Honuaula Partners, LLC, looks forward to partnering with the Service and Hawaii DLNR to create mitigation measures that will benefit

many other species as well. The commenter stated that designation of critical habitat on land owned by Honuaula Partners, LLC, will constrain their ability to develop their property to generate income to support conservation actions, and be less beneficial to the species.

*Our Response*: The draft Federal HCP is being developed and is under revision. Therefore, at this time, we are not excluding lands owned by Honuaula Partners, LLC in Maui—Lowland Dry—Unit 3 under section 4(b)(2) of the Act. See also our responses to *Comment* (105) and (107).

(107) *Comment*: One commenter stated that the Honuaula project will provide significant economic benefits to Maui and the Kihei-Makena region over the coming 2 decades.

*Our Response*: The Service does not anticipate loss of economic benefits of this project to Maui. The Honuaula project, a master planned community with residential, commercial, and recreational uses, has been in development for many years, and the developer, Honuaula Partners, LLC, has been working with the Service to develop an HCP as part of its application for an incidental take permit. The draft HCP considers the impacts of the project on Blackburn's sphinx moth and the nene (Hawaiian goose, *Branta sandvicensis*), as well as the Maui Nui species. The draft HCP includes a variety of conservation measures, including a 40-acre on-site conservation easement and 354 acres of off-site conservation easements. In response to the proposed critical habitat rule for the Maui Nui species, the Service made some additional conservation recommendations to Honuaula Partners. In response to these recommendations, Honuaula Partners elected to provide \$125,000 to contribute to a fencing project in lowland dry habitat, perform fence maintenance, and to include an additional nine plant species in their outplanting efforts. Because these measures were not planned prior to the proposed designation of critical habitat for the Maui Nui species, our FEA considers this cost to be an incremental impact of the designation (IEc 2015, p. 3–16–3–17). There may additional administrative costs associated with section 7 consultation as well, estimated at \$4,000 (these costs, however, would be borne primarily if not entirely by the Service). Finally, there are unquantified impacts associated with project delays to allow for revision of the draft HCP, and there may be some additional costs associated with any additional measures that may be recommended by the

Service to avoid adverse effects to critical habitat. Such costs are, however, only potential and uncertain at this time (IEc 2015, p. 3–17). The roughly \$130,000 cost of additional conservation measures and administrative effort is a low end estimate of the incremental impacts of critical habitat designation on this project. However, it is important to note that the purpose of these conservation recommendations is to allow the Honuaula project to move forward; there is no information to suggest that the anticipated economic benefits to this area will not be realized. See also our response to *Comment* (106).

(108) *Comment*: One commenter stated that the Makena Property in Maui—Lowland Dry—Unit 3 is not occupied by any of the current or proposed endangered species and, unless the Service determines that the area is necessary for the conservation of the species, is not necessary for the conservation of any of the listed species (50 CFR 424.02(d)(2)).

*Our Response*: See our responses to *Comment* (44), (74), (88), (89), (93), (95) through (99), (101) through (103), and (109). For the reasons described in this rule, we have determined that the area within Maui—Lowland Dry—Unit 3 is occupied by *Canavalia pubescens* and provides the physical or biological features essential to the conservation of this and 16 other species, and these features require special management considerations or protections. We have also determined that the unit is essential for the recovery and conservation of 16 listed lowland dry plant species as unoccupied habitat. Please see the Methods section of this document for a detailed discussion of how we determined that the area currently occupied by each of these species is inadequate to provide for their conservation, and that unoccupied habitat is essential for the conservation of the Maui Nui plant species. In addition, our responses to the comments referenced above underscore the habitat characteristics specific to Maui—Lowland Dry—Unit 3 that makes this particular unit essential to the conservation of all of these 17 plant species.

(109) *Comment*: One commenter stated the Makena Property in Maui—Lowland Dry—Unit 3 is not a suitable environment for many of the listed species, and that the June 11, 2012, proposed rule (77 FR 34464) ignores the impact on this property from drought, invasive plants, deer, stock grazing, insect predators, agriculture, and miscellaneous land disturbances.

*Our Response*: See our responses to *Comment* (44), (74) (88), (89), (93), (95)

through (99), and (101) through (103). Although Maui—Lowland Dry—Unit 3 is within an area affected by invasive plants and other disturbances, this unit has the capability to be functionally restored to support the physical and biological features and provide essential habitat for the 17 species for which it is designated critical habitat. Due to its relative accessibility, the lowland dry ecosystem is one of the most negatively affected native habitats on the island of Maui, experiencing current and ongoing threats of development and urbanization, introduced ungulates, nonnative plants, fire, and hurricanes. As a result, there are no areas of lowland dry habitat that remain in pristine condition or are unaffected to some degree by these various deleterious agents. For this reason, an area such as Maui—Lowland Dry—Unit 3 that still maintains relatively high potential for restoration is particularly valuable for the recovery of the Maui Nui species that depend on this habitat, and is therefore considered essential to their conservation. See also the Methods section regarding “Unoccupied Areas” for additional details on the essential nature of unoccupied areas with the inherent potential for restoration to support reintroduced populations.

(110) *Comment*: One commenter stated that the cost of reintroduction would be tremendous because the Makena Property in Maui—Lowland Dry—Unit 3 is not occupied by any of the current or proposed endangered species.

*Our Response*: We acknowledge that the Makena Property is not currently known to be occupied by any of the 17 species for which Maui—Lowland Dry—Unit 3 is designated as critical habitat; however, other areas of the unit are occupied by *Canavalia pubescens* with some individuals within 220 ft (68 m) of the Makena Property boundary. In addition, due to the small population sizes, few numbers of individuals, and reduced geographic range of each of the 17 species for which critical habitat is here designated, we have determined that a designation limited to the known present range of each species would be inadequate to achieve the conservation of those species. For the reasons described above, and reiterated in our response to *Comment* (109), all of Maui—Lowland Dry—Unit 3, whether occupied or unoccupied, is considered essential to the conservation of the 17 species for which it is designated. The areas believed to be unoccupied, and that may have been unoccupied at the time of listing, which includes the Makena Property, have been determined to be essential for the conservation of

the species because they provide the physical or biological features necessary for the expansion of existing wild populations and reestablishment of wild populations within the historical range of the species (see *Comment* (44), (74) (88), (89), (93), (95) through (99), (101) through (103) and (109)). We recognize that species recovery actions will require substantial resources. However, critical habitat designation does not obligate the land owner to undertake any conservation measures.

(111) *Comment*: One commenter stated that the proposed rule fails to acknowledge that the boundaries of the proposed unit Maui—Lowland Dry—Unit 3 includes their property.

*Our Response*: Our June 11, 2012, proposed rule does not identify landownership for individual parcels, nor is it possible to do so given the constraints on resolution for maps published in the **Federal Register**. However, we endeavored to reach all landowners whose property was within proposed critical habitat by letter following publication of the June 11, 2012, proposed rule (77 FR 34464) and following publication of our January 31, 2013, document reopening the comment period on the proposed rule (78 FR 6785) (see our response to *Comment* (45), above).

(112) *Comment*: Some commenters questioned the criteria used to determine the proposed unit boundaries for Maui—Lowland Dry—Unit 3. The commenters stated that the “boundary lines do not correspond to existing property boundaries, geological features, soil types or vegetation,” and, therefore, the commenters suggested that the “process was broad brush and driven, at least partly, by considerations other than those mandated by law” and that the designation is likely to be considered arbitrary and capricious.

*Our Response*: As required by section 4(b)(2) of the Act, we used the best scientific data available in determining those areas that contain the physical or biological features essential to the conservation of the Maui Nui species, by identifying the occurrence data for each species and determining the primary constituent elements based on the ecosystems upon which they depend, as well as other relevant factors. The information we used is described in our June 11, 2012, proposed rule and in this final rule (see Methods). The criteria used to identify critical habitat boundaries, including the boundaries for Maui—Lowland Dry—Unit 3, are described in our proposed rule (77 FR 34464; June 11, 2012) and in this final rule (see below, *Criteria Used to Identify Critical*

*Habitat*). Boundaries for this unit in particular were determined using current and historical species locations and the presence of the physical and biological features based on rainfall data, soil type data and observations from on-site surveys including locations and distribution of the endangered *Canavalia pubescens*, along with the distribution of other native lowland dry plant species. As defined in section (3)(5)(C) of the Act, critical habitat shall not include the entire geographical area which can be occupied by the threatened or endangered species.

(113) *Comment*: One commenter stated that the proposed rule fails to adequately explain the portion of the 6,537 ac (2,645 ha) owned by Ulupalakua Ranch under consideration for exclusion from critical habitat designation in Maui—Lowland Dry—Unit 3.

*Our Response*: Our June 11, 2012, proposed rule (77 FR 34464) identified some of the specific landowners under consideration for exclusion under section 4(b)(2) of the Act. In that proposed rule, we indicated that we were considering excluding 6,537 ac (2,645 ha) of land owned by Ulupalakua Ranch under section 4(b)(2) of the Act, and we presented a discussion of our rationale in *Conservation Partnerships on Non-Federal Lands*. In addition, Figure 5—Ulupalakua Ranch (see 77 FR 34464; June 11, 2012) presented the specific area owned by Ulupalakua Ranch under consideration for exclusion. In this final rule, we have excluded 6,537 ac (2,645 ha) of land on Ulupalakua Ranch from critical habitat (see below, *Exclusions Based on Other Relevant Factors*, and Figure 5—Ulupalakua Ranch, in the document “Supplementary Information for the Designation and Nondesignation of Critical Habitat on Molokai, Lanai, Maui, and Kahoolawe for 135 Species,” available on the Internet at <http://www.regulations.gov> under Docket No. FWS-R1-ES-2015-0071).

Public Comments Specific to the Island of Lanai

(114) *Comment*: One commenter expressed opposition to the designation of critical habitat on private lands on Lanai because the commenter believes the designation will negatively impact the rights of private landowners, will serve as a disincentive for landowners to participate in voluntary conservation efforts, and will have negative consequences for Castle and Cooke Resorts, LLC, who had committed substantial resources and efforts towards implementing a 2002 memorandum of agreement with the

Service. This commenter stated that the designation of additional critical habitat is unnecessary in light of the already ongoing conservation management activities benefiting endangered species on the island and will result in little if any additional benefit to the species, and that any limited regulatory, educational, or recovery benefits that might arise from the designation are greatly outweighed by the benefits of encouraging and acknowledging voluntary conservation efforts by other private landowners.

*Our Response:* The Service recognizes the importance of landowner cooperation for recovery of listed species. This is especially true for the island of Lanai, which is almost entirely under private ownership by two entities (Castle and Cooke Properties, Inc., and Lanai Resorts, LLC, now known as Pulama Lanai). Conservation of rare species on Lanai requires control of threats from alien plant and animal species, fire, and proactive propagation and translocation of species into their historical range where they no longer occur. Castle and Cooke Properties, Inc., and Pulama Lanai cooperate with the Service, the State of Hawaii, and other organizations to implement voluntary conservation activities on their lands that result in conservation benefits to the species and their habitat. We agree with the commenter that listed species can realize significant benefits as a result of conservation partnerships with private landowners; because the majority of endangered or threatened species are found on private lands, the Secretary places great value on such partnerships. For the reasons described below (see “*Exclusions Based on Other Relevant Factors*”), the Secretary has determined that the benefit of excluding the areas proposed for critical habitat on Lanai outweighs the benefits of including them in the designation; therefore we have excluded all lands on Lanai from critical habitat in this final rule under section 4(b)(2) of the Act.

(115) *Comment:* One commenter opposed the overlap of proposed critical habitat on Lanai with water utility infrastructure (*i.e.*, pipelines, tanks, reservoirs, etc.), communications infrastructure (*i.e.*, antennae, roadways, etc.), existing electric utility infrastructure owned by Maui Electric Company, Ltd. (MECO), family housing, parks, golf courses, the Lanai Cemetery, and the Lanai Pine Sporting Clays and Archery Range (Sporting Clay Range), located along Keomuku Road. The commenter stated that these areas do not contain the PCEs and should not be included in the critical habitat designation.

*Our Response:* The commenter is correct that structures and urbanized landscape areas such as those mentioned above are considered manmade features and therefore would not be considered critical habitat pursuant to this final rule, because these features and structures normally do not contain, and are not likely to develop, any primary constituent elements and do not meet the definition of critical habitat. Thus, unless the operation and maintenance of such facilities would indirectly affect critical habitat, the facilities would not be affected by section 7 of the Act. Furthermore, operation and maintenance of existing manmade features and structures adjacent to and within critical habitat are not subject to section 7 consultation, unless they involve Federal funding or permitting and they affect the critical habitat or the species. We removed the area containing the existing water utility infrastructure owned by MECO for the reasons described above (see response to *Comment* (40)), because these lands are modified by the infrastructure and do not contain the physical or biological features required by the species, are not likely to develop the primary constituent elements, and are not otherwise essential to the conservation of these species.

(116) *Comment:* One commenter objected to the overlap of proposed Lanai—Dry Cliff—Unit 1 with the Experience Golf Course at Koele.

*Our Response:* The commenter is correct that structures and urbanized landscape areas such as golf courses are considered manmade features and therefore are not considered critical habitat pursuant to this final rule, because these features do not meet the definition of critical habitat.

(117) *Comment:* The proposed Lanai—Lowland Mesic—Unit 1 includes a portion of the planned Lanai wind farm to be located on approximately 7,000 acres in the northwest portion of the island of Lanai. Meetings or coordination with several local, State, and Federal agencies have been conducted to identify the potential permits or authorizations that may be required for various parts of the proposed project. These Federal permits and any Federal funds used as part of the Lanai wind project will trigger a burdensome and costly obligation for consultation under section 7 of the Act. The wind project is not presently subject to this consultation obligation, and current project budgets do not anticipate this additional expense, nor should the project have to incur this expense.

*Our Response:* For the reasons described below (see “*Exclusions Based on Other Relevant Factors*”), critical habitat is not designated on the island of Lanai in this final rule, as a consequence of exclusions under section 4(b)(2) of the Act. However, we wish to point out that exclusion from critical habitat does not relieve the planned Lanai wind farm from required Federal permits and consultations with the Service, due to the impacts of the construction, running, and maintenance of the wind farm on Federal and State listed species present in the project area (for example, there are listed seabirds present, in addition to the relevant Maui Nui species addressed in this final rule). The protections of section 9 of the Act still apply, and consultation is still required under section 7 if listed species may be affected; exclusion from critical habitat removes only the requirement to consult with the Service on effects to critical habitat. Therefore, it is incorrect to state that the wind farm project “is not presently subject to this consultation obligation.”

(118) *Comment:* One commenter noted the discussion in our proposed rule at 77 FR 34496 (June 11, 2012) regarding the potential effects of changes in environmental conditions that may result from global climate change on the 38 species proposed for listing and the Maui Nui ecosystems. This commenter noted our regulations at 50 CFR 424.12(a)(1)(ii), which state that critical habitat designation is not prudent if such designation “would not be beneficial to the species.” According to the commenter, designation of critical habitat on Lanai will adversely affect the development of the proposed wind farm, a renewable energy project intended to have a positive impact on climate change. Therefore, the benefits to these species will be lost, and critical habitat designation is arbitrary, capricious, an abuse of the Service’s discretion, and not in accordance with law.

*Our Response:* We share the commenter’s concern for minimizing and ameliorating climate change and its effects upon Hawaii’s endangered and threatened plants and animals. In our proposed rule, in the absence of finding that the designation of critical habitat would increase threats to a species, if there are any benefits to a critical habitat designation, then a prudent finding is warranted (see Prudency Determination for 44 Maui Nui Species, at 77 FR 34511; June 11, 2012). The potential benefits to the 44 species include: (1) Triggering consultation under section 7 of the Act for actions in which it would not otherwise occur; (2)



focusing conservation activities on the most essential features and areas; (3) providing educational benefits to State or county governments or private entities; and (4) preventing people from causing inadvertent harm to the species. While the commenter states that “the benefits to these species will be lost” from positive impacts to climate change due to critical habitat designation on Lanai, for the reasons given at 77 FR 34512 (June 11, 2012), we found designation of critical habitat to be prudent for these 44 species. Prudency determinations for the other 91 species were made in previous rulemakings (see above, *Previous Federal Actions*). In addition, for the reasons described below (see *Exclusions Based on Other Relevant Factors*), critical habitat is not designated on the island of Lanai in this final rule, as a consequence of exclusions under section 4(b)(2) of the Act.

(119) *Comment:* One commenter stated that the areas where the proposed critical habitat designation overlaps the proposed Lanai wind farm are devoid of the plant species for which the designation is proposed. The commenter also stated that extensive erosion is not identified in the proposed rule and that the cost of any habitat restoration in these extremely eroded areas would be prohibitive.

*Our Response:* The commenter is referring to proposed Lanai—Lowland Mesic—Unit 1, a proposed critical habitat unit totaling 11,172 ac (4,521 ha) that overlaps the jeep road area, east of and including the “Garden of the Gods” area. The jeep road would be used to access the wind tower project area. Based on our understanding of existing wind projects in Hawaii and elsewhere, the actual footprint of wind tower facilities is quite small, and on Lanai it is anticipated that the existing jeep road will be used for access to the wind tower project. Lanai—Lowland Mesic—Unit 1 was proposed as critical habitat for a total of 13 plant species, and is occupied by 5 species and unoccupied by 8 species. This critical habitat unit provides the physical or biological features essential to the conservation of the species and requires special management considerations or protections (e.g., feral ungulate control) (occupied habitat) or habitat that is essential to the conservation and recovery of the species (unoccupied habitat). Due to their small numbers of individuals or low population sizes, suitable habitat and space for expansion or reintroduction are essential to achieving population levels necessary for the recovery of the species. There are seven fenced units (TNC’s Kanepuu

units) spaced along approximately 4.5 miles (7 km) of the summit ridge. To protect these fenced units, provide enough landscape-scale ecosystem habitat for recovery of the 13 lowland mesic species, and to prevent “edge effects,” Lanai—Lowland Mesic—Unit 1 was delineated in the proposed rule to provide an essential area of habitat up to 1,000 ft (400 m) from the current fencelines. Removal of ungulates (axis deer and mouflon) from within this unit would allow regrowth of vegetation and prevent the ultimate progression of erosion into the fenced units (Laurance *et al.* 2002 in Miller 2009, in litt.). This is an effective and relatively inexpensive approach to begin restoration efforts in this area, and has been demonstrated in other restoration areas on east Maui at Auwahi and Nuu Mauka, and on the island of Kahoolawe, especially if ungulates are controlled and the seed bank is established through seed-scattering (Medeiros 1999, 14 pp.). In any case, for the reasons described below (see *Exclusions Based on Other Relevant Factors*), critical habitat is not designated on the island of Lanai in this final rule, as a consequence of exclusions under section 4(b)(2) of the Act.

(120) *Comment:* One commenter stated that the proposed rule applies broad-brush designations on Lanai that cover vast territory with entirely disparate ecosystems, elevations, and terrain such that designation is without an adequate scientific basis. According to this commenter, the Service did not establish any rational basis for concluding that each designated ecosystem unit has all of the necessary primary constituent elements (PCEs). Throughout the proposed rule, boundaries for units are drawn without regard for the actual unit definitions and PCEs, including vastly disparate terrain and ecological conditions. Indeed, areas described in the proposed rule as having certain topography, rainfall, and other “essential” elements do not have those conditions at all. Often, even correct descriptions are so generalized as to be almost meaningless in the context of assessing whether areas are critical for survival of a species. The result of drawing boundaries without particular regard to the unit definition compels the conclusion that either the PCEs are, in fact, unimportant or the environment is not critical for specific species recovery.

*Our Response:* When determining critical habitat we used the best available scientific information, including TNC’s High Island Ecoregion Plan, along with the accompanying GIS ecosystem data. When we found inconsistencies with regard to data from

more recent botanical surveys, geological and vegetation databases, and other resources, we conducted an analysis to determine which ecosystem characteristics best represented the area and the species’ needs at a large landscape scale. However, for the reasons described below (see *Exclusions Based on Other Relevant Factors*), critical habitat is not designated on the island of Lanai in this final rule, as a consequence of exclusions under section 4(b)(2) of the Act.

(121) *Comment:* One commenter disputed our characterizations of ecosystem type and definitions of PCEs within several proposed critical habitat units on Lanai including Lanai—Coastal Unit—1, Lanai—Coastal—Unit 2, Lanai—Coastal Unit—3, Lanai—Lowland Dry—Unit 1, Lanai—Lowland Dry—Unit 2, Lanai—Lowland Mesic—1, and Lanai—Dry Cliff—1. The commenter stated that characterizations of ecosystem type and the described PCEs for these units were either incorrect or contradictory or both.

*Our Response:* We disagree. We consider the PCEs as described for each unit and for each species to be the specific compositional elements of physical and biological features that are essential to the conservation of those species. Our proposed rule (77 FR 34464; June 11, 2012) identified the PCEs that support the life-history processes for each species within the ecosystems in which they occur, and reflects a distribution that we believe achieves the species’ recovery needs. The described ecosystems’ features include the appropriate microclimatic conditions for germination and growth of the plants (e.g., light availability, soil nutrients, hydrologic regime, and temperature, and space within the appropriate habitats for population growth and expansion). The PCEs are defined by elevation, annual levels of precipitation, locally influenced fog-drip, substrate type and slope, and the characteristic native plant genera in the canopy, subcanopy, or understory levels of the vegetative community. The physical or biological features for each of the described ecosystems were presented in Table 5 of our proposed rule (77 FR 34464; June 11, 2012) and were derived from several sources, including:

(a) The Nature Conservancy’s Ecoregional Assessment of the Hawaiian High Islands (2006) and ecosystem maps (2007);

(b) Natural Resources Conservation Service’s soil type analysis data layer for GIS mapping;

(c) Ecosystem community analyses by Gagne and Cuddihy (1999, pp. 45–114);

(d) Geographic information system maps of habitat essential to the recovery of Hawaiian plants (Hawaii and Pacific Plant Recovery Coordinating Committee 1998);

(e) GAP (geographic analysis program) vegetation data (GAP 2005);

(f) Projections of geographic ranges of plant species in the Hawaiian Islands, including climate data, substrate data, topography, soils, and disturbance, Price *et al.* 2012 (34 pp. + appendices);

(g) Final critical habitat designations for the island of Lanai (68 FR 1220; January 9, 2003); and

(h) Recent biological surveys, site visits, and scientific reports regarding species and their habitats.

(122) *Comment:* One commenter stated that the area of proposed critical habitat for the Lanai tree snails (*Partulina semicarinata* and *P. variabilis*) was excessive and too extensive based upon the known biology of these species and was therefore unlawful.

*Our Response:* We disagree. The extent and range of habitat required by these species (lowland wet, montane wet, wet cliff) is well-documented. Both species were once widely distributed on Lanai. Historically, *Partulina semicarinata* was found in wet and mesic *Metrosideros polymorpha* forests on Lanai. In 1993, 105 individuals of *P. semicarinata* were found during surveys conducted in its historical range. Subsequent surveys in 1994, 2000, 2001, and 2005 documented this species in the lowland wet, montane wet, and wet cliff ecosystems in central Lanai (Hadfield 2005, pp. 3–5; TNC 2007). *Partulina variabilis* was found historically in wet and mesic *Metrosideros polymorpha* forests on Lanai. In 1993, 111 individuals of *P. variabilis* were found during surveys conducted in its historical range. Subsequent surveys in 1994, 2000, 2001, and 2005 documented this species in the lowland wet, montane wet, and wet cliff ecosystems in central Lanai (Hadfield 2005, pp. 3–5; TNC 2007).

For each tree snail, *Partulina semicarinata* and *P. variabilis*, we proposed critical habitat in the habitat types and in the amount and distribution we concluded is essential to the conservation of these species. Under the Act's sections 4(a)(3) and 4(b)(2) and our regulations at 50 CFR 424.14, we are to designate critical habitat on the basis of the best scientific data available. The best scientific data available include the surveys conducted over the past 20 years and unpublished reports cited above, which indicated that the areas proposed as critical habitat for the Lanai tree snails are essential for the

conservation of the species. Regardless, for the reasons described below (see *Exclusions Based on Other Relevant Factors*), we have excluded all lands on Lanai under section 4(b)(2), including the lands that we proposed for critical habitat for these two tree snails, from critical habitat designation in this final rule. We again note that exclusion from critical habitat does not indicate that these areas are not essential for the conservation of the species, only that the Secretary has determined that the benefits of excluding these areas outweigh the benefits of including them in critical habitat (and that the exclusion will not result in the extinction of the species).

(123) According to one commenter, the proposed rule violates the Act, Administrative Procedure Act (APA; 5 U.S.C. Subchapter II), various Executive Orders, and the 2002 memorandum of agreement between the Service and Castle and Cooke Resorts.

*Our Response:* We disagree. Section 4(a)(3)(A) of the Act provides the Secretary with the responsibility to designate critical habitat for endangered or threatened species to the maximum extent prudent and determinable. Section 4(b)(2) of the Act directs the Secretary (acting through the Service) to designate critical habitat on the basis of the best scientific data available and after taking into consideration the economic impact, the impact on national security, and any other relevant impact of the designation. The Administrative Procedure Act (APA) governs the process by which Federal agencies develop and issue regulations. It requires the Federal agency to publish notices of proposed and final rulemaking in the **Federal Register**, and to provide opportunities for public comment. In our June 11, 2012, proposed rule (77 FR 34464) and in this final rule we used the best scientific data available (see Methods, below). Following publication of our proposed rule, we had 135 days of public comment and held a public information meeting and public hearing. We determined that the proposed rule would have no impact on national security, but as a result of considering other relevant impacts, we evaluated and determined that the benefits of excluding several areas from designation outweighed the benefits of inclusion, and will not lead to the extinction of the species. The 2002 MOA referenced by the commenter has been replaced by the 2015 Memorandum of Understanding (MOU). As a result of the conservation benefits provided by this 2015 MOU, in part, in this final rule, all areas proposed as

critical habitat on Lanai are excluded from designation (see below, *Exclusions Based on Other Relevant Factors*).

(124) *Comment:* One commenter stated that the proposed rule failed to provide sufficiently detailed narrative descriptions of the proposed units on Lanai to allow fair comment. Additionally, the commenter stated that the proposed rule contained only generalized maps to indicate the areas proposed for designation, and this failure to provide sufficient maps and information to allow fully informed public review and comment was not in accordance with law.

*Our Response:* A description of each critical habitat unit is found in *Descriptions of Proposed Critical Habitat Units* in the June 11, 2012, proposed rule (77 FR 34464). In the Proposed Regulation Promulgation section of our proposed rule, we used a placeholder, “[Reserved for textual description of . . .],” to refer to the UTM coordinates for unit delineation using GIS, which, until recently, were identified and published in the **Federal Register** in final rulemakings. However, on May 1, 2012, the Service published a final rule (77 FR 25611) revising the regulations for requirements to publish textual descriptions of final critical habitat boundaries in the **Federal Register**. As of May 31, 2012 (the effective date of that final rule), the Service no longer publishes the coordinates for critical habitat boundaries in the **Federal Register**. The coordinates on which each map is based are available to the public at the Federal eRulemaking portal (<http://www.regulations.gov>) using the docket number for the rulemaking (in this case, FWS–R1–ES–2015–0071), and at the Web site of the field office responsible for the final critical habitat for 125 Maui Nui species (<http://www.fws.gov/pacificislands>). The maps provided in the proposed rule identify the areas proposed for critical habitat designation. We believe these maps are adequate for regulatory purposes. The proposed rule also directs reviewers to contact the Service for further clarification on any part of the proposed rule, and provides contact information (77 FR 34464; June 11, 2012). Although we did not include parcel-specific maps in our proposed rule (77 FR 34464; June 11, 2012), we did provide maps of this specificity to every landowner who contacted us and requested them following publication of the proposed rule.

(125) *Comment:* The Service did not respond to the Castle and Cooke Resorts, LLC, Freedom of Information Act (FOIA) request in a timely manner to

allow meaningful comment on the proposed rule.

*Our Response:* The rule proposing listing 38 species and critical habitat for 135 species on Maui Nui was published June 11, 2012 (77 FR 34464), with an initial 60-day public comment period that ran through August 10, 2012. We received a FOIA request dated July 9, 2012, from Castle and Cooke Resorts, LLC, on July 10, 2012. The letter requested the Service to withdraw the proposed designation of critical habitat on the island of Lanai and the proposed listing, as endangered, of species for which critical habitat is proposed on Lanai, or as an alternative, extend the comment period to February 2013, for the proposed designation. On August 9, 2012 (77 FR 47587), we extended the comment period for an additional 30 days, through September 10, 2012, for a total initial comment period 90 days in length. We also notified the commenter that we would again be reopening the comment period for the forthcoming draft economic analysis, which would provide the opportunity for further comments. On January 31, 2013 (78 FR 6785), we announced the reopening of the comment period for the proposed rule and the draft economic analysis for an additional 30 days, through March 4, 2013. We also announced a public information meeting and public hearing to be held on Maui on February 21, 2013. On June 10, 2015 (80 FR 32922), we reopened the comment period for another 15 days. We believe the commenter had sufficient time to prepare comments on the proposed rule during these open comment periods, which totaled 135 days in length and extended over more than 3 years.

(126) *Comment:* The proposed rule states that “The Office of Information and Regulatory Affairs [(OIRA)] has determined that this rule is not significant” (77 FR 34586). However, this is contradicted by overwhelming evidence to the contrary. The proposed rule encompasses areas slated for development, including a proposed wind farm on Lanai that will be the largest in the State. The investment in the project, including its undersea cable, is estimated to total over \$1 billion. The critical habitat designation may seriously impede the wind farm’s construction or operation. Adverse impacts on the project from the critical habitat designation could jeopardize or greatly impede the project, resulting in an enormous economic effect. Executive Order 12866 requires agencies to consider not only the dollar figure associated with the proposed rule’s impact, but also the effect on State and local communities. The proposed rule

would negatively impact the State’s policies, laws, goals, and commitments to reduce its dependence on fossil fuels. Similarly, delays or other negative impacts on the proposed wind farm could affect the jobs that the project would create, as well as substantial tax revenues and community benefits related to the development and operation of the wind farm. If the wind farm is not constructed, the State’s heavy reliance on fossil fuels will continue, contributing to global warming, which will have a deleterious effect on the plant and snail species for which the designation is made. Given the potential effects, economic and otherwise, the proposed rule is a “significant regulatory action” and should be treated as such.

*Our Response:* Executive Order 12866 provides that the Office of Information and Regulatory Affairs (OIRA) will review all significant rules. The Office of Information and Regulatory Affairs determined that our proposed rule published on June 11, 2012 (77 FR 34464) is not a significant rule. As defined by Executive Order 12866, a rule is determined to be significant if it may:

- Have an annual effect on the economy of \$100 million or more or adversely affect in a material way the economy, a sector of the economy, productivity, competition, jobs, the environment, public health or safety, or State, local, or tribal governments or communities;
- Create a serious inconsistency or otherwise interfere with an action taken or planned by another agency;
- Materially alter the budgetary impact of entitlements, grants, user fees, or loan programs or the rights and obligations of recipients thereof; or
- Raise novel legal or policy issues arising out of legal mandates, the President’s priorities, or the principles set forth in this Executive order.

Like the proposed rule, this final rule does not meet any of these criteria, and OIRA does not consider it to be a significant regulatory action.

(127) *Comment:* One commenter disagreed that the proposed rule does not “significantly affect energy supply, distribution, and use” because proposed critical habitat includes areas that are part of the planned Lanai wind farm, which will be “an enormous step towards reducing Hawaii’s dependence on fossil fuels.” According to this commenter, the process required by the Federal agencies to receive a “special exemption” under 16 U.S.C. 1536(a)(2) to authorize, fund, or carry out any action likely to result in destruction or adverse modification of critical habitat

will present enormous barriers to Hawaii’s transition to sustainable energy. Finally, the commenter stated that the Service must prepare a Statement of Energy Effects that addresses the planned Lanai wind farm.

*Our Response:* According to information in our files, the proposed critical habitat overlaps with an existing agricultural road that will be upgraded to provide access to lands identified for a planned Lanai wind farm. The commenter assumes that upgrading the agricultural road will result in destruction or adverse modification of critical habitat, and would prohibit Federal agencies from authorizing or funding the project. As stated elsewhere in this final rule, manmade features, including roads, are not considered critical habitat pursuant to this rule, because these features and structures normally do not contain, and are not likely to develop, any primary constituent elements and do not meet the definition of critical habitat. Moreover, the Service excluded this critical habitat unit from the final designation under section 4(b)(2) of the Act for the reasons described below. We note, however, that consultation on any Federal permits needed may be required due to potential effects on listed species. If no Federal agency is involved with the project, but the project may take federally listed species, the applicant should apply for an incidental take permit under section 10(a)(1)(B) of the Act.

We do not need to submit a summary of the potential effects of this designation on the supply, distribution, or use of energy (Energy Supply, Distribution, or Use—Executive Order 13211), because our regulatory action would not result in a “significant adverse effect” as defined by Office of Management and Budget (OMB) Memoranda 01–27 (Guidance for Implementing E.O. 13211) (July 13, 2001).

Public Comments on the Memorandum of Understanding (MOU) Between Lanai Resorts, LLC, (Doing Business as Pulama Lanai), Castle & Cooke Properties, Inc. (CCPI), and the Service

(128) *Comment:* Two commenters stated that, through the MOU, the landowner acknowledges the importance of commitment to habitat management and that the interests of preservation and conservation are often better served through mutual agreements between landowners and the Service.

*Our response:* We agree. Continued support of management actions for Lanai’s natural resources is important to

the landowner and to the threatened and endangered species known from Lanai.

(129) *Comment:* Five commenters oppose the MOU between the Service, Pulama Lanai, and CCPI, and the exclusion of critical habitat on Lanai. Three of these commenters believe that the Service would allow the landowner “free rein” over Lanai’s environment, removing all regulatory controls and all private responsibilities of land stewardship. Two of these commenters believe the MOU would be used for personal gain by the landowner and the Service. One commenter states that the MOU will not contribute to the long-term conservation of the Maui Nui species.

*Our response:* The MOU promotes cooperative conservation efforts that benefit the covered species, including preparation and implementation of the Lanai Natural Resources Plan (LNRP). Any funding for conservation measures and implementation will be used for such, and certainly not for personal gain. The MOU does not limit or diminish the legal obligations and responsibilities to engage in consultation as required under section 7 of the Act for listed species occurring on Lanai. The MOU does not place the Service in a position to advocate for activities counter to its mission. We believe that there is a higher likelihood of beneficial conservation activities occurring on Lanai with the MOU between Pulama Lanai, CCPI, and the Service. Designation of critical habitat ensures that, if there is a Federal nexus, the Federal action agency must consult with the Service on actions that may affect the critical habitat and must avoid destroying or adversely modifying critical habitat. However, designation of critical habitat does not result in preparation of land management plans by a landowner or require a landowner to manage land areas, or to undertake specific steps toward recovery of a species. The Service therefore believes that the value of the MOU lessens the benefits of possible section 7 consultations related to critical habitat, allows for a positive working relationship between all parties involved, and will result in long-term benefits for species and their habitats. Our rationale for concluding that the benefits of exclusion outweigh the benefits of including this area as critical habitat is discussed in detail in the *Exclusions Based on Other Relevant Factors* section, below.

(130) *Comment:* One commenter stated that the MOU does not provide enough specific information regarding conservation measures.

*Our response:* The MOU is not a management plan, it is a document that initiates the cooperative conservation efforts between the Service and the Pulama Lanai. As outlined in the MOU, the Service will provide technical assistance to Pulama Lanai in the development and implementation of the LNRP.

(131) *Comment:* Eight commenters stated that preparation and implementation of the MOU and the LNRP lacks community input and approvals.

*Our response:* The Lanai MOU is an agreement specifically between the landowner and the Service. The Service published a notice in the **Federal Register** on June 10, 2015(80 FR 32922), reopening the comment period on the proposed rule from that day through June 25, 2015, to allow the public the opportunity to provide further input on the proposed exclusions and the conservation benefits provided by continued landowner partnerships for Maui Nui. We have incorporated our responses to those comments in this final rule. The LNRP is currently being developed by Pulama Lanai with technical assistance from the Service.

(132) *Comment:* Three commenters state that Pulama Lanai has attempted to disband the Lanai Water Advisory Committee and the Lanai Forest and Watershed Partnership, and based on this action, the Service should not establish a partnership with Pulama Lanai.

*Our response:* Participation in Hawaii Watershed Partnerships are voluntary and are only one of many ways in which the Service may engage and cooperate with a private landowner on conservation actions. The Act allows the Secretary of the Interior to exclude areas when the benefits of exclusion outweigh the benefits of inclusion, unless the Secretary determines that such exclusion will result in the extinction of the species (16 U.S.C. 1533(b)(2)). The Service, Pulama Lanai, and CCPI, have worked in partnership to execute an MOU that is intended to benefit the covered species on the island of Lanai. For reasons described below (see *Exclusions Based on Other Relevant Factors*), no critical habitat is designated on the island of Lanai in this final rule as a consequence of exclusions under section 4(b)(2) of the Act.

(133) *Comment:* Six commenters oppose the development of a wind power facility on Lanai and believe the MOU between Pulama Lanai, CCPI, and the Service facilitates such development.

*Our response:* The Lanai MOU and exclusion from critical habitat does not

preclude the need for CCPI to avoid the incidental take of listed species and it is our expectation that CCPI will consult with the Service and DOFAW regarding the impacts of wind development to such species. This activity would likely require the development of a Habitat Conservation Plan (HCP) that appropriately avoids, minimizes, and mitigates potential project impacts on listed species. If so, the Service would evaluate impact of issuing an Incidental Take Permit for the HCP under the National Environmental Policy Act (NEPA) and conduct a section 7 consultation. While we believe that Pulama Lanai’s voluntary participation in conducting conservation measures lessens the conservation benefits of critical habitat, making exclusion from this designation warranted, nothing in the MOU supersedes the requirements of the Act.

(134) *Comment:* Five commenters stated that an annual commitment of \$210,000 annually, as included in the MOU, is not enough funding to support management actions.

*Our response:* An MOU does not obligate a landowner to any set amount of funding for conservation actions in covered areas. Landowner participation in an MOU is voluntary. An MOU sets goals for conservation measures, including preparation and implementation of management plans. Within the Lanai MOU, the landowner has committed to contribute a minimum of \$210,000 annually for implementation of activities described in the MOU and the LNRP, based on priorities identified in the LNRP. LNRP funds shall not be inclusive of costs of mitigation actions for management activities in No Development Areas (as outlined in Exhibit H of the MOU).

(135) *Comment:* Four commenters stated that oversight of implementation of the MOU and the LNRP would be inadequate. One commenter also stated that the fencing project begun in 2002 was not completed.

*Our response:* The current landowner has indicated interest in being a good steward of Lanai’s natural resources, and has entered into the MOU agreement with the Service with that understanding, and has also expanded resources management capabilities. The LNRP, resulting from the MOU, will describe in more detail conservation measures and timelines, including how adaptive management measures will be addressed. Fencing projects are expensive and often larger projects are broken into increments to allow for the complexities of construction and management. The first and second increments of the planned fencing

project, beginning with the MOU in 2002, were completed. Other fencing activities will be covered in the LNRP. See also our response to *Comment* (140).

(136) *Comment*: Five commenters objected to statements in the MOU regarding the permit process and stated that the Service oversteps its bounds.

*Our response*: Under the MOU, the Service agreed to cooperate with Pulama Lanai and CCPI to process in a timely manner any necessary recovery permits that may be required to implement objectives of the LNRP. This would allow completion of conservation measures in a timely manner to meet specified timelines as outlined in the LNRP. However, any permit would have to comply with normal permitting requirements and procedures. Permits for wind farm and other projects would be obtained by the landowner independently from the MOU agreement, and may include the development of an HCP, and associated NEPA evaluation and section 7 consultation, as described above.

(137) *Comment*: Five commenters object to exclusion of The Nature Conservancy's Kanepuu management unit of Kanepuu Preserve from critical habitat, and also state that widening of the road in that area would contribute to negative impacts to habitat.

*Our response*: As stated in the MOU, both the landowner and the Service recognize the importance of habitat within Kanepuu. We believe that the benefits of exclusion this area from critical habitat outweigh the benefits of including this area in critical habitat. Both the landowner and the Service support identification and implementation of conservation measures for the habitat and any listed species. Improvement or widening of the existing access roadway through or around Kanepuu may occur as long as such activities: (1) Have the consent of The Nature Conservancy (who holds a permanent easement of the area) or its successor, (2) have the consent of Pulama Lanai, and (3) mitigation measures by CCPI are reasonably agreed to by the Service in order to mitigate any adverse effects on native vegetation. However, nothing in the MOU supersedes the requirements of the Act and all activities undertaken pursuant to the MOU must be in compliance with all applicable State and Federal laws and regulations. Currently, the Service has not received a project proposal for a wind farm on Lanai; however, as discussed above, it would likely entail a Habitat Conservation Plan (HCP) process, including NEPA and section 7 consultation, to assess and mitigate for environmental impacts.

(138) *Comment*: One commenter suggested that the uau, or Hawaiian petrel, be considered as part of the LNRP.

*Our response*: The LNRP is a comprehensive resource management plan and will include conservation actions for this species.

(139) *Comment*: One commenter stated that the MOU and any future LNRP do not provide sufficient information to determine if a specific exclusion may result in extinction of a species.

*Our response*: The determination of whether an exclusion will result in the extinction of a listed species is not provided in the MOU or the LNRP, but is provided in this final rule. Here, at the conclusion of the section titled "*Exclusions Based on Other Relevant Factors*," we detail our assessment of whether the exclusion of any particular areas would result in the extinction of the listed species that occur within that area (see "*Exclusion Will Not Result in Extinction of the Species*"). We have carefully considered the status of each species within each of the areas excluded, and evaluated whether the exclusion would result in the extinction of each listed species on a case by case basis. We paid particular attention to several of the Lanai species, as some of these species occur only within the areas excluded from the final designation of critical habitat (*i.e.*, the two Lanai tree snails, and the plants *Abutilon eremitopetalum*, *Cyanea gibsonii*, *Kadua cordata* ssp. *remyi*, *Labordia tinifolia* var. *lanaiensis*, *Pleomele fernaldii*, *Viola lanaiensis*). As described in this final rule, in the case of each exclusion from this final designation of critical habitat, we conclude that the benefits of exclusion outweigh the benefits of inclusion, for the reasons detailed below, and further conclude that the failure to designate such areas as critical habitat will not result in the extinction of the listed species concerned. Each exclusion made in this final rule is based upon the strength of existing conservation actions, commitments, and partnerships, which will maintain, restore, or enhance habitat for the Maui Nui species, above and beyond the benefits that would accrue from the designation of critical habitat. Based on the management plans and agreements in place, and the proven track record of our conservation partners, we reasonably assume these positive actions will continue into the future. For all of these reasons, we conclude not only that exclusion will not result in the extinction of any of the Maui Nui species, but we expect that exclusion

will result in the improvement of the status of each species in question, due to the positive conservation efforts taking place in those areas excluded. See, for example, our response to *Comment* (140), below, for an accounting of the positive conservation benefits demonstrated to date for the Lanai species as a result of the actions of our conservation partners and the management plans and agreements in place on that island, and the further benefits that are expected to accrue to those species as a result of future efforts as well.

(140) *Comment*: One commenter stated that, based on previous failure to complete the Lanaihale fencing project, the current MOU would also result in failure to complete conservation measures or management actions.

*Our response*: The first two phases of an ungulate exclusion fence, described by the commenter as the Lanaihale fencing project, were completed under a MOU and partnership with Lanai's previous landowner. We anticipate the completion of the fence and other conservation measures under the Lanai Natural Resources Plan (LNRP), which is currently under development as a consequence of the MOU with the new landowners, recently signed by the Service, Lanai Resorts, LLC (dba Pulama Lanai), and Castle and Cooke Properties, Inc., on January 26, 2015. Since that time, the parties have worked diligently to implement the actions described in the MOU. Beginning in February, 2015, Pulama Lanai has convened meetings with their planning team, including the Service, for the development of the comprehensive LNRP that will address priorities and actionable items necessary for the conservation of species and habitats on the island. While this effort is ongoing, Pulama Lanai has begun to implement specific conservation measures for priority species and areas. The MOU also calls for the landowner to identify conservation measures for some of the rarest plants that would be implemented in the near term, even before the LNRP is completed. Specifically, to date Pulama Lanai has: (1) Worked with the Service and the Hawaii Division of Forestry and Wildlife (DOFAW) regarding necessary permits to conduct listed plant species conservation work; (2) designated an additional 220 ac (89 ha) to be added to the Lanaihale No Development Area; (3) developed and implemented a fence maintenance plan for all existing conservation fences; (4) conducted monitoring for ungulates within existing conservation fences and implemented ungulate removal; (5) communicated with The Nature

Conservancy regarding ungulate management and fence maintenance at Kanepuu Preserve; (6) installed deer proof fencing for *Hibiscus brackenridgei* along Keomuku Road and have plans to do the same for the populations of *Tetramalopium remyi* and *Abutilon menziesii* (also referred to as the “Core Rare Plant Clusters”) within the 24-month time frame set forth in the MOU; (7) identified other rare plant species for conservation actions and protection in coordination with the Plant Extinction Prevention Program (PEPP); and (8) implemented advanced technology and additional measures to improve bio-security on the island to reduce the incursion of invasive species. Additionally, Pulama Lanai has coordinated closely with the Service on the location of a protective listed tree snail enclosure, which will be constructed following a ranking of potential sites by the State’s snail experts. Further coordination is occurring on the conservation of listed Hawaiian petrels on Lanaihale. While not part of the MOU, Pulama Lanai and the Service are working on plans to implement conservation activities starting in 2016. Most recently, Pulama Lanai has hired a lead wildlife biologist to assist with the planning and implementation of conservation actions across the island. Developing and maintaining public and private partnerships for species conservation is important and we believe that the steps this landowner has already taken to implement the MOU and the significant conservation benefits that have already been realized as a result indicate that this conservation partnership will provide significant benefits to the listed species that occur on Lanai. These benefits lessen the incremental benefit of critical habitat.

(141) *Comment:* One commenter stated that the selection of no more than 215 additional acres to the “no development area” is inexplicable and unexplained.

*Our response:* The addition of 215 acres to the No Development Area was in response to possible disturbance of habitat resulting from development of a wellhead within Increment 1 fencing (see Exhibit J, and section 4.3.2(1) of the MOU), if it occurs. Development of a new water well would be subject to conditions as outlined in the MOU, including botanical surveys, restoration, and mitigation of other impacts (and consistent with applicable provisions of Exhibit H of the MOU).

Comments on the Draft Economic Analysis (DEA)

Comments From the State of Hawaii Agencies on the DEA

(142) *Comment:* The Hawaii Department of Agriculture (HDOA) is concerned that incremental impacts of critical habitat designation are not sufficiently quantified in the DEA and the DEA uses probable or possible ranges of other listed species to discount the economic impacts of proposed critical habitat. The HDOA believes that baseline protection costs should include only already designated critical habitat that is occupied by listed species and subject to existing conservation measures.

*Our Response:* The presence of a listed species provides extensive baseline protections under sections 7, 9, and 10 of the Act, regardless of the designation of critical habitat; therefore we do not limit our consideration of baseline protections to those areas that are already designated as critical habitat. As described in chapter 2 of the draft EA, section 7 of the Act in particular requires Federal agencies to consult with the Service to ensure that any action authorized, funded, or carried out will not likely jeopardize the continued existence of any endangered or threatened species, even absent critical habitat designation. In this case, the presence of the listed Blackburn’s sphinx moth would trigger protections under the jeopardy standard that would by extension provide baseline protections to the Maui Nui species in areas within the probable range of the moth (see paragraphs 71 through 73 of the final EA). Because these protections are in place regardless of designated critical habitat, they are appropriately considered as part of the baseline for this analysis.

(143) *Comment:* The HDOA and two other commenters stated that the Service has already designated critical habitat in a significant amount of area in Hawaii and should use the costs of these designations on agricultural landowners to monetize some of the indirect impacts in the current DEA.

*Our Response:* The DEA does consider how previous critical habitat designations may have indirectly affected agricultural landowners and therefore no changes were made in the FEA in response to this comment. This analysis involved outreach to agricultural landowners and organizations to gather information on experience with previous critical habitat designations in Hawaii. The information gathered supports the qualitative analysis of potential indirect impacts of

critical habitat designation on grazing and farming in Exhibit 5–8, including descriptions of potential change in management of land by the State and county; perceptual effects on land values; limitations on ability of ranch owners to diversify; increased potential for legal actions; and obstacle to statewide food sustainability. However, we could identify no specific historical studies or examples of critical habitat designation precipitating these types of impacts in Hawaii. For each of the potential indirect impacts, Exhibit 5–8 accordingly describes the uncertainties that preclude their monetization but highlights their potential for consideration alongside the quantified impacts in the analysis.

*Comments From the Public on the DEA*

(144) *Comment:* The Association of Universities for Research in Astronomy (AURA) disagreed with the conclusions of the draft economic analysis (DEA). According to AURA, the DEA doesn’t take into consideration the lengthy and costly consultations that have already taken place regarding the University of Hawaii’s Haleakala High Altitude Observatory Site (also known as the Advanced Technology Solar Telescope (ATST) project) and it does not consider more than \$1.5 million in funds committed to wildlife protection in the 328-acre mitigation area.

*Our Response:* Our DEA was designed to look at the potential economic impacts stemming specifically from the proposed designation of critical habitat for the Maui Nui species; it was not intended to address any and all costs that may have been incurred as a consequence of other actions (for example, prior consultations that may have occurred related to the presence of listed species at the ATST site). The FEA concluded that construction of the ATST facilities, which falls within proposed critical habitat unit Maui—Alpine—Unit 1, was likely to result in land disturbance of less than 1 acre (IEC 2015, p. 3–12). The FEA also acknowledges that the Service conducted a formal consultation on the proposed construction and issued a biological opinion on June 15, 2011 (IEC 2015, p. 3–13). The Service indicated that they would likely not recommend any further project modifications beyond the mitigation already planned, and that any further incremental costs would be limited to additional administrative costs, estimated to be \$4,000 borne by the Service, Federal action agency, and the project proponent (IEC 2015, p. 3–13). However, in this final rule, we also re-evaluated proposed critical habitat for two

proposed units within or bordering the project area (Maui—Subalpine—Unit 1 and Maui—Alpine—Unit 1) and removed areas that no longer contained the physical or biological features that could support and provide for species' recovery, or that we determined was otherwise not essential for the conservation of the species (see our response at *Comment* (36), above). As a result of this evaluation, the University of Hawaii's Haleakala High Altitude Observatory Site has been removed from the final designation because it does not meet the definition of critical habitat for the Maui Nui species.

(145) *Comment*: The DEA contains no mention of the Makena Resort or Makena property, and fails to consider the economic impact of designation on the ATC Makena property. ATC Makena was not contacted during preparation of the DEA regarding the proposed designation or for additional information on their property.

*Our Response*: The final economic analysis (FEA) incorporates additional discussion regarding the potential expansion of the Piilani Highway within Maui—Lowland Dry—Unit 3 (IEc 2015, p. 3–18). Although the timing, nature, and location of the project is currently uncertain, we forecast costs associated with a formal section 7 consultation on the project. The Service has determined that the potential project area for the highway expansion overlaps with the probable range of the Blackburn's sphinx moth (see pp. 2–11–2–13 of our FEA (IEc 2015) for a detailed discussion of the baseline protections associated with the Blackburn's sphinx moth, as well as an explanation of the term “probable range” as applied here; see also our response to *Comment* (149), below). As described in our FEA, consultation on this project would be required due to the presence of the Blackburn's sphinx moth regardless of whether critical habitat is designated for the Maui Nui species (IEc 2015, pp. 2–11–2–13). As discussed in Section 2.3.2 of the FEA, critical habitat designation for the Maui Nui species is not likely to generate additional conservation recommendations beyond what would be recommended due to the presence of the moth. Accordingly, we conclude that the incremental impacts of critical habitat on the Piilani Highway project would be limited to the administrative costs of considering critical habitat as part of the forecast section 7 consultation, estimated at approximately \$4,000 (IEc 2015, p. 3–18). Such costs are generally borne primarily by the Service and the Federal action agency, with some costs

occasionally accrued by the project proponent.

(146) *Comment*: Several commenters stated that: (1) The estimated costs of \$115,000 to \$125,000 over the next 10 years for Maui, Molokai, Lanai, and Kahoolawe, combined, were not credible; (2) an analysis of the total cost of designation (as in the DEA) does not help to determine which parcels should be included in the critical habitat area and which should be excluded; and (3) consultations in Hawaii require more effort than elsewhere.

*Our Response*: As stated in the FEA, quantified incremental impacts of the proposed critical habitat designation are estimated at \$100,000 for areas proposed for critical habitat designation, and \$5,000 for areas considered for exclusion (2014–2023, 7 percent discount rate) (IEc 2015, p. 1–7). The derivation of these costs are presented at the proposed critical habitat unit level throughout the FEA, are detailed in Chapters 3, 4, and 5 of the FEA, and are also summarized in the Executive Summary Exhibit ES–3. As stated in Section 2.3.2 of the FEA, the administrative costs of consultation applied in the analysis are based on data from the Federal Government Schedule Rates, Office of Personnel Management, and a review of consultation records from several Service field offices across the country, as described in the notes to Exhibit 2–2 (IEc 2015, p. 2–18). The costs are intended to provide a representative order of magnitude for administrative costs associated with consultation. To the extent that consultations occurring in the areas proposed for critical habitat designation require a greater amount of effort, the FEA may underestimate consultation costs; this limitation is acknowledged throughout the FEA (IEc 2015, Exhibits 3–11, 4–5, and 5–9). The administrative cost estimates and associated implications on the findings of the analysis are described in Section 2.3.2 of the FEA.

(147) *Comment*: The impact of critical habitat designation on 13,700 acres of private lands on Maui may range up to \$50 million or more. Impacts from the designation on the per acre land value range from \$975 to \$45,000. For the islands of Maui, Molokai, and Lanai, the total impact from the designation will be \$56.5 million or more, with an average of up to \$3,900 or more, per acre.

*Our Response*: We are uncertain as to the source of the commenter's information; no documentation was provided to support the costs claimed. The FEA quantified the impacts of designation of critical habitat on Maui

to be approximately \$100,000 over 10 years, and annualized impacts of \$20,000, based on our consideration of the potential impacts of critical habitat on development projects, energy projects, and grazing and farming activities, as documented and described in detail in Chapters 3, 4, and 5 of the FEA (IEc 2015). We did consider the potential for loss in land value associated with foregone potential future uses, based on an average “asset value” for agricultural land (including buildings) of \$8,201 per acre in 2007. This average asset value is based on County level information from the National Agricultural Statistics Service, U.S. Department of Agriculture (IEc 2015, p. 5–19).

(148) *Comment*: One commenter, citing the DEAs for critical habitat designation for three Willamette species and 124 Oahu species, stated that the loss of land value in those analyses ranged from 73 to 100 percent, with devaluation of property by as much as \$65 million.

*Our Response*: The findings of the two studies referenced in the comment are not transferable to this analysis for multiple reasons. First, the three Willamette species analysis applied a different framework for evaluating impacts (Northwest Economic Associates 2006). Specifically, the analysis quantified all impacts of species conservation regardless of whether they were incremental effects of the critical habitat designation. Thus the results should not be interpreted as impacts of critical habitat designation. Furthermore, the analysis acknowledges that it is uncertain whether the quantified impacts would occur at all, explaining: “The estimates of economic loss in this section are overstated. As stated in the introduction, the impact of species and habitat conservation on future development projects is uncertain. Absent specific information on how development projects would mitigate for impacts to Fender's blue butterfly, Kincaid's lupine, and Willamette Daisy, the economic analysis presents the value derived from potential future development on private lands within the proposed critical habitat designation. To the extent that development is excluded from the proposed critical habitat designation, the estimated impacts accurately represent the non-agriculture component of land value lost by private landowners. To the extent that development is allowed within the proposed critical habitat designation the estimated impacts are overstated (Northwest Economic Associates 2006, pp. 39–41).”



In the case of Oahu, the commenter has overstated the range of potential impacts to land values estimated in the DEA (IEc 2013). Potential effects to land values were forecast only in the context of one particular critical habitat unit that was slated for development, Lowland Dry 8. In that case, we stated “The Service believes that a realistic lower-bound estimate of the potential economic impacts to the landowners in Lowland Dry 8 is no impact at all. The Service cannot identify any realistic Federal nexus on the types of future uses identified. Critical habitat designations have no effect on private actions on private property absent a Federal nexus that would allow the Service to consult on the activity with its Federal partner.” The possible decrease in land value cited by the commenter refers to the “worst case scenario” contemplated in the DEA that no future development would proceed on the property at all; this scenario was included to be conservative, but is described as “extremely unlikely to occur” (IEc 2013, p. 74). The designation of critical habitat does not prevent development from occurring; it requires Federal agencies to avoid destruction or adverse modification of critical habitat. Even if such a finding is made, we will attempt to recommend reasonable and prudent alternatives. Therefore, we have no basis to assume that development would be prohibited.

(149) *Comment:* Four commenters stated that the incremental impacts are not sufficiently quantified or monetized. The commenters are concerned that the DEA is using probable or possible ranges of other listed species, such as the Blackburn’s sphinx moth, to discount economic impacts of proposed critical habitat. The commenters believe that only prior critical habitat designations where protected species occupy the land and are subject to existing conservation measures under the Act should be used as baseline protection costs. One commenter stated that it was inappropriate to use the probable range of Blackburn’s sphinx moth to minimize the impacts of the proposed designation. In addition, no maps of historical or probable range of the moth are provided in the proposed rule or DEA.

*Our Response:* See our responses to *Comment* (142) and (145). The probable range of the Blackburn’s sphinx moth is an important consideration in this analysis, because due to the significant overlap between the essential physical or biological features for the moth and those of the Maui Nui species, consultations under the jeopardy standard (and associated conservation

recommendations) within the probable range of the moth afford extensive baseline protections to the Maui Nui species within the area of overlap and limits the potential impact of critical habitat (see Section 2.3.2 of the FEA). Exhibit ES-5 of the DEA showed the relevant map of unoccupied units that do not overlap with the probable range of the Blackburn’s sphinx moth (and hence have the potential for relatively greater incremental impacts); however, we have updated this figure in the FEA to show the entirety of the Blackburn’s sphinx moth’s probable range. As detailed on p. 2–12 of the FEA, the term “probable range” is used because the precise location of the present range of the Blackburn’s sphinx moth is not well known; therefore, the Service recommends consultation in areas within the historical range of the moth because the species may be present. Within that range, the Service suggests surveys to determine whether there is suitable habitat for the moth within the proposed project area. If there is suitable habitat within the project area, the Service recommends that project proponents survey within these areas to determine presence or absence of the moth. Because the majority of the moth’s lifespan is spent underground in a pupal stage, and only moth larvae and adults transit the landscape, it may not be feasible to confirm absence of the moth from the proposed project area. Due to the difficulty in confirmation of moth absence, many project proponents opt to assume the moth is present in suitable habitat. Because of the significant overlap between the essential physical or biological features for the moth and those of the Maui Nui species, the Service has assumed for purposes of this analysis that within the probable range of the moth, there will be significant overlap between those areas that provide suitable habitat for the moth and the areas identified as critical habitat for the Maui Nui species.

(150) *Comment:* One commenter stated that because the legal standards for determination of jeopardy and adverse modification are not the same, the Service cannot assume that the outcomes of jeopardy and adverse modification analyses for the designation will be closely linked.

*Our Response:* We agree that the standards for determination of jeopardy and adverse modification are not the same, nor did we intend to give the impression that we consider them to be so. Section 7 of the Act (7)(a)(2) states that “each Federal agency shall, in consultation with and with the assistance of the Secretary, insure that any action authorized, funded, or

carried out by such agency is not likely to jeopardize the continued existence of any endangered species or threatened species or result in the destruction or adverse modification of habitat of such species . . .” If jeopardy or adverse modification is determined, reasonable and prudent alternatives are recommended. These recommendations focus on minimizing impacts so as to avoid jeopardy or adverse modification (IEc 2015, p. 2–15). In some cases, such as for the Maui Nui species considered here, project modifications recommended to avoid jeopardy may be similar to those recommended to avoid adverse modification of habitat, such as “avoid destruction of individual listed plants,” “control feral ungulates,” and “propagate and outplant” (IEc 2015, pp. D–11—D–12). However, the FEA recognizes that the analyses for jeopardy and those for adverse modification can differ. The economic impacts of conservation measures undertaken to avoid jeopardy to the species are considered baseline impacts in the FEA, as they are not generated by the critical habitat designation. Baseline conservation measures and associated economic impacts are not affected by decisions related to critical habitat designation for the species (IEc 2015, pp. 2–7—2–9).

(151) *Comment:* Some commenters stated that the incremental administrative consultation costs estimated by the Service are too low. Environmental activist groups have sued landowners to force them to undertake conservation activities. Note the palila case, in which the State was sued for allowing destruction of habitat by uncontrolled feral ungulates. Given that ungulates are identified as one of the primary threats to endangered species, there is a possibility of landowners being forced to undertake costly ungulate control on their land as a result of critical habitat designation. A baseline cost for mitigation is \$6,000,000 for every 120 acres of disturbed habitat, which is the cost of mitigation for the Saddle Road-Palila project on the Big Island.

*Our Response:* The *Palila* case was based on section 9 of the Act, which makes it a crime for anyone to “take” (defined as harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, collect, or attempt any of these actions) an endangered species. This provision of the Act can be asserted by private citizens or by the Federal government. In *Palila*, private non-profit organizations claimed that the State’s Department of Land and Natural Resources was taking the palila by maintaining populations of feral sheep

and goats in the bird's habitat. The fact that it was designated critical habitat had no legal relevance to this allegation; the designation played only an informational role in identifying habitat important to the species.

In contrast to section 9, which sets forth protections that apply to individuals of the listed species, critical habitat receives protection under section 7 of the Act. The requirements of section 7 apply to Federal agencies and requires that these agencies ensure, in consultation with the Service, that any action they authorize, fund, or carry out is not likely to result in the destruction or adverse modification of critical habitat. Section 7 requirements do not apply to non-Federal landowners absent a Federal nexus. The designation of critical habitat does not affect land ownership or establish a refuge, wilderness, reserve, preserve, or other conservation area. The designation does not allow the government or public to access private lands, and does not require implementation of restoration, recovery, or enhancement measures by non-Federal landowners. Where a landowner requests Federal agency funding or authorization for an action that may affect a listed species or critical habitat, the consultation requirements of section 7(a)(2) of the Act apply, but even in the event of a destruction or adverse modification finding, the obligation of the Federal action agency and the landowner is not to restore or recover the species, but to implement reasonable and prudent alternatives to avoid destruction or adverse modification of critical habitat.

We do acknowledge that in some highly unusual cases, wherein a landowner undertakes an action with a Federal nexus, and that action is so significant to the critical habitat as a whole as to be considered potential adverse modification, some reasonable and prudent alternatives may result in significant costs. We recognize this possibility in our FEA, which underscores that such a situation may have a potentially major effect on the economic impacts as estimated in our analysis. Specifically, the FEA clarifies that while we anticipate that the most likely change in conservation recommendations, if any, would be the additional specification that habitat offsets occur within the affected critical habitat unit, or within critical habitat of the same type (based on our past experience with consultation), nonetheless "final recommendations to avoid adverse effects on critical habitat will depend upon the specific nature of the proposed project and will be made as part of future consultation on the

project" (IEc 2015, p. 3–21). Because of the significant uncertainties surrounding the probability of such a situation arising, and the entirely speculative nature of what reasonable and prudent alternatives might be called for in such a hypothetical, it is not possible to quantify such potential impacts. We therefore acknowledge in our FEA that our assumptions regarding the effect of critical habitat designation on potential conservation recommendations may result in an underestimate of costs (IEc 2015, p. 3–21).

(152) *Comment:* One commenter stated that, of the 25,413 acres proposed for designation on Lanai, 99.99 percent (25,408 acres) are privately owned by Lanai Resorts. This is in contrast to the entire proposed designation, which is reported [in the DEA] to only overlap private lands by 42 percent. Lanai Resorts suffers a disproportionate burden resulting from the proposed designation on Lanai and the DEA fails to recognize this disproportionate burden. Another commenter stated that the DEA fails to quantify impacts to existing and proposed development (e.g., Manele Project, Koele Project, water utility infrastructure, electric utility infrastructure, Lanai wind project) on Lanai.

*Our Response:* Forty-two percent of the proposed critical habitat on the four islands of Maui, Kahoolawe, Molokai, and Lanai overlapped private lands. The DEA analyzed the effects of critical habitat designation on those areas with known or possible development pressure. At the time of the writing of the DEA, the level of uncertainty regarding the nature of future development, as well as how the designation of critical habitat may affect projects, precluded the quantification of impacts of critical habitat on future development in three proposed Lanai critical habitat units (Lanai—Coastal—1, Lanai—Dry Cliff—Unit 1, and Lanai—Lowland Mesic—Unit 1). As a result, the DEA qualitatively described the likely incremental impacts to potential future development activities in these units. However, for the reasons described below (see *Exclusions Based on Other Relevant Factors*, below), critical habitat is not designated on the island of Lanai in this final rule, as a consequence of exclusions under section 4(b)(2) of the Act.

(153) *Comment:* One commenter stated that the DEA is flawed and does not meet the requirements to support the designation. Specifically, the commenter stated that the designation must be limited geographically to what is essential to the conservation of the

species, and that the Service cannot arbitrarily proposed to designate "acres upon acres of areas already developed or proposed for development" without first identifying the elements essential for the survival of the species. The commenter further stated that the determination must consider the probable economic and other impacts of the designation upon proposed or ongoing activities, and implied that the Service failed to clearly identify accurate and relevant facts to support its economic analysis. The commenter cited several court cases to support this statement and concludes that the DEA contained several errors that biased the analysis in a single direction, producing lower estimates of the costs resulting from critical habitat designation.

*Our Response:* First, our process for identifying those areas proposed as critical habitat is not arbitrary, and is clearly detailed in the Methods section of this document. As required by the Act, we used the best scientific data available to first determine the physical or biological feature essential to the conservation of the species, and to identify those specific areas within the geographical area occupied by the species that provide those essential features, which may require special management considerations or protection. In addition, we identified some specific areas outside the geographical area occupied by the species upon a determination that such areas are essential for the conservation of the species.

Second, the purpose of the DEA is not to "support the designation," but to inform the Secretary for the purpose of considering the potential economic impacts of the designation, as required by section 4(b)(2) of the Act. Specifically, the information contained in the DEA is intended to assist the Secretary in determining whether the benefits of excluding particular areas from the designation outweigh the benefits of including those areas in the designation. Our DEA, and subsequent FEA, analyzed the potential for both direct and indirect incremental impacts of the critical habitat designation; this analysis is thoroughly detailed and documented, and clearly identifies the source of all relevant facts and figures utilized (IEc 2015, entire). The FEA incorporates consideration of all reasonably foreseeable potential economic impacts, including some that were not initially recognized but that were identified during the public comment periods; this includes consideration of the potential impacts of the designation on ongoing or proposed development projects, energy projects,

and grazing and farming activities. Although the FEA quantifies the potential direct and indirect impacts of the designation wherever possible, in some cases of significant uncertainty, such quantification was not possible. However, the FEA is explicit in acknowledging all assumptions and limitations of the analysis, including the identification of those areas where the potential impacts may be underestimated (e.g., Exhibits 3–11, 4–5, and 5–9).

(154) *Comment:* One commenter states the Honuaula project is not being held up by consultations with State and Federal wildlife officials, but because the developer has failed to complete an accurate archeological review, as required for Phase II Project District approval.

*Our Response:* Section 3.3.1 of the FEA describes that the Honuaula project has been subject to delays related to the revision of the HCP following the proposed critical habitat designation (IEC 2015, p. 3–17). The analysis does not address delays that may be associated with State Historic Preservation Division's processes, as these are unrelated to the proposed critical habitat designation.

(155) *Comment:* Many of the areas proposed for designation are not currently inhabited by any of the listed species. Thus, the “baseline” for evaluating the economic impact of designation of these areas is “zero” because there is no present duty to consult with the Service. The Service must consider the full economic impact of the proposed habitat designation, rather than just looking at the incremental increase in cost.

*Our Response:* We agree that areas not presently occupied by any listed species and therefore not already subject to consultation with the Service have the potential for greater economic impacts. We explicitly acknowledged this situation in the DEA, stating “Where critical habitat is both unoccupied by the Maui Nui species and outside of the probable range of the Blackburn's sphinx moth, the incremental impact of critical habitat designation would be greater than in units occupied by the Maui Nui species or the moth. This is because impacts of critical habitat in these units would include all administrative costs of consultation and all costs associated with implementing conservation measures for the Maui Nui species” (IEC 2013, p. 2–12). Recognizing that economic activities in these units are the most likely to be subject to recommendations for incremental conservation measures to avoid adverse modification of critical

habitat, and therefore experience incremental economic impacts, the DEA (and subsequent FEA) focused the analysis specifically on these units (IEC 2015, p. ES–10, Exhibit ES–7). The potential economic impact of the designation reported in the DEA (and subsequent FEA) therefore directly incorporates this consideration into its estimate, and the costs presented are those that are fully attributable to the proposed critical habitat.

(156) *Comment:* A key finding of the DEA is that “The presence of the Maui Nui species provides extensive baseline protection that includes offsetting habitat loss. . . .” This statement is erroneous in that it assumes that each proposed unit claimed to be occupied by the species is entirely occupied. This is not the case. This is because the Service has a unique and unprecedented “ecosystem” approach to this proposed designation.

*Our Response:* As described in the FEA (pp. ES–10–ES–13, 2–11), a number of the proposed critical habitat units are not considered to be occupied by the Maui Nui species. In addition, within the occupied units for the plant species, we clearly acknowledge that the plants are not necessarily identified throughout the unit but may occur intermittently throughout the unit (IEC 2015, p. 2–11). Where the species are not present at a project or activity site, section 7 consultations may not focus on the effects to the species but will consider the potential for adverse modification of critical habitat. With this in mind, the FEA identified ongoing and currently planned projects within the proposed critical habitat units and determined whether and how the designation would affect the projects. As stated in the FEA, for most of the ongoing and currently planned projects identified, project modifications, including habitat offsets, have been implemented or are currently being planned within the critical habitat unit even absent the proposed designation (IEC 2015, p. ES–4). Therefore, for these projects, incremental impacts are expected to be limited to the costs of additional administrative effort in section 7 consultations. However, the FEA also states that “critical habitat designation may generate the additional specification that offsets be located within the affected critical habitat unit, or within critical habitat of the same type” (IEC 2015, p. ES–4). The FEA identified one project for which this was the case (the Honuaula project) and presents both quantified and unquantified incremental effects of critical habitat in Chapter 3 of the FEA.

The “ecosystem approach” used in this rule is not unprecedented, but has been used in similar rulemakings for species in the Hawaiian islands as an organizational tool due to many of the characteristics shared by the listed species (for example, 48 Species on Kauai; 75 FR 18959, April 13, 2010). These characteristics include common threats to the essential physical or biological features (e.g., introduced ungulates, nonnative plants) and a shared dependence on similar habitat types or ecosystems. In addition, in many cases the species in question are extremely rare or have been extirpated from the wild, therefore data to inform us as to the essential physical or biological features for each species is extremely limited. In such cases, the identification of indicator species or other characteristics of the specific ecosystems known to have historically supported the species in question represent the best scientific data available to help us identify the physical or biological features essential to the conservation of these species (occupied areas), as well as the specific areas essential to the conservation of these species (unoccupied areas). This approach and our application of it to each of the species addressed in the final rule is detailed in the Methods section of this document.

(157) *Comment:* Based on a single telephone call with an unidentified staff person at the DLNR Office of Conservation and Coastal Lands, the DEA concludes that the proposed critical habitat designation will have no effect on conservation district boundary amendments. There is no opinion from a Hawaii court, attorney general, or the chair of DLNR to that effect. Without substantial legal authority to the contrary, the appropriate assumption for the DEA is that all land designated as critical habitat will be included within conservation district boundaries by DLNR. It must be assumed that agencies will dutifully encourage protection of areas designated as critical habitat, meaning that permits, entitlements, or rezoning sought for such lands will either be denied, or extremely expensive mitigation or offsetting will be required. These assumptions must be applied even to areas presently unoccupied by any species for which they are designated. In addition, the comments note that because critical habitat triggers reclassification of land to the conservation district under Hawaii law, this will lower property values, making it difficult to sell property in the future, cause project delays, lead to EIS

requirements, and cause costly lawsuits, and therefore constitutes a “taking.”

*Our Response:* As described in Section 3.1 of the FEA, the analysis integrates the best available information regarding the potential effects of critical habitat on State and county land management based on interviews with staff from the Department of Land and Natural Resources (DLNR)’s Office of Conservation and Coastal Lands (OCCL) and the State Office of Planning, as well as the County of Maui’s Department of Planning. According to the State Office of Planning, critical habitat is taken into consideration during the redistricting process, but does not itself generate a redistricting of lands to the Conservation District. According to the County Department of Planning, the presence of critical habitat is one of many factors under consideration during the rezoning process. Representatives from OCCL, the State, and the county were unable to identify an instance in which the presence of critical habitat specifically drove decisions related to redistricting or rezoning. As such, it has not been the State’s practice thus far to redistrict critical habitat areas as conservation district lands. The FEA does, however, describe uncertainty with regard to the future State and county management of these lands in Section 3.4. In addition, Section 5.3.2 of the FEA describes the potential indirect effects of critical habitat designation, including concern that the designation may result in lawsuits. Uncertainty exists regarding the potential for as well as the number, timing, and outcome of such lawsuits, thus associated impacts are not monetized in the economic analysis. Please also see our responses to *Comment* (22), (50), and (59), concerning critical habitat and rezoning issues, above.

(158) *Comment:* No attribution to the Service or agreement by the Service is offered in the DEA for the conclusion that the expectation that “the effects of critical habitat [on the Lanai wind project] will be limited to incremental administrative effort as part of a future formal section 7 consultation.” and that “it is unlikely however, that the project will be subject to additional conservation . . .”. Three factors are listed as the basis for the conclusion that additional conservation is unlikely to be required: (1) The project will have a limited physical footprint and only affect poor quality habitat; (2) the level of ground disturbance as access roads will be located on existing roadways; and (3) the project is already subject to considerable conservation measures as identified by the Hawaii Clean Energy

PEIS. There is no indication that the Service is in agreement with these reasons.

*Our Response:* The FEA provides explanation for each of these conclusions, with attribution, in section 4.3.1 (IEc 2015, pp. 4–10–4–11). We agree with the statements in the DEA (and subsequent FEA) cited by the commenter, as well as the ultimate conclusion that the effects of critical habitat will be limited to incremental administrative effort as part of a future formal section 7 consultation on the Lanai wind project. We note that for the reasons described below (see *Exclusions Based on Other Relevant Factors*, below), critical habitat is not designated on the island of Lanai in this final rule, as a consequence of exclusions under section 4(b)(2) of the Act.

(159) *Comment:* The DEA should be revised to include the new development plans that encompass grazing and farming on Lanai.

*Our Response:* The level of uncertainty regarding the nature of future development, as well as how the designation of critical habitat may result in project modifications, precluded the quantification of impacts of critical habitat on future development in the FEA (IEc 2015, p. 3–2). However, for the reasons described below (see *Exclusions Based on Other Relevant Factors*), critical habitat is not designated on the island of Lanai in this final rule as a consequence of exclusion under section 4(b)(2) of the Act.

(160) *Comment:* The DEA fails to adequately quantify the impacts of critical habitat designation on Kaupo Ranch operations. The DEA does not acknowledge that the designation of critical habitat on ranch lands will result in the removal of 756 acres from production.

*Our Response:* We do not anticipate that critical habitat would result in Kaupo Ranch’s land being taken out of production. As described in Section 5.3 of the FEA, the designation is not likely to change how NRCS and the Service manage and regulate farming and grazing activities. Chapter 5 of the analysis also notes the potential fire break benefit of cattle grazing; however, absent changes in management of grazing activity, we do not expect critical habitat to affect this potential benefit. In any case, for the reasons described below (see *Exclusions Based on Other Relevant Factors*) Kaupo Ranch lands have been excluded from critical habitat under section 4(b)(2) of the Act in this final rule.

(161) *Comment:* One commenter requested that an analysis of the interplay of grazing activities, critical

habitat designation and “harm” under Hawaii’s endangered species State law be conducted by experts familiar with State law and included in the final economic analysis.

*Our Response:* As described in Section 3.1 of the FEA, several State agencies were contacted to inform the discussion and evaluation of the interplay between critical habitat designation and land use in Hawaii, including the potential for critical habitat to result in redistricting to the Conservation District. State agencies contacted include the State Office of Planning, the Department of Land and Natural Resources’ Office of Conservation and Coastal Lands, the State Department of Fish and Wildlife, the State Land Use Commission, and the Department of Hawaiian Homelands. The Maui County Planning Department’s Zoning Administration and Enforcement Division was also contacted regarding the issue of critical habitat affecting how the county implements zoning changes. However, although critical habitat may be an educational tool to identify habitat where a species may occur, it does not increase or decrease a landowner’s liability for take of a listed species under either State or Federal law.

(162) *Comment:* The incremental approach to evaluating economic impacts has been misapplied in the DEA and the incremental impacts are likely underestimated. As much as 70 to 80 percent of the critical habitat could be expected to be unoccupied habitat where recommendations for habitat offsets for habitat disturbance would not be baseline recommendations, and therefore, the incremental costs of critical habitat designation could be significant. The DEA contends that approximately 42 percent of unoccupied critical habitat overlaps with the probable range of the Blackburn’s sphinx moth. The basis for this assumption is unclear and it is unclear why the probable range of the moth is the regulatory equivalent of occupied habitat.

*Our Response:* We have provided further detail regarding our rationale for the baseline protections provided within the probable range of the Blackburn’s sphinx moth in paragraphs 71 through 75 of the FEA. See also our responses to *Comment* (142) and (149), above.

(163) *Comment:* The DEA does not adequately consider costs associated with indirect impacts of critical habitat designation. Failure to quantify these impacts renders them meaningless in terms of the overall economic impact

estimated for the proposed critical habitat.

*Our Response:* Both the DEA and subsequent FEA consider the potential for both direct and indirect incremental impacts of the designation. The FEA provides an extensive discussion on the potential indirect impacts of the designation, including the entirety of Sections 2.3.2 (IEc 2015, pp. 2–19–2–21) and section 5.3.2 of the FEA (IEc 2015, pp. 5–16–5–22); Exhibit 5.8 is entirely devoted to potential indirect effects of the proposed critical habitat. Chapter 5, in particular, includes an extensive discussion on the potential indirect impacts of the designation, and considers information provided by stakeholders indicating particular concerns with the potential for changes in the way the State or county may manage lands, possible reductions in land values due to changes in land management, and perceptual effects on land values. These concerns are all presented and discussed, but the potential indirect impacts cannot be quantified due to their speculative nature. There is substantial uncertainty regarding whether they will occur, and, if they do, the potential magnitude of any effect. For example, although many landowners expressed concern that their land would use value as a result of redistricting or rezoning in response to critical habitat, the assumption that this would occur and result in limiting development is speculative, based on information provided to us by State and county agencies (IEc 2015, pp. 3–3–3–4; see our response to *Comment* (148), above). According to the Department of Planning's Zoning Administration and Enforcement Division, there has never been an instance when an area of land was rezoned due to the presence of critical habitat (IEc 2015, p. 3–7). The FEA presents a discussion that specifically addresses the uncertainty surrounding the potential indirect impacts of critical habitat that preclude quantification in this particular instance, but acknowledges that such uncertainties may result in an underestimate of the quantified impacts of the designation reported in the analysis (IEc 2015, pp. 5–22–5–23).

(164) *Comment:* The economic analysis needs to include specific cost estimates or ranges of potential costs for a variety of other potential impacts from critical habitat designation. These costs include: Impacts on credit availability, lawsuits, limitations on ability to diversify land uses, project delays, environmental compliance, and reduction in food production. In addition, the economic analysis should quantify these types of incremental

costs: \$100,000 per acre to acquire mitigation land to offset impacts to critical habitat (these are costs above and beyond the costs of offsetting impacts to listed species), impacts of administrative consultation, project modifications and delays, section 7 consultations, and completion of an EIS.

*Our Response:* The quantified impacts presented in the analysis include costs associated with section 7 consultations, as well as costs of additional conservation measures for the Honuaula development project resulting from the proposed critical habitat designation. The analysis also identifies areas in which projects or activities may be affected by critical habitat designation but significant uncertainty and data limitations preclude quantification of impacts—these impacts are referred to in the analysis as “unquantified impacts.” Section 5.3.2 of the FEA addresses stakeholders' concerns that critical habitat designation will change the way the State or county manages and permits current and future activities on designated lands; results in perceptual effects on land values; limits the ability of land owners to diversify current land uses; generates costly lawsuits; and hinders the State's goal to work toward food sustainability. While uncertainty regarding the likelihood of such outcomes and magnitude of associated impacts precludes quantification, the Service considers all potential impacts of the proposed critical habitat, regardless of whether they are direct or indirect, or quantified or unquantified. See also our response to *Comment* (151), above.

(165) *Comment:* Many commenters expressed concern that the proposed critical habitat will negatively affect hunting, for example by causing areas to be fenced and thus limiting land available for hunting.

*Our Response:* Critical habitat designation does not affect activities, including human access, on State or private lands unless some kind of Federal permit, license, or funding is involved (there is a Federal nexus) and the activities may affect the species. Recreational, commercial, and subsistence activities, including hunting, on non-Federal lands are not regulated by critical habitat designation, and may be impacted only where there is Federal involvement in the action and the action is likely to destroy or adversely modify critical habitat. As noted in our FEA, the Service coordinates with the State in managing hunting areas. The State does not fence critical habitat areas and the Service does not anticipate recommending to the State that the Maui Nui critical

habitat area be fenced. Critical habitat is accordingly not expected to limit land available for hunting (IEc 2015, p. 1–5).

## V. Summary of Changes From the Proposed Rule

In preparing this final rule, we reviewed and fully considered comments from the public on the proposed critical habitat designation for 135 Maui Nui species. This final rule incorporates the following substantive changes to our proposed designation, based on the comments we received:

(1) In the Methods section of our June 11, 2012 proposed rule (77 FR 34464), we explained that we used the recovery areas delineated in the Service's 2006 Revised Recovery Plan for Hawaiian Forest Birds to assist us in our identification of proposed critical habitat. In response to public comments, in this final rule we have expanded our discussion of how we used the information in that plan, which we consider to be the best scientific data available, to explain the need to designate critical habitat in unoccupied areas for the akohekohe and kiwikuu. In addition, we have outlined the goals and necessary management actions to ensure the conservation of these two endangered forest birds within their existing occupied habitat and those unoccupied habitats identified as necessary for their conservation (see *Criteria Used to Identify Critical Habitat Boundaries and Special Management Considerations or Protections*, below), based on peer review comments.

(2) We have included additional information on disease and disease vectors in our discussion of Hawaiian forest birds (see “Disease and Disease Vectors” in *Special Management Considerations or Protections*, below), based on peer review comments.

(3) In response to public comments, we have included additional information from the Service's recovery plans for one or more of the Maui Nui plants to further clarify why it is essential to the conservation of each species to designate critical habitat in unoccupied areas and to include area for the expansion or augmentation of existing populations. In addition, although we had explained in our proposed rule (June 11, 2012; 77 FR 34464) that we had relied, in part, on maps of habitat essential to the recovery of Hawaiian plants, as determined by the HPPRCC (1998, 32 pp. + appendices), in response to public comments received, in this final rule we have provided further clarifying information on the overall recovery goals and objectives for Hawaiian plants (see “Recovery Strategy for Hawaiian

Plants,” below) that we used to help guide the areas identified as critical habitat for those species lacking recovery plans. Where specific recovery plans were lacking, we relied on all species information in our files, including the recovery guidelines provided by the HPPRCC (1998) and other reports such as the recently developed plant species range maps (Price *et al.* 2012, 34 pp.), if available for the species. In this final rule, we further clarify why it is essential to the conservation of each species to designate critical habitat in unoccupied areas, and to include area for the expansion or augmentation of existing populations.

(4) We have included additional information on current recovery delisting objectives for the three tree snails included in this final rule (see “Recovery Strategy for Three Tree Snails,” below), to further clarify the habitat needs of these species in response to public comments.

(5) We have included additional information on the threat posed by the predatory rosy wolf snail (*Euglandina rosea*) to the Newcomb’s tree snail (see “Predation by the Nonnative Rosy Wolf Snail,” in *Special Management Considerations or Protections*, below).

(6) We made revisions to the primary constituent elements (PCEs) for eight plants, based on comments we received. Because of these PCE revisions, we removed *Alectryon macrococcus* var. *auwahiensis* and *Melicope adscendens* from the list of plants in Maui—Lowland Dry—Units 3 and 4 because the elevation of these units is too low to have the ability to provide habitat for these species. We added Dry Cliff as an ecosystem for *Argyroxiphium sandwicense* ssp. *macrocephalum*, *Bidens micrantha* ssp. *kalealaha*, and *Geranium multiflorum* on east Maui in Maui—Dry Cliff—Units 1 through 4, added Lowland Wet and Montane Wet

as ecosystems for *Phyllostegia haliakalae* on east Maui (Maui—Lowland Wet—Unit 1, Maui—Montane Wet—Units 1–4), added Lowland Dry as an ecosystem for *Hibiscus brackenridgei* on Molokai (Molokai—Lowland Dry—Units 1 and 2), and we removed Maui—Subalpine—Units 1 and 2 for *Solanum incompletum* on east Maui, in response to comments received from biologists regarding critical habitat and habitat requirements for these species. We also revised Tables 5 and 6 to reflect these changes.

(7) We had specifically described in the text of the proposed rule (June 11, 2012; 77 FR 34464) that space within the appropriate habitats for population growth and expansion, as well as to maintain the historical geographical and ecological distribution of each species, is an essential physical or biological feature for each of the Maui Nui species. In this final rule, in response to public comment, we have expanded that discussion to further clarify why additional suitable habitat in areas that are currently unoccupied, or that may have been unoccupied at the time of listing, is essential for the conservation of each of the Maui Nui species.

(8) We have modified Table 5, Physical or Biological Features in Each Ecosystem, so that the heading for canopy, subcanopy, and understory plants reads “Supporting one or more of these associated native plant genera” instead of “Capable of supporting one or more of these associated native plant genera,” to make it clear that the presence of one or more of the associated native plant genera identified is a physical or biological feature for the listed species in each ecosystem.

(9) We are removing the entry for “Family Rhamnaceae: *Gouania hillebrandii*” from 50 CFR 17.96(a). With this rule, the critical habitat designation for *Gouania hillebrandii* is set forth at 50 CFR 17.99.

(10) We revised the unit boundaries proposed for Molokai, Maui, and Kahoolawe, based on comments indicating that changes in land use had occurred within the proposed critical habitat units that would preclude certain occupied areas from supporting the primary constituent elements, or that the unoccupied areas in question were not essential to the conservation of the species. Such areas do not meet the statutory definition of critical habitat, therefore we removed them from the final designation. In addition, portions of some units were excluded from critical habitat under section 4(b)(2) of the Act (as described in the section *Exclusions Based on Other Relevant Factors*, below). These removals and exclusions resulted in acreage reductions in several units on Maui, Molokai, and Kahoolawe. In addition, four units on Maui (Dry Cliff—Unit 7, Montane Wet—Unit 8, Montane Mesic—Unit 6, Wet Cliff—Unit 5) and all units on Lanai are removed entirely as critical habitat as a result of exclusions under section 4(b)(2) of the Act. Table 3, A through E, provides details for all units that have changed as a result of these removals and exclusions between the proposed and final rules.

Table 3. Summary of Changes From Proposed Rule—Critical Habitat Units With Changes to Area (Note: Units that are unchanged are not shown in this table, hence final acreages do not sum up to equal the total final critical habitat). All changes are reductions unless otherwise noted; values denoted with a plus sign (+) are additions to units. In many cases, additions reflect acres that were initially misclassified into a different ecosystem unit and were simply moved from one unit to another (thus those acres are reflected as a reduction in a different unit under the Boundary Adjustment column).

TABLE 3—A—ISLAND OF MAUI

Maui units	Proposed critical habitat acres (hectares)	Removed * acres (hectares)	Boundary adjustments * acres (hectares)	Excluded acres (hectares)	Final critical habitat acres (hectares)
Coastal—Unit 2 .....	68 (28)	43 (17)	.....	.....	25 (10)
Coastal—Unit 3 .....	54 (22)	43 (17)	.....	.....	10 (4)
Coastal—Unit 4 .....	243 (98)	169 (68)	.....	.....	74 (30)
Coastal—Unit 5 .....	27 (11)	1 (0)	.....	.....	26 (11)
Coastal—Unit 7 .....	187 (76)	71 (29)	.....	71 (29)	46 (19)
Coastal—Unit 8 .....	597 (242)	104 (42)	.....	.....	493 (200)
Coastal—Unit 9 .....	393 (159)	19 (8)	.....	205 (83)	170 (69)
Coastal—Unit 10 .....	434 (176)	261 (106)	.....	.....	173 (70)
Lowland Dry—Unit 1 .....	22,196 (8,983)	1,607 (650)	.....	7,053 (2,854)	13,537 (5,478)
Lowland Dry—Unit 2 .....	2,612 (1,057)	30 (12)	.....	732 (296)	1,851 (749)
Lowland Dry—Unit 3 .....	1,089 (441)	.....	.....	901 (365)	188 (76)
Lowland Dry—Unit 4 .....	1,283 (519)	17 (7)	.....	.....	1,266 (512)
Lowland Dry—Unit 5 .....	5,448 (2,205)	99 (40)	.....	1,690 (685)	3,658 (1,480)
Lowland Dry—Unit 6 .....	579 (234)	156 (63)	.....	184 (74)	240 (97)

TABLE 3—A—ISLAND OF MAUI—Continued

Maui units	Proposed critical habitat acres (hectares)	Removed * acres (hectares)	Boundary adjustments * acres (hectares)	Excluded acres (hectares)	Final critical habitat acres (hectares)
Lowland Mesic—Unit 1 .....	1,930 (781)	43 (17)	.....	6 (2)	1,882 (762)
Lowland Mesic—Unit 2 .....	3,424 (1,386)	549 (222)	.....	1,729 (700)	1,147 (464)
Lowland Wet—Unit 1 .....	26,703 (10,807)	9,822 (3,975)	.....	802 (325)	16,079 (6,507)
Lowland Wet—Unit 2 .....	5,066 (2,050)	5 (2)	.....	4,997 (2,022)	65 (26)
Lowland Wet—Unit 3 .....	1,427 (577)	.....	.....	180 (73)	1,247 (505)
Lowland Wet—Unit 4 .....	1,165 (472)	.....	.....	301 (122)	864 (350)
Lowland Wet—Unit 5 .....	2,112 (855)	.....	.....	2,082 (843)	30 (12)
Lowland Wet—Unit 6 .....	639 (259)	.....	.....	503 (204)	136 (55)
Montane Wet—Unit 1 .....	7,815 (3,162)	46 (19)	+282 (+114)	5,940 (2,404)	2,110 (854)
Montane Wet—Unit 2 .....	16,687 (6,753)	.....	.....	2,104 (851)	14,583 (5,901)
Montane Wet—Unit 6 .....	3,964 (1,604)	.....	.....	2,565 (1,038)	1,399 (566)
Montane Wet—Unit 7 .....	608 (246)	.....	.....	528 (214)	80 (32)
Montane Wet—Unit 8 .....	46 (19)	.....	.....	46 (18)	0 (0)
Montane Mesic—Unit 1 .....	20,972 (8,487)	2,449 (991)	- 282 (- 114)	7,269 (2,942)	10,972 (4,440)
Montane Mesic—Unit 2 .....	366 (148)	.....	.....	242 (98)	124 (50)
Montane Mesic—Unit 3 .....	218 (88)	.....	.....	44 (18)	174 (70)
Montane Mesic—Unit 5 .....	304 (123)	.....	.....	134 (54)	170 (69)
Montane Mesic—Unit 6 .....	94 (38)	.....	.....	94 (38)	0 (0)
Montane Dry—Unit 1 .....	4,988 (2,019)	.....	.....	1,464 (592)	3,524 (1,426)
Subalpine—Unit 1 .....	19,401 (7,851)	1,215 (492)	.....	2,211 (895)	15,975 (6,465)
Subalpine—Unit 2 .....	10,931 (4,424)	.....	.....	1,045 (423)	9,886 (4,001)
Alpine—Unit 1 .....	2,107 (853)	295 (119)	.....	15 (6)	1,797 (727)
Dry Cliff—Unit 1 .....	1,018 (412)	.....	.....	264 (107)	755 (305)
Dry Cliff—Unit 3 .....	293 (119)	.....	.....	93 (38)	200 (81)
Dry Cliff—Unit 5 .....	1,536 (622)	.....	.....	238 (97)	1,298 (525)
Dry Cliff—Unit 7 .....	808 (327)	.....	.....	808 (327)	0 (0)
Wet Cliff—Unit 1 .....	460 (186)	.....	.....	170 (69)	290 (117)
Wet Cliff—Unit 5 .....	2,048 (829)	52 (21)	.....	1,996 (808)	0 (0)
Wet Cliff—Unit 6 .....	9,103 (3,684)	.....	.....	6,993 (2,830)	2,110 (854)
Wet Cliff—Unit 7 .....	781 (316)	.....	.....	222 (90)	557 (225)
Total .....	182,225 (73,744)	17,094 (6,918)	0 (0)	55,921 (22,631)	109,210 (44,196)

\* Refinement in unit areas made in response to public comments and additional field visits; includes reclassification from one ecosystem type to another.

TABLE 3—B—ISLAND OF MOLOKAI

Critical habitat units	Proposed critical habitat acres (hectares)	Removed * acres (hectares)	Boundary adjustments * acres (hectares)	Excluded acres (hectares)	Final critical habitat acres (hectares)
Coastal—Unit 1 .....	250 (101)	126 (51)	.....	.....	125 (50)
Coastal—Unit 2 .....	3,544 (1,434)	1,642 (664)	.....	924 (374)	977 (396)
Coastal—Unit 3 .....	862 (349)	60 (24)	.....	.....	803 (325)
Coastal—Unit 6 .....	1,913 (774)	29 (12)	.....	.....	1,884 (762)
Coastal—Unit 7 .....	306 (124)	257 (104)	+10 (+4)	.....	49 (20)
Lowland Dry—Unit 1 .....	70 (28)	46 (19)	.....	.....	24 (10)
Lowland Dry—Unit 2 .....	3,201 (1,295)	2,608 (1,055)	- 4 (- 2)	.....	589 (238)
Lowland Mesic—Unit 1 .....	10,330 (4,180)	1,199 (485)	+27 (+11)	388 (157)	8,770 (3,549)
Lowland Wet—Unit 1 .....	3,628 (1,468)	679 (275)	.....	.....	2,949 (1,193)
Lowland Wet—Unit 2 .....	1,952 (790)	5 (2)	+3 (+1)	.....	1,950 (789)
Lowland Wet—Unit 3 .....	8,074 (3,267)	4,832 (1,955)	- 23 (- 9)	.....	3,219 (1,303)
Montane Wet—Unit 1 .....	4,818 (1,950)	3 (1)	+0.5 (+ 0)	1,419 (574)	3,397 (1,375)
Montane Mesic—Unit 1 .....	1,629 (659)	.....	.....	813 (329)	816 (330)
Wet Cliff—Unit 1 .....	1,888 (764)	281 (114)	.....	.....	1,607 (651)
Wet Cliff—Unit 2 .....	1,280 (518)	.....	.....	12 (5)	1,268 (513)
Total .....	43,746 (17,703)	11,766 (4,761)	+14 (+5)	3,557 (1,440)	28,434 (11,507)

\* Refinement in unit areas made in response to public comments and additional field visits; includes reclassification from one ecosystem type to another.

TABLE 3—C—ISLAND OF KAHOLAWE

Critical habitat units	Proposed critical habitat acres (hectares)	Removed * acres (hectares)	Excluded acres (hectares)	Final critical habitat acres (hectares)
Coastal—Unit 3 .....	339 (137)	151 (61)	.....	* 189 (76)



TABLE 3—C—ISLAND OF KAHOO LAWE—Continued

Critical habitat units	Proposed critical habitat acres (hectares)	Removed * acres (hectares)	Excluded acres (hectares)	Final critical habitat acres (hectares)
Lowland Dry—Unit 1 .....	1,380 (559)	160 (65)	.....	1,220 (494)
Total .....	1,719 (696)	311 (126)	.....	1,409 (570)

\* Reflects adjustment for original unit acreage, which mistakenly overlapped with Lowland Dry 1.

TABLE 3—D—ISLAND OF LANAI

Critical habitat units	Proposed critical habitat acres (hectares)	Excluded acres (hectares)	Final critical habitat acres (hectares)
Coastal—Unit 1 .....	373 (151)	373 (151)	0 (0)
Coastal—Unit 2 .....	2 (1)	2 (1)	0 (0)
Coastal—Unit 3 .....	509 (206)	509 (206)	0 (0)
Lowland Dry—Unit 1 .....	9,766 (3,952)	9,766 (3,952)	0 (0)
Lowland Dry—Unit 2 .....	939 (380)	939 (380)	0 (0)
Lowland Mesic—Unit 1 .....	11,172 (4,521)	11,172 (4,521)	0 (0)
Lowland Wet—Unit 1 .....	374 (152)	374 (152)	0 (0)
Lowland Wet—Unit 2 .....	232 (94)	232 (94)	0 (0)
Montane Wet—Unit 1 .....	248 (101)	248 (101)	0 (0)
Dry Cliff—Unit 1 .....	83 (34)	83 (34)	0 (0)
Dry Cliff—Unit 2 .....	354 (143)	354 (143)	0 (0)
Dry Cliff—Unit 3 .....	398 (161)	398 (161)	0 (0)
Wet Cliff—Unit 1 .....	731 (296)	731 (296)	0 (0)
Wet Cliff—Unit 2 .....	230 (93)	230 (93)	0 (0)
Total .....	25,413 (10,284)	25,413 (10,284)	0 (0)

TABLE 3—E—SUMMARY OF CHANGES FROM PROPOSED RULE IN TERMS OF AREA

	Proposed critical habitat acres (hectares)	Removed * acres (hectares)	Excluded acres (hectares)	Final critical habitat acres (hectares)
Maui .....	192,362 (77,852)	17,094 (6,918)	55,921 (22,631)	119,349 (48,299)
Molokai .....	46,831 (18,949)	* 11,752 (4,755)	3,557 (1,440)	31,523 (12,757)
Kahoolawe .....	6,451 (2,611)	311 (126)	0 (0)	6,142 (2,486)
Lanai .....	25,413 (10,284)	0 (0)	25,413 (10,284)	0 (0)
Total .....	271,062 (109,695)	* 29,157 (11,799)	84,891 (34,354)	157,014 (63,541)

\* Net acres removed, adjusted to reflect 13 ac (5 ha) added in course of boundary adjustments, as detailed in Table 3B.

## VI. Critical Habitat

### Background

Critical habitat is defined in section 3 of the Act as:

(1) The specific areas within the geographical area occupied by a species, at the time it is listed in accordance with the Act, on which are found those physical or biological features

(a) Essential to the conservation of the species and

(b) Which may require special management considerations or protection; and

(2) Specific areas outside the geographical area occupied by a species at the time it is listed, upon a determination that such areas are essential for the conservation of the species.

Conservation, as defined under section 3 of the Act, means to use and

the use of all methods and procedures that are necessary to bring an endangered or threatened species to the point at which the measures provided under the Act are no longer necessary. Such methods and procedures include, but are not limited to, all activities associated with scientific resources management, such as research, census, law enforcement, habitat acquisition and maintenance, propagation, live trapping, transplantation, and, in the extraordinary case where population pressures within a given ecosystem cannot otherwise be relieved, may include regulated taking.

Critical habitat receives protection under section 7 of the Act through the prohibition against Federal agencies carrying out, funding, or authorizing the destruction or adverse modification of critical habitat. Section 7(a)(2) of the Act

requires consultation on Federal actions that may affect critical habitat. The designation of critical habitat does not affect land ownership or establish a refuge, wilderness, reserve, preserve, or other conservation area. Such designation does not allow the government or public access to private lands. Such designation does not require implementation of restoration, recovery, or enhancement measures by non-Federal landowners. Where a landowner seeks or requests Federal agency funding or authorization for an action that may affect a listed species or critical habitat, the consultation requirements of section 7(a)(2) of the Act would apply, but even in the event of a destruction or adverse modification finding, the Federal action agency's and the applicant's obligation is not to restore or recover the species, but to

implement reasonable and prudent alternatives to avoid destruction or adverse modification of critical habitat.

Under the first prong of the Act's definition of critical habitat, areas within the geographical area occupied by the species at the time it was listed are included in a critical habitat designation if they contain physical or biological features (1) essential to the conservation of the species and (2) that may require special management considerations or protection. For these areas, critical habitat designations identify, to the extent known using the best scientific and commercial data available, those physical or biological features that are essential to the conservation of the species (such as space, food, cover, and protected habitat). In identifying those physical or biological features within an area, we focus on the principal biological or physical constituent elements (primary constituent elements such as roost sites, nesting grounds, seasonal wetlands, water quality, tide, soil type) that are essential to the conservation of the species. Primary constituent elements are those specific elements of the physical or biological features that provide for a species' life-history processes and are essential to the conservation of the species.

Under the second prong of the Act's definition of critical habitat, we can designate critical habitat in areas outside the geographical area occupied by the species at the time it is listed, upon a determination that such areas are essential for the conservation of the species. For example, an area currently occupied by the species but that was not occupied at the time of listing may be essential to the conservation of the species and may be included in the critical habitat designation. We designate critical habitat in areas outside the geographical area occupied by a species only when designation limited to its range would be inadequate to ensure the conservation of the species.

Section 4 of the Act requires that we designate critical habitat on the basis of the best scientific data available. Further, our Policy on Information Standards Under the Endangered Species Act (published in the **Federal Register** on July 1, 1994 (59 FR 34271)), the Information Quality Act (section 515 of the Treasury and General Government Appropriations Act for Fiscal Year 2001 (Pub. L. 106–554; H.R. 5658)), and our associated Information Quality Guidelines, provide criteria, establish procedures, and provide guidance to ensure that our decisions are based on the best scientific data

available. They require our biologists, to the extent consistent with the Act and with the use of the best scientific data available, to use primary and original sources of information as the basis for recommendations to designate critical habitat.

When we are determining which areas should be designated as critical habitat, our primary source of information is generally the information developed during the listing process for the species. Additional information sources may include the recovery plan for the species; articles in peer-reviewed journals; conservation plans developed by States and counties; scientific status surveys and studies; biological assessments; or other unpublished materials and expert opinion or personal knowledge.

Habitat is dynamic, and species may move from one area to another over time. We recognize that critical habitat designated at a particular point in time may not include all of the habitat areas that we may later determine to be necessary for the recovery of the species. For these reasons, a critical habitat designation does not signal that habitat outside the designated area is unimportant or may not be required for recovery of the species. Areas that are important to the conservation of the species, both inside and outside the critical habitat designation, will continue to be subject to: (1) Conservation actions implemented under section 7(a)(1) of the Act, (2) regulatory protections afforded by the requirement in section 7(a)(2) of the Act for Federal agencies to insure their actions are not likely to jeopardize the continued existence of any endangered or threatened species, and (3) section 9 of the Act's prohibitions on taking any individual of the species, including taking caused by actions that affect habitat. Federally funded or permitted projects affecting listed species outside their designated critical habitat areas may still result in jeopardy findings in some cases. These protections and conservation tools will continue to contribute to recovery of the species. Similarly, critical habitat designations made on the basis of the best available information at the time of designation will not control the direction and substance of future recovery plans, habitat conservation plans (HCPs), or other species conservation planning efforts if new information available at the time of these planning efforts calls for a different outcome.

#### *Prudency Determination for 44 Maui Nui Species*

Section 4(a)(3) of the Act, as amended, and implementing regulations (50 CFR 424.12) require that, to the maximum extent prudent and determinable, the Secretary designate critical habitat at the time a species is determined to be endangered or threatened. Our regulations at 50 CFR 424.12(a)(1) state that designation of critical habitat is not prudent when one or both of the following situations exist: (1) The species is threatened by taking or other human activity, and identification of critical habitat can be expected to increase the degree of threat to the species; or (2) such designation of critical habitat would not be beneficial to the species.

#### 40 Maui Nui Species

On May 28, 2013, we published the final rule to list as endangered 38 Maui Nui species (35 plants and 3 tree snails) and reaffirm the listing as endangered of two endemic Hawaii plants (78 FR 32014). These 40 species include 3 tree snails and 37 plants, as follows: Newcomb's tree snail (*Newcombia cumingi*) and the two Lanai tree snails (*Partulina semicarinata* and *P. variabilis*); the plants *Bidens campylotheca* ssp. *pentamera*, *Bidens campylotheca* ssp. *waihoiensis*, *Bidens conjuncta*, *Calamagrostis hillebrandii*, *Canavalia pubescens*, *Cyanea asplenifolia*, *Cyanea duvalliorum*, *Cyanea grimesiana* ssp. *grimesiana*, *Cyanea horrida*, *Cyanea kunthiana*, *Cyanea magnicalyx*, *Cyanea maritae*, *Cyanea maiuensis*, *Cyanea munroi*, *Cyanea obtusa*, *Cyanea profuga*, *Cyanea solanacea*, *Cyrtandra ferripilosa*, *Cyrtandra filipes*, *Cyrtandra oxybapha*, *Festuca molokaiensis*, *Geranium hanaense*, *Geranium hillebrandii*, *Mucuna sloanei* var. *persericea*, *Myrsine vaccinioides*, *Peperomia subpetiolata*, *Phyllostegia bracteata*, *Phyllostegia haliakalae*, *Phyllostegia pilosa*, *Pittosporum halophilum*, *Pleomele fernaldii*, *Santalum haleakalae* var. *lanaiense*, *Schiedea jacobii*, *Schiedea laui*, *Schiedea salicaria*, *Stenogyne kauaulaensis*, and *Wikstroemia villosa*. There is currently no documentation that the 37 listed endangered or threatened plants are threatened by taking or other human activity. Overcollection is a potential serious threat to the three listed endangered tree snails (*Newcombia cumingi*, *Partulina semicarinata*, and *P. variabilis*) (see “B. Overutilization for Commercial, Recreational, Scientific, or Educational Purposes,” at 78 FR 32050; May 28, 2013). Europeans and others collected

Hawaiian tree snails starting in the 1800s and into the early 20th century. Even today, there are Internet Web sites that sell Hawaiian tree snail shells, including other species of the Hawaiian *Partulina*. It is unknown if the shells offered for sale are from historical collections or recent collections from the wild. However, we do not believe the designated critical habitat will increase the threat of overcollection of *N. cumingi*, *P. semicarinata*, and *P. variabilis* because our approach to critical habitat designation is based on the physical or biological features essential to the conservation of the species and does not identify the locations of individuals of the three tree snails. In addition, the critical habitat unit maps are published at a scale that does not pinpoint the locations of the three snail species to the extent that individuals of these three tree snail species can be located on the private lands on which they occur.

#### Four Previously Listed Maui Nui Species

We listed the akohekohe or crested honeycreeper and the kiwikiu or Maui parrotbill as endangered species in 1967 (32 FR 4001; March 11, 1967), under the Endangered Species Preservation Act of 1966 (precursor to the Endangered Species Act of 1973). Critical habitat was not determined at that time because it was not required under the Act until 1978. Neither the akohekohe nor the kiwikiu is threatened by taking or other human activity (32 FR 4001, March 11, 1967; USFWS 2006, pp. 2–81 to 2–82, 2–142).

At the time we listed the plant *Kokia cookei* (Cooke's kokia) as endangered in 1979, we found that designation of critical habitat was not prudent because this species had been extirpated from its natural range on Molokai and was known only from a single specimen in cultivation and tissue culture maintained in a laboratory, therefore at that time we concluded that the species would not benefit from the designation of critical habitat (44 FR 62470; October 30, 1979). *Kokia cookei* is not threatened by vandalism, collecting, or other human activities, and we believe there is a benefit to a critical habitat designation for this species (see discussion below).

We listed the plant *Acaena exigua* (liliwai), known from Kauai and Maui, as endangered in 1992 (57 FR 20772; May 15, 1992). At that time, the species had not been seen since 1973. In 1997, botanists rediscovered *A. exigua* in the Puu Kukui Preserve on west Maui, but it has not been seen at this location since 2000 (68 FR 25934; May 14, 2003).

We determined that critical habitat was not prudent for *Acaena exigua* at the time of listing (1992) and again at the time we reevaluated prudency determinations for many listed plants in the Hawaiian Islands because at that time we believed *A. exigua* was most likely extinct, and therefore would not benefit from a critical habitat designation (2003) (57 FR 20772, May 15, 1992; 68 FR 9116, February 27, 2003, p. 9185). *Acaena exigua* is not threatened by vandalism, collecting, or other human activities, and we believe there is a benefit to a critical habitat designation for this species (see discussion below). Although the reasons for the disappearance of this species on west Maui are not known, botanists believe it may be rediscovered in the same area where it was last seen in 2000, with sustained searching.

We reviewed the information available for the 39 endangered plants, 3 tree snails, and the 2 endangered birds (akohekohe and kiwikiu) pertaining to the biological needs of these 44 species and characteristics of their last known habitats. In the absence of finding that the designation of critical habitat would increase threats to a species, if there are any benefits to a critical habitat designation, then a prudent finding is warranted. The potential benefits to the 39 endangered plants, the 3 tree snails, and the 2 endangered birds (akohekohe and kiwikiu) include: (1) Triggering consultation under section 7 of the Act, in new areas for actions in which there may be a Federal nexus where it would not otherwise occur because, for example, it is or has become unoccupied or the occupancy is in question; (2) focusing conservation activities on the most essential features and areas; (3) providing educational benefits to State or county governments or private entities; and (4) preventing people from causing inadvertent harm to the species.

There are two plant species, *Kokia cookei* and *Acaena exigua*, for which we now find that the designation of critical habitat is prudent, which is a change from earlier determinations that critical habitat was not prudent for these species, neither of which is known to occur in the wild. At the time the *K. cookei* was listed (October 30, 1979; 44 FR 62470) we determined that the designation of critical habitat was not prudent, because *K. cookei* had been extirpated from its natural range; however, the rule noted that critical habitat may be determined at a future date in connection with efforts to reintroduce the species. Currently, there is a single individual of *K. cookei* in cultivation on Oahu, and there are

propagules in captive propagation, with two individuals outplanted on Molokai in a living gardens collection. *Acaena exigua* was listed as endangered in 1992, at which time it was determined that critical habitat was not prudent as it would not provide a benefit to the species (May 15, 1992; 47 FR 20772). When we reconsidered not prudent findings as required by *Conservation Council for Hawaii v. Babbitt*, 2 F. Supp. 2d 1280 (D. Haw. 1998) we found (65 FR 79192, December 18, 2000) that critical habitat for *A. exigua* was not prudent because it had not been seen in the wild, and no genetic material of the species was known to exist. However, as described in our proposed rule (June 11, 2012; 74 FR 34464), we have reconsidered these findings and now conclude that designation of critical habitat is prudent for these two species. Recovery of these two plants, *K. cookei* and *A. exigua*, neither of which are currently known to occur as wild individuals (*A. exigua* was briefly rediscovered in 1997, and survived until 2000), will require *in-situ* conservation and protection of wild individuals, if rediscovered; enhancement of existing populations with outplantings; and establishment of new populations through outplanting of propagated individuals into potentially suitable habitat within their historical ranges (USFWS 1997, p. 11; USFWS 1998a, pp. 22–23; Orr 2007, in litt., p. 8; Seidman 2007, in litt.). The conservation of these species cannot be achieved unless individuals are reintroduced and eventually populations are reestablished in the wild. Therefore, for the reasons described above, we have determined that critical habitat is prudent and will be of benefit to these species, as suitable habitat within their historical range is essential to their conservation to provide for the reintroduction and reestablishment of the species in the wild.

The primary regulatory effect of critical habitat is the section 7(a)(2) requirement that Federal agencies refrain from taking any action that destroys or adversely modifies critical habitat. We find that the designation of critical habitat for each of the 44 endangered species identified above will benefit it by serving to focus conservation efforts on the restoration and maintenance of ecosystem functions that are essential for attaining its recovery and long-term viability. In addition, the designation of critical habitat serves to inform management and conservation decisions by identifying any additional physical or biological features of the ecosystem that

may be essential for the conservation of certain species, such as the availability of bogs for *Calamagrostis hillebrandii*, *Geranium hanaense*, and *G. hillebrandii*. Therefore, as we have determined that the designation of critical habitat will not likely increase the degree of threat to the species and may provide some measure of benefit, we find that designation of critical habitat is prudent for the following 44 species, as critical habitat would be beneficial and there is no evidence that the designation of critical habitat would result in an increased threat from taking or other human activity for these species:

(1) Plants—*Acaena exigua*, *Bidens campylothea* ssp. *pentamera*, *Bidens campylothea* ssp. *waihoiensis*, *Bidens conjuncta*, *Calamagrostis hillebrandii*, *Canavalia pubescens*, *Cyanea asplenifolia*, *Cyanea duvalliorum*, *Cyanea grimesiana* ssp. *grimesiana*, *Cyanea horrida*, *Cyanea kunthiana*, *Cyanea magnicalyx*, *Cyanea maritae*, *Cyanea mauiensis*, *Cyanea munroi*, *Cyanea obtusa*, *Cyanea profuga*, *Cyanea solanacea*, *Cyrtandra ferrispilosa*, *Cyrtandra filipes*, *Cyrtandra oxybapha*, *Festuca molokaiensis*, *Geranium hanaense*, *Geranium hillebrandii*, *Kokia cookei*, *Mucuna sloanei* var. *persericea*, *Myrsine vaccinioides*, *Peperomia subpetiolata*, *Phyllostegia bracteata*, *Phyllostegia haliakalae*, *Phyllostegia pilosa*, *Pittosporum halophilum*, *Pleomele fernaldii*, *Santalum haleakalae* var. *lanaiense*, *Schiedea jacobii*, *Schiedea laui*, *Schiedea salicaria*, *Stenogyne kauaulaensis*, and *Wikstroemia villosa*;

(2) Animals—birds: *akohekohe* and *kiwiku*; snails: *Newcombia cumingi*, *Partulina semicarinata*, and *Partulina variabilis*.

#### *Critical Habitat Determinability for the Listed Plant Species Cyanea mauiensis and Phyllostegia hispida*

As stated above, section 4(a)(3) of the Act requires the designation of critical habitat concurrently with the species' listing "to the maximum extent prudent and determinable." Our regulations at 50 CFR 424.12(a)(2) state that critical habitat is not determinable when one or both of the following situations exist:

- (i) Information sufficient to perform required analyses of the impacts of the designation is lacking, or
- (ii) The biological needs of the species are not sufficiently well known to permit identification of an area as critical habitat.

When critical habitat is not determinable, the Act provides for an additional year to publish a critical

habitat designation (16 U.S.C. 1533(b)(6)(C)(ii)).

In accordance with section 3(5)(A)(i) of the Act and regulations at 50 CFR 424.12, in determining which areas occupied by the species at the time of listing to designate as critical habitat, we consider those physical and biological features essential to the conservation of the species that may require special management considerations or protection. The primary constituent elements of critical habitat include, but are not limited to:

- (1) Space for individual and population growth, and for normal behavior;
- (2) Food, water, air, light, minerals, or other nutritional or physiological requirements;
- (3) Cover or shelter;
- (4) Sites for breeding, reproduction, rearing (or development) of offspring; and
- (5) Habitats that are protected from disturbance or are representative of the historical geographical and ecological distributions of a species.

We are currently unable to identify the physical and biological features that are considered essential to the conservation of the plant *Cyanea mauiensis*, one of the recently listed species on Maui, because information necessary to understand the life-history needs of the species is not available at this time. Key features of the life history of this plant species, such as flowering cycles, pollination vectors, specific environmental requirements, and limiting factors, remain unknown. Nothing is known of the preferred habitat of, or native species associated with, this species on the island of Maui. *Cyanea mauiensis* was last observed on Maui over 100 years ago, and its habitat has been modified and altered by nonnative ungulates and plants, fire, and stochastic events (e.g., hurricanes, landslides). In addition, predation by nonnative rats, and herbivory by nonnative ungulates and invertebrates, likely led to the extirpation of this species from Maui. Because a century has elapsed since *C. mauiensis* was last observed, the optimal conditions that provide the biological or ecological requisites of this species are not known. As described above, we can surmise that habitat degradation from a variety of factors and predation by a number of nonnative species has contributed to the decline of this species on Maui; however, we do not know the physical or biological features that are essential for *C. mauiensis*. As we are unable to identify the physical and biological features essential to the conservation of this species, we are unable to identify

areas on Maui that contain these features.

Although we have determined that the designation of critical habitat is prudent for the plant *Cyanea mauiensis*, the biological needs of this species are not sufficiently well known to permit identification of the physical or biological features that may be essential for the conservation of the species, or those areas that provide the physical or biological features essential to the conservation of the species. Therefore, we find that critical habitat for *C. mauiensis* is not determinable at this time. We intend to continue gathering information regarding the essential life-history requirements of this plant species to facilitate the identification of those physical or biological features that are essential to the conservation of *C. mauiensis*. We recognize that in the case of a "not determinable" finding the Act provides 1 year from the date of the proposed rule in which such a finding is made to propose critical habitat. As such a proposal would further delay the finalization of critical habitat for the other 135 Maui Nui species addressed in this rule, we will be proposing critical habitat for *C. mauiensis* in a separate rulemaking in the near future.

We listed the plant *Phyllostegia hispida* (NCN), known only from the island of Molokai, as an endangered species on March 17, 2009 (74 FR 11319). At the time of listing, we determined that critical habitat was prudent but not determinable for this species, but acknowledged that for the future designation of critical habitat we would evaluate the needs of *P. hispida* within the ecological context of the ecosystem in which it occurs. We are now designating critical habitat for *P. hispida*, based on the identification of the physical and biological features that contribute to the successful functioning of the ecosystem upon which it depends.

#### *Critical Habitat Designation for 50 Species and Revision of Critical Habitat Designation for 85 Species on Molokai, Lanai, Maui, and Kahoolawe*

In this section, we discuss the designation of critical habitat for 50 listed plants and animals on the islands of Maui Nui (39 of the 40 species discussed above in our listing proposal and reevaluation, for which we concluded that critical habitat was both prudent and determinable; 2 listed bird species (*akohekohe* or crested honeycreeper and *kiwiku* or Maui parrotbill); and 9 listed plants *Abutilon eremitopetalum*, *Acaena exigua*, *Cyanea gibsonii*, *Kadua cordata* ssp. *remyi*, *Kokia cookei*, *Labordia tinifolia* var.

*lanaiensis*, *Melicope munroi*, *Phyllostegia hispida*, and *Viola lanaiensis*. This section also discusses the currently designated critical habitat for 85 species of plants on the islands of Molokai, Lanai, Maui, and Kahoolawe, which is being revised here based on new information. This information represents the best current scientific information available.

#### Recovery Strategy for Hawaiian Plants

The lack of detailed scientific data on the life history of the 130 plant species in this final rule makes it impossible for us to develop a robust quantitative model (e.g., population viability analysis (National Research Council 1995)) to identify the optimal number, size, and location of critical habitat units to achieve recovery. Based on the best information available at this time, including information on which the listing and recovery plans for most of these species were based, we have concluded that the current size and distribution of the extant populations are not sufficient to provide for the conservation of these plant species (Ellstrand and Elam 1993, pp. 217–238; Reed 2005, pp. 563–568).

For 95 of these plant species, the overall recovery strategy, outlined in the approved recovery plans, includes: (1) Stabilization of existing wild populations; (2) protection and management of habitat; (3) enhancement of existing small populations and reestablishment of new populations within historical range; and (4) research on species biology and ecology (Service Recovery Plan for *Gouania hillebrandii* (Rhamnaceae), July 1990; Recovery Plan for the Kauai Plant Cluster, September 1995; Lanai Plant Cluster Recovery Plan, September 1995; Recovery Plan for *Marsilea villosa*, April 1996; Recovery Plan for the Big Island Plant Cluster, September 1996; Recovery Plan for Molokai Plant Cluster, September 1996; Recovery Plan for the Maui Plant Cluster, July 1997; Recovery Plan for *Kokia cookei*, June 1998; Recovery Plan for the Oahu Plant Cluster, August 1998; Recovery Plan for 4 Hawaiian Ferns, April 1998; Molokai II: Addendum to the Recovery Plan for the Molokai Plant Cluster, May 1998; Recovery Plan for the Multi-Island Plants, July 1999; and Addendum to the Recovery Plan for Multi-Island Plants, September). Although recovery plans have not yet been developed for 35 of the plants in this final rule (*Bidens campylotheca* ssp. *pentamera*, *B. campylotheca* ssp. *waihoiensis*, *B. conjuncta*, *Calamagrostis hillebrandii*, *Canavalia pubescens*, *Cyanea asplenifolia*, *C. duvalliorum*, *C. horrida*, *C. kunthiana*,

*C. magnicalyx*, *C. maritae*, *C. munroi*, *C. obtusa*, *C. profuga*, *C. solanacea*, *Cyrtandra ferripilosa*, *C. filipes*, *C. oxybapha*, *Festuca molokaiensis*, *Geranium hanaense*, *G. hillebrandii*, *Mucuna sloanei* var. *persericea*, *Myrsine vaccinioides*, *Peperomia subpetiolata*, *Phyllostegia bracteata*, *P. haliakalae*, *P. pilosa*, *Pittosporum halophilum*, *Pleomele fernaldii*, *Schiedea jacobii*, *S. laui*, *S. salicaria*, *Stenogyne kauaulaensis*, and *Wikstroemia villosa*) listed as endangered on May 28, 2013 (78 FR 32014), or for *Phyllostegia hispida*, listed as endangered on March 17, 2009 (74 FR 11319), and for which we are designating critical habitat in this final rule, we believe it is reasonable to apply this same recovery strategy to these 35 plant species because they have similar life histories, occur in the same habitat, and face the same threats as the 95 plant species with approved recovery plans and addressed in this final rule, including small numbers of individuals and greatly reduced distributions.

The overall recovery goal stated in the recovery plans for each of 95 plant species with approved recovery plans and which we have applied to the 35 plant species without recovery plans, includes the establishment of 8 to 10 populations with a minimum of 100 mature, reproducing individuals per population for long-lived perennials; 300 mature, reproducing individuals per population for short-lived perennials; and 500 mature, reproducing individuals per population for annuals. These are the minimum population targets set for considering delisting of the species, which we consider the equivalent of achieving the conservation of the species as defined in section 3 of the Act (hereafter we refer to these delisting objectives as defined in recovery plans or by the HPPRCC (1998) as simply “recovery objectives”). (There is only one exception to the criteria above, and that is *Marsilea villosa*, a short-lived terrestrial fern dependent on flooding regimes for its reproductive cycle. The recovery plan states that for downlisting, at least six distinct, self-sustaining populations must be maintained over two successive flooding events, and that to delist, the six populations must no longer be in need of active management, and that these criteria should then be reconsidered 5 years following the delisting). To be considered recovered, the populations of multi-island species should be distributed among the islands of its known historical range (Service Recovery Plan for *Gouania hillebrandii* (Rhamnaceae), July 1990; Recovery Plan

for the Kauai Plant Cluster, September 1995; Lanai Plant Cluster Recovery Plan, September 1995; Recovery Plan for *Marsilea villosa*, April 1996; Recovery Plan for the Big Island Plant Cluster, September 1996; Recovery Plan for Molokai Plant Cluster, September 1996; Recovery Plan for the Maui Plant Cluster, July 1997; Recovery Plan for *Kokia cookei*, June 1998; Recovery Plan for the Oahu Plant Cluster, August 1998; Recovery Plan for 4 Hawaiian Ferns, April 1998; Molokai II: Addendum to the Recovery Plan for the Molokai Plant Cluster, May 1998; Recovery Plan for the Multi-Island Plants, July 1999; and Addendum to the Recovery Plan for Multi-Island Plants, September; HPPRCC 1998). A population, for the purposes of this discussion and as defined in the recovery plans for these species, is a unit in which the individuals could be regularly cross-pollinated and influenced by the same small-scale events (such as landslides), and which contains a minimum of 100, 300, or 500 mature, reproducing individuals, depending on whether the species is a long-lived perennial, short-lived perennial, or annual, respectively. For all plant species, propagated and outplanted individuals are generally not initially counted toward recovery, as populations must demonstrate recruitment (the ability to reproduce and generate multiple generations) and viability over an extended period of time to be considered self-sustaining.

By adopting the specific recovery objectives enumerated above, the adverse effects of genetic inbreeding and random environmental events and catastrophes, such as landslides, floods, and hurricanes, which could destroy a large percentage of a species at any one time, may be reduced (Kramer *et al.* 2008, p. 879; Menges 1990, pp. 56–60; Neel and Ellstrand 2003, p. 347). These recovery objectives were initially developed by the HPPRCC and are found in the recovery plans for 95 plant species, and applied to the 35 plant species without approved recovery plans. Further discussion on these recovery objectives can be found in our final critical habitat designations for 3 plants on the island of Lanai (68 FR 1220; January 9, 2003), 41 plants on Molokai (68 FR 12982; March 18, 2003), and 60 plants on the islands of Maui and Kahoolawe (68 FR 25934; May 14, 2003). As stated above, these objectives describe the minimum population criteria to be met, based on the best available scientific data, to ensure adequate population resiliency (population size, growth rate, and connectivity; indicative of ability to

withstand stochastic disturbances), redundancy (spreading the risk among multiple populations over a large geographic area; ability to withstand catastrophic events), and representation (genetic and environmental diversity; ability to adapt to changing conditions over time) to ensure long-term viability and bring these species to the point at which the protections of the Act are no longer necessary (delisting). As this is the definition of conservation under section 3 of the Act, we consider the ability to meet these recovery objectives as essential to the conservation of these species. These population recovery objectives are not necessarily the only recovery criteria for each species, but they served as the guide for our identification of the critical habitat areas essential for the conservation of the Maui Nui species in this rule, in terms of providing the ability to meet the specified population objectives.

In conclusion, for the 130 plant species addressed in this final rule, their conservation is dependent upon the protection of habitat for existing population sites, including room for population growth and expansion, and suitable unoccupied habitat within their historical range to provide for the requisite resiliency, redundancy, and representation of populations through restoration and reintroductions (see Unoccupied Areas, below).

#### Recovery Strategy for Two Forest Birds

The recovery strategies for the akohekohe and kiwikiu are generally similar because these two birds inhabit similar geographic areas and face common threats (Service 2006, pp. 2–83, 2–143). These recovery strategies, enumerated in the Service's 2006 Revised Recovery Plan for Hawaiian Forest Birds (pp. 2–83, 2–143), include the protection, restoration, and management of native high-elevation habitat on east Maui; research to understand the threats from disease and predation; and reestablishment (through captive propagation (both akohekohe and kiwikiu) or translocation of wild-caught adult birds (kiwikiu)) of a second population of both species in historical habitat on west Maui or east Molokai to reduce the risk of extinction due to catastrophic events, such as hurricanes and disease outbreaks (Service 2006, pp. 2–83, 2–143). Currently, there is only one population each of the akohekohe and kiwikiu, both on the windward side of Haleakala, east Maui. Suitable habitat is needed in other areas to achieve at least two populations or a metapopulation of each species on the islands of Maui Nui. The akohekohe and kiwikiu are known to have occurred on

Molokai. West Maui and Molokai contain intact native forest suitable for both species, except for the presence of mosquitoes and avian diseases. Haleakala supports a population of approximately 3,800 akohekohe that occupy 22 sq mi (58 sq km), and a population of approximately 500 kiwikiu that occupy about 19 sq mi (59 sq km). For each species these areas represent less than 5 percent of the estimated historical ranges on Maui. Both species appear to occupy almost all habitat that is currently suitable, because of disease constraints at lower elevations. To ensure the potential for population increase, additional habitat must be restored from 4,000 to 7,000 ft (1,200 to 2,000 m) on the leeward slopes and from 5,000 to 7,000 ft (1,500 to 2,000 m) on the western slopes, including a lower elevational limit of 2,500 ft (750 m) on windward Haleakala to encompass nonbreeding habitat for some birds following seasonal flowering downslope. A recovery area on west Maui, from 2,500 ft (750 m) to the summit (5,800 ft (1,800 m)) that encompasses suitable forest habitat, most of which is already managed for conservation, with large areas of native forest, would provide a second geographically disjunct population for each of these species. A recovery area on Molokai, from 2,500 ft (750 m) to the summit, would encompass forest habitat suitable for the two forest birds, and currently, upper elevations are managed for conservation, with management still required for control and prevention of avian disease. This would provide for population increases and populations disjunct from the island of Maui, in case of catastrophic events. The establishment of these additional populations in unoccupied but suitable habitat is essential to the conservation of these two bird species, as each remains highly vulnerable to extinction through either a single catastrophic event or a disease epizootic, since each species has been reduced to only a single population.

The recovery plan also provides the recovery criteria for delisting the akohekohe and kiwikiu (*i.e.*, removing the species from protection under the Act). The following criteria must be met over a 30-year time period: (1) Two or more viable populations or a viable metapopulation on Haleakala and either west Maui or Molokai that represent the ecological, morphological, behavioral, and genetic diversity of the species; (2) population viability demonstrated by quantitative surveys or demographic monitoring and total population size not expected to decline by more than 20

percent over a 30-year period; (3) sufficient habitat in recovery areas is protected and managed to achieve criteria 1 and 2; and (4) threats that led to the decline of the species are identified and controlled (Service 2006, pp. x–xi, 3–5).

In conclusion, for both of these birds, their conservation is dependent upon the protection of existing population sites and suitable unoccupied habitat within their historical range. Unoccupied but suitable habitat, as described in the Revised Forest Birds Recovery Plan, is essential for the conservation of both bird species to provide for the expansion of extant populations, as well as sites for translocation or reintroduction to establish additional populations essential to the conservation of the species. Areas both on east and west Maui, and on Molokai, are designated as critical habitat because these areas are necessary to promote natural demographic and evolutionary processes, and to allow the species to expand into potential habitat in a “ring” of suitable forest at upper elevations where mosquitoes (that spread disease) are rare. Reestablishment of these forest birds on west Maui or Molokai is necessary; however, it is uncertain in exactly which area (east or west Maui, or Molokai) a new population of birds might have the most success in reestablishing. Relatively large areas of suitable unoccupied habitat are needed to support the additional populations that are essential to the conservation of each species, based on the large home ranges of the birds, their territorial behavior, and the requisite availability of food sources that are ephemeral on the landscape and therefore shift in geographic location over time (*i.e.*, trees come into flower in different locations at different times).

#### Recovery Strategy for Three Tree Snails

Only one recovery plan is available for listed Hawaiian tree snails, and it is for 41 species on Oahu previously listed as endangered (Service Recovery Plan for Oahu Tree Snails of the Genus *Achatinella* 1992, entire). Although there are no downlisting or delisting criteria for these 41 endangered species of tree snails, the primary interim recovery objective is to stabilize populations in the wild and initiate captive propagation. Additional actions include conducting surveys, assessing and managing threats, protecting habitat, and conducting research. Although recovery plans have not yet been developed for the three tree snails in this final rule, it is reasonable to conclude that their conservation needs

would be similar and apply these same interim recovery objectives to the three Maui Nui tree snails because they are in the same family, have similar life histories (long-lived, low reproductive rates, etc.), occur in similar habitat, and face the same threats as the 41 species of *Achatinella* tree snails that have an approved recovery plan (Browning 2013, in litt.; Sether 2013, in litt.). The essential habitat for the *Achatinella* tree snails was determined by mapping their current and historical ranges on the island of Oahu, and selecting forest areas with suitable vegetation and rainfall within those current and historical ranges. As described in the recovery plan, *Achatinella* sp. had ranges varying from 3 to 150 square kilometers (sq km) (1 to 58 square miles (sq mi)). In the absence of a recovery plan for the three species at issue here, we are following the same delisting objectives as for the *Achatinella* tree snails, *i.e.*, determine their current range on the island of Maui (*Newcombia cumingi*) and Lanai (*Partulina semicarinata* and *P. variabilis*) and select forest areas with suitable vegetation and rainfall within those areas, to stabilize wild populations by managing threats and protecting habitat within suitable forest areas within their current ranges, and to initiate captive propagation for reintroduction to these areas. As each of the three Maui Nui tree snails has been considerably reduced in both range and number (each of the three species is a single-island endemic; on Maui, the last survey for *N. cumingi* in 2012 identified a single individual, and on Lanai, the most recent surveys in 2005 estimated a total of 29 individuals of *P. semicarinata* and 90 of *P. variabilis*), unoccupied but suitable habitat including the forest and rainfall to provide for wet forest habitat within their current range (a total of approximately 10 sq km (4 sq mi) for each *Partulina* sp. and 2.5 sq km (1 sq mi) for *Newcombia*) will be essential to the conservation of each of these species.

In summary, the overall recovery of these 135 Hawaiian species (130 plants, 2 forest birds, and 3 tree snails) in this final rule includes protection of existing populations and their habitat, augmentation of existing populations and reestablishment of new populations within their historical range, control of threats, research on species' biology and ecology, and research on abatement and control of threats that are currently not addressed. Relevant to this designation of critical habitat, the recovery of these 135 Hawaiian species therefore requires a combination of both presently

occupied habitat (to protect existing populations) and unoccupied habitat (for expansion or augmentation of existing populations and reestablishment of new populations within their historical range) (see Occupied Areas and Unoccupied Areas, below).

#### Revision of Critical Habitat for 85 Plants on Molokai, Lanai, Maui, and Kahoolawe

Under section 4(a)(3)(A)(ii) of the Act we may, as appropriate, revise a critical habitat designation. In 1984, we designated critical habitat for a single species of plant, *Gouania hillebrandii*, on 114 ac (46 ha) in four units (49 FR 44753) based on its known location at the time. In 2003, we designated critical habitat for 3 Lanai plants on 789 ac (320 ha) in 6 units (68 FR 1220, January 9, 2003); for 41 Molokai plants on 24,333 ac (9,843 ha) in 88 units (68 FR 12982, March 18, 2003); and for 60 plants on Maui (93,200 ac (37,717 ha)) and Kahoolawe (2,915 ac (1,180 ha)) in 139 units (68 FR 25934, May 14, 2003). All designations were based on the known locations of the species at the time. Based on new scientific data available since 2003, we are revising critical habitat for these 85 plant species on the islands of Molokai, Lanai, Maui, and Kahoolawe (this number differs from the original number of species with critical habitat designations, due to some taxonomic revisions made subsequent to the original designations; in addition, as some species occur on more than one island, they are counted twice if the species are counted on an island-by-island basis; see Table 1). When designating critical habitat in occupied areas, we focus on the essential physical or biological features that may be essential to the conservation of the species and which may require special management considerations or protections. In unoccupied habitat, we focus on whether the area is essential to the conservation of the species. We have determined that the physical or biological features identified in the original critical habitat designations for these 85 plant species can be improved, based on new information that has become available. The physical or biological features for occupied areas as described in this rule, in conjunction with the unoccupied areas needed to expand and reestablish wild populations within their historical range, provide a more accurate picture of the geographic areas needed for the recovery of each species. We believe this information will be helpful to Federal agencies and our other partners,

as we collectively work to recover these imperiled species.

Approximately 64 percent of the area we are designating as critical habitat in this rule overlaps with the areas already designated in the 1984 and 2003 final critical habitat rules. In some areas, the footprint of the revision is larger than the 1984 and 2003 designations, to accommodate the expansion of species' ranges within the particular ecosystem in which they occur (*e.g.*, expansion into currently unoccupied habitat), which may not have been accounted for in the original designations. Based on the best available information, the revision correlates each species' physical or biological requirements with the characteristics of the ecosystems on which they depend (*e.g.*, elevation, rainfall, species associations, etc.), and also includes some areas unoccupied by the species but determined to be essential for the conservation of the species. One ancillary benefit is that the revision should enable managers to focus conservation management efforts on common threats that occur across shared ecosystems and facilitates the restoration of the ecosystem function and species-specific habitat needs for the recovery of each of the 85 species. Another added benefit is that the publication of more comprehensive critical habitat unit maps that should be more useful to the public and conservation managers.

Here we have reevaluated the physical or biological features for each of the 85 plant species for which we are revising critical habitat, based on habitat type using species information from the 1984 and 2003 critical habitat designations, and new scientific information that has become available since that time. As noted above, in 1984 and 2003, the physical or biological features for each plant species were defined on the basis of the habitat features of the areas actually occupied by the plants, which included plant community, associated native plant species, locale information (*e.g.*, steep rocky cliffs, talus slopes, gulches, stream banks), and elevation (49 FR 44753, November 9, 1984; 68 FR 1220, January 9, 2003; 68 FR 12982, March 18, 2003; 68 FR 25934, May 14, 2003). In this final rule, we are designating critical habitat in areas occupied by the species at the time of listing as well as areas currently unoccupied by the species but determined to be essential for their conservation (*i.e.*, areas necessary to bring the species to the point at which the measures provided under the Act are no longer needed). The physical or biological features have now been more precisely identified for



these 85 plant species, and include elevation, precipitation, substrate, canopy, subcanopy, and understory characteristics. In addition, since 2003, we have found that many areas where these species are currently or recently reported from are marginal habitat and that the species occurs there due to remoteness or inaccessibility to feral ungulates. The physical or biological features essential to the species' conservation have now been more accurately identified for these 85 plant species, and include elevation, precipitation, substrate, canopy, subcanopy, and understory characteristics. In addition, as all of the species addressed in this final rule have been greatly reduced from their former abundance and distribution, a designation limited to the areas currently occupied by these species is inadequate for their conservation, especially if the areas currently occupied represent suboptimal habitats. Therefore, the 1984 and 2003 critical habitat designations may not have included all of the unoccupied areas that are essential for the conservation of the species. When occupied areas were not adequate to achieve essential recovery goals, we also identified some unoccupied areas as critical habitat upon a determination that such areas are essential to the conservation of the species. We concluded that each of the Maui Nui species requires some currently unoccupied areas that are essential to achieve recovery and therefore the conservation of the species. We address this issue under "Unoccupied Areas," below.

## VII. Methods

As required by section 4(b) of the Act, we used the best scientific data available in determining those areas occupied at the time of listing and that contain the physical or biological features essential to the conservation of the 135 species, and those areas that may be unoccupied but are essential to the conservation of the species, by identifying the occurrence data for each species and determining the ecosystems upon which they depend. This information was developed by using:

- The known locations of the 135 species, including site-specific species information from the Hawaii Biodiversity and Mapping Program (HBMP) database (HBMP 2010), the TNC database (TNC 2007), and our own rare plant database;
- Species information from the plant database housed at the National Tropical Botanical Garden (NTBG);
- Maps of habitat essential to the recovery of Hawaiian plants, as

determined by the Hawaii and Pacific Plant Recovery Coordinating Committee (HPPRCC 1998, 32 pp. + appendices);

- Recovery area as determined in the revised Recovery Plan for Hawaiian Forest Birds (USFWS 2006);
- Maps of important habitat for the recovery of plants protected under the Act (USFWS 1999, pp. F8–F11);
- Projections of geographic ranges of plant species in the Hawaiian Islands, including climate data, substrate data, topography, soils, and disturbance, Price *et al.* 2012 (34 pp. + appendices);
- Recovery plans that are available for 95 of the plant species (Recovery Plan for *Gouania hillebrandii* (Rhamnaceae), July 1990; Recovery Plan for the Kauai Plant Cluster, September 1995; Lanai Plant Cluster Recovery Plan, September 1995; Recovery Plan for *Marsilea villosa*, April 1996; Recovery Plan for the Big Island Plant Cluster, September 1996; Recovery Plan for Molokai Plant Cluster, September 1996; Recovery Plan for the Maui Plant Cluster, July 1997; Recovery Plan for *Kokia cookei*, June 1998; Recovery Plan for the Oahu Plant Cluster, August 1998; Recovery Plan for 4 Hawaiian Ferns, April 1998; Molokai II: Addendum to the Recovery Plan for the Molokai Plant Cluster, May 1998; Recovery Plan for the Multi-Island Plants, July 1999; and Addendum to the Recovery Plan for Multi-Island Plants, September);
- Recovery plan for Oahu tree snails (Recovery Plan for Oahu Tree Snails of the Genus *Achatinella*, April 1993);
- The Nature Conservancy's Ecoregional Assessment of the Hawaiian High Islands (2006) and ecosystem maps (TNC 2007);
- Color mosaic 1:19,000 scale digital aerial photographs for the Hawaiian Islands (April to May 2005);
- Island-wide Geographic Information System (GIS) coverage (*e.g.*, Gap Analysis Program (GAP) vegetation data of 2005);
- 1:24,000 scale digital raster graphics of U.S. Geological Survey (USGS) topographic quadrangles;
- Geospatial data sets associated with parcel data from Maui County (includes Molokai, Lanai, Maui, and Kahoolawe) (2010);
- Final critical habitat designations for *Gouania hillebrandii* and for listed plant species on the islands of Lanai, Molokai, Maui, and Kahoolawe (49 FR 44753, November 9, 1984; 68 FR 1220, January 9, 2003; 68 FR 12982, March 18, 2003; 68 FR 25934, May 14, 2003);
- Recent biological surveys and reports; and
- Discussions with qualified individuals familiar with these species and ecosystems.

Based upon all of this data, we determined that one or more of the 11 habitat types described in this rule are currently occupied or were occupied at the time of listing by one or more of the 135 species addressed in this rule and contain the physical or biological features essential to the conservation of the species, or are currently not occupied by one or more of the 135 species but are areas essential for the conservation of the species (coastal (TNC 2006a), lowland dry (TNC 2006b), lowland mesic (TNC 2006c), lowland wet (TNC 2006d), montane wet (TNC 2006e), montane mesic (TNC 2006f), montane dry (TNC 2006g), subalpine (TNC 2006h), alpine (TNC 2006i), dry cliff (TNC 2006j), and wet cliff (TNC 2006k)).

## Occupied Areas

### Essential Physical or Biological Features

In accordance with section 3(5)(A)(i) of the Act, we determine which areas within the geographical area occupied at the time of listing contain the physical and biological features essential to the conservation of the species, and which may require special management considerations or protection. These physical or biological features provide the essential life-history requirements of the species, and include, but are not limited to:

- (1) Space for individual and population growth and for normal behavior;
- (2) Food, water, air, light, minerals, or other nutritional or physiological requirements;
- (3) Cover or shelter;
- (4) Sites for breeding, reproduction, rearing (or development) of offspring, germination, or seed dispersal; and
- (5) Habitats that are protected from disturbance or are representative of the historical geographical and ecological distributions of a species.

For plant species, ecosystems that provide appropriate seasonal wetland and dry land habitats, host species, pollinators, soil types, and associated plant communities are taken into consideration when determining the physical or biological features essential for a species. For the two forest bird species, ecosystems that provide appropriate forest habitat for shelter, breeding, reproduction, rearing (or development) of offspring and nutritional requirements are taken into consideration when determining the physical or biological features essential for both species. For tree snail species, ecosystems that provide appropriate host plant species for shelter, reproduction, and nutritional

requirements are taken into consideration when determining the physical or biological features essential for the three species in this final rule.

Under section 4(a)(3)(A)(ii) of the Act we may, as appropriate, revise a critical habitat designation. For the reasons described above, we are revising critical habitat for 85 plants from Molokai, Lanai, Maui, and Kahoolawe, based on new information received since the original designations and the need to designate unoccupied habitat to conserve the species. In addition, the recovery plans for 95 of the plant species (see list, above) identify several actions needed to recover these species (see above, "Recovery Strategy for Hawaiian Plants," "Recovery Strategy for Two Forest Birds," and "Recovery Strategy for Three Tree Snails"), including: (1) Protecting habitat and controlling threats; (2) expanding

existing wild populations; (3) conducting essential research; (4) developing and maintaining monitoring plans; (5) reestablishing wild populations within the historical range; and (6) validating and revising recovery criteria. Of these actions essential for the conservation and recovery of these species, of primary relevance to this designation of critical habitat for the Maui Nui species is the objective of providing for expansion or augmentation of existing wild populations (relevant to consideration of occupied critical habitat) and the need for reintroduction and reestablishment of populations within the historical range (relevant to the consideration of unoccupied critical habitat). For species with recovery plans, recovery criteria have been established, and generally include specific objectives in terms of numbers

of populations and individuals that are needed to achieve the conservation of the species. Where such objectives exist, we considered them in our identification of critical habitat (*i.e.*, whether population expansion, augmentation, or reestablishment is essential to the conservation of the species, in light of its current status). As noted above, most but not all of the plant species included in this final rule have a recovery plan in place. For those plant species without specific recovery goals set forth in a recovery plan, we used the general recovery objective guidelines established by the HPPRC (1998) to help determine what is needed for each species in terms of critical habitat. Although we have described these guidelines earlier, here we summarize them for ease of reference in Table 4.

TABLE 4—RECOVERY OBJECTIVE GUIDELINES FOR HAWAIIAN PLANTS

[Goals presented here are for delisting, which is equivalent to achieving the conservation of the species, as defined in section 3 of the Act. In addition to achieving the numbers shown here, the guidelines stipulate that all populations must be stable, secure, and naturally reproducing]

Life history	Number of populations <sup>2</sup>	Number of individuals per population <sup>3</sup>	Total number of individuals	Time sustained (years)
Long-lived perennials <sup>4</sup> .....	5–10	100–200	500–2,000	10
Short-lived perennials .....	5–10	300–500	1,500–5,000	5–10
Annuals .....	5–10	500–1,000	2,500–10,000	5

We derive the specific physical and biological features required for each of the plant and animal species from studies of the species' habitat, ecology, and life history as described in the Critical Habitat section of the June 11, 2012 (77 FR 34464), proposed rule, and in the information presented below. The consideration of whether space for the expansion or augmentation of current occurrences or populations is needed, in light of the recovery objectives for each species and its current status, was also taken into account in our derivation of the physical or biological features essential to the conservation of the species.

#### Primary Constituent Elements

Under the Act and its implementing regulations, we are required to identify the physical or biological features essential to the conservation of the 135 species in areas occupied at the time of listing, focusing on the features' primary constituent elements. Primary constituent elements are those specific elements of the physical or biological features that provide for a species' life-

history processes and are essential to the conservation of the species.

The primary constituent elements identified in this final rule take into consideration the habitat types in which each species occurs and reflect a distribution that we believe is essential to achieving the species' recovery needs within those ecosystems. As described above, we considered the current population status of each species, to the extent it is known, and assessed its status relative to the recovery objectives for that species, in terms of population goals (numbers of populations and individuals in each population, which contributes to population resiliency) and distribution (whether the species occurs in habitats representative of its historic geographical and ecological distribution, and are sufficiently redundant to withstand the loss of some populations over time). This assessment informed us as to whether the species requires space for population growth and expansion in areas occupied at the time of listing, or whether additional areas unoccupied at the time of listing

may be required for the reestablishment of populations to achieve conservation.

In this final rule, primary constituent elements for each of the 135 species are defined based on those physical or biological features essential to support the successful functioning of the habitat type upon which each species depends, and which may require special management considerations or protection. As the conservation of each species is dependent upon functioning habitat to provide its fundamental life requirements, such as a certain soil type, minimum level of rainfall, or suitable native host plant, we consider the physical or biological features present in the ecosystems described in this rule to provide the necessary PCEs for each species. These features collectively provide the suite of environmental conditions within each ecosystem essential to meeting the requirements of each species, including space for individual and population growth, and for normal behavior, the appropriate microclimatic conditions for germination and growth of the plants (*e.g.*, light availability, soil nutrients,

<sup>2</sup>Number of populations that must reach stability.

<sup>3</sup>Number of mature, reproducing individuals that must be present in each stable population.

<sup>4</sup>Known to live for more than 10 reproductive years; if no solid information available, assume short-lived.

hydrologic regime, temperature); maintenance of upland habitat to provide for the proper ecological functioning of forest elements for the three tree snails and the two forest birds; and, in all cases, space within the appropriate habitats for population growth and expansion, as well as to maintain the historical geographical and ecological distribution of each species. Due to our limited knowledge of the specific life-history requirements for the species that are little-studied and occur in remote and inaccessible areas, the physical or biological features described in this document that provide for the successful function of the ecosystem that is essential to the conservation of the species represents the best (and, in many cases, the only) scientific information available. Accordingly, for

purposes of this rule, the physical or biological features of a properly functioning ecosystem are, at least in part, the physical or biological features essential to the conservation of these 135 species.

Table 5 identifies the physical or biological features of a functioning ecosystem for each of the habitat types identified in this final rule, and each species identified in this rule requires the physical or biological features for each ecosystem in which that species occurs. These physical or biological features provide the PCEs for the individual species in each ecosystem or habitat type. The physical or biological features are defined here by elevation, annual levels of precipitation, substrate type and slope, and the characteristic native plant genera that are found in the

canopy, subcanopy, and understory levels of the vegetative community where applicable. If further information is available indicating additional, specific life-history requirements for some species, PCEs relating to these requirements are described separately and are termed “species-specific PCEs,” which are identified in Table 6. The PCEs for each species are therefore composed of the physical or biological features found in its functioning ecosystem(s) (Table 5), in combination with additional requirements specific to that species, if any (Table 6). Note that the PCEs identified in Table 6 for each species are directly related to the physical or biological features presented in detail in Table 5; thus, both Tables 5 and 6 must be read together to fully describe all of the PCEs for each species.

TABLE 5—PHYSICAL OR BIOLOGICAL FEATURES IN EACH ECOSYSTEM  
[Read in association with Table 6]

Ecosystem	Elevation	Annual precipitation	Substrate	Supporting one or more of these associated native plant genera		
				Canopy	Subcanopy	Understory
Coastal <sup>1</sup> .....	<980 ft (<300 m)	<20 in (<50 cm) ..	Well-drained, calcareous, talus slopes; dunes; weathered clay soils; ephemeral pools; mudflats.	<i>Hibiscus</i> , <i>Myoporum</i> , <i>Santalum</i> , <i>Scaevola</i> .	<i>Gossypium</i> , <i>Sida</i> , <i>Vitex</i> .	<i>Eragrostis</i> , <i>Jacquemontia</i> , <i>Lyceum</i> , <i>Nama</i> , <i>Sesuvium</i> , <i>Sporobolus</i> , <i>Vigna</i> .
Lowland Dry <sup>2</sup> .....	<3,300 ft (<1,000 m).	<50 in (<130 cm)	Weathered silty loams to stony clay, rocky ledges, little-weathered lava.	<i>Diospyros</i> , <i>Myoporum</i> , <i>Pleomele</i> , <i>Santalum</i> .	<i>Chamaesyce</i> , <i>Dodonaea</i> , <i>Leptecophylla</i> , <i>Osteomeles</i> , <i>Psydrax</i> , <i>Scaevola</i> , <i>Wikstroemia</i> .	<i>Alyxia</i> , <i>Artemisia</i> , <i>Bidens</i> , <i>Chenopodium</i> , <i>Nephrolepis</i> , <i>Peperomia</i> , <i>Sicyos</i> .
Lowland Mesic <sup>3</sup> .....	<3,300 ft (<1,000 m).	50–75 in (130–190 cm).	Shallow soils, little to no herbaceous layer.	<i>Acacia</i> , <i>Diospyros</i> , <i>Metrosideros</i> , <i>Myrsine</i> , <i>Pouteria</i> , <i>Santalum</i> .	<i>Dodonaea</i> , <i>Freycinetia</i> , <i>Leptecophylla</i> , <i>Melanthera</i> , <i>Osteomeles</i> , <i>Pleomele</i> , <i>Psydrax</i> .	<i>Carex</i> , <i>Dicranopteris</i> , <i>Diplazium</i> , <i>Elaphoglossum</i> , <i>Peperomia</i> .
Lowland Wet <sup>4</sup> .....	<3,300 ft (<1,000 m).	>75 in (>190 cm)	Clays; ashbeds; deep, well-drained soils; lowland bogs.	<i>Antidesma</i> , <i>Metrosideros</i> , <i>Myrsine</i> , <i>Pisonia</i> , <i>Psychotria</i> .	<i>Cibotium</i> , <i>Claoxylon</i> , <i>Kadua</i> , <i>Melicope</i> .	<i>Alyxia</i> , <i>Cyrtandra</i> , <i>Dicranopteris</i> , <i>Diplazium</i> , <i>Machaerina</i> , <i>Microlepia</i> .
Montane Wet <sup>5</sup> .....	3,300–6,500 ft (1,000–2,000 m).	>75 in (>190 cm)	Well-developed soils, montane bogs.	<i>Acacia</i> , <i>Charpentiera</i> , <i>Cheirodendron</i> , <i>Metrosideros</i> .	<i>Broussaisia</i> , <i>Cibotium</i> , <i>Eurya</i> , <i>Ilex</i> , <i>Myrsine</i> .	Ferns, <i>Carex</i> , <i>Coprosma</i> , <i>Leptecophylla</i> , <i>Oreobolus</i> , <i>Rhynchospora</i> , <i>Vaccinium</i> .
Montane Mesic <sup>6</sup> .....	3,300–6,500 ft (1,000–2,000 m).	50–75 in (130–190 cm).	Deep ash deposits, thin silty loams.	<i>Acacia</i> , <i>Ilex</i> , <i>Metrosideros</i> , <i>Myrsine</i> , <i>Nestegis</i> , <i>Nothocestrum</i> , <i>Pisonia</i> , <i>Pittosporum</i> , <i>Psychotria</i> , <i>Sophora</i> , <i>Zanthoxylum</i> .	<i>Alyxia</i> , <i>Charpentiera</i> , <i>Coprosma</i> , <i>Dodonaea</i> , <i>Kadua</i> , <i>Labordia</i> , <i>Leptecophylla</i> , <i>Phyllostegia</i> , <i>Vaccinium</i> .	Ferns, <i>Carex</i> , <i>Peperomia</i> .

TABLE 5—PHYSICAL OR BIOLOGICAL FEATURES IN EACH ECOSYSTEM—Continued

[Read in association with Table 6]

Ecosystem	Elevation	Annual precipitation	Substrate	Supporting one or more of these associated native plant genera		
				Canopy	Subcanopy	Understory
Montane Dry <sup>7</sup> .....	3,300–6,500 ft (1,000–2,000 m).	<50 in (<130 cm)	Dry cinder or ash soils, loamy volcanic sands, blocky lava, rock outcroppings.	<i>Acacia</i> , <i>Metrosideros</i> , <i>Myoporum</i> , <i>Santalum</i> , <i>Sophora</i> .	<i>Chamaesyce</i> , <i>Coprosma</i> , <i>Dodonaea</i> , <i>Dubautia</i> , <i>Leptecophylla</i> , <i>Osteomeles</i> , <i>Wikstroemia</i> .	<i>Bidens</i> , <i>Eragrostis</i> , <i>Melanthera</i> , <i>Vaccinium</i> .
Subalpine <sup>8</sup> .....	6,500–9,800 ft (2,000–3,000 m).	15–40 in (38–100 cm).	Dry ash, sandy loam, rocky, undeveloped soils, weathered lava.	<i>Chamaesyce</i> , <i>Chenopodium</i> , <i>Metrosideros</i> , <i>Myoporum</i> , <i>Santalum</i> , <i>Sophora</i> .	<i>Coprosma</i> , <i>Dodonaea</i> , <i>Dubautia</i> , <i>Gernium</i> , <i>Leptecophylla</i> , <i>Vaccinium</i> , <i>Wikstroemia</i> .	Ferns, <i>Bidens</i> , <i>Carex</i> , <i>Deschampsia</i> , <i>Eragrostis</i> , <i>Gahnia</i> , <i>Luzula</i> , <i>Panicum</i> , <i>Pseudognaphalium</i> , <i>Sicyos</i> , <i>Tetramolopium</i> .
Alpine <sup>9</sup> .....	>9,800 ft (>3,000 m).	30–50 in (75–125 cm).	Barren gravel, debris, cinders.	none .....	<i>Argyroxiphium</i> , <i>Dubautia</i> , <i>Silene</i> , <i>Tetramolopium</i> .	none.
Dry Cliff <sup>10</sup> .....	unrestricted .....	<75 in (<190 cm)	>65 degree slope, rocky talus.	none .....	<i>Antidesma</i> , <i>Chamaesyce</i> , <i>Diospyros</i> , <i>Dodonaea</i> .	<i>Bidens</i> , <i>Eragrostis</i> , <i>Melanthera</i> , <i>Schiedea</i> .
Wet Cliff <sup>11</sup> .....	unrestricted .....	>75 in (>190 cm)	>65 degree slope, shallow soils, weathered lava.	none .....	<i>Broussaia</i> , <i>Cheirodendron</i> , <i>Leptecophylla</i> , <i>Metrosideros</i> .	Bryophytes, Ferns, <i>Coprosma</i> , <i>Dubautia</i> , <i>Kadua</i> , <i>Peperomia</i> .

<sup>1</sup> The physical or biological features for the species in the Coastal ecosystem apply to the following units: Maui—Coastal—Units 1–11; Kahoolawe—Coastal—Units 1–3; Molokai—Coastal—Units 1–7.

<sup>2</sup> The physical or biological features for the species in the Lowland Dry ecosystem apply to the following units: Maui—Lowland Dry—Units 1–6; Kahoolawe—Lowland Dry—Units 1–2; Molokai—Lowland Dry—Units 1–2.

<sup>3</sup> The physical or biological features for the species in the Lowland Mesic ecosystem apply to the following units: Maui—Lowland Mesic—Units 1–3;

Lanai—Lowland Mesic—Unit 1; Molokai—Lowland Mesic—Unit 1.

<sup>4</sup> The physical or biological features for the species in the Lowland Wet ecosystem apply to the following units: Maui—Lowland Wet—Units 1–8; Molokai—Lowland Wet—Units 1–3.

<sup>5</sup> The physical or biological features for the species in the Montane Wet ecosystem apply to the following units: Maui—Montane Wet—Units 1–77; Molokai—Montane Wet—Units 1–3.

<sup>6</sup> The physical or biological features for the species in the Montane Mesic ecosystem apply to the following units: Maui—Montane Mesic—Units 1–55; Molokai—Montane Mesic—Unit 1.

<sup>7</sup> The physical or biological features for the species in the Montane Dry ecosystem apply to the following units: Maui—Montane Dry—Unit 1.

<sup>8</sup> The physical or biological features for the species in the Subalpine ecosystem apply to the following units: Maui—Subalpine—Units 1–2.

<sup>9</sup> The physical or biological features for the species in the Alpine ecosystem apply to the following units: Maui—Alpine—Unit 1.

<sup>10</sup> The physical or biological features for the species in the Dry Cliff ecosystem apply to the following units: Maui—Dry Cliff—Units 1–66.

<sup>11</sup> The physical or biological features for the species in the Wet Cliff ecosystem apply to the following units: Maui—Wet Cliff—Units 1–44, 6–8; Molokai—Wet Cliff—Units 1–3.

TABLE 6—PRIMARY CONSTITUENT ELEMENTS FOR THE MAUI NUI SPECIES ARE A COMBINATION OF THE PHYSICAL OR BIOLOGICAL FEATURES (SEE TABLE 5) IN THE APPLICABLE ECOSYSTEM(S) AS WELL AS PCES SPECIFIC TO EACH SPECIES, IF ANY ARE IDENTIFIED

	Ecosystem										Species-specific physical or biological features	
	Coastal	Lowland dry	Lowland mesic	Lowland wet	Montane wet	Montane mesic	Montane dry	Sub-alpine	Alpine	Dry cliff		Wet cliff
Plants		LA.			WMA EMA, LA, MO.							bogs. epiphytic.
		EMA				EMA	EMA					elevation >1,200 ft (>370 m).
			MO	WMA		EMA, MO					WMA	elevation >1,200 ft (>370 m).
						EMA		EMA	EMA			alpine cin-der deserts.
		WMA, LA	WMA, MO	WMA, MO		EMA, MO EMA EMA				LA.	EMA, WMA.	stream banks.
		WMA			EMA					EMA	EMA	
				WMA	WMA	WMA					WMA.	
	MO	EMA, MO	LA, MO		MO	MO				WMA	WMA. LA	
	EMA, WMA, MO.											bogs.
						WMA						

[illegible]

TABLE 6—PRIMARY CONSTITUENT ELEMENTS FOR THE MAUI NUI SPECIES ARE A COMBINATION OF THE PHYSICAL OR BIOLOGICAL FEATURES (SEE TABLE 5) IN THE APPLICABLE ECOSYSTEM(S) AS WELL AS PCES SPECIFIC TO EACH SPECIES, IF ANY ARE IDENTIFIED—Continued

	Ecosystem										Species-specific physical or biological features	
	Coastal	Lowland dry	Lowland mesic	Lowland wet	Montane wet	Montane mesic	Montane dry	Sub-alpine	Alpine	Dry cliff		Wet cliff
<i>Melicope adscendens</i>	.....	EMA	.....	.....	.....	EMA	.....	.....	.....	.....	.....	elevation >3,200 ft (>975 m).
<i>Melicope balloui</i>	.....	.....	.....	EMA	EMA	.....	.....	.....	.....	.....	.....	bogs.
<i>Melicope knudsenii</i>	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
<i>Melicope mucronulata</i>	.....	EMA	MO	.....	.....	MO	EMA, EMA	.....	.....	.....	LA, EMA	
<i>Melicope munroi</i>	.....	.....	MO	.....	LA	.....	.....	.....	.....	.....	.....	
<i>Melicope ovalis</i>	.....	.....	MO	EMA	EMA	.....	.....	.....	.....	.....	.....	
<i>Melicope reflexa</i>	.....	.....	MO	MO	MO	.....	.....	.....	.....	.....	.....	
<i>Mucuna sloanei</i> var. <i>persericea</i>	.....	.....	.....	EMA	.....	.....	.....	.....	.....	.....	.....	
<i>Myrsine vaccinioides</i>	.....	.....	.....	.....	WMA	EMA, MO	.....	.....	.....	WMA, LA	.....	
<i>Neraudia sericea</i>	.....	EMA, WMA, LA, KAH, EMA	MO	.....	.....	.....	.....	.....	.....	.....	.....	
<i>Nototrichium humile</i>	.....	.....	.....	.....	EMA	.....	.....	.....	.....	.....	.....	
<i>Peperomia subpetiolata</i>	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
<i>Peucedanum sandwicense</i>	EMA, MO	.....	.....	WMA, MO	EMA	EMA	.....	EMA	.....	.....	EMA	
<i>Phyllostegia bracteata</i>	.....	.....	.....	WMA	EMA, WMA	EMA	.....	.....	.....	.....	EMA, LA, MO	
<i>Phyllostegia haliakalae</i>	.....	.....	MO	EMA	EMA	.....	.....	.....	.....	.....	.....	
<i>Phyllostegia hispida</i>	.....	.....	MO	MO	MO	.....	.....	.....	.....	.....	.....	
<i>Phyllostegia mannii</i>	.....	.....	MO	MO	EMA, MO	EMA	.....	.....	.....	.....	.....	
<i>Phyllostegia pilosa</i>	.....	.....	MO	MO	EMA, MO	EMA	.....	.....	.....	.....	.....	
<i>Pittosporum halophilum</i>	MO	.....	.....	MO	.....	MO	.....	.....	.....	EMA	EMA, WMA, WMA	
<i>Plantago princeps</i>	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
<i>Platanthera holochila</i>	.....	.....	.....	.....	EMA, WMA, MO	.....	.....	.....	.....	.....	.....	
<i>Pleomele fernaldii</i>	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
<i>Portulaca sclerocarpa</i>	LA	LA	LA	LA	.....	.....	.....	.....	.....	LA	LA	
<i>Pteris lildgatei</i>	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
<i>Remya mauensis</i>	.....	WMA	WMA	WMA	MO	WMA	.....	.....	.....	.....	WMA, MO, WMA	
<i>Sanicula purpurea</i>	.....	.....	.....	.....	WMA	.....	.....	.....	.....	.....	.....	
<i>Santalum haleakalae</i> var. <i>lanaiense</i>	.....	EMA, WMA	WMA, LA, MO	WMA, LA	LA	EMA, WMA, MO	EMA	.....	.....	.....	WMA, LA	
<i>Schenkia sebaeoides</i>	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
<i>Schiedea haleakalensis</i>	WMA, MO	LA	.....	.....	.....	.....	.....	EMA	.....	.....	.....	
<i>Schiedea jacobii</i>	.....	.....	.....	.....	EMA, MO	.....	.....	.....	.....	.....	.....	
<i>Schiedea laui</i>	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
<i>Schiedea lydgatei</i>	.....	.....	MO	.....	.....	.....	.....	.....	.....	.....	.....	
<i>Schiedea salicaria</i>	.....	WMA	.....	.....	.....	.....	.....	.....	.....	.....	.....	
<i>Schiedea sarmentosa</i>	.....	.....	MO	.....	.....	.....	.....	.....	.....	.....	.....	
<i>Sesbania tomentosa</i>	WMA, LA, MO, KAH	EMA, WMA, LA, MO, KAH	MO	.....	.....	.....	.....	.....	.....	.....	.....	
<i>Silene alexandri</i>	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
<i>Silene lanceolata</i>	.....	.....	MO	.....	.....	.....	.....	.....	.....	.....	.....	
<i>Solanum incompletum</i>	.....	LA	EMA, LA	.....	.....	.....	.....	.....	.....	.....	.....	
<i>Spermolepis hawaiiensis</i>	.....	EMA	EMA, LA, MO	.....	.....	MO	.....	.....	.....	LA	.....	
<i>Stenogyne bifida</i>	.....	WMA, LA	.....	.....	.....	.....	.....	.....	.....	.....	.....	
<i>Stenogyne kauaiaensis</i>	.....	.....	MO	MO	MO	MO	MO	MO	.....	.....	MO	



EMA = east Maui.  
WMA = west Maui.  
LA = Lanai.  
MO = Molokai.  
KAH = Kahoolawe.

Some of the species addressed in this final rule occur in more than one ecosystem. The PCEs for these species are described separately for each ecosystem in which they occur. The reasoning behind this approach is that each species requires a different suite of environmental conditions depending upon the ecosystem in which it occurs. For example, *Bidens campylotheca* ssp. *pentamera* will occur in association with different native plant species, depending on whether it is found within the lowland dry, lowland mesic, montane wet, montane mesic, dry cliff, or wet cliff ecosystems. Each of the physical or biological features described in each ecosystem in which the species occurs are essential to the conservation of the species, to retain its geographical and ecological distribution across the different ecosystem types in which it may occur. Each physical or biological feature is also essential to retaining the genetic representation that allows this species to successfully adapt to different environmental conditions in various native ecosystems. Although some of these species occur in multiple native ecosystems, their declining abundance in the face of ongoing threats, such as increasing numbers of nonnative plant competitors, indicates that they are not such broad habitat generalists as to be able to persist in highly altered habitats. Based on an analysis of the best available scientific information, functioning native ecosystems provide the fundamental biological requirements for the narrow-range endemics addressed in this rule.

Some examples may help to clarify our approach to describing the PCEs for each individual species. If we want to determine the PCEs for the plant *Abutilon eremitopetalum*, we look at Table 6 and see that the PCEs for *A. eremitopetalum* are provided by the physical or biological features in the lowland dry ecosystem. Table 5 indicates that the physical or biological features in the lowland dry ecosystem include elevations of less than 3,300 ft (1,000 m); annual precipitation of less than 50 in (130 cm); weathered silty loams to stony clay, rocky ledges, and little-weathered lava; and potential habitat for one or more genera of the canopy (*Diospyros*, *Myoporum*, *Pleomele*, and *Santalum*), subcanopy (*Chamaesyce*, *Dodonaea*, *Leptecophylla*, *Osteomeles*, *Psydrax*, *Scaevola*, and *Wikstroemia*), or understory plants (*Alyxia*, *Artemisia*, *Bidens*, *Chenopodium*, *Nephrolepis*, *Peperomia*, and *Sicyos*). As we do not specifically know of any PCEs specific to *A. eremitopetalum* and this plant is found

only in the lowland dry ecosystem, we believe that the physical or biological features for the lowland dry ecosystem best approximate the PCEs for *A. eremitopetalum*. Thus we use the physical and biological features provided in the ecosystem in which *A. eremitopetalum* is found as the PCEs for *A. eremitopetalum*.

As another example, Table 6 indicates the physical or biological features for the plant *Geranium hillebrandii* include the ecosystem-level physical or biological features for the montane wet and montane mesic ecosystems, depending on the locations, and also that this species has a species-specific PCE: Bogs. The PCEs for *G. hillebrandii* are thus composed of the physical or biological features for each of the two ecosystems it occupies, as described in Table 5 for the montane wet and montane mesic ecosystems, as well as bogs, as identified in Table 6. Table 6 is read in a similar fashion in conjunction with Table 5 to describe the PCEs for each of the 125 species for which we are designating critical habitat in this final rule.

#### Special Management Considerations or Protections

When designating critical habitat, we assess whether the specific areas within the geographical area occupied by the species at the time of listing contain features that are essential to the conservation of the species and which may require special management considerations or protection.

In identifying critical habitat in occupied areas, we determine whether those areas that contain the features essential to the conservation of the species require any special management actions. Although the determination that special management may be required is not a prerequisite to designating critical habitat in unoccupied areas, special management is needed throughout all of the critical habitat units in this final rule. The following discussion of special management needs is therefore applicable to each of the Maui Nui species for which we are designating critical habitat in this rule.

In this final rule, we are designating critical habitat for 125 of the 135 species for which we proposed critical habitat. For the reasons described below (see *Exclusions Based on Other Relevant Factors*), we are not designating critical habitat for eight plants (*Abutilon eremitopetalum*, *Cyanea gibsonii*, *Kadua cordata* ssp. *remyi*, *Labordia tinifolia* var. *lanaiensis*, *Pleomele fernaldii*, *Portulaca sclerocarpa*, *Tetramolopium lepidotum* ssp.

*lepidotum*, and *Viola lanaiensis*) and two tree snails (*Partulina semicarinata* and *P. variabilis*). The 125 species for which we are designating critical habitat include 108 plant and animal species that are currently found in the wild on Molokai, Maui, and Kahoolawe; (10 plant species which were historically found on one or more of these islands, but are currently found only on other Hawaiian Islands (*Adenophorus periens*, *Clermontia peleana*, *Cyanea grimesiana* ssp. *grimesiana*, *Cyperus trachysanthos*, *Eugenia koolauensis*, *Gouania vitifolia*, *Isodendron pyriformis*, *Kadua coriacea*, *Nototrichium humile*, and *Solanum incompletum*), 6 plant species that may not be currently extant in the wild (*Acaena exigua*, *Cyanea glabra*, *Phyllostegia bracteata*, *P. haliakalae*, *Schiedea jacobii*, and *Tetramolopium capillare*), and 1 plant species, *Kokia cookei*, which exists only in cultivation. For each of the 108 species currently found in the wild on Molokai, Maui, and Kahoolawe, we have determined that the features essential to their conservation are those required for the successful functioning of the ecosystem(s) in which they occur (see Tables 5 and 6, above). As described earlier, in some cases, additional species-specific primary constituent elements were also identified (see Table 6, above). Special management considerations or protections are necessary throughout the critical habitat areas designated here to avoid further degradation or destruction of the habitat that provides those features essential to their conservation. The primary threats to the physical or biological features essential to the conservation of all of these species include habitat destruction and modification by nonnative ungulates, competition with nonnative species, hurricanes, landslides, rockfalls, flooding, fire, drought, and climate change. Additionally, the rosy wolf snail poses a threat to the Newcomb's tree snail and mosquito-borne diseases pose threats to the two forest birds. The reduction of these threats will require the implementation of special management actions within each of the critical habitat areas identified in this final rule.

All designated critical habitat requires active management to address the ongoing degradation and loss of native habitat caused by nonnative ungulates (pigs, goats, mouflon sheep, axis deer, and cattle). Nonnative ungulates also impact the habitat through predation and trampling. Without this special management, habitat containing the features that are essential for the

conservation of these species will continue to be degraded and destroyed.

All designated critical habitat requires active management to address the ongoing degradation and loss of native habitat caused by nonnative plants. Special management is also required to prevent the introduction of new nonnative plant species into native habitats. Particular attention is required in nonnative plant control efforts to avoid creating additional disturbances that may facilitate the further introduction and establishment of invasive plant seeds. Precautions are also required to avoid the inadvertent trampling of listed plant species in the course of management activities.

The active control of nonnative plant species would help to address the threat posed by fire to 31 of the designated ecosystem critical habitat units in particular: Maui-Coastal—Units 4 through 7; Maui-Lowland Dry—Units 1 through 6; Maui-Lowland Mesic—Units 1 and 2; Maui-Montane Mesic—Units 1, 2, and 5; Maui-Dry Cliff—Units 1, 5, and 7; Kahoolawe-Coastal—Units 1 through 3; Kahoolawe-Lowland Dry—Units 1 and 2; Molokai-Coastal—Units 1, 2, 3, 6, and 7; Molokai-Lowland Dry—Units 1 and 2; and Molokai-Lowland Mesic—Unit 1. This threat is largely a result of the presence of nonnative plant species such as the grasses *Andropogon virginicus* (broomsedge), *Cenchrus* spp. (sandbur, buffelgrass), and *Melinis minutiflora* (molasses grass), that increase the fuel load and quickly regenerate after a fire. These nonnative grass species can outcompete native plants that are not adapted to fire, creating a grass-fire cycle that alters ecosystem functions (D'Antonio and Vitousek 1992, pp. 64–66; Brooks *et al.* 2004, p. 680).

Nine of the ecosystem critical habitat units (Maui-Lowland Wet—Units 1 and 4; Maui-Montane Wet—Units 1 through 3; Maui-Montane Mesic—Unit 2; Maui-Wet Cliff—Units 6 and 7; and Molokai-Montane Wet—Unit 1) may require special management to reduce the threat of landslides, rockfalls, and flooding. These threaten to further degrade habitat conditions in these units and have the potential to eliminate some occurrences of 50 plant species (e.g., *Adenophorus periens*, *Alectryon macrococcus*, *Asplenium peruvianum* var. *insulare*, *Bidens campylotheca* ssp. *pentamera*, *B. campylotheca* ssp. *waihoiensis*, *B. conjuncta*, *B. wiebkei*, *Bonamia menziesii*, *Clermontia oblongifolia* ssp. *brevipes*, *C. oblongifolia* ssp. *mauiensis*, *C. samuelii*, *Ctenitis squamigera*, *Cyanea asplenifolia*, *C. copelandii* ssp. *haleakalaensis*, *C. duvalliorum*, *C.*

*hamatiflora* ssp. *hamatiflora*, *C. horrida*, *C. kunthiana*, *C. magnicalyx*, *C. mannii*, *C. maritae*, *C. mceldowneyi*, *C. profuga*, *C. solanacea*, *Cyrtandra filipes*, *C. munroi*, *Diplazium molokaiense*, *Dubautia plantaginea* ssp. *humilis*, *Geranium hanaense*, *G. multiflorum*, *Hesperomannia arborescens*, *Huperzia mannii*, *Kadua laxiflora*, *Lysimachia lydgatei*, *L. maxima*, *Melicope balloui*, *M. ovalis*, *Phyllostegia hispida*, *P. mannii*, *P. pilosa*, *Plantago princeps*, *Platanthera holochila*, *Pteris lidgatei*, *Remya mauiensis*, *Santalum haleakalae* var. *lanaiense*, *Schiedea laui*, *Stenogyne bifida*, *S. kauaulaensis*, *Wikstroemia villosa*, and *Zanthoxylum hawaiiense*) found on steep slopes and cliffs, or in narrow gulches.

#### Special Management To Address Disease and Disease Vectors

All of the forest bird critical habitat units may require special management to reduce the threat of mosquitoes. Mosquito-borne disease (i.e., avian pox and malaria) is identified as a threat to both the akohekohe and kiwikiu, and limits distribution of these two birds to their current high-elevation ranges (i.e., above 4,000 ft (1,200 m)). It is believed that the incidence of avian disease is less prevalent above 4,000 ft, where the abundance of mosquito vectors is low and development of the malarial parasite in the mosquito vector is limited by thermal constraints (Service 2006, p. 4–62). The recovery strategy for the akohekohe and kiwikiu calls for the reestablishment of a second population of both species in historical habitat on west Maui or east Molokai in areas that possibly harbor populations of mosquitoes, and therefore will require special management to reduce the threat from mosquito-borne disease.

#### Special Management To Address Predation by the Nonnative Rosy Wolf Snail

The only critical habitat unit for the Newcomb's tree snail (*Newcombia cumingi*—Unit 1—Lowland Wet) may require special management to reduce the threat of predation by the nonnative rosy wolf snail (*Euglandina rosea*). This nonnative snail is now found on six of the eight main Hawaiian Islands (its presence on Niihau and Kahoolawe has not been confirmed) and it has expanded its range on those islands to include cooler, mid-elevation forests where many endemic tree snails are found. This nonnative snail is likely responsible for the decline and extinction of many of Hawaii's native tree snails (Stone and Anderson 1988, p. 134; Hadfield *et al.* 1993, p. 621; Hadfield 2010a, in litt.). For the reasons

described below (see *Exclusions Based on Other Relevant Factors*), critical habitat is not designated on the island of Lanai, where the two Lanai tree snails (*Partulina semicarinata* and *P. variabilis*) are found.

In summary, we find that each of the areas we are designating as critical habitat that were occupied at the time of listing contains features essential for the conservation of the species that may require special management considerations or protection to ensure the conservation of 125 Maui Nui species. These special management considerations and protections may be required to preserve and maintain the essential features provided to these species by the ecosystems upon which they depend.

#### Unoccupied Areas

Under section 3(5)(A)(ii) of the Act, we may designate as critical habitat specific areas outside the geographical area occupied by the species at the time it is listed upon a determination that such areas are essential for the conservation of the species. Here we have designated critical habitat for 17 plant species that historically occurred on the islands of Maui Nui but are no longer found on these islands. Ten of these plants were historically found on one or more of these islands, but are currently found only on other Hawaiian Islands (*Adenophorus periens*, *Cyanea grimesiana* ssp. *grimesiana*, *Cyperus trachysanthos*, *Eugenia koolauensis*, *Gouania vitifolia*, *Isodendron pyrifolium*, *Kadua coriacea*, *Nototrichium humile*, *Solanum incompletum*, and *Tetramolopium lepidotum* ssp. *lepidotum*), 6 plant species may not be currently extant in the wild (*Acaena exigua*, *Cyanea glabra*, *Phyllostegia bracteata*, *P. haliakalae*, *Schiedea jacobii*, and *Tetramolopium capillare*), and 1 plant species, *Kokia cookei*, which exists only in cultivation. The conservation of these species will be entirely dependent upon suitable but unoccupied habitat for the reestablishment of populations to ensure their conservation and recovery. In addition, because of reduced population sizes and distribution, and because of ongoing threats in the areas currently occupied by the species, all of the Maui Nui species additionally require presently unoccupied but suitable habitat to provide space for the expansion of existing populations and reestablishment of additional populations to achieve the conservation of the species, as guided by the goals set in recovery plans for the species (for 95 of the plant species, the 3 tree snails, and 2 birds) or general recovery

objectives for Hawaiian plants (for 30 of the plant species without specific recovery plans), and to provide resiliency of the populations in the face of ongoing threats.

One of the primary reasons for listing of these 125 species is that their numbers have been so greatly reduced in terms of numbers of individuals, populations, and distribution as to render these species vulnerable to extinction. Based on the current status of each species (see Current Status of 135 Listed Maui Nui Species, above), we have determined that each requires suitable habitat and space for the expansion of existing populations to achieve a level that could approach recovery; in all cases, this requires areas of suitable habitat that are not currently occupied by the species. Most of these species have been reduced to only a few known occurrences with numbers so low that not even a single existing viable population is known; in such cases, suitable but unoccupied habitat is essential for the conservation of the species to both expand and reestablish populations and maintain its historical geographical and ecological distribution. In addition, for plant species in particular, the reintroduction of imperiled species is a relatively new and inexact science (see, e.g., Guerrant and Kaye 2007, entire). Most attempted reintroductions are not successful; a recent global meta-analysis found rare plant reintroductions resulting in recruitment of offspring ranged from only 5 percent to just under 50 percent (Dalrymple *et al.* 2012, p. 39), despite using conditions associated with extant, wild populations to select reintroduction sites (Dalrymple *et al.* 2012, p. 47). For all of the Maui Nui plant species, reintroductions may therefore be needed at a number of sites of potentially suitable habitat greater than the number of sites eventually required to support the minimum number of populations required for recovery (Kaye 2008, p. 316; Dalrymple *et al.* 2012, pp. 48–49). Furthermore, long-term success of a reintroduction will depend not only on initial growth and survival, but ultimately the reintroduced species must be embedded in a larger ecological community that is capable of promoting persistence (Guerrant and Kaye 2008, p. 367).

We have taken all of these factors into account in our designation of unoccupied habitat for the Maui Nui species, and have concluded that more potentially suitable habitat than what would appear to be the minimum required to achieve conservation goals is essential, space is needed between populations, and a stochastic event may

negatively impact one or more populations. Given the need for this redundancy in unoccupied habitat suitable for future reintroductions, because populations must be widely distributed across the range of the species to protect each against extirpation from stochastic events, and because room is needed for expansion of known occurrences, we conclude that all of the unoccupied areas designated here as critical habitat are essential to the conservation of the species, in order to achieve the requisite abundance and distribution of stable, secure, and self-sustaining populations to consider the species recovered. As described above, for similar reasons we have designated unoccupied habitat for the akohekohe and kiwkiu based on the recovery areas identified in the Revised Recovery Plan for Hawaiian Forest Birds (Service 2006), and for future reintroduction sites for the three tree snails based on the interim recovery objectives as identified in the Recovery Plan for Oahu Tree Snails of the Genus *Achatinella* (1992, entire). As we have determined that a designation limited to the current range of the 125 Maui Nui species would be inadequate to achieve their conservation, for all of the reasons outlined above, here we are designating unoccupied critical habitat that we have determined is essential for the conservation of the species.

#### Criteria Used To Identify Critical Habitat

As required by section 4(b)(1)(A) of the Act, we used the best scientific data available to designate critical habitat. We reviewed available information pertaining to the habitat requirements of the species. In accordance with the Act and our implementing regulations at 50 CFR 424.12(e), we review available information pertaining to the habitat requirements of the species and identify occupied areas at the time of listing that contain the features essential to the conservation of the species. If after identifying currently occupied areas, a determination is made that those areas are inadequate to ensure conservation of the species, in accordance with the Act and our implementing regulations at 50 CFR 424.12(e), we then consider whether designating additional areas—outside those currently occupied—are essential for the conservation of the species. We are designating critical habitat in areas outside the geographical area occupied by the species at the time of listing because we have determined that such areas are essential for the conservation of the species.

We considered several factors in the selection of specific boundaries for

critical habitat for the Maui Nui species. We determined critical habitat unit boundaries taking into consideration the known past and present locations of the species, areas determined to be essential to Hawaiian plants (HPPRCC 1998, entire), the recovery areas as determined by species' Recovery Plans (for plants, birds, and tree snails), any previously designated critical habitat for the species, projections of geographic ranges of Hawaiian plant species (Price *et al.* 2012, entire), space to allow for increases in numbers of individuals and for expansion of populations to provide for the minimum numbers required to reach delisting goals (as described in Recovery Plans), space between individual critical habitat units to provide for redundancy of populations across the range of the species in case of catastrophic events such as fire and hurricanes, and critical habitat units on multiple islands for those species known from more than one Hawaiian island (see also Methods, and “Unoccupied Areas,” above). The initial boundaries were superimposed over digital topographic maps of the islands of Molokai, Lanai, Maui, and Kahoolawe and further evaluated. In general, land areas that were identified as highly degraded were removed from the proposed critical habitat units, and natural or manmade features (e.g., ridge lines, valleys, streams, coastlines, roads, obvious land features, etc.) were also used to delineate the final critical habitat boundaries. We are designating critical habitat on lands that contain the physical or biological features essential to conserving multiple species, based on their shared dependence on the functioning ecosystems they have in common. Because the 11 habitat types discussed in this final rule do not form a single contiguous area, they are divided into geographic units on the islands of Molokai, Maui, and Kahoolawe: 82 Plant critical habitat units, 82 forest bird critical habitat units (41 units for each bird), and 1 tree snail critical habitat unit. The forest bird and the tree snail critical habitat units completely overlap the 82 plant critical habitat units.

The critical habitat is a combination of areas currently occupied by the species in that ecosystem, as well as areas that may be currently unoccupied. Due to the extremely remote and inaccessible nature of the area, surveys are relatively infrequent and may be limited in scope; therefore, it is difficult to say with certainty whether individual representatives of a rare species may or may not be present. A properly functioning ecosystem provides the life-

history requirements of the species that make up that ecosystem, and the physical or biological features found in such an ecosystem are the PCEs essential for the conservation of the species that occur there. In other words, the occupied areas provide the physical or biological features essential to the conservation of the species occurring in the ecosystems we analyzed, by providing for the successful functioning of the ecosystem on which the species depend. However, due to the small population sizes, few numbers of individuals, and reduced or lost geographic range of each of the 125 species for which critical habitat is designated, we have determined that a designation limited to the known present range of each species would be inadequate to achieve the conservation of those species because the current populations and range are insufficient to meet recovery goals or to provide sufficient resiliency against ongoing threats to ensure the viability of the species. The areas believed to be unoccupied, and that may have been unoccupied at the time of listing, have been determined to be essential for the conservation and recovery of the species because they provide the physical or biological features necessary for the expansion of existing wild populations and reestablishment of wild populations within the historical range of the species. For 15 of the plant species (*Acaena exigua*, *Cyanea glabra*, *C. grimesiana* ssp. *grimesiana*, *Cyperus trachysanthos*, *Eugenia koolauensis*, *Gouania vitifolia*, *Isodendron pyrifolium*, *Kadua coriacea*, *Kokia cookei*, *Nototrichium humile*, *Phyllostegia bracteata*, *P. haliakalae*, *Schiedea jacobii*, *Solanum incompletum*, and *Tetramolopium capillare*), we are designating unoccupied areas only, as these species are not believed to be extant on Molokai, Maui, or Kahoolawe. Designating unoccupied critical habitat for these species, which once occurred on these islands but are no longer found there, would promote conservation actions to restore their historical, geographical, and ecological representation, which is essential for their recovery. Critical habitat boundaries for all species were delineated to include the habitat features necessary to provide for functioning ecosystems on which they depend; these areas are essential to the conservation of these species since they have been extirpated from these islands and their recovery will be entirely dependent upon their successful

reestablishment in suitable but unoccupied habitat.

In some cases, we have identified areas of critical habitat for species in multiple ecosystem areas. With the exception of *Acaena exigua*, *Cyanea glabra*, *C. grimesiana* ssp. *grimesiana*, *Cyperus trachysanthos*, *Eugenia koolauensis*, *Gouania vitifolia*, *Isodendron pyrifolium*, *Kadua coriacea*, *Kokia cookei*, *Nototrichium humile*, *Phyllostegia bracteata*, *P. haliakalae*, *Schiedea jacobii*, *Solanum incompletum*, and *Tetramolopium capillare*, which are believed to be no longer extant on Molokai, Maui, or Kahoolawe, all of the critical habitat units in these ecosystems contain some areas that are currently unoccupied, and that may have been unoccupied at the time of listing, but have been determined to be essential for the conservation of the species. Because of the small numbers of individuals or low population sizes of each of the 125 species, each requires suitable habitat and space for the expansion of existing populations to achieve a level that could approach recovery. For example, although the plant *Huperzia mannii* is found in multiple critical habitat units across four ecosystem types, its entire distribution is comprised of a total of fewer than 200 wild individuals. The unoccupied areas of each unit are essential for the expansion of this species to achieve viable population numbers and maintain its historical geographical and ecological distribution. This same logic applies to each of the Maui Nui species.

On Maui, there are two distinct geographic areas separated by an isthmus (east and west Maui mountains) with geological and evolutionary age differences. Sixty-three of the plant species and the tree snail *Newcombia cumingi*, for which we are designating critical habitat on the islands of Maui Nui, are historically known from only east Maui or only west Maui. In the case of those species endemic to either east or west Maui, we are designating critical habitat only in the geographic area of historical occurrence on this island. Thirty-eight plant species (*Adenophorus periers*, *Alectryon macrococcus* var. *auwahiensis*, *Argyroxiphium sandwicense* ssp. *macrocephalum*, *Asplenium peruvianum* var. *insulare*, *Bidens campylotheca* ssp. *waihoiensis*, *Canavalia pubescens*, *Clermontia lindseyana*, *C. peleana*, *C. samuelii*, *Cyanea copelandii* ssp. *haleakalaensis*, *C. duvalliorum*, *C. hamatiflora* ssp. *hamatiflora*, *C. horrida*, *C. maritae*, *C. mceldowneyi*, *Cyperus pennatiflorus*, *Cyrtandra ferripilosa*, *Flueggea neowawraea*, *Geranium arboreum*, *G.*

*hanaense*, *G. multiflorum*, *Ischaemum byrone*, *Melanthera kamolensis*, *Melicope adscendens*, *M. balloui*, *M. knudsenii*, *M. mucronulata*, *M. ovalis*, *Mucuna sloanei* var. *persericea*, *Nototrichium humile*, *Peperomia subpetiolata*, *Phyllostegia haliakalae*, *P. mannii*, *P. pilosa*, *Schiedea haleakalaensis*, *S. jacobii*, *Solanum incompletum*, and *Vigna o-wahuensis*) are known only from the east Maui mountains, and 26 plant species (*Acaena exigua*, *Bidens conjuncta*, *Calamagrostis hillebrandii*, *Cyanea lobata* ssp. *lobata*, *C. magnicalyx*, *Cyrtandra filipes*, *C. munroi*, *Dubautia plantaginea* ssp. *humilis*, *Geranium hillebrandii*, *Gouania hillebrandii*, *G. vitifolia*, *Hesperomannia arborescens*, *H. arbuscula*, *Isodendron pyrifolium*, *Kadua coriacea*, *K. laxiflora*, *Lysimachia lydgatei*, *Myrsine vaccinioides*, *Pteris lydgatei*, *Remyi mauiensis*, *Sanicula purpurea*, *Schenkia sebaeoides*, *Schiedea salicaria*, *Stenogyne kauaulaensis*, *Tetramolopium capillare*, and *T. remyi*), and the tree snail *Newcombia cumingi*, are known only from the west Maui mountains.

The critical habitat areas described below constitute our best assessment of the physical or biological features essential for the recovery and conservation of 125 Maui Nui species, and the unoccupied areas needed for the expansion or augmentation of reduced populations or reestablishment of populations. The approximate size of each of the 82 plant critical habitat units, the 82 forest bird critical habitat units (41 units for each bird), and the tree snail critical habitat unit, and the status of their land ownership, are identified in Tables 7A through 7F. The ecosystems in which critical habitat for each of the plant, forest bird, and tree snail species is designated are identified in Tables 8A through 8C, along with areas excluded from critical habitat designation under section 4(b)(2) of the Act (see Exclusions, below). All forest bird and tree snail critical habitat units overlap areas designated as plant critical habitat.

When determining critical habitat boundaries within this final rule, we made every effort to avoid including developed areas such as lands covered by buildings, pavement, and other structures because such lands lack the physical or biological features essential for the conservation of the 125 Maui Nui species. The scale of the maps we prepared under the parameters for publication within the Code of Federal Regulations may not reflect the exclusion of such developed lands. Any such lands inadvertently left inside critical habitat boundaries shown on the

maps of this final rule have been excluded by text in the rule and are not designated as critical habitat. Therefore, a Federal action involving these lands will not trigger section 7 consultation with respect to critical habitat and the requirement of no adverse modification unless the action would affect the physical or biological features in the adjacent critical habitat.

The critical habitat designation is defined by the map or maps, as

modified by any accompanying regulatory text, presented at the end of this document in the regulatory portion of this final rule. The coordinates or plot points or both on which each map is based are available to the public on <http://www.regulations.gov> at Docket No. FWS-R1-ES-2015-0071, on our Internet site (<http://www.fws.gov/pacificislands/>), and at the field office responsible for the designation (see **FOR FURTHER INFORMATION CONTACT** above).

Units are designated based on sufficient elements of physical or biological features being present to support the species' life processes. Some units contain all of the identified elements of physical or biological features and supported multiple life processes. Some units contain only some elements of the physical or biological features necessary to support the species' particular use of that habitat.

TABLE 7A—CRITICAL HABITAT FOR 60 PLANT SPECIES ON THE ISLAND OF MOLOKAI

[Totals may not sum due to rounding]

Critical habitat area	Size of unit in acres	Size of unit in hectares	Landownership (acres)			
			State	Federal	County	Private
<b>Molokai—Coastal:</b>						
—Unit 1 .....	125	50	0	54	0	70
—Unit 2 .....	973	396	263	0	0	710
—Unit 3 .....	803	325	794	3	0	0
—Unit 4 .....	10	4	10	0	0	0
—Unit 5 .....	1	0.5	1	0	0	0
—Unit 6 .....	1,884	762	190	0	0	1,685
—Unit 7 .....	49	20	0	0	0	49
Total Coastal * .....	3,849	1,558	1,258	57	0	2,514
<b>Molokai—Lowland Dry:</b>						
—Unit 1 .....	24	10	0	0	0	24
—Unit 2 .....	589	238	589	0	0	0
Total Lowland Dry .....	613	248	589	0	0	24
<b>Molokai—Lowland Mesic:</b>						
—Unit 1 .....	8,770	3,549	3,489	0	0	5,281
Total Lowland Mesic .....	8,770	3,549	3,489	0	0	5,281
<b>Molokai—Lowland Wet:</b>						
—Unit 1 .....	2,949	1,193	2,195	0	0	754
—Unit 2 .....	1,950	789	1,356	0	0	594
—Unit 3 .....	3,219	1,303	94	0	0	3,125
Total Lowland Wet .....	8,118	3,285	3,645	0	0	4,473
<b>Molokai—Montane Wet:</b>						
—Unit 1 .....	3,397	1,375	1,545	0	0	1,851
—Unit 2 .....	910	368	871	0	0	39
—Unit 3 .....	803	325	77	0	0	726
Total Montane Wet .....	5,110	2,068	2,493	0	0	2,616
<b>Molokai—Montane Mesic:</b>						
—Unit 1 .....	816	330	257	0	0	559
Total Montane Mesic .....	816	330	257	0	0	559
<b>Molokai—Wet Cliff:</b>						
—Unit 1 .....	1,607	651	1,395	0	0	212
—Unit 2 .....	1,268	513	462	0	0	806
—Unit 3 .....	1,362	551	1,137	0	0	225
Total Wet Cliff .....	4,237	1,715	2,994	0	0	1,243
Total all units .....	31,513	12,753	14,725	57	0	16,710

\* Area discrepancy between unit and parcel due to parcel coastline data

TABLE 7B—CRITICAL HABITAT FOR 91 PLANT SPECIES ON THE ISLAND OF MAUI

[Totals may not sum due to rounding]

Critical habitat area	Size of unit in acres	Size of unit in hectares	Landownership (acres)			
			State	Federal	County	Private
Maui—Coastal:						
—Unit 1 .....	2	1	2	0	0	0
—Unit 2 .....	25	10	16	0	0	9
—Unit 3 .....	11	4	0	0	0	10
—Unit 4 .....	74	30	40	0	0	35
—Unit 5 .....	26	11	26	0	0	0
—Unit 6 .....	356	144	356	0	0	0
—Unit 7 .....	46	19	30	0	0	15
—Unit 8 .....	493	200	493	0	0	0
—Unit 9 .....	170	69	170	0	0	<1
—Unit 10 .....	173	70	147	0	0	26
—Unit 11 .....	6	3	6	0	0	0
Total Coastal .....	1,382	561	1,286	0	0	95
Maui—Lowland Dry:						
—Unit 1 .....	13,537	5,478	11,465	2,069	0	3
—Unit 2 .....	1,851	749	1,851	0	0	0
—Unit 3 .....	188	76	0	0	0	188
—Unit 4 .....	1,266	512	1,266	0	0	0
—Unit 5 .....	3,658	1,480	3,615	0	0	43
—Unit 6 .....	240	97	3	0	0	237
Total Lowland Dry .....	20,740	8,392	18,200	2,069	0	471
Maui—Lowland Mesic:						
—Unit 1 .....	1,882	762	1,147	494	0	241
—Unit 2 .....	1,147	464	1,034	0	0	113
—Unit 3 .....	477	193	477	0	0	0
Total Lowland Mesic .....	3,506	1,419	2,658	494	0	354
Maui—Lowland Wet:						
—Unit 1 .....	16,079	6,507	6,616	2,038	0	7,425
—Unit 2 .....	65	26	65	0	0	0
—Unit 3 .....	1,247	505	1,247	0	0	0
—Unit 4 .....	864	350	864	0	0	0
—Unit 5 .....	30	12	30	0	0	0
—Unit 6 .....	136	55	136	0	0	0
—Unit 7 .....	898	364	898	0	0	0
—Unit 8 .....	230	93	230	0	0	0
Total Lowland Wet .....	19,549	7,912	10,086	2,038	0	7,425
Maui—Montane Wet:						
—Unit 1 .....	2,110	854	1,313	0	0	798
—Unit 2 .....	14,583	5,901	4,075	875	0	9,633
—Unit 3 .....	2,228	902	0	2,228	0	0
—Unit 4 .....	1,833	742	180	1,653	0	0
—Unit 5 .....	387	156	222	165	0	0
—Unit 6 .....	1,399	566	1,113	0	0	286
—Unit 7 .....	80	32	80	0	0	0
Total Montane Wet .....	22,620	9,153	6,983	4,921	0	10,717
Maui—Montane Mesic:						
—Unit 1 .....	10,972	4,440	6,593	3,672	0	707
—Unit 2 .....	124	50	124	0	0	0
—Unit 3 .....	174	70	174	0	0	0
—Unit 4 .....	72	29	72	0	0	0
—Unit 5 .....	170	69	170	0	0	0
Total Montane Mesic .....	11,512	4,658	7,133	3,672	0	707
Maui—Montane Dry:						
—Unit 1 .....	3,524	1,426	2,962	563	0	0
Total Montane Dry .....	3,524	1,426	2,962	563	0	0

TABLE 7B—CRITICAL HABITAT FOR 91 PLANT SPECIES ON THE ISLAND OF MAUI—Continued

[Totals may not sum due to rounding]

Critical habitat area	Size of unit in acres	Size of unit in hectares	Landownership (acres)			
			State	Federal	County	Private
Maui—Subalpine:						
—Unit 1 .....	15,975	6,465	10,785	3,568	0	1,622
—Unit 2 .....	9,886	4,001	0	9,836	0	50
Total Subalpine .....	25,861	10,465	10,785	13,404	0	1,672
Maui—Alpine:						
—Unit 1 .....	1,797	727	475	911	0	411
Total Alpine .....	1,797	727	475	911	0	411
Maui—Dry Cliff:						
—Unit 1 .....	755	305	0	755	0	0
—Unit 2 .....	688	279	0	688	0	0
—Unit 3 .....	200	81	0	200	0	0
—Unit 4 .....	315	127	0	315	0	0
—Unit 5 .....	1,298	525	1,298	0	0	0
—Unit 6 .....	279	113	279	0	0	0
Total Dry Cliff .....	3,535	1,430	1,577	1,958	0	0
Maui—Wet Cliff:						
—Unit 1 .....	290	117	0	0	0	290
—Unit 2 .....	1,407	569	475	912	0	20
—Unit 3 .....	438	177	5	433	0	0
—Unit 4 .....	184	75	184	0	0	0
—Unit 6 .....	2,110	854	1,858	0	0	253
—Unit 7 .....	557	225	556	0	0	0
—Unit 8 .....	337	137	337	0	0	0
Total Wet Cliff .....	5,323	2,154	3,415	1,345	0	563
Total all units .....	119,349	48,297	65,560	31,375	0	22,415

TABLE 7C—CRITICAL HABITAT FOR SIX PLANT SPECIES ON THE ISLAND OF KAHOO LAWE

[Totals may not sum due to rounding]

Critical habitat area	Size of unit in acres	Size of unit in hectares	Landownership (acres)			
			State	Federal	County	Private
Kahoolawe—Coastal:						
—Unit 1 .....	1,516	613	1,516	0	0	0
—Unit 2 .....	12	5	12	0	0	0
—Unit 3 .....	189	76	189	0	0	0
Total Coastal .....	1,717	694	1,717	0	0	0
Kahoolawe—Lowland Dry:						
—Unit 1 .....	1,220	494	1,220	0	0	0
—Unit 2 .....	3,205	1,297	3,205	0	0	0
Total Lowland Dry .....	4,425	1,791	4,425	0	0	0
Total all Units .....	6,142	2,485	6,142	0	0	0



TABLE 7D—CRITICAL HABITAT FOR TWO FOREST BIRD SPECIES (AKOHEKOHE AND KIWIKIU) ON THE ISLAND OF MAUI  
[Totals may not sum due to rounding]

Critical habitat area	Size of unit in acres	Size of unit in hectares	Landownership (acres)			
			State	Federal	County	Private
Lowland Mesic:						
Maui—Unit 1 .....	477	193	477	0	0	0
Total Lowland Mesic .....	477	193	477	0	0	0
Lowland Wet:						
Maui—Unit 2 .....	16,079	6,507	6,616	2,038	0	7,425
Maui—Unit 3 .....	65	26	65	0	0	0
Maui—Unit 4 .....	1,247	505	1,247	0	0	0
Maui—Unit 5 .....	864	350	864	0	0	0
Maui—Unit 6 .....	30	12	30	0	0	0
Maui—Unit 7 .....	136	55	136	0	0	0
Maui—Unit 8 .....	898	364	898	0	0	0
Maui—Unit 9 .....	230	93	230	0	0	0
Total Lowland Wet .....	19,549	7,912	10,086	2,038	0	7,425
Montane Wet:						
Maui—Unit 10 .....	2,110	854	1,313	0	0	798
Maui—Unit 11 .....	14,583	5,901	4,075	875	0	9,633
Maui—Unit 12 .....	2,228	902	0	2,228	0	0
Maui—Unit 13 .....	1,833	742	180	1,653	0	0
Maui—Unit 14 .....	387	156	222	165	0	0
Maui—Unit 15 .....	1,399	566	1,113	0	0	286
Maui—Unit 16 .....	80	32	80	0	0	0
Total Montane Wet .....	22,620	9,153	6,983	4,921	0	10,717
Montane Mesic:						
Maui—Unit 18 .....	10,972	4,440	6,593	3,672	0	707
Maui—Unit 19 .....	124	50	124	0	0	0
Maui—Unit 20 .....	174	70	174	0	0	0
Maui—Unit 21 .....	72	29	72	0	0	0
Maui—Unit 22 .....	170	69	170	0	0	0
Total Montane Mesic .....	11,512	4,658	7,133	3,672	0	707
Subalpine:						
Maui—Unit 24 .....	15,975	6,465	10,785	3,568	0	1,622
Maui—Unit 25 .....	9,886	4,001	0	9,836	0	50
Total Subalpine .....	25,861	10,466	10,785	13,404	0	1,672
Dry Cliff:						
Maui—Unit 26 .....	755	305	0	755	0	0
Maui—Unit 27 .....	200	81	0	200	0	0
Maui—Unit 28 .....	315	127	0	315	0	0
Maui—Unit 29 .....	1,298	525	1,298	0	0	0
Total Dry Cliff .....	2,568	1,038	1,298	1,270	0	0
Wet Cliff:						
Maui—Unit 30 .....	290	117	0	0	0	290
Maui—Unit 31 .....	1,407	569	475	912	0	20
Maui—Unit 32 .....	438	177	5	433	0	0
Maui—Unit 33 .....	184	75	184	0	0	0
Maui—Unit 35 .....	2,110	854	1,858	0	0	253
Maui—Unit 36 .....	557	225	556	0	0	0
Total Wet Cliff .....	4,986	2,017	3,078	1,345	0	563
Total all Units .....	87,573	35,437	39,840	26,650	0	21,084

TABLE 7E—CRITICAL HABITAT FOR TWO FOREST BIRD SPECIES (AKOHEKOHE AND KIWIKIU) ON THE ISLAND OF MOLOKAI  
[Totals may not sum due to rounding]

Critical habitat area	Size of unit in acres	Size of unit in hectares	Landownership (acres)			
			State	Federal	County	Private
Lowland Mesic:						
Molokai—Unit 37 .....	8,770	3,549	3,489	0	0	5,281
Total Lowland Mesic .....	8,770	3,549	3,489	0	0	5,281
Lowland Wet:						
Molokai—Unit 38 .....	2,949	1,193	2,195	0	0	754
Molokai—Unit 39 .....	1,950	789	1,356	0	0	594
Total Lowland Wet .....	4,899	1,982	3,551	0	0	1,348
Montane Wet:						
Molokai—Unit 40 .....	3,397	1,375	1,545	0	0	1,851
Molokai—Unit 41 .....	910	368	871	0	0	39
Total Montane Wet .....	4,307	1,743	2,416	0	0	1,890
Montane Mesic:						
Molokai—Unit 42 .....	816	330	257	0	0	559
Total Montane Mesic .....	816	330	257	0	0	559
Wet Cliff:						
Molokai—Unit 43 .....	1,607	651	1,395	0	0	212
Molokai—Unit 44 .....	1,268	513	462	0	0	806
Total Wet Cliff .....	2,875	1,164	1,857	0	0	1,018
Total all Units .....	21,667	8,768	11,570	0	0	10,096

TABLE 7F—CRITICAL HABITAT FOR NEWCOMBIA CUMINGI ON THE ISLAND OF MAUI  
[Totals may not sum due to rounding]

Critical habitat area	Size of unit in acres	Size of unit in hectares	Landownership (acres)			
			State	Federal	County	Private
Lowland Wet:						
Maui—Unit 1 .....	65	26	65	0	0	0
Total Lowland Wet .....	65	26	65	0	0	0
Total all Units .....	65	26	65	0	0	0

TABLE 8A—PLANT SPECIES FOR WHICH CRITICAL HABITAT IS DESIGNATED IN EACH ECOSYSTEM, AND AREAS EXCLUDED UNDER SECTION 4(b)(2) OF THE ACT

Species	Ecosystem											Excluded from critical habitat ac (ha)	Total critical habitat designated ac (ha)	
	Coastal	Lowland dry	Lowland mesic	Lowland wet	Montane wet	Montane mesic	Montane dry	Sub-alpine	Alpine	Dry cliff	Wet cliff			
PLANTS														
<i>Abutilon eremitopetalum</i> .....		LA .....											10,705 (4,332)	0 (0)
<i>Acaena exigua</i> * .....					WMA .....								3,139 (1,270)	1,479 (599)
<i>Adenophorus periens</i> .....					EMA, LA, MO .....								9,711 (3,930)	26,251 (10,623)
<i>Alectryon macrococcus</i> var. <i>auwahiensis</i> .....		EMA .....				EMA .....	EMA						9,254 (3,745)	20,974 (8,415)
<i>Alectryon macrococcus macrococcus</i> .....			MO .....	WMA .....		EMA, MO						WMA	25,746 (10,419)	27,032 (10,940)
<i>Argyroxiphium sandwicense</i> ssp. <i>macrocephalum</i> .....						EMA .....		EMA	EMA				10,897 (4,410)	40,588 (16,425)
<i>Asplenium dielectrum</i> .....		WMA, LA .....	WMA, MO	WMA, MO		EMA, MO				LA .....			31,677 (12,819)	37,668 (15,244)
<i>Asplenium peruvianum</i> var. <i>insulare</i> .....					EMA .....	EMA .....		EMA					18,569 (7,515)	57,974 (23,461)
<i>Bidens campylothea</i> ssp. <i>pentamera</i> .....		WMA .....	WMA		EMA .....	EMA .....				EMA		EMA, WMA	28,654 (11,596)	44,915 (18,177)
<i>Bidens campylothea</i> ssp. <i>walhoiensis</i> .....				EMA .....	EMA .....							EMA	9,017 (3,649)	39,538 (16,001)
<i>Bidens conjuncta</i> .....				WMA .....	WMA .....							WMA	20,414 (8,261)	7,953 (3,219)
<i>Bidens micrantha</i> ssp. <i>kalealaha</i> .....		EMA, LA .....	LA .....	WMA .....	EMA .....	EMA		EMA		EMA, LA ..			50,343 (20,373)	59,101 (23,917)
<i>Bidens wiebkei</i> .....	MO .....			MO .....	MO .....	MO							3,157 (1,277)	17,895 (7,241)
<i>Bonania menziesii</i> .....		EMA, MO	LA, MO							WMA		WMA	30,503 (12,344)	30,806 (12,467)
<i>Brighamia rockii</i> .....	EMA, WMA, MO .....									LA .....		MO	2,061 (834)	9,470 (3,832)
<i>Calamagrostis hillebrandii</i> .....					WMA .....								3,139, (1,270)	1,479 (599)
<i>Canavalia molokaiensis</i> .....	MO .....		MO .....	MO .....								MO	1,325 (536)	24,976 (10,107)
<i>Canavalia pubescens</i> .....	LA .....	EMA .....											9,571 (3,873)	16,841 (6,816)
<i>Cenchrus agrimonoides</i> .....		EMA, WMA .....											21,265 (8,605)	20,739 (8,393)
<i>Clermontia lindseyana</i> .....						EMA							7,269 (2,942)	10,972 (4,440)
<i>Clermontia oblongifolia</i> ssp. <i>brevipes</i> .....			MO .....	MO .....	MO .....							MO	1,820 (736)	26,235 (10,617)
<i>Clermontia oblongifolia</i> ssp. <i>mauiensis</i> .....			LA .....	EMA, WMA, LA .....	EMA .....								28,688 (11,610)	40,689 (16,466)
<i>Clermontia peleana</i> * .....													802 (325)	16,079 (6,507)
<i>Clermontia samuelii</i> .....				EMA .....	EMA .....								8,846 (3,580)	37,219 (15,062)
<i>Colubrina oppositifolia</i> .....		EMA .....	WMA										10,414 (4,214)	18,466 (7,473)
<i>Ctenitis squamigera</i> .....		EMA, WMA .....	EMA, WMA, MO .....	WMA .....		WMA				LA .....		WMA, LA	32,267 (13,058)	40,030 (16,200)
<i>Cyanea asplenifolia</i> .....				EMA .....			EMA, WMA .....						8,872 (3,590)	21,430 (8,673)

ACT—Continued

Species	Ecosystem										Excluded from critical habitat ac (ha)	Total critical habitat designated ac (ha)	
	Coastal	Lowland dry	Lowland mesic	Lowland wet	Montane wet	Montane mesic	Montane dry	Sub-alpine	Alpine	Dry cliff			Wet cliff
<i>Cyanea copelandii</i> ssp. <i>haleakalaensis</i> .			EMA	EMA	EMA						EMA	9,022 (3,651)	41,420 (16,762)
<i>Cyanea dunbariae</i>			MO	MO		MO						1,202 (486)	17,704 (7,165)
<i>Cyanea duvalliorum</i>				EMA	EMA							8,846 (3,580)	37,219 (15,062)
<i>Cyanea gibsonii</i>					LA						LA	1,209 (489)	0 (0)
<i>Cyanea glabra</i> *				WMA	EMA	EMA					WMA	32,588 (13,188)	38,586 (15,615)
<i>Cyanea grimesiana</i> ssp. <i>grimesiana</i> *				MO							MO	12 (5)	12,355 (5,000)
<i>Cyanea hamatiflora</i> ssp. <i>hamatiflora</i> .				EMA	EMA	EMA						16,116 (6,522)	48,191 (19,502)
<i>Cyanea horrida</i>					EMA	EMA					EMA	15,484 (6,266)	34,431 (13,934)
<i>Cyanea kunthiana</i>				EMA, WMA.	EMA, WMA.	EMA						27,318 (11,055)	53,140 (21,505)
<i>Cyanea lobata</i> ssp. <i>baldwinii</i>					WMA							17,275 (6,991)	0 (0)
<i>Cyanea lobata</i> ssp. <i>lobata</i>					WMA						WMA	17,790 (7,199)	6,473 (2,620)
<i>Cyanea magnicalyx</i>				WMA		WMA					WMA	17,790 (7,199)	7,014 (2,839)
<i>Cyanea manni</i>			MO		MO	MO						2,621 (1,060)	14,696 (5,947)
<i>Cyanea maritae</i>				EMA	EMA							8,846 (3,580)	37,219 (15,062)
<i>Cyanea mcdowneyi</i>				EMA	EMA	EMA						16,116 (6,522)	48,191 (19,502)
<i>Cyanea munroi</i>		WMA				EMA					LA, MO	974 (394)	4,237 (1,715)
<i>Cyanea obtusa</i>						EMA						9,144 (3,700)	14,870 (6,018)
<i>Cyanea procera</i>			MO		MO	MO						2,621 (1,060)	14,696 (5,947)
<i>Cyanea protuga</i>			MO		MO							1,807 (731)	13,880 (5,617)
<i>Cyanea solanacea</i>			MO	MO	MO	MO						2,621 (1,060)	22,814 (9,232)
<i>Cyperus fauriei</i>		LA	MO			MO						11,906 (4,818)	9,586 (3,879)
<i>Cyperus pennatifolius</i>	EMA											85 (35)	1,034 (418)
<i>Cyperus trachysanthos</i> *		LA, MO										10,705 (4,332)	613 (248)
<i>Cyrtandra ferripilosa</i>					EMA	EMA						15,313 (6,197)	32,112 (12,995)
<i>Cyrtandra filipes</i>			MO	WMA, MO							WMA	17,663 (7,148)	28,244 (11,430)
<i>Cyrtandra munroi</i>				WMA	LA						WMA, LA	18,484 (7,480)	11,356 (4,596)
<i>Cyrtandra oxybapha</i>					WMA	EMA						10,408 (4,212)	12,451 (5,039)
<i>Diplazium molokaiense</i>			LA, MO	WMA	EMA	EMA, WMA.				EMA, WMA, LA.		37,690 (15,253)	48,427 (19,598)
<i>Dubautia plantaginea</i> ssp. <i>humilis</i>											WMA	9,211 (3,728)	7,886 (3,192)

[illegible]

ACT—Continued

Species	Ecosystem											Excluded from critical habitat ac (ha)	Total critical habitat designated ac (ha)
	Coastal	Lowland dry	Lowland mesic	Lowland wet	Montane wet	Montane mesic	Montane dry	Sub-alpine	Alpine	Dry cliff	Wet cliff		
<i>Neraudia sericea</i>	.....	EMA, WMA, LA, KAH. EMA	MO	.....	.....	EMA, MO	.....	.....	.....	WMA, LA	.....	31,616 (12,795)	58,282 (19,142)
<i>Nototrichium humile</i> *	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	8,685 (3,515)	16,841 (6,816)
<i>Peperomia subpetiolata</i>	.....	.....	.....	.....	EMA	.....	.....	.....	.....	.....	.....	8,044 (3,255)	21,141 (8,555)
<i>Peucedanum sandwicense</i>	EMA, MO	.....	.....	WMA, MO	.....	.....	.....	.....	.....	.....	.....	9,074 (3,672)	16,472 (6,665)
<i>Phyllostegia bracteata</i> *	.....	.....	.....	WMA	EMA, WMA. EMA	EMA	.....	EMA	.....	.....	EMA	29,943 (12,117)	65,241 (26,402)
<i>Phyllostegia hallakalae</i> *	.....	.....	MO	EMA	.....	.....	.....	.....	.....	LA	EMA, LA	11,200 (4,533)	48,308 (19,550)
<i>Phyllostegia hispida</i>	.....	.....	.....	MO	MO	.....	.....	.....	.....	.....	MO	1,431 (579)	17,465 (7,068)
<i>Phyllostegia mannii</i>	.....	.....	MO	MO	EMA, MO	EMA	.....	.....	.....	.....	.....	17,120 (6,928)	54,111 (21,897)
<i>Phyllostegia pilosa</i>	.....	.....	MO	.....	EMA, MO	.....	.....	.....	.....	.....	.....	9,851 (3,986)	35,021 (14,172)
<i>Pittosporum halophilum</i>	MO	.....	.....	MO	.....	MO	.....	.....	.....	EMA	EMA, WMA. WMA	924 (374)	3,851 (1,558)
<i>Plantago princeps</i>	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	10,551 (4,270)	21,096 (8,538)
<i>Platanthera holochila</i>	.....	.....	.....	.....	EMA, WMA, MO.	.....	.....	.....	.....	.....	.....	21,813 (8,827)	35,616 (14,413)
<i>Pleomele fernaldii</i>	.....	LA	LA	.....	.....	.....	.....	.....	.....	LA	.....	24,279 (9,825)	0 (0)
<i>Portulaca sclerocarpa</i>	LA	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	886 (359)	0 (0)
<i>Peris ligataei</i>	.....	.....	.....	WMA	MO	.....	.....	.....	.....	.....	WMA, MO	18,706 (7,570)	20,703 (8,378)
<i>Remya mauriensis</i>	.....	WMA	WMA	.....	.....	WMA	.....	.....	.....	.....	WMA	21,393 (8,657)	17,418 (7,049)
<i>Sanicula purpurea</i>	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	3,139 (1,270)	1,479 (599)
<i>Santalum haleakalae</i> var. <i>lanaiense</i> .	.....	EMA, WMA.	WMA, LA, MO.	WMA, LA	LA	EMA, WMA, MO.	EMA	.....	.....	.....	WMA, LA	53,000 (21,449)	58,342 (23,611)
<i>Schenkia sebaeoides</i>	WMA, MO	LA	.....	.....	.....	.....	.....	.....	.....	.....	.....	11,834 (4,789)	4,200 (1,699)
<i>Schiedea haleakalensis</i>	.....	.....	.....	.....	.....	.....	.....	EMA	.....	EMA	.....	3,613 (1,462)	27,819 (11,258)
<i>Schiedea jacobii</i> *	.....	.....	.....	.....	EMA	.....	.....	.....	.....	.....	.....	8,044 (3,255)	21,141 (8,555)
<i>Schiedea laui</i>	.....	.....	.....	.....	MO	.....	.....	.....	.....	.....	.....	1,419 (574)	5,110 (2,068)
<i>Schiedea lydgatei</i>	.....	.....	MO	.....	.....	.....	.....	.....	.....	.....	.....	388 (157)	8,770 (3,549)
<i>Schiedea salicaria</i>	.....	WMA	.....	.....	.....	.....	.....	.....	.....	.....	.....	1,874 (759)	3,898 (1,578)
<i>Schiedea sammentosa</i>	.....	.....	MO	.....	.....	.....	.....	.....	.....	.....	.....	388 (157)	8,770 (3,549)
<i>Sesbania tomentosa</i>	.....	.....	MO	.....	.....	.....	.....	.....	.....	.....	.....	23,668 (9,578)	51,447 (16,375)
<i>Silene alexandri</i>	.....	EMA, WMA, KAH.	MO	.....	.....	.....	.....	.....	.....	.....	.....	388 (157)	8,770 (3,549)
<i>Silene lanceolata</i>	.....	LA	MO	.....	.....	.....	.....	.....	.....	.....	.....	11,093 (4,489)	8,770 (3,549)

<i>Solanum incompletum</i> *	EMA, LA ..	EMA, LA ..	MO	MO	MO	MO	MO	LA	31,402 (12,708)	18,723 (7,577)
<i>Spermolepis hawaiiensis</i>	EMA, WMA, LA.	LA, MO	MO	MO	MO	MO	MO	MO	33,638 (13,613)	30,326 (12,272)
<i>Stenogyne bifida</i>	MO	MO	MO	MO	MO	MO	MO	MO	2,633 (1,065)	27,051 (10,947)
<i>Stenogyne kauauiensis</i>	WMA	WMA	WMA	WMA	WMA	WMA	WMA	WMA	515 (209)	540 (219)
<i>Tetramolopium capillare</i> *	WMA	WMA	WMA	WMA	WMA	WMA	WMA	WMA	12,132 (4,909)	13,361 (5,407)
<i>Tetramolopium lepidotum</i> ssp.	LA	LA	LA	LA	LA	LA	LA	LA	10,705 (4,332)	0 (0)
<i>Tetramolopium lepidotum</i> *	WMA, LA	WMA, LA	WMA, LA	WMA, LA	WMA, LA	WMA, LA	WMA, LA	WMA, LA	12,579 (5,091)	3,898 (1,578)
<i>Tetramolopium rockii</i>	MO	MO	MO	MO	MO	MO	MO	MO	924 (374)	3,851 (1,558)
<i>Vigna o-wahuensis</i>	EMA, KAH	LA, KAH	LA, MO	LA, MO	LA, MO	LA, MO	LA, MO	LA, MO	22,351 (9,045)	26,928 (6,453)
<i>Viola lanaiensis</i>	MO	MO	MO	MO	MO	MO	MO	MO	2,044 (827)	0 (0)
<i>Wikstroemia villosa</i>	WMA	WMA	WMA	WMA	WMA	WMA	WMA	WMA	24,179 (9,785)	51,661 (20,906)
<i>Zanthoxylum hawaiiense</i>	EMA	WMA, MO	WMA, MO	WMA, MO	WMA, MO	WMA, MO	WMA, MO	WMA, MO	25,331 (10,251)	81,362 (32,926)
Areas Excluded by Ecosystem, ac (ha).	2,101 (850)	21,265 (8,605)	13,294 (5,380)	9,472 (3,834)	12,850 (5,200)	8,598 (3,480)	1,464 (592)	3,256 (1,318)	10,354 (4,190)	.....
Total Area Designated CH, ac (ha).	6,950 (2,812)	25,778 (10,432)	12,277 (4,968)	27,666 (11,197)	27,730 (11,222)	12,328 (4,989)	3,524 (1,426)	25,861 (10,466)	9,560 (3,869)	.....

EMA = East Maui, WMA = West Maui, LA = Lanai, MO = Molokai, KAH = Kahoolawe.

The area known to be occupied by species for which the unit is designated also provides area essential to the conservation of all of the species that occur in that particular ecosystem, even if the area is currently unoccupied by those species. Those areas provide the space and appropriate environmental conditions for activities such as seed dispersal and reproduction that will serve to expand the existing populations.

\* This species may no longer occur in the wild on Molokai, Lanai, Maui, or Kahoolawe.

TABLE 8B—FOREST BIRD SPECIES FOR WHICH CRITICAL HABITAT IS DESIGNATED IN EACH ECOSYSTEM, AND AREAS EXCLUDED UNDER SECTION 4(b)(2)

Species	Ecosystem											Total critical habitat designated ac (ha)
	Coastal	Lowland dry	Lowland mesic	Lowland wet	Montane wet	Montane mesic	Montane dry	Subalpine	Alpine	Dry cliff	Wet cliff	
FOREST BIRD												
Akohekohe .....	.....	.....	WMA, MO	EMA, WMA, MO.	EMA, WMA, MO.	EMA, WMA, MO.	.....	EMA .....	.....	EMA, WMA.	EMA, WMA, MO.	43,699 (17,694)
Kiwikiu .....	.....	.....	WMA, MO	EMA, WMA, MO.	EMA, WMA, MO.	EMA, WMA, MO.	.....	EMA .....	.....	EMA, WMA.	EMA, WMA, MO.	43,699 (17,694)
Area, Excluded ac (ha) .....	.....	.....	388 (157) .....	8,866 (3,588) .....	12,602 (5,100) .....	8,598 (3,480) .....	.....	3,256 (1,318) .....	.....	595 (241) .....	9,394 (3,801) .....	
Total Area Designated Critical Habitat .....	.....	.....	9,247 (3,742) .....	24,447 (9,894) .....	26,927 (10,897) .....	12,328 (4,989) .....	.....	25,861 (10,466) .....	.....	2,566 (1,039) .....	7,860 (3,181) .....	

EMA = East Maui.

WMA = West Maui.

MO = Molokai.

The area known to be occupied by species for which the unit is designated also provides area essential to the conservation of all of the species that occur in that particular ecosystem, even if the area is currently unoccupied by those species. Those areas provide the space and appropriate environmental conditions for activities such as food gathering and reproduction that will serve to expand the existing populations.

TABLE 8C—TREE SNAIL SPECIES FOR WHICH CRITICAL HABITAT IS DESIGNATED IN EACH ECOSYSTEM, AND AREAS EXCLUDED UNDER 4(B)(2)

Species	Ecosystem											Excluded from critical habitat ac (ha)	Total critical habitat designated ac (ha)
	Coastal	Lowland dry	Lowland mesic	Lowland wet	Montane wet	Montane mesic	Montane dry	Subalpine	Alpine	Dry cliff	Wet cliff		
TREE SNAIL													
<i>Newcombia cumingi</i>	.....	.....	.....	WMA .....	.....	.....	.....	.....	.....	.....	.....	.....	534 (216)
<i>Partulina semicarinata</i>	.....	.....	.....	LA .....	LA .....	.....	.....	.....	.....	.....	LA .....	.....	1,815 (735)
<i>Partulina variabilis</i>	.....	.....	.....	LA .....	LA .....	.....	.....	.....	.....	.....	LA .....	.....	1,815 (735)
													65 (26)
													0
													0 (0)
													0 (0)

WMA = West Maui.

LA = Lanai.

The area known to be occupied by species for which the unit is designated also provides area essential to the conservation of all of the species that occur in that particular ecosystem, even if the area is currently unoccupied by those species. Those areas provide the space and appropriate environmental conditions for activities such as food gathering and reproduction that will serve to expand the existing populations.



## VIII. Final Critical Habitat Designation

We are designating 157,002 ac (63,537 ha) as critical habitat in 11 ecosystem types for 125 species. The critical habitat is composed of 82 critical habitat units for the plant species, 41 critical habitat units for each of the 2 forest birds (82 total), and one critical habitat unit for the Newcomb's tree snail (see Tables 7A–7F, above, for details). The critical habitat includes land under State, County of Maui, Federal (Haleakala National Park; Kalaupapa National Historical Park (NHP), Department of Homeland Security—Coast Guard), and private ownership. The critical habitat units we describe below constitute our current best assessment of those areas that meet the definition of critical habitat for 125 of the 135 Maui Nui species of plants and animals. Critical habitat was proposed but is not designated for 10 species that occur on Lanai (the plants *Abutilon eremitopetalum*, *Cyanea gibsonii*, *Kadua cordata* ssp. *remyi*, *Lobordia tinifolia* var. *lanaiensis*, *Pleomele fernaldii*, *Portulaca sclerocarpa*, *Tetramolopium lepidotum* ssp. *lepidotum*, and *Viola lanaiensis*; and the tree snails *Partulina semicarinata* and *P. variabilis*). Although the areas proposed are still considered essential for the conservation of these species, we have determined under section 4(b)(2) of the Act that the benefit of excluding these areas outweighs the benefit of including them in critical habitat, for the reasons discussed below (see the Exclusions section of this document).

### Descriptions of Critical Habitat Units

Critical habitat for the 125 plant species, the 2 forest birds, and the Newcomb's tree snail *Newcombia cumingi* are published in separate sections of the Code of Federal Regulations (CFR). Critical habitat is set forth at 50 CFR 17.99(c) and (d) for plants on Molokai, 50 CFR 17.99(e)(1) and (f) for plants on Maui, and 50 CFR 17.99(e)(2) and (f) for plants on Kahoolawe; at 50 CFR 17.95(b) for the two forest birds; and at 50 CFR 17.95(f) for the tree snail species. However, the designated critical habitat for plants, birds, and tree snail overlap each other in many areas of Molokai and Maui. For example, “Maui-Lowland Wet—Unit 1” and the forest bird units “*Palmeria dolei*—Unit 2—Lowland Wet” and “*Pseudonestor xanthophrys*—Unit 2—Lowland Wet” correspond to the same geographic area. Therefore, because the unit boundaries are the same, we are describing them only once to avoid redundancy and reduce publication

costs for this final rule, as indicated by “(and)” following the unit name.

Maui—UCoastal—Unit 1 consists of 2 ac (1 ha) on Keopuka Rock on the northern coast of east Maui. This unit is State-owned, and is classified as a State Seabird Sanctuary. It is occupied by the plant *Peucedanum sandwicense* and includes the mixed herbland and shrubland, the moisture regime, and canopy, subcanopy, and understory native plant species identified as physical or biological features in the coastal ecosystem (see Table 5). This unit also contains unoccupied habitat that is essential to the conservation of this species by providing the PCEs necessary for the expansion of the existing wild populations. Although Maui-Coastal—Unit 1 is not known to be occupied by *Brighamia rockii*, *Cyperus pennatiformis*, *Ischaemum byrone*, or *Vigna o-wahuensis*, we have determined this area to be essential for the conservation and recovery of these coastal species because it provides the PCEs necessary for the reestablishment of wild populations within their historical range. Due to their small numbers of individuals or low population sizes, suitable habitat and space for expansion or reintroduction are essential to achieving population levels necessary for recovery.

Maui—Coastal—Unit 2 consists of 16 ac (6 ha) of State land, and 9 ac (4 ha) of privately owned land, from Wahinepee Stream to Moiki Point on the northern coast of east Maui. This unit includes the mixed herbland and shrubland, the moisture regime, and canopy, subcanopy, and understory native plant species identified as physical or biological features in the coastal ecosystem (see Table 5). Although Maui—Coastal—Unit 2 is not currently occupied by *Brighamia rockii*, *Cyperus pennatiformis*, *Ischaemum byrone*, *Peucedanum sandwicense*, or *Vigna o-wahuensis*, we have determined this area to be essential for the conservation and recovery of these coastal species because it provides the physical or biological features necessary for the reestablishment of wild populations within the historical ranges of the species. Due to their small numbers of individuals or low population sizes, these species require suitable habitat and space for expansion or reintroduction to achieve population levels that could achieve recovery.

Maui—Coastal—Unit 3 consists of 10 ac (4 ha) of privately owned land at Pauwalu Point on the northern coast of east Maui. This unit is occupied by the plant *Ischaemum byrone* and includes the mixed herbland and shrubland, the moisture regime, and canopy,

subcanopy, and understory native plant species identified as physical or biological features in the coastal ecosystem (see Table 5). This unit also contains unoccupied habitat that is essential to the conservation of this species by providing the PCEs necessary for the expansion of the existing wild populations. Although Maui—Coastal—Unit 3 is not known to be occupied by *Brighamia rockii*, *Cyperus pennatiformis*, *Peucedanum sandwicense*, or *Vigna o-wahuensis*, we have determined this area to be essential for the conservation and recovery of these coastal species because it provides the PCEs necessary for the reestablishment of wild populations within their historical range. Due to their small numbers of individuals or low population sizes, suitable habitat and space for expansion or reintroduction are essential to achieving population levels necessary for recovery.

Maui—Coastal—Unit 4 consists of 40 ac (16 ha) of State land, and 35 ac (14 ha) of privately owned land, from Papiha Point to Honolulu Nui Bay on the northeastern coast of east Maui. This unit is occupied by the plant *Cyperus pennatiformis* and includes the mixed herbland and shrubland, the moisture regime, and canopy, subcanopy, and understory native plant species identified as physical or biological features in the coastal ecosystem (see Table 5). This unit also contains unoccupied habitat that is essential to the conservation of this species by providing the PCEs necessary for the expansion of the existing wild populations. Although Maui—Coastal—Unit 4 is not known to be occupied by *Brighamia rockii*, *Ischaemum byrone*, *Peucedanum sandwicense*, or *Vigna o-wahuensis*, we have determined this area to be essential for the conservation and recovery of these coastal species because it provides the PCEs necessary for the reestablishment of wild populations within their historical range. Due to their small numbers of individuals or low population sizes, suitable habitat and space for expansion or reintroduction are essential to achieving population levels necessary for recovery.

Maui—Coastal—Unit 5 consists of 26 ac (11 ha) of State land from Keakulikuli Point to Pailoa Bay on the northeastern coast of east Maui. This unit is occupied by the plant *Ischaemum byrone* and includes the mixed herbland and shrubland, the moisture regime, and canopy, subcanopy, and understory native plant species identified as physical or biological features in the coastal ecosystem (see Table 5). This

unit also contains unoccupied habitat that is essential to the conservation of this species by providing the PCEs necessary for the expansion of the existing wild populations. Although Maui—Coastal—Unit 5 is not known to be occupied by *Brighamia rockii*, *Cyperus pennatiformis*, *Peucedanum sandwicense*, or *Vigna o-wahuensis*, we have determined this area to be essential for the conservation and recovery of these coastal species because it provides the PCEs necessary for the reestablishment of wild populations within their historical range. Due to their small numbers of individuals or low population sizes, suitable habitat and space for expansion or reintroduction are essential to achieving population levels necessary for recovery.

Maui—Coastal—Unit 6 consists of 356 ac (144 ha) of State land at Kamanamana on the southern coast of East Maui. This unit is occupied by the plant *Vigna o-wahuensis* and includes the mixed herbland and shrubland, the moisture regime, and canopy, subcanopy, and understory native plant species identified as physical or biological features in the coastal ecosystem (see Table 5). This unit also contains unoccupied habitat that is essential to the conservation of this species by providing the PCEs necessary for the expansion of the existing wild populations. Although Maui—Coastal—Unit 6 is not known to be occupied by *Brighamia rockii*, *Cyperus pennatiformis*, *Ischaemum byrone*, or *Peucedanum sandwicense*, we have determined this area to be essential for the conservation and recovery of these coastal species because it provides the PCEs necessary for the reestablishment of wild populations within the historical ranges of the species. Due to their small numbers of individuals or low population sizes, suitable habitat and space for expansion or reintroduction are essential to achieving population levels necessary for recovery.

Maui—Coastal—Unit 7 consists of 30 ac (12 ha) of State land, and 15 ac (6 ha) of privately owned land, from Kailio Point to Waiuha Bay, on the southern coast of east Maui. This unit includes the mixed herbland and shrubland, the moisture regime, and canopy, subcanopy, and understory native plant species identified as physical or biological features in the coastal ecosystem (see Table 5). Although Maui—Coastal—Unit 7 is not currently occupied by *Brighamia rockii*, *Cyperus pennatiformis*, *Ischaemum byrone*, *Peucedanum sandwicense*, or *Vigna o-wahuensis*, we have determined this

area to be essential for the conservation and recovery of these coastal species because it provides the PCEs necessary for the reestablishment of wild populations within the historical ranges of the species. Due to their small numbers of individuals or low population sizes, suitable habitat and space for expansion or reintroduction are essential to achieving population levels necessary for recovery.

Maui—Coastal—Unit 8 consists of 493 ac (199 ha) of State land from Kiakeana Point to Manawainui on the southern coast of east Maui. This unit includes the mixed herbland and shrubland, the moisture regime, and canopy, subcanopy, and understory native plant species identified as physical or biological features in the coastal ecosystem (see Table 5). Although Maui—Coastal—Unit 8 is not currently occupied by *Brighamia rockii*, *Cyperus pennatiformis*, *Ischaemum byrone*, *Peucedanum sandwicense*, or *Vigna o-wahuensis*, we have determined this area to be essential for the conservation and recovery of these coastal species because it provides the PCEs necessary for the reestablishment of wild populations within the historical ranges of the species. Due to their small numbers of individuals or low population sizes, suitable habitat and space for expansion or reintroduction are essential to achieving population levels necessary for recovery.

Maui—Coastal—Unit 9 consists of 170 ac (69 ha) of State land and 0.3 ac (0.1 ha) of privately owned land, from Poelua Bay to Mokolea Point on the northwestern coast of west Maui. This unit is occupied by the plants *Schenkia sebaeoides* and *Sesbania tomentosa*, and includes the mixed herbland and shrubland, the moisture regime, and canopy, subcanopy, and understory native plant species identified as physical or biological features in the coastal ecosystem (see Table 5). This unit also contains unoccupied habitat that is essential to the conservation of these species by providing the PCEs necessary for the expansion of the existing wild populations. Although Maui—Coastal—Unit 9 is not known to be occupied by *Brighamia rockii*, we have determined this area to be essential for the conservation and recovery of this coastal species because it provides the PCEs necessary for the reestablishment of wild populations within its historical range. Due to the small numbers of individuals or low population sizes, this species requires suitable habitat and space for expansion or reintroduction to achieve population levels that could approach recovery.

Maui—Coastal—Unit 10 consists of 147 ac (60 ha) of State land and 26 ac (10 ha) of privately owned land, from Kahakuloa Head to Waihee Point on the northeastern coast of west Maui. This unit is occupied by the plant *Schenkia sebaeoides*, and includes the mixed herbland and shrubland, the moisture regime, and canopy, subcanopy, and understory native plant species identified as physical or biological features in the coastal ecosystem (see Table 5). This unit also contains unoccupied habitat that is essential to the conservation of these species by providing the PCEs necessary for the expansion of the existing wild populations. Although Maui—Coastal—Unit 10 is not known to be occupied by *Brighamia rockii* or *Sesbania tomentosa*, we have determined this area to be essential for the conservation and recovery of these coastal species because it provides the PCEs necessary for the reestablishment of wild populations within its historical range. Due to the small numbers of individuals or low population sizes, this species requires suitable habitat and space for expansion or reintroduction to achieve population levels that could approach recovery.

Maui—Coastal—Unit 11 consists of 6 ac (3 ha) of State land on Mokeehia Island on the northeastern coast of west Maui. This unit includes the mixed herbland and shrubland, the moisture regime, and canopy, subcanopy, and understory native plant species identified as physical or biological features in the coastal ecosystem (see Table 5). Although Maui—Coastal—Unit 11 is not currently occupied by *Brighamia rockii*, *Schenkia sebaeoides*, or *Sesbania tomentosa*, we have determined this area to be essential for the conservation and recovery of these coastal species because it provides the PCEs necessary for the reestablishment of wild populations within the historical ranges of the species. Due to their small numbers of individuals or low population sizes, suitable habitat and space for expansion or reintroduction are essential to achieving population levels necessary for recovery.

Maui—Lowland Dry—Unit 1 consists of 11,465 ac (4,640 ha) of State land, 2,069 ac (837 ha) of federally owned land, and 3 ac (1 ha) of privately owned land, from Kanaio to Kahualau Gulch on the southern slopes of east Maui. This unit is occupied by the plants *Bonamia menziesii*, *Cenchrus agrimonioides*, *Flueggea neowawraea*, *Melicope adscendens*, *Santalum haleakalae* var. *lanaiense*, and *Spermolepis hawaiiensis*, and includes the mixed herbland and

shrubland, the moisture regime, and canopy, subcanopy, and understory native plant species identified as physical or biological features in the lowland dry ecosystem (see Table 5). This unit also contains unoccupied habitat that is essential to the conservation of these species by providing the PCEs necessary for the expansion of the existing wild populations. Although Maui—Lowland Dry—Unit 1 is not known to be occupied by *Alectryon macrococcus*, *Bidens micrantha* ssp. *kalealaha*, *Canavalia pubescens*, *Colubrina oppositifolia*, *Ctenitis squamigera*, *Hibiscus brackenridgei*, *Melanthera kamolensis*, *Melicope mucronulata*, *Neraudia sericea*, *Nototrichium humile*, *Sesbania tomentosa*, *Solanum incompletum*, or *Zanthoxylum hawaiiense*, we have determined this area to be essential for the conservation and recovery of these lowland dry species because it provides the PCEs necessary for the reestablishment of wild populations within their historical range. Due to their small numbers of individuals or low population sizes, suitable habitat and space for expansion or reintroduction are essential to achieving population levels necessary for recovery.

Maui—Lowland Dry—Unit 2 consists of 1,851 ac (749 ha) of State land at Keokea on the southern slopes of east Maui. This unit is occupied by the plants *Bonamia menziesii*, *Canavalia pubescens*, and *Hibiscus brackenridgei*, and includes the mixed herbland and shrubland, the moisture regime, and canopy, subcanopy, and understory native plant species identified as physical or biological features in the lowland dry ecosystem (see Table 5). This unit also contains unoccupied habitat that is essential to the conservation of these species by providing the PCEs necessary for the expansion of the existing wild populations. Although Maui—Lowland Dry—Unit 2 is not known to be occupied by *Alectryon macrococcus*, *Bidens micrantha* ssp. *kalealaha*, *Cenchrus agrimonioides*, *Colubrina oppositifolia*, *Ctenitis squamigera*, *Flueggea neowawraea*, *Melanthera kamolensis*, *Melicope mucronulata*, *Neraudia sericea*, *Nototrichium humile*, *Santalum haleakalae* var. *lanaiense*, *Sesbania tomentosa*, *Solanum incompletum*, *Spermolepis hawaiiensis*, or *Zanthoxylum hawaiiense*, we have determined this area to be essential for the conservation and recovery of these lowland dry species because it provides the PCEs necessary for the reestablishment of wild populations

within their historical range. Due to their small numbers of individuals or low population sizes, suitable habitat and space for expansion or reintroduction are essential to achieving population levels necessary for recovery.

Maui—Lowland Dry—Unit 3 consists of 188 ac (76 ha) of privately owned land, at Keauhou on the southern slopes of east Maui. This unit is occupied by the plant *Canavalia pubescens*, and includes the mixed herbland and shrubland, the moisture regime, and canopy, subcanopy, and understory native plant species identified as physical or biological features in the lowland dry ecosystem (see Table 5). This unit also contains unoccupied habitat that is essential to the conservation of this species by providing the PCEs necessary for the expansion of the existing wild populations. Although Maui—Lowland Dry—Unit 3 is not known to be occupied by *Bidens micrantha* ssp. *kalealaha*, *Bonamia menziesii*, *Cenchrus agrimonioides*, *Colubrina oppositifolia*, *Ctenitis squamigera*, *Flueggea neowawraea*, *Hibiscus brackenridgei*, *Melanthera kamolensis*, *Melicope mucronulata*, *Neraudia sericea*, *Nototrichium humile*, *Santalum haleakalae* var. *lanaiense*, *Sesbania tomentosa*, *Solanum incompletum*, *Spermolepis hawaiiensis*, or *Zanthoxylum hawaiiense*, we have determined this area to be essential for the conservation and recovery of these lowland dry species because it provides the PCEs necessary for the reestablishment of wild populations within their historical range. Due to their small numbers of individuals or low population sizes, suitable habitat and space for expansion or reintroduction are essential to achieving population levels necessary for recovery.

Maui—Lowland Dry—Unit 4 consists of 1,266 ac (512 ha) of State land (including the Department of Land and Natural Resources) at Ahihi-Kinohi Natural Area Reserve on the southern slopes of east Maui. This unit includes the mixed herbland and shrubland, the moisture regime, and canopy, subcanopy, and understory native plant species identified as physical or biological features in the lowland dry ecosystem (see Table 5). Although Maui—Lowland Dry—Unit 4 is not currently occupied by *Bidens micrantha* ssp. *kalealaha*, *Bonamia menziesii*, *Canavalia pubescens*, *Cenchrus agrimonioides*, *Colubrina oppositifolia*, *Ctenitis squamigera*, *Flueggea neowawraea*, *Hibiscus brackenridgei*, *Melanthera kamolensis*, *Melicope*

*mucronulata*, *Neraudia sericea*, *Nototrichium humile*, *Santalum haleakalae* var. *lanaiense*, *Sesbania tomentosa*, *Solanum incompletum*, *Spermolepis hawaiiensis*, or *Zanthoxylum hawaiiense*, we have determined this area to be essential for the conservation and recovery of these lowland dry species because it provides the PCEs necessary for the reestablishment of wild populations within the historical ranges of the species. Due to their small numbers of individuals or low population sizes, suitable habitat and space for expansion or reintroduction are essential to achieving population levels necessary for recovery.

Maui—Lowland Dry—Unit 5 consists of 3,615 ac (1,463 ha) of State land, and 43 ac (17 ha) of privately owned land, from Panaewa to Manawainui on the western and southern slopes of west Maui. This unit is occupied by the plants *Asplenium dielereum*, *Bidens campylotheca* ssp. *pentamera*, *Cenchrus agrimonioides*, *Gouania hillebrandii*, *Kadua coriacea*, *Remya mauiensis*, *Santalum haleakalae* var. *lanaiense*, and *Spermolepis hawaiiensis*, and *Tetramolopium capillare*, and includes the mixed herbland and shrubland, the moisture regime, and canopy, subcanopy, and understory native plant species identified as physical or biological features in the lowland dry ecosystem (see Table 5). This unit also contains unoccupied habitat that is essential to the conservation of these species by providing the PCEs necessary for the expansion of the existing wild populations. Although Maui—Lowland Dry—Unit 5 is not known to be occupied by *Ctenitis squamigera*, *Cyanea obtusa*, *Hesperomannia arbuscula*, *Hibiscus brackenridgei*, *Lysimachia lydgatei*, *Neraudia sericea*, *Schiedea salicaria*, *Sesbania tomentosa*, or *T. remyi*, we have determined this area to be essential for the conservation and recovery of these lowland dry species because it provides the PCEs necessary for the reestablishment of wild populations within their historical range. Due to their small numbers of individuals or low population sizes, suitable habitat and space for expansion or reintroduction are essential to achieving population levels necessary for recovery.

Maui—Lowland Dry—Unit 6 consists of 3 ac (1 ha) of State land, and 237 ac (96 ha) of privately owned land, from Paleaahu Gulch to Puu Hona on the southern slopes of west Maui. This unit is occupied by the plants *Hibiscus brackenridgei* and *Schiedea salicaria*, and includes the mixed herbland and shrubland, the moisture regime, and

canopy, subcanopy, and understory native plant species identified as physical or biological features in the lowland dry ecosystem (see Table 5). This unit also contains unoccupied habitat that is essential to the conservation of these species by providing the PCEs necessary for the expansion of the existing wild populations. Although Maui—Lowland Dry—Unit 6 is not known to be occupied by *Asplenium dielerectum*, *Bidens campylothea* ssp. *pentamera*, *Cenchrus agrimonoides*, *Ctenitis squamigera*, *Cyanea obtusa*, *Gouania hillebrandii*, *Hesperomannia arbuscula*, *Kadua coriacea*, *Lysimachia lydgatei*, *Neraudia sericea*, *Remya mauiensis*, *Santalum haleakalae* var. *lanaiense*, *Sesbania tomentosa*, *Spermolepis hawaiiensis*, *Tetramolopium capillare*, or *T. remyi*, we have determined this area to be essential for the conservation and recovery of these lowland dry species because it provides the PCEs necessary for the reestablishment of wild populations within their historical range. Due to their small numbers of individuals or low population sizes, suitable habitat and space for expansion or reintroduction are essential to achieving population levels necessary for recovery.

Maui—Lowland Mesic—Unit 1 consists of 1,147 ac (464 ha) of State land, 241 ac (97 ha) of privately owned land, and 494 ac (200 ha) of federally owned land (Haleakala National Park), from Manawainui Valley to Kukuila on the eastern slopes of east Maui. This unit is occupied by the plants *Cyanea asplenifolia*, *C. copelandii* ssp. *haleakalaensis*, and *Huperzia mannii*, and includes the mixed herbland and shrubland, the moisture regime, and canopy, subcanopy, and understory native plant species identified as physical or biological features in the lowland mesic ecosystem (see Table 5). This unit also contains unoccupied habitat that is essential to the conservation of these species by providing the PCEs necessary for the expansion of the existing wild populations. Although Maui—Lowland Mesic—Unit 1 is not known to be occupied by *Ctenitis squamigera* or *Solanum incompletum*, we have determined this area to be essential for the conservation and recovery of these lowland mesic species because it provides the PCEs necessary for the reestablishment of wild populations within their historical range. Due to their small numbers of individuals or low population sizes, suitable habitat and space for expansion or reintroduction are essential to achieving

population levels necessary for recovery.

Maui—Lowland Mesic—Unit 2 consists of 1,034 ac (419 ha) of State land, and 113 ac (46 ha) of privately owned land, from Honokohau to Launiupoko on the western slopes of west Maui. This unit is occupied by the plants *Ctenitis squamigera*, *Remya mauiensis*, *Santalum haleakalae* var. *lanaiense*, and *Zanthoxylum hawaiiense*, and includes the mixed herbland and shrubland, the moisture regime, and canopy, subcanopy, and understory native plant species identified as physical or biological features in the lowland mesic ecosystem (see Table 5). This unit also contains unoccupied habitat that is essential to the conservation of these species by providing the PCEs necessary for the expansion of the existing wild populations. Although Maui—Lowland Mesic—Unit 2 is not known to be occupied by *Asplenium dielerectum*, *Bidens campylothea* ssp. *pentamera*, or *Colubrina oppositifolia*, we have determined this area to be essential for the conservation and recovery of these lowland mesic species because it provides the PCEs necessary for the reestablishment of wild populations within its historical range. Due to its small numbers of individuals or low population sizes, this species requires suitable habitat and space for expansion or reintroduction to achieve population levels that could approach recovery.

Maui—Lowland Mesic—Unit 3 (and)

*Palmeria dolei*—Unit 1—Lowland Mesic (and)

*Pseudonestor xanthophrys*—Unit 1—Lowland Mesic

This area consists of 477 ac (193 ha) of State land at Ukumehame on the southern slopes of west Maui. These units include the mixed herbland and shrubland, the moisture regime, and canopy, subcanopy, and understory native plant species identified as physical or biological features in the lowland mesic ecosystem (see Table 5). Although Maui—Lowland Mesic—Unit 3 is not currently occupied by the plants *Asplenium dielerectum*, *Bidens campylothea* ssp. *pentamera*, *Colubrina oppositifolia*, *Ctenitis squamigera*, *Remya mauiensis*, *Santalum haleakalae* var. *lanaiense*, or *Zanthoxylum hawaiiense*, or by the akohekohe (*Palmeria dolei*) and kiwiku (*Pseudonestor xanthophrys*), we have determined this area to be essential for the conservation and recovery of these lowland mesic species because it provides the PCEs for the reestablishment of wild populations

within the historical ranges of the species. Due to their small numbers of individuals or low population sizes, suitable habitat and space for expansion or reintroduction are essential to achieving population levels necessary for recovery.

Maui—Lowland Wet—Unit 1 (and)

*Palmeria dolei*—Unit 2—Lowland Wet (and)

*Pseudonestor xanthophrys*—Unit 2—Lowland Wet

This area consists of 6,616 ac (2,677 ha) of State land, 7,425 ac (3,005 ha) of privately owned land, and 2,038 ac (825 ha) of federally owned land (Haleakala National Park), from Haiku Uka to Kipahulu Valley on the northern and eastern slopes of east Maui. These units include the mixed herbland and shrubland, the moisture regime, and canopy, subcanopy, and understory native plant species identified as physical or biological features in the lowland wet ecosystem (see Table 5). These units are occupied by the plants *Bidens campylothea* ssp. *waihoiensis*, *Clermontia samuelii*, *Cyanea asplenifolia*, *C. copelandii* ssp. *haleakalaensis*, *C. duvalliorum*, *C. hamatiflora* ssp. *hamatiflora*, *C. kunthiana*, *C. maritae*, *C. mcelandowneyi*, *Huperzia mannii*, *Melicope balloui*, and *M. ovalis*. These units also contain unoccupied habitat that is essential to the conservation of these species by providing the PCEs necessary for the expansion of the existing wild populations. Although Maui—Lowland Wet—Unit 1 is not known to be occupied by the plants *Clermontia oblongifolia* ssp. *mauiensis*, *C. peleana*, *Mucuna sloanei* var. *persericea*, *Phyllostegia haliakalae*, or *Wikstroemia villosa*, or by the forest birds, the akohekohe (*Palmeria dolei*) and kiwiku (*Pseudonestor xanthophrys*), we have determined this area to be essential for the conservation and recovery of these lowland wet species because it provides the PCEs necessary for the reestablishment of wild populations within their historical range. Due to their small numbers of individuals or low population sizes, suitable habitat and space for expansion or reintroduction are essential to achieving population levels necessary for recovery.

Maui—Lowland Wet—Unit 2 (and)

*Palmeria dolei*—Unit 3—Lowland Wet (and)

*Pseudonestor xanthophrys*—Unit 3—Lowland Wet (and)

*Newcombia cumingi*—Unit 1—Lowland Wet

This area consists of 65 ac (26 ha) of State land at Moomoku, on the northwestern slopes of west Maui. These units include the mixed herbland and shrubland, the moisture regime, and canopy, subcanopy, and understory native plant species identified as physical or biological features in the lowland wet ecosystem (see Table 5). These units are occupied by the plant *Santalum haleakalae* var. *lanaiense*. Although Maui—Lowland Wet—Unit 2 is not currently occupied by the plants *Alectryon macrococcus*, *Asplenium dielirectum*, *Bidens conjuncta*, *B. micrantha* ssp. *kalealaha*, *Clermontia oblongifolia* ssp. *mauiensis*, *Ctenitis squamigera*, *Cyanea asplenifolia*, *C. glabra*, *C. kunthiana*, *C. lobata*, *C. magnicalyx*, *Cyrtandra filipes*, *C. munroi*, *Diplazium molokaiense*, *Hesperomannia arborescens*, *H. arbuscula*, *Huperzia mannii*, *Isodendron pyriformis*, *Kadua laxiflora*, *Peucedanum sandwicense*, *Phyllostegia bracteata*, *Pteris lidgatei*, *Remya mauiensis*, or *Wikstroemia villosa*, by the forest birds, the akohekohe (*Palmeria dolei*) and kiwikiu (*Pseudonestor xanthophrys*), or by the Newcomb's tree snail (*Newcombia cumingi*), we have determined this area to be essential for the conservation and recovery of these lowland wet species because it provides the PCEs necessary for the reestablishment of wild populations within the historical ranges of the species. Due to their small numbers of individuals or low population sizes, suitable habitat and space for expansion or reintroduction are essential to achieving population levels necessary for recovery.

Maui—Lowland Wet—Unit 3 (and)

*Palmeria dolei*—Unit 4—Lowland Wet (and)

*Pseudonestor xanthophrys*—Unit 4—Lowland Wet

This area consists of 1,247 ac (505 ha) of State land at Honanana Gulch on the northeastern slopes of west Maui. These units include the mixed herbland and shrubland, the moisture regime, and canopy, subcanopy, and understory native plant species identified as physical or biological features in the lowland wet ecosystem (see Table 5). They are occupied by the plants *Bidens*

*conjuncta*, *Cyanea asplenifolia*, and *Pteris lidgatei*. These units also contain unoccupied habitat that is essential to the conservation of these species by providing the PCEs necessary for the expansion of the existing wild populations. Although Maui—Lowland Wet—Unit 3 is not known to be occupied by the plants *Alectryon macrococcus*, *Asplenium dielirectum*, *Bidens micrantha* ssp. *kalealaha*, *Clermontia oblongifolia* ssp. *mauiensis*, *Ctenitis squamigera*, *Cyanea glabra*, *C. kunthiana*, *C. lobata*, *C. magnicalyx*, *Cyrtandra filipes*, *C. munroi*, *Diplazium molokaiense*, *Hesperomannia arborescens*, *H. arbuscula*, *Huperzia mannii*, *Isodendron pyriformis*, *Kadua laxiflora*, *Peucedanum sandwicense*, *Phyllostegia bracteata*, *Remya mauiensis*, *Santalum haleakalae* var. *lanaiense*, or *Wikstroemia villosa*, or by the forest birds, the akohekohe (*Palmeria dolei*) and kiwikiu (*Pseudonestor xanthophrys*), we have determined this area to be essential for the conservation and recovery of these lowland wet species because it provides the PCEs necessary for the reestablishment of wild populations within their historical range. Due to their small numbers of individuals or low population sizes, suitable habitat and space for expansion or reintroduction are essential to achieving population levels necessary for recovery.

Maui—Lowland Wet—Unit 4 (and)

*Palmeria dolei*—Unit 5—Lowland Wet (and)

*Pseudonestor xanthophrys*—Unit 5—Lowland Wet

This area consists of 864 ac (350 ha) of State land at Kahakuloa Valley on the northeastern slopes of west Maui. These units include the mixed herbland and shrubland, the moisture regime, and canopy, subcanopy, and understory native plant species identified as physical or biological features in the lowland wet ecosystem (see Table 5). They are occupied by the plants *Bidens conjuncta* and *Cyanea asplenifolia*. These units also contain unoccupied habitat that is essential to the conservation of these species by providing the PCEs necessary for the expansion of the existing wild populations. Although Maui—Lowland Wet—Unit 4 is not known to be occupied by the plants *Alectryon macrococcus*, *Asplenium dielirectum*, *Bidens conjuncta*, *B. micrantha* ssp. *kalealaha*, *Clermontia oblongifolia* ssp. *mauiensis*, *Ctenitis squamigera*, *Cyanea glabra*, *C. kunthiana*, *C. lobata*, *C. magnicalyx*, *Cyrtandra filipes*, *C.*

*munroi*, *Diplazium molokaiense*, *Hesperomannia arborescens*, *H. arbuscula*, *Huperzia mannii*, *Isodendron pyriformis*, *Kadua laxiflora*, *Peucedanum sandwicense*, *Phyllostegia bracteata*, *Pteris lidgatei*, *Remya mauiensis*, *Santalum haleakalae* var. *lanaiense*, or *Wikstroemia villosa*, or by the forest birds, the akohekohe (*Palmeria dolei*) and kiwikiu (*Pseudonestor xanthophrys*), we have determined this area to be essential for the conservation and recovery of these lowland wet species because it provides the PCEs necessary for the reestablishment of wild populations within their historical range. Due to their small numbers of individuals or low population sizes, suitable habitat and space for expansion or reintroduction are essential to achieving population levels necessary for recovery.

Maui—Lowland Wet—Unit 5 (and)

*Palmeria dolei*—Unit 6—Lowland Wet (and)

*Pseudonestor xanthophrys*—Unit 6—Lowland Wet

This area consists of 30 ac (12 ha) of State land at Iao Valley on the eastern side of west Maui. These units include the mixed herbland and shrubland, the moisture regime, and canopy, subcanopy, and understory native plant species identified as physical or biological features in the lowland wet ecosystem (see Table 5). Although Maui—Lowland Wet—Unit 5 is not known to be occupied by the plants *Alectryon macrococcus*, *Asplenium dielirectum*, *Bidens conjuncta*, *B. micrantha* ssp. *kalealaha*, *Clermontia oblongifolia* ssp. *mauiensis*, *Ctenitis squamigera*, *Cyanea asplenifolia*, *C. glabra*, *C. kunthiana*, *C. lobata*, *C. magnicalyx*, *Cyrtandra filipes*, *C. munroi*, *Diplazium molokaiense*, *Hesperomannia arborescens*, *H. arbuscula*, *Huperzia mannii*, *Isodendron pyriformis*, *Kadua laxiflora*, *Peucedanum sandwicense*, *Phyllostegia bracteata*, *Pteris lidgatei*, *Remya mauiensis*, *Santalum haleakalae* var. *lanaiense*, or *Wikstroemia villosa*, or by the forest birds, the akohekohe (*Palmeria dolei*) and kiwikiu (*Pseudonestor xanthophrys*), we have determined this area to be essential for the conservation and recovery of these lowland wet species because it provides the PCEs necessary for the reestablishment of wild populations within the historical ranges of the species. Due to their small numbers of individuals or low population sizes, suitable habitat and space for expansion or reintroduction are essential to

achieving population levels necessary for recovery.

Maui—Lowland Wet—Unit 6 (and)

*Palmeria dolei*—Unit 7—Lowland Wet (and)

*Pseudonestor xanthophrys*—Unit 7—Lowland Wet

This area consists of 136 ac (55 ha) of State land at Honokowai and Wahikuli valleys on the western slopes of west Maui. These units include the mixed herbland and shrubland, the moisture regime, and canopy, subcanopy, and understory native plant species identified as physical or biological features in the lowland wet ecosystem (see Table 5). These units are occupied by the plant *Santalum haleakalae* var. *lanaiense*. These units also contain unoccupied habitat that is essential to the conservation of this species by providing the PCEs necessary for the expansion of the existing wild populations. Although Maui—Lowland Wet—Unit 6 is not currently occupied by the plants *Alectryon macrococcus*, *Asplenium dielerectum*, *Bidens conjuncta*, *Bidens micrantha* ssp. *kalealaha*, *Clermontia oblongifolia* ssp. *mauiensis*, *Ctenitis squamigera*, *Cyanea asplenifolia*, *C. glabra*, *C. kunthiana*, *C. lobata*, *C. magnicalyx*, *Cyrtandra filipes*, *C. munroi*, *Diplazium molokaiense*, *Hesperomannia arborescens*, *H. arbuscula*, *Huperzia mannii*, *Isodendron pyrifolium*, *Kadua laxiflora*, *Peucedanum sandwicense*, *Phyllostegia bracteata*, *Pteris lidgatei*, *Remya mauiensis*, or *Wikstroemia villosa*, or by the forest birds, the akohekohe (*Palmeria dolei*) and kiwikiu (*Pseudonestor xanthophrys*), we have determined this area to be essential for the conservation and recovery of these lowland wet species because it provides the PCEs necessary for the reestablishment of wild populations within the historical ranges of the species. Due to their small numbers of individuals or low population sizes, suitable habitat and space for expansion or reintroduction are essential to achieving population levels necessary for recovery.

Maui—Lowland Wet—Unit 7 (and)

*Palmeria dolei*—Unit 8—Lowland Wet (and)

*Pseudonestor xanthophrys*—Unit 8—Lowland Wet

This area consists of 898 ac (364 ha) of State land at Olowalu Valley, on the southern slopes of west Maui. These units include the mixed herbland and shrubland, the moisture regime, and canopy, subcanopy, and understory

native plant species identified as physical or biological features in the lowland wet ecosystem (see Table 5). These units are occupied by the plant *Alectryon macrococcus*. These units also contain unoccupied habitat that is essential to the conservation of this species by providing the PCEs necessary for the expansion of the existing wild populations. Although Maui—Lowland Wet—Unit 7 is not currently occupied by the plants *Asplenium dielerectum*, *Bidens conjuncta*, *B. micrantha* ssp. *kalealaha*, *Clermontia oblongifolia* ssp. *mauiensis*, *Ctenitis squamigera*, *Cyanea asplenifolia*, *C. glabra*, *C. kunthiana*, *C. lobata*, *C. magnicalyx*, *Cyrtandra filipes*, *C. munroi*, *Diplazium molokaiense*, *Hesperomannia arborescens*, *H. arbuscula*, *Huperzia mannii*, *Isodendron pyrifolium*, *Kadua laxiflora*, *Peucedanum sandwicense*, *Phyllostegia bracteata*, *Pteris lidgatei*, *Remya mauiensis*, *Santalum haleakalae* var. *lanaiense*, or *Wikstroemia villosa*, or by the forest birds, the akohekohe (*Palmeria dolei*) and kiwikiu (*Pseudonestor xanthophrys*), we have determined this area to be essential for the conservation and recovery of these lowland wet species because it provides the PCEs necessary for the reestablishment of wild populations within the historical ranges of the species. Due to their small numbers of individuals or low population sizes, suitable habitat and space for expansion or reintroduction are essential to achieving population levels necessary for recovery.

Maui—Lowland Wet—Unit 8 (and)

*Palmeria dolei*—Unit 9—Lowland Wet (and)

*Pseudonestor xanthophrys*—Unit 9—Lowland Wet

This area consists of 230 ac (93 ha) of State land at upper Ukumehame Gulch, on the southern slopes of west Maui. These units include the mixed herbland and shrubland, the moisture regime, and canopy, subcanopy, and understory native plant species identified as physical or biological features in the lowland wet ecosystem (see Table 5). Although Maui—Lowland Wet—Unit 8 is not currently occupied by the plants *Alectryon macrococcus*, *Asplenium dielerectum*, *Bidens conjuncta*, *B. micrantha* ssp. *kalealaha*, *Clermontia oblongifolia* ssp. *mauiensis*, *Ctenitis squamigera*, *Cyanea asplenifolia*, *C. glabra*, *C. kunthiana*, *C. lobata*, *C. magnicalyx*, *Cyrtandra filipes*, *C. munroi*, *Diplazium molokaiense*, *Hesperomannia arborescens*, *H. arbuscula*, *Huperzia mannii*, *Isodendron pyrifolium*, *Kadua laxiflora*,

*Peucedanum sandwicense*, *Phyllostegia bracteata*, *Pteris lidgatei*, *Remya mauiensis*, *Santalum haleakalae* var. *lanaiense*, or *Wikstroemia villosa*, or by the forest birds, the akohekohe (*Palmeria dolei*) and kiwikiu (*Pseudonestor xanthophrys*), we have determined this area to be essential for the conservation and recovery of these lowland wet species because it provides the PCEs necessary for the reestablishment of wild populations within the historical ranges of the species. Due to their small numbers of individuals or low population sizes, suitable habitat and space for expansion or reintroduction are essential to achieving population levels necessary for recovery.

Maui—Montane Wet—Unit 1 (and)

*Palmeria dolei*—Unit 10—Montane Wet (and)

*Pseudonestor xanthophrys*—Unit 10—Montane Wet

This area consists of 1,313 ac (531 ha) of State land and 798 ac (323 ha) of privately owned land, at Haiku Uka on the northern slopes of east Maui. These units include the mixed herbland and shrubland, the moisture regime, and canopy, subcanopy, and understory native plant species identified as physical or biological features in the montane wet ecosystem (see Table 5). These units are occupied by the plants *Cyanea duvalliorum*, *C. maritae*, *C. mceldowneyi*, *Huperzia mannii*, *Melicope balloui*, and *Phyllostegia pilosa*, and by the forest birds, the akohekohe (*Palmeria dolei*) and kiwikiu (*Pseudonestor xanthophrys*). These units also contain unoccupied habitat that is essential to the conservation of these species by providing the PCEs necessary for the expansion of the existing wild populations. Although Maui—Montane Wet—Unit 1 is not known to be occupied by the plants *Adenophorus perians*, *Asplenium peruvianum* var. *insulare*, *Bidens campylothea* ssp. *pentamera*, *B. campylothea* ssp. *waihoiensis*, *Clermontia oblongifolia* ssp. *mauiensis*, *C. samuelii*, *Cyanea copelandii* ssp. *haleakalaensis*, *C. glabra*, *C. hamatiflora* ssp. *hamatiflora*, *C. horrida*, *C. kunthiana*, *Cyrtandra ferripilosa*, *Diplazium molokaiense*, *Geranium hanaense*, *G. multiflorum*, *Melicope ovalis*, *Peperomia subpetiolata*, *Phyllostegia bracteata*, *P. haliakalae*, *P. mannii*, *Platanthera holochila*, *Schiedea jacobii*, or *Wikstroemia villosa*, we have determined this area to be essential for the conservation and recovery of these montane wet species because it provides the PCEs necessary for the



reestablishment of wild populations within their historical range. Due to their small numbers of individuals or low population sizes, suitable habitat and space for expansion or reintroduction are essential to achieving population levels necessary for recovery.

Maui—Montane Wet—Unit 2 (and)

*Palmeria dolei*—Unit 11—Montane Wet (and)

*Pseudonestor xanthophrys*—Unit 11—Montane Wet

This area consists of 4,075 ac (1,649 ha) of State land, 9,633 ac (3,898 ha) of privately owned land, and 875 ac (354 ha) of federally owned land (Haleakala National Park), from Haiku Uka to Puukaukanu and upper Waihoi Valley, on the northern and northeastern slopes of east Maui. These units include the mixed herbland and shrubland, the moisture regime, and canopy, subcanopy, and understory native plant species identified as physical or biological features in the montane wet ecosystem (see Table 5). These units are occupied by the plants *Bidens campylothea* ssp. *pentamera*, *Clermontia samuelii*, *Cyanea copelandii* ssp. *haleakalaensis*, *C. duvalliorum*, *C. hamatiflora* ssp. *hamatiflora*, *C. horrida*, *C. kunthiana*, *C. mceldowneyi*, *Geranium hanaense*, *G. multiflorum*, and *Wikstroemia villosa*, and by the forest birds, the akohekohe (*Palmeria dolei*) and kiwikiu (*Pseudonestor xanthophrys*). These units also contain unoccupied habitat that is essential to the conservation of these species by providing the PCEs necessary for the expansion of the existing wild populations. Although Maui—Montane Wet—Unit 2 is not known to be occupied by the plants *Adenophorus periens*, *Asplenium peruvianum* var. *insulare*, *Bidens campylothea* ssp. *waihoiensis*, *Clermontia oblongifolia* ssp. *mauiensis*, *Cyanea glabra*, *C. maritae*, *Cyrtandra ferripilosa*, *Diplazium molokaiense*, *Huperzia mannii*, *Melicope balloui*, *M. ovalis*, *Peperomia subpetiolata*, *Phyllostegia bracteata*, *P. haliakalae*, *P. mannii*, *P. pilosa*, *Platanthera holochila*, and *Schiedea jacobii*, we have determined this area to be essential for the conservation and recovery of these montane wet species because it provides the PCEs necessary for the reestablishment of wild populations within their historical range. Due to their small numbers of individuals or low population sizes, suitable habitat and space for expansion or reintroduction are essential to achieving

population levels necessary for recovery.

Maui—Montane Wet—Unit 3 (and)

*Palmeria dolei*—Unit 12—Montane Wet (and)

*Pseudonestor xanthophrys*—Unit 12—Montane Wet

This area consists of 2,228 ac (902 ha) of federally owned land (Haleakala National Park) in Kipahulu Valley, on the northeastern slopes of east Maui. These units include the mixed herbland and shrubland, the moisture regime, and canopy, subcanopy, and understory native plant species identified as physical or biological features in the montane wet ecosystem (see Table 5). These units are occupied by the plants *Bidens campylothea* ssp. *pentamera*, *B. campylothea* ssp. *waihoiensis*, *Cyanea copelandii* ssp. *haleakalaensis*, *C. hamatiflora* ssp. *hamatiflora*, *C. maritae*, and *Melicope ovalis*, and by the forest bird, kiwikiu (*Pseudonestor xanthophrys*). These units also contain unoccupied habitat that is essential to the conservation of these species by providing the PCEs necessary for the expansion of the existing wild populations. Although Maui—Montane Wet—Unit 3 is not known to be occupied by the plants *Adenophorus periens*, *Asplenium peruvianum* var. *insulare*, *Clermontia oblongifolia* ssp. *mauiensis*, *C. samuelii*, *Cyanea duvalliorum*, *C. glabra*, *C. horrida*, *C. kunthiana*, *C. mceldowneyi*, *Cyrtandra ferripilosa*, *Diplazium molokaiense*, *Geranium hanaense*, *G. multiflorum*, *Huperzia mannii*, *Melicope balloui*, *Peperomia subpetiolata*, *Phyllostegia bracteata*, *P. haliakalae*, *P. mannii*, *P. pilosa*, *Platanthera holochila*, *Schiedea jacobii*, or *Wikstroemia villosa*, or by the forest bird, the akohekohe (*Palmeria dolei*), we have determined this area to be essential for the conservation and recovery of these montane wet species because it provides the PCEs necessary for the reestablishment of wild populations within their historical range. Due to their small numbers of individuals or low population sizes, suitable habitat and space for expansion or reintroduction are essential to achieving population levels necessary for recovery.

Maui—Montane Wet—Unit 4 (and)

*Palmeria dolei*—Unit 13—Montane Wet (and)

*Pseudonestor xanthophrys*—Unit 13—Montane Wet

This area consists of 180 ac (73 ha) of State land and 1,653 ac (669 ha) of federally owned land (Haleakala

National Park), in Kaapahu Valley on the northeastern slopes of east Maui. These units include the mixed herbland and shrubland, the moisture regime, and canopy, subcanopy, and understory native plant species identified as physical or biological features in the montane wet ecosystem (see Table 5). These units are occupied by the plants *Clermontia samuelii*, *Cyanea copelandii* ssp. *haleakalaensis*, *C. hamatiflora* ssp. *hamatiflora*, *C. horrida*, *C. kunthiana*, *C. maritae*, *Cyrtandra ferripilosa*, and *Huperzia mannii*. These units also contain unoccupied habitat that is essential to the conservation of these species by providing the PCEs necessary for the expansion of the existing wild populations. Although Maui—Montane Wet—Unit 4 is not known to be occupied by the plants *Adenophorus periens*, *Asplenium peruvianum* var. *insulare*, *Bidens campylothea* ssp. *pentamera*, *B. campylothea* ssp. *waihoiensis*, *Clermontia oblongifolia* ssp. *mauiensis*, *Cyanea duvalliorum*, *C. glabra*, *C. mceldowneyi*, *Diplazium molokaiense*, *Geranium hanaense*, *G. multiflorum*, *Melicope balloui*, *M. ovalis*, *Peperomia subpetiolata*, *Phyllostegia bracteata*, *P. haliakalae*, *P. mannii*, *P. pilosa*, *Platanthera holochila*, *Schiedea jacobii*, or *Wikstroemia villosa*, or by the forest birds, the akohekohe (*Palmeria dolei*) and kiwikiu (*Pseudonestor xanthophrys*), we have determined this area to be essential for the conservation and recovery of these montane wet species because it provides the PCEs necessary for the reestablishment of wild populations within their historical range. Due to their small numbers of individuals or low population sizes, suitable habitat and space for expansion or reintroduction are essential to achieving population levels necessary for recovery.

Maui—Montane Wet—Unit 5 (and)

*Palmeria dolei*—Unit 14—Montane Wet (and)

*Pseudonestor xanthophrys*—Unit 14—Montane Wet

This area consists of 222 ac (90 ha) of State land, and 165 ac (67 ha) of federally owned land (Haleakala National Park), near Kaumakani on the eastern slopes of east Maui. These units include the mixed herbland and shrubland, the moisture regime, and canopy, subcanopy, and understory native plant species identified as physical or biological features in the montane wet ecosystem (see Table 5). These units are occupied by the plant *Bidens campylothea* ssp. *pentamera*. These units also contain unoccupied

habitat that is essential to the conservation of this species by providing the PCEs necessary for the expansion of the existing wild populations. Although Maui—Montane Wet—Unit 5 is not currently occupied by the plants *Adenophorus periens*, *Asplenium peruvianum* var. *insulare*, *Bidens campylotheca* ssp. *waihoiensis*, *Clermontia oblongifolia* ssp. *mauiensis*, *C. samuelii*, *Cyanea copelandii* ssp. *haleakalaensis*, *C. duvalliorum*, *C. glabra*, *C. hamatiflora* ssp. *hamatiflora*, *C. horrida*, *C. kunthiana*, *C. maritae*, *C. mceldowneyi*, *Cyrtandra ferripilosa*, *Diplazium molokaiense*, *Geranium hanaense*, *G. multiflorum*, *Huperzia mannii*, *Melicope balloui*, *M. ovalis*, *Peperomia subpetiolata*, *Phyllostegia bracteata*, *P. haliakalae*, *P. mannii*, *P. pilosa*, *Platanthera holochila*, *Schiedea jacobii*, or *Wikstroemia villosa*, or by the forest birds, the akohekohe (*Palmeria dolei*) and kiwikiu (*Pseudonestor xanthophrys*), we have determined this area to be essential for the conservation and recovery of these montane wet species because it provides the PCEs necessary for the reestablishment of wild populations within the historical ranges of the species. Due to their small numbers of individuals or low population sizes, suitable habitat and space for expansion or reintroduction are essential to achieving population levels necessary for recovery.

Maui—Montane Wet—Unit 6 (and)

*Palmeria dolei*—Unit 15—Montane Wet (and)

*Pseudonestor xanthophrys*—Unit 15—Montane Wet

This area consists of 1,113 ac (451 ha) of State land, and 286 ac (116 ha) of privately owned land, at the summit and surrounding areas on west Maui. These units include the mixed herbland and shrubland, the moisture regime, and canopy, subcanopy, and understory native plant species identified as physical or biological features in the montane wet ecosystem (see Table 5). They are occupied by the plants *Bidens conjuncta*, *Calamagrostis hillebrandii*, *Cyanea kunthiana*, *Geranium hillebrandii*, *Myrsine vaccinioides*, and *Sanicula purpurea*. These units also contain unoccupied habitat that is essential to the conservation of these species by providing the PCEs necessary for the expansion of the existing wild populations. Although Maui—Montane Wet—Unit 6 is not known to be occupied by the plants *Acaena exigua*, *Cyrtandra oxybapha*, *Huperzia mannii*, *Phyllostegia bracteata*, or *Platanthera holochila*, or by the forest birds, the akohekohe (*Palmeria dolei*) and kiwikiu

(*Pseudonestor xanthophrys*), we have determined this area to be essential for the conservation and recovery of these montane wet species because it provides the PCEs necessary for the reestablishment of wild populations within their historical range. Due to their small numbers of individuals or low population sizes, suitable habitat and space for expansion or reintroduction are essential to achieving population levels necessary for recovery.

Maui—Montane Wet—Unit 7 (and)

*Palmeria dolei*—Unit 16—Montane Wet (and)

*Pseudonestor xanthophrys*—Unit 16—Montane Wet

This area consists of 80 ac (32 ha) of State land near Hanaula and Pohakea Gulch on the southeastern slopes of west Maui. These units include the mixed herbland and shrubland, the moisture regime, and canopy, subcanopy, and understory native plant species identified as physical or biological features in the montane wet ecosystem (see Table 5). They are occupied by the plants *Cyrtandra oxybapha* and *Platanthera holochila*, and contain unoccupied habitat that is essential to the conservation of these species by providing the PCEs necessary for the expansion of the existing wild populations. Although Maui—Montane Wet—Unit 7 is not known to be occupied by the plants *Acaena exigua*, *Bidens conjuncta*, *Calamagrostis hillebrandii*, *Cyanea kunthiana*, *Geranium hillebrandii*, *Huperzia mannii*, *Myrsine vaccinioides*, *Phyllostegia bracteata*, or *Sanicula purpurea*, or by the forest birds, the akohekohe (*Palmeria dolei*) and kiwikiu (*Pseudonestor xanthophrys*), we have determined this area to be essential for the conservation and recovery of these montane wet species because it provides the PCEs necessary for the reestablishment of wild populations within their historical range. Due to their small numbers of individuals or low population sizes, suitable habitat and space for expansion or reintroduction are essential to achieving population levels necessary for recovery.

Maui—Montane Mesic—Unit 1 (and)

*Palmeria dolei*—Unit 18—Montane Mesic (and)

*Pseudonestor xanthophrys*—Unit 18—Montane Mesic

This area consists of 6,593 ac (2,668 ha) of State land, 707 ac (286 ha) of privately owned land, and 3,672 ac

(1,486 ha) of federally owned land (Haleakala National Park), from Kealahou to Puualae, nearly circumscribing the summit of Haleakala on east Maui. These units include the mixed herbland and shrubland, the moisture regime, and canopy, subcanopy, and understory native plant species identified as physical or biological features in the montane mesic ecosystem (see Table 5). They are occupied by the plants *Argyroxiphium sandwicense* ssp. *macrocephalum*, *Asplenium dielerectum*, *A. peruvianum* var. *insulare*, *Clermontia lindseyana*, *Cyanea horrida*, *C. obtusa*, *Cyrtandra ferripilosa*, *C. oxybapha*, *Diplazium molokaiense*, *Geranium arboreum*, *G. multiflorum*, *Huperzia mannii*, *Melicope adscendens*, and *Neraudia sericea*. These units also contain unoccupied habitat that is essential to the conservation of these species by providing the PCEs necessary for the expansion of the existing wild populations. Although Maui—Montane Mesic—Unit 1 is not known to be occupied by the plants *Alectryon macrococcus*, *Bidens campylotheca* ssp. *pentamera*, *B. micrantha* ssp. *kalealaha*, *Cyanea glabra*, *C. hamatiflora* ssp. *hamatiflora*, *C. kunthiana*, *C. mceldowneyi*, *Phyllostegia bracteata*, *P. mannii*, *Santalum haleakalae* var. *lanaiense*, *Wikstroemia villosa*, or *Zanthoxylum hawaiiense*, or by the forest birds, the akohekohe (*Palmeria dolei*) and kiwikiu (*Pseudonestor xanthophrys*), we have determined this area to be essential for the conservation and recovery of these montane mesic species because it provides the PCEs necessary for the reestablishment of wild populations within their historical range. Due to their small numbers of individuals or low population sizes, suitable habitat and space for expansion or reintroduction are essential to achieving population levels necessary for recovery.

Maui—Montane Mesic—Unit 2 (and)

*Palmeria dolei*—Unit 19—Montane Mesic (and)

*Pseudonestor xanthophrys*—Unit 19—Montane Mesic

This area consists of 124 ac (50 ha) of State land at Helu and the upper reaches of Puehuhunui on the southern slopes of west Maui. These units include the mixed herbland and shrubland, the moisture regime, and canopy, subcanopy, and understory native plant species identified as physical or biological features in the montane mesic ecosystem (see Table 5). They are occupied by the plants *Ctenitis squamigera*, *Cyanea magnicalyx*,



*Diplazium molokaiense*, *Lysimachia lydgatei*, *Remya mauiensis*, and *Santalum haleakalae* var. *lanaiense*. These units also contain unoccupied habitat that is essential to the conservation of these species by providing the PCEs necessary for the expansion of the existing wild populations. Although Maui—Montane Mesic—Unit 2 is not known to be occupied by the plants *Geranium hillebrandii*, *Huperzia mannii*, *Stenogyne kauaulaensis*, or *Zanthoxylum hawaiiense*, or by the forest birds, the akohekohe (*Palmeria dolei*) and kiwikiu (*Pseudonestor xanthophrys*), we have determined this area to be essential for the conservation and recovery of these montane mesic species because it provides the PCEs necessary for the reestablishment of wild populations within their historical range. Due to their small numbers of individuals or low population sizes, suitable habitat and space for expansion or reintroduction are essential to achieving population levels necessary for recovery.

Maui—Montane Mesic—Unit 3 (and)

*Palmeria dolei*—Unit 20—Montane Mesic (and)

*Pseudonestor xanthophrys*—Unit 20—Montane Mesic

This area consists of 174 ac (70 ha) of State land at Lihau on the southwestern slopes of west Maui. These units include the mixed herbland and shrubland, the moisture regime, and canopy, subcanopy, and understory native plant species identified as physical or biological features in the montane mesic ecosystem (see Table 5). They are occupied by the plant *Geranium hillebrandii*, and contain unoccupied habitat that is essential to the conservation of this species by providing the PCEs necessary for the expansion of the existing wild populations. Although Maui—Montane Mesic—Unit 3 is not known to be occupied by the plants *Ctenitis squamigera*, *Cyanea magnicalyx*, *Diplazium molokaiense*, *Huperzia mannii*, *Lysimachia lydgatei*, *Remya mauiensis*, *Santalum haleakalae* var. *lanaiense*, *Stenogyne kauaulaensis*, or *Zanthoxylum hawaiiense*, or by the forest birds, the akohekohe (*Palmeria dolei*) and kiwikiu (*Pseudonestor xanthophrys*), we have determined this area to be essential for the conservation and recovery of these montane mesic species because it provides the PCEs necessary for the reestablishment of wild populations within their historical range. Due to their small numbers of individuals or low population sizes,

suitable habitat and space for expansion or reintroduction are essential to achieving population levels necessary for recovery.

Maui—Montane Mesic—Unit 4 (and)

*Palmeria dolei*—Unit 21—Montane Mesic (and)

*Pseudonestor xanthophrys*—Unit 21—Montane Mesic

This area consists of 72 ac (29 ha) of State land at Halepohaku on the southern slopes of west Maui. These units include the mixed herbland and shrubland, the moisture regime, and canopy, subcanopy, and understory native plant species identified as physical or biological features in the montane mesic ecosystem (see Table 5). Although Maui—Montane Mesic—Unit 4 is not known to be occupied by the plants *Ctenitis squamigera*, *Cyanea magnicalyx*, *Diplazium molokaiense*, *Geranium hillebrandii*, *Huperzia mannii*, *Lysimachia lydgatei*, *Remya mauiensis*, *Santalum haleakalae* var. *lanaiense*, *Stenogyne kauaulaensis*, or *Zanthoxylum hawaiiense*, or by the forest birds, the akohekohe (*Palmeria dolei*) and kiwikiu (*Pseudonestor xanthophrys*), we have determined this area to be essential for the conservation and recovery of these montane mesic species because it provides the PCEs necessary for the reestablishment of wild populations within their historical range. Due to their small numbers of individuals or low population sizes, suitable habitat and space for expansion or reintroduction are essential to achieving population levels necessary for recovery.

Maui—Montane Mesic—Unit 5 (and)

*Palmeria dolei*—Unit 22—Montane Mesic (and)

*Pseudonestor xanthophrys*—Unit 22—Montane Mesic

This area consists of 170 ac (69 ha) of State land at the upper reaches of Manawainui Gulch on the southeastern slopes of west Maui. These units include the mixed herbland and shrubland, the moisture regime, and canopy, subcanopy, and understory native plant species identified as physical or biological features in the montane mesic ecosystem (see Table 5). They are occupied by the plants *Remya mauiensis* and *Santalum haleakalae* var. *lanaiense*, and contain unoccupied habitat that is essential to the conservation of these species by providing the PCEs necessary for the expansion of the existing wild populations. Although Maui—Montane Mesic—Unit 5 is not known to be

occupied by the plants *Ctenitis squamigera*, *Cyanea magnicalyx*, *Diplazium molokaiense*, *Geranium hillebrandii*, *Huperzia mannii*, *Lysimachia lydgatei*, *Stenogyne kauaulaensis*, or *Zanthoxylum hawaiiense*, or by the forest birds, the akohekohe (*Palmeria dolei*) and kiwikiu (*Pseudonestor xanthophrys*), we have determined this area to be essential for the conservation and recovery of these montane mesic species because it provides the PCEs necessary for the reestablishment of wild populations within their historical range. Due to their small numbers of individuals or low population sizes, suitable habitat and space for expansion or reintroduction are essential to achieving population levels necessary for recovery.

Maui—Montane Dry—Unit 1 consists of 2,962 ac (1,199 ha) of State land, and 563 ac (228 ha) of federally owned land (Haleakala National Park), from Kanaio to Naholoku and Kaupo Gap along the southern slopes of east Maui. This unit includes the mixed herbland and shrubland, the moisture regime, and canopy, subcanopy, and understory native plant species identified as physical or biological features in the montane dry ecosystem (see Table 5). Although Maui—Montane Dry—Unit 1 is not known to be occupied by the plants *Alectryon macrococcus*, *Geranium arboreum*, *Melicope knudsenii*, *M. mucronulata*, *Santalum haleakalae* var. *lanaiense*, or *Zanthoxylum hawaiiense*, we have determined this area to be essential for the conservation and recovery of these montane dry species because it provides the PCEs necessary for the reestablishment of wild populations within their historical range. Due to their small numbers of individuals or low population sizes, suitable habitat and space for expansion or reintroduction are essential to achieving population levels necessary for recovery.

Maui—Subalpine—Unit 1 (and)

*Palmeria dolei*—Unit 24—Subalpine (and)

*Pseudonestor xanthophrys*—Unit 24—Subalpine

This area consists of 10,785 ac (4,365 ha) of State land, 1,622 ac (656 ha) of privately owned land, and 3,568 ac (1,444 ha) of federally owned land (Haleakala National Park), from Kanaio north to Puu Nianiau on east Maui. These units include the mixed herbland and shrubland, the moisture regime, and canopy, subcanopy, and understory native plant species identified as

physical or biological features in the subalpine ecosystem (see Table 5). They are occupied by the plants *Bidens micrantha* ssp. *kalealaha* and *Geranium arboreum*, and contain unoccupied habitat that is essential to the conservation of these species by providing the PCEs necessary for the expansion of the existing wild populations. Although Maui—Subalpine—Unit 1 is not known to be occupied by the plants *Argyroxiphium sandwicense* ssp. *macrocephalum*, *Asplenium peruvianum* var. *insulare*, *Geranium multiflorum*, *Phyllostegia bracteata*, *Schiedea haleakalensis*, or *Zanthoxylum hawaiiense*, or by the forest birds, the akohekohe (*Palmeria dolei*) and kiwikiu (*Pseudonestor xanthophrys*), we have determined this area to be essential for the conservation and recovery of these subalpine species because it provides the PCEs necessary for the reestablishment of wild populations within their historical range. Due to their small numbers of individuals or low population sizes, suitable habitat and space for expansion or reintroduction are essential to achieving population levels necessary for recovery.

Maui—Subalpine—Unit 2 (and)

*Palmeria dolei*—Unit 25—Subalpine (and)

*Pseudonestor xanthophrys*—Unit 25—Subalpine

This area consists of 50 ac (20 ha) of privately owned land, and 9,836 ac (3,981 ha) of federally owned land (Haleakala National Park), from the summit north to Koolau Gap and east to Kalapawili Ridge on east Maui. These units include the mixed herbland and shrubland, the moisture regime, and canopy, subcanopy, and understory native plant species identified as physical or biological features in the subalpine ecosystem (see Table 5). They are occupied by the plants *Argyroxiphium sandwicense* ssp. *macrocephalum*, *Geranium multiflorum*, and *Schiedea haleakalensis*, and by the forest bird, the akohekohe (*Palmeria dolei*). These units also contain unoccupied habitat that is essential to the conservation of these species by providing the PCEs necessary for the expansion of the existing wild populations. Although Maui—Subalpine—Unit 2 is not known to be occupied by the plants *Asplenium peruvianum* var. *insulare*, *Bidens micrantha* ssp. *kalealaha*, *Geranium arboreum*, *Phyllostegia bracteata*, or *Zanthoxylum hawaiiense*, or by the forest bird, the kiwikiu (*Pseudonestor xanthophrys*), we have determined this

area to be essential for the conservation and recovery of these subalpine species because it provides the PCEs necessary for the reestablishment of wild populations within their historical range. Due to their small numbers of individuals or low population sizes, suitable habitat and space for expansion or reintroduction are essential to achieving population levels necessary for recovery.

Maui—Alpine—Unit 1 consists of 475 ac (192 ha) of State land, 411 ac (166 ha) of privately owned land, and 911 ac (369 ha) of federally owned land (Haleakala National Park), at the summit of Haleakala on east Maui. This unit includes the mixed herbland and shrubland, the moisture regime, and the subcanopy native plant species identified as physical or biological features in the alpine ecosystem (see Table 5). This unit is occupied by the plant *Argyroxiphium sandwicense* ssp. *macrocephalum*, and contains unoccupied habitat that is essential to the conservation of this species by providing the PCEs necessary for the expansion of the existing wild populations. Due to its small numbers of individuals or low population sizes, suitable habitat and space for expansion or reintroduction are essential to achieving population levels necessary for recovery.

Maui—Dry Cliff—Unit 1 (and)

*Palmeria dolei*—Unit 26—Dry Cliff (and)

*Pseudonestor xanthophrys*—Unit 26—Dry Cliff

This area consists of 755 ac (305 ha) of federally owned land (Haleakala National Park), from Pakaoao to Koolau Gap on east Maui. These units include the mixed herbland and shrubland, the moisture regime, and the subcanopy and understory native plant species identified as physical or biological features in the dry cliff ecosystem (see Table 5). Although Maui—Dry Cliff—Unit 1 is not known to be occupied by the plants *Argyroxiphium sandwicense* ssp. *macrocephalum*, *Bidens campylothea* ssp. *pentamera*, *B. micrantha* ssp. *kalealaha*, *Diplazium molokaiense*, *Geranium multiflorum*, *Plantago princeps*, or *Schiedea haleakalensis*, or by the forest birds, the akohekohe (*Palmeria dolei*) and kiwikiu (*Pseudonestor xanthophrys*), we have determined this area to be essential for the conservation and recovery of these dry cliff species because it provides the PCEs necessary for the reestablishment of wild populations within their historical range. Due to their small numbers of individuals or low

population sizes, suitable habitat and space for expansion or reintroduction are essential to achieving population levels necessary for recovery.

Maui—Dry Cliff—Unit 2 consists of 688 ac (279 ha) of federally owned land (Haleakala National Park) from Haupaakea Peak to Kaupo Gap on east Maui. This unit includes the mixed herbland and shrubland, the moisture regime, and the subcanopy and understory native plant species identified as physical or biological features in the dry cliff ecosystem (see Table 5). It is occupied by the plants *Argyroxiphium sandwicense* ssp. *macrocephalum*, *Geranium multiflorum*, *Plantago princeps*, and *Schiedea haleakalensis*, and contains unoccupied habitat that is essential to the conservation of these species by providing the PCEs necessary for the expansion of the existing wild populations. Although Maui—Dry Cliff—Unit 2 is not known to be occupied by the plants *Bidens campylothea* ssp. *pentamera*, *B. micrantha* ssp. *kalealaha*, or *Diplazium molokaiense*, we have determined this area to be essential for the conservation and recovery of these dry cliff species because it provides the PCEs necessary for the reestablishment of wild populations within their historical range. Due to their small numbers of individuals or low population sizes, suitable habitat and space for expansion or reintroduction are essential to achieving population levels necessary for recovery.

Maui—Dry Cliff—Unit 3 (and)

*Palmeria dolei*—Unit 27—Dry Cliff (and)

*Pseudonestor xanthophrys*—Unit 27—Dry Cliff

This area consists of 200 ac (81 ha) of federally owned land (Haleakala National Park) near Papaanui on east Maui. These units include the mixed herbland and shrubland, the moisture regime, and the subcanopy and understory native plant species identified as physical or biological features in the dry cliff ecosystem (see Table 5). It is occupied by the plant *Plantago princeps*, and contains unoccupied habitat that is essential to the conservation of this species by providing the PCEs necessary for the expansion of the existing wild populations. Although Maui—Dry Cliff—Unit 3 is not currently occupied by the plants *Argyroxiphium sandwicense* ssp. *macrocephalum*, *Bidens campylothea* ssp. *pentamera*, *B. micrantha* ssp. *kalealaha*, *Diplazium molokaiense*, *Geranium multiflorum*, or

*Schiedea haleakalensis*, or by the forest birds, the akohekohe (*Palmeria dolei*) and kiwikiu (*Pseudonestor xanthophrys*), we have determined this area to be essential for the conservation and recovery of these dry cliff species because it provides the PCEs necessary for the reestablishment of wild populations within their historical range. Due to their small numbers of individuals or low population sizes, suitable habitat and space for expansion or reintroduction are essential to achieving population levels necessary for recovery.

Maui—Dry Cliff—Unit 4 (and)

*Palmeria dolei*—Unit 28—Dry Cliff (and)

*Pseudonestor xanthophrys*—Unit 28—Dry Cliff

This area consists of 315 ac (127 ha) federally owned land (Haleakala National Park), along Kalapawili Ridge on east Maui. These units include the mixed herbland and shrubland, the moisture regime, and the subcanopy and understory native plant species identified as physical or biological features in the dry cliff ecosystem (see Table 5). Although Maui—Dry Cliff—Unit 4 is not currently occupied by the plants *Argyroxiphium sandwicense* ssp. *macrocephalum*, *Bidens campylotheca* ssp. *pentamera*, *B. micrantha* ssp. *kalealaha*, *Diplazium molokaiense*, *Geranium multiflorum*, *Plantago princeps*, or *Schiedea haleakalensis*, or by the forest birds, the akohekohe (*Palmeria dolei*) and kiwikiu (*Pseudonestor xanthophrys*), we have determined this area to be essential for the conservation and recovery of these dry cliff species because it provides the PCEs necessary for the reestablishment of wild populations within their historical range. Due to their small numbers of individuals or low population sizes, suitable habitat and space for expansion or reintroduction are essential to achieving population levels necessary for recovery.

Maui—Dry Cliff—Unit 5 (and)

*Palmeria dolei*—Unit 29—Dry Cliff (and)

*Pseudonestor xanthophrys*—Unit 29—Dry Cliff

This area consists of 1,298 ac (525 ha) of State land, from Helu and across Olowalu to Ukumehame Gulch, on west Maui. These units include the mixed herbland and shrubland, the moisture regime, and the subcanopy and understory native plant species identified as physical or biological features in the dry cliff ecosystem (see

Table 5). They are occupied by the plant *Tetramolopium capillare*, and contain unoccupied habitat that is essential to the conservation of this species by providing the PCEs necessary for the expansion of the existing wild populations. Although Maui—Dry Cliff—Unit 5 is not currently occupied by the plants *Bonamia menziesii*, *Diplazium molokaiense*, *Hesperomannia arbuscula*, *Isodendron pyriform*, *Kadua laxiflora*, or *Neraudia sericea*, or by the forest birds, the akohekohe (*Palmeria dolei*) and kiwikiu (*Pseudonestor xanthophrys*), we have determined this area to be essential for the conservation and recovery of these dry cliff species because it provides the PCEs necessary for the reestablishment of wild populations within their historical range. Due to their small numbers of individuals or low population sizes, suitable habitat and space for expansion or reintroduction are essential to achieving population levels necessary for recovery.

Maui—Dry Cliff—Unit 6 consists of 279 ac (113 ha) of State land along the east wall of Ukumehame Gulch on west Maui. This unit includes the mixed herbland and shrubland, the moisture regime, and the subcanopy and understory native plant species identified as physical or biological features in the dry cliff ecosystem (see Table 5). Although Maui—Dry Cliff—Unit 6 is not currently occupied by the plants *Bonamia menziesii*, *Diplazium molokaiense*, *Hesperomannia arbuscula*, *Isodendron pyriform*, *Kadua laxiflora*, *Neraudia sericea*, or *Tetramolopium capillare*, we have determined this area to be essential for the conservation and recovery of these dry cliff species because it provides the PCEs necessary for the reestablishment of wild populations within their historical range. Due to their small numbers of individuals or low population sizes, suitable habitat and space for expansion or reintroduction are essential to achieving population levels necessary for recovery.

Maui—Wet Cliff—Unit 1 (and)

*Palmeria dolei*—Unit 30—Wet Cliff (and)

*Pseudonestor xanthophrys*—Unit 30—Wet Cliff

This area consists of 290 ac (117 ha) of privately owned land along the wall of Keanae Valley on the northern slopes of east Maui. These units include the mixed herbland and shrubland, the moisture regime, and the subcanopy and understory native plant species identified as physical or biological features in the wet cliff ecosystem (see

Table 5). Although Maui—Wet Cliff—Unit 1 is not currently occupied by the plants *Bidens campylotheca* ssp. *pentamera*, *B. campylotheca* ssp. *waihoiensis*, *Cyanea copelandii* ssp. *haleakalaensis*, *Cyanea horrida*, *Melicope ovalis*, *Phyllostegia bracteata*, *P. haliakalae*, or *Plantago princeps*, or by the forest birds, the akohekohe (*Palmeria dolei*) and kiwikiu (*Pseudonestor xanthophrys*), we have determined this area to be essential for the conservation and recovery of these wet cliff species because it provides the PCEs necessary for the reestablishment of wild populations within their historical range. Due to their small numbers of individuals or low population sizes, suitable habitat and space for expansion or reintroduction are essential to achieving population levels necessary for recovery.

Maui—Wet Cliff—Unit 2 (and)

*Palmeria dolei*—Unit 31—Wet Cliff (and)

*Pseudonestor xanthophrys*—Unit 31—Wet Cliff

This area consists of 475 ac (192 ha) of State land, 20 ac (8 ha) of privately owned land, and 912 ac (369 ha) of federally owned land (Haleakala National Park), from Kalapawili Ridge along Kipahulu Valley and north to Puuhoolio, on the northeastern slopes of east Maui. These units include the mixed herbland and shrubland, the moisture regime, and the subcanopy and understory native plant species identified as physical or biological features in the wet cliff ecosystem (see Table 5). They are occupied by the plants *Bidens campylotheca* ssp. *waihoiensis*, *Cyanea copelandii* ssp. *haleakalaensis*, *Melicope ovalis*, *Phyllostegia bracteata*, and *Plantago princeps*. These units also contain unoccupied habitat that is essential to the conservation of these species by providing the PCEs necessary for the expansion of the existing wild populations. Although Maui—Wet Cliff—Unit 2 is not known to be occupied by the plants *Bidens campylotheca* ssp. *pentamera*, *Cyanea horrida*, or *Phyllostegia haliakalae*, or by the forest birds, the akohekohe (*Palmeria dolei*) and kiwikiu (*Pseudonestor xanthophrys*), we have determined this area to be essential for the conservation and recovery of these wet cliff species because it provides the PCEs necessary for the reestablishment of wild populations within their historical range. Due to their small numbers of individuals or low population sizes, suitable habitat and space for expansion or reintroduction

are essential to achieving population levels necessary for recovery.

Maui—Wet Cliff—Unit 3 (and)

*Palmeria dolei*—Unit 32—Wet Cliff (and)

*Pseudonestor xanthophrys*—Unit 32—Wet Cliff

This area consists of 5 ac (2 ha) of State land and 433 ac (175 ha) federally owned land (Haleakala National Park) along the south rim of Kipahulu Valley on east Maui. These units include the mixed herbland and shrubland, the moisture regime, and the subcanopy and understory native plant species identified as physical or biological features in the wet cliff ecosystem (see Table 5). Although Maui—Wet Cliff—Unit 3 is not currently occupied by the plants *Bidens campylothea* ssp. *pentamera*, *B. campylothea* ssp. *waihoiensis*, *Cyanea copelandii* ssp. *haleakalaensis*, *C. horrida*, *Melicope ovalis*, *Phyllostegia bracteata*, *P. haliakalae*, or *Plantago princeps*, or by the forest birds, the akohekohe (*Palmeria dolei*) and kiwikiu (*Pseudonestor xanthophrys*), we have determined this area to be essential for the conservation and recovery of these wet cliff species because it provides the PCEs necessary for the reestablishment of wild populations within their historical range. Due to their small numbers of individuals or low population sizes, suitable habitat and space for expansion or reintroduction are essential to achieving population levels necessary for recovery.

Maui—Wet Cliff—Unit 4 (and)

*Palmeria dolei*—Unit 33—Wet Cliff (and)

*Pseudonestor xanthophrys*—Unit 33—Wet Cliff

This area consists of 184 ac (75 ha) of State land along the north wall of Waihoi Valley, on the northeastern slopes of east Maui. These units include the mixed herbland and shrubland, the moisture regime, and the subcanopy and understory native plant species identified as physical or biological features in the wet cliff ecosystem (see Table 5). They are occupied by the plant *Bidens campylothea* ssp. *pentamera* and *B. campylothea* ssp. *waihoiensis*, and contain unoccupied habitat that is essential to the conservation of these species by providing the PCEs necessary for the expansion of the existing wild populations. Although Maui—Wet Cliff—Unit 4 is not known to be occupied by the plants *Cyanea copelandii* ssp. *haleakalaensis*, *C. horrida*, *Melicope ovalis*, *Phyllostegia*

*bracteata*, *P. haliakalae*, or *Plantago princeps*, or by the forest birds, the akohekohe (*Palmeria dolei*) and kiwikiu (*Pseudonestor xanthophrys*), we have determined this area to be essential for the conservation and recovery of these wet cliff species because it provides the PCEs necessary for the reestablishment of wild populations within their historical range. Due to their small numbers of individuals or low population sizes, suitable habitat and space for expansion or reintroduction are essential to achieving population levels necessary for recovery.

Maui—Wet Cliff—Unit 6 (and)

*Palmeria dolei*—Unit 35—Wet Cliff (and)

*Pseudonestor xanthophrys*—Unit 35—Wet Cliff

This area consists of 1,858 ac (752 ha) of State land, and 253 ac (102 ha) of privately owned land, at the summit ridges of west Maui. These units include the mixed herbland and shrubland, the moisture regime, and the subcanopy and understory native plant species identified as physical or biological features in the wet cliff ecosystem (see Table 5). They are occupied by the plants *Alectryon macrococcus*, *B. conjuncta*, *Ctenitis squamigera*, *Cyrtandra munroi*, *Remya mauiensis*, and *Santalum haleakalae* var. *lanaiense*. These units also contain unoccupied habitat that is essential to the conservation of these species by providing the PCEs necessary for the expansion of the existing wild populations. Although Maui—Wet Cliff—Unit 6 is not known to be occupied by the plants *Bidens campylothea* ssp. *pentamera*, *Bonamia menziesii*, *Cyanea glabra*, *C. lobata*, *C. magnicalyx*, *Cyrtandra filipes*, *Dubautia plantaginea* ssp. *humilis*, *Gouania vitifolia*, *Hesperomannia arborescens*, *H. arbuscula*, *Isodendron pyriforme*, *Kadua laxiflora*, *Lysimachia lydgatei*, *Plantago princeps*, *Platanthera holochila*, *Pteris lidgatei*, or *Tetramolopium capillare*, or by the forest birds, the akohekohe (*Palmeria dolei*) and kiwikiu (*Pseudonestor xanthophrys*), we have determined this area to be essential for the conservation and recovery of these wet cliff species because it provides the PCEs necessary for the reestablishment of wild populations within their historical range. Due to their small numbers of individuals or low population sizes, suitable habitat and space for expansion or reintroduction are essential to achieving population levels necessary for recovery.

Maui—Wet Cliff—Unit 7 (and)

*Palmeria dolei*—Unit 36—Wet Cliff (and)

*Pseudonestor xanthophrys*—Unit 36—Wet Cliff

This area consists of 556 ac (225 ha) of State land along Honokowai ridge on the northwestern side of west Maui. These units include the mixed herbland and shrubland, the moisture regime, and the subcanopy and understory native plant species identified as physical or biological features in the wet cliff ecosystem (see Table 5). These units are occupied by the plants *Cyrtandra filipes* and *C. munroi*, and contain unoccupied habitat that is essential to the conservation of these species by providing the PCEs necessary for the expansion of the existing wild populations. Although Maui—Wet Cliff—Unit 7 is not known to be occupied by the plants *Alectryon macrococcus*, *Bidens campylothea* ssp. *pentamera*, *B. conjuncta*, *Bonamia menziesii*, *Ctenitis squamigera*, *Cyanea glabra*, *C. lobata*, *C. magnicalyx*, *Dubautia plantaginea* ssp. *humilis*, *Gouania vitifolia*, *Hesperomannia arborescens*, *H. arbuscula*, *Isodendron pyriforme*, *Kadua laxiflora*, *Lysimachia lydgatei*, *Plantago princeps*, *Platanthera holochila*, *Pteris lidgatei*, *Remya mauiensis*, *Santalum haleakalae* var. *lanaiense*, or *Tetramolopium capillare*, or by the forest birds, the akohekohe (*Palmeria dolei*) and kiwikiu (*Pseudonestor xanthophrys*), we have determined this area to be essential for the conservation and recovery of these wet cliff species because it provides the PCEs necessary for the reestablishment of wild populations within their historical range. Due to their small numbers of individuals or low population sizes, suitable habitat and space for expansion or reintroduction are essential to achieving population levels necessary for recovery.

Maui—Wet Cliff—Unit 8 consists of 337 ac (137 ha) of State land along Kahakuloa ridge on the north side of west Maui. This unit includes the mixed herbland and shrubland, the moisture regime, and the subcanopy and understory native plant species identified as physical or biological features in the wet cliff ecosystem (see Table 5). Although Maui—Wet Cliff—Unit 8 is not known to be occupied by the plants *Alectryon macrococcus*, *Bidens campylothea* ssp. *pentamera*, *B. conjuncta*, *Bonamia menziesii*, *Ctenitis squamigera*, *Cyanea glabra*, *C. lobata*, *C. magnicalyx*, *Cyrtandra filipes*, *C. munroi*, *Dubautia plantaginea* ssp. *humilis*, *Gouania vitifolia*,

*Hesperomannia arborescens*, *H. arbuscula*, *Isodendron pyrifolium*, *Kadua laxiflora*, *Lysimachia lydgatei*, *Plantago princeps*, *Platanthera holochila*, *Pteris lidgatei*, *Remya mauiensis*, *Santalum haleakalae* var. *lanaiense*, or *Tetramolopium capillare*, we have determined this area to be essential for the conservation and recovery of these wet cliff species because it provides the PCEs necessary for the reestablishment of wild populations within their historical range. Due to their small numbers of individuals or low population sizes, suitable habitat and space for expansion or reintroduction are essential to achieving population levels necessary for recovery.

Kahoolawe—Coastal—Unit 1 consists of 1,516 ac (613 ha) of State land from Kaneloa to Lae o Kaule, including Aleale, along the southern and eastern coast of Kahoolawe. It is occupied by the plant *Kanaloa kahoolawensis* and includes the mixed herbland and shrubland, the moisture regime, and canopy, subcanopy, and understory native plant species identified as physical or biological features in the coastal ecosystem (see Table 5). This unit also contains unoccupied habitat that is essential to the conservation of this species by providing the PCEs necessary for the expansion of the existing wild populations. Although Kahoolawe—Coastal—Unit 1 is not known to be occupied by the plants *Sesbania tomentosa* or *Vigna o-wahuensis*, we have determined this area to be essential for the conservation and recovery of these coastal species because it provides the physical or biological features necessary for the reestablishment of wild populations within their historical range. Due to their small numbers of individuals or low population sizes, suitable habitat and space for expansion or reintroduction are essential to achieving population levels necessary for recovery.

Kahoolawe—Coastal—Unit 2 consists of 12 ac (5 ha) of State land on Puukoa, an islet off the southern coast of Kahoolawe. It is occupied by the plant *Sesbania tomentosa* and includes the mixed herbland and shrubland, the moisture regime, and canopy, subcanopy, and understory native plant species identified as physical or biological features in the coastal ecosystem (see Table 5). This unit also contains unoccupied habitat that is essential to the conservation of this species by providing the PCEs necessary for the expansion of the existing wild populations. Although Kahoolawe—Coastal—Unit 2 is not known to be

occupied by *Kanaloa kahoolawensis* or *Vigna o-wahuensis*, we have determined this area to be essential for the conservation and recovery of these coastal species because it provides the PCEs necessary for the reestablishment of wild populations within their historical range. Due to their small numbers of individuals or low population sizes, suitable habitat and space for expansion or reintroduction are essential to achieving population levels necessary for recovery.

Kahoolawe—Coastal—Unit 3 consists of 189 ac (76 ha) of State land from Laepaki to Honokanaia along the western coast of Kahoolawe. This unit includes the mixed herbland and shrubland, the moisture regime, and canopy, subcanopy, and understory native plant species identified as physical or biological features in the coastal ecosystem (see Table 5). Although Kahoolawe—Coastal—Unit 3 is not known to be occupied by *Kanaloa kahoolawensis*, *Sesbania tomentosa*, or *Vigna o-wahuensis*, we have determined this area to be essential for the conservation and recovery of these coastal species because it provides the PCEs necessary for the reestablishment of wild populations within their historical range. Due to their small numbers of individuals or low population sizes, suitable habitat and space for expansion or reintroduction are essential to achieving population levels necessary for recovery.

Kahoolawe—Lowland Dry—Unit 1 consists of 1,220 ac (494 ha) of State land, north of Waihonu Gulch on west Kahoolawe. This unit includes the mixed herbland and shrubland, the moisture regime, and canopy, subcanopy, and understory native plant species identified as physical or biological features in the lowland dry ecosystem (see Table 5). Although Kahoolawe—Lowland Dry—Unit 1 is not known to be occupied by *Gouania hillebrandii*, *Hibiscus brackenridgei*, *Kanaloa kahoolawensis*, *Neraudia sericea*, *Sesbania tomentosa*, or *Vigna o-wahuensis*, we have determined this area to be essential for the conservation and recovery of these lowland dry species because it provides the PCEs necessary for the reestablishment of wild populations within their historical range. Due to their small numbers of individuals or low population sizes, suitable habitat and space for expansion or reintroduction are essential to achieving population levels necessary for recovery.

Kahoolawe—Lowland Dry—Unit 2 consists of 3,205 ac (1,297 ha) of State land from Lua o Kealialuna to Puu o Moaulaiki and Luamakika on the

eastern side of Kahoolawe. This unit includes the mixed herbland and shrubland, the moisture regime, and canopy, subcanopy, and understory native plant species identified as physical or biological features in the lowland dry ecosystem (see Table 5). Although Kahoolawe—Lowland Dry—Unit 2 is not known to be occupied by *Gouania hillebrandii*, *Hibiscus brackenridgei*, *Kanaloa kahoolawensis*, *Neraudia sericea*, *Sesbania tomentosa*, or *Vigna o-wahuensis*, we have determined this area to be essential for the conservation and recovery of these lowland dry species because it provides the PCEs necessary for the reestablishment of wild populations within their historical range. Due to their small numbers of individuals or low population sizes, suitable habitat and space for expansion or reintroduction are essential to achieving population levels necessary for recovery.

Molokai—Coastal—Unit 1 consists of 70 ac (28 ha) of privately owned land, and 54 ac (22 ha) of federally owned land (U.S. Coast Guard) at Laau Point, from Kahaiawa to Keawakalani, along the western coast of Molokai. This unit is occupied by the plant *Marsilea villosa*, and includes the mixed herbland and shrubland, the moisture regime, and canopy, subcanopy, and understory native plant species identified as physical or biological features in the coastal ecosystem (see Table 5). This unit also contains unoccupied habitat that is essential to the conservation of this species by providing the PCEs necessary for the expansion of the existing wild populations. Although Molokai—Coastal—Unit 1 is not known to be occupied by *Bidens wiebkei*, *Brighamia rockii*, *Canavalia molokaiensis*, *Hibiscus arnottianus* ssp. *immaculatus*, *H. brackenridgei*, *Ischaemum byrsonae*, *Peucedanum sandwicense*, *Pittosporum halophilum*, *Schenkia sebaeoides*, *Sesbania tomentosa*, or *Tetramolopium rockii*, we have determined this area to be essential for the conservation and recovery of these coastal species because it provides the PCEs necessary for the reestablishment of wild populations within their historical range. Due to their small numbers of individuals or low population sizes, suitable habitat and space for expansion or reintroduction are essential to achieving population levels necessary for recovery.

Molokai—Coastal—Unit 2 consists of 263 ac (106 ha) of State land, and 710 ac (287 ha) of privately owned land, from Ilio Point to Kaa Gulch, along the northwestern coast of Molokai. This

unit is occupied by the plant *Marsilea villosa* and includes the mixed herbland and shrubland, the moisture regime, and canopy, subcanopy, and understory native plant species identified as physical or biological features in the coastal ecosystem (see Table 5). This unit also contains unoccupied habitat that is essential to the conservation of this species by providing the PCEs necessary for the expansion of the existing wild populations. Although Molokai—Coastal—Unit 2 is not known to be occupied by *Bidens wiebkei*, *Brighamia rockii*, *Canavalia molokaiensis*, *Hibiscus arnottianus* ssp. *immaculatus*, *H. brackenridgei*, *Ischaemum byrnone*, *Peucedanum sandwicense*, *Pittosporum halophilum*, *Schenkia sebaeoides*, *Sesbania tomentosa*, or *Tetramolopium rockii*, we have determined this area to be essential for the conservation and recovery of these coastal species because it provides the PCEs necessary for the reestablishment of wild populations within their historical range. Due to their small numbers of individuals or low population sizes, suitable habitat and space for expansion or reintroduction are essential to achieving population levels necessary for recovery.

Molokai—Coastal—Unit 3 consists of 794 ac (321 ha) of State land, and 3 ac (1 ha) of federally owned land (Kalaupapa National Historical Park), from Kahi Point to Wainene, along the north-central coast of Molokai. This unit is occupied by the plants *Pittosporum halophilum*, *Schenkia sebaeoides*, and *Tetramolopium rockii*, and includes the mixed herbland and shrubland, the moisture regime, and canopy, subcanopy, and understory native plant species identified as physical or biological features in the coastal ecosystem (see Table 5). This unit also contains unoccupied habitat that is essential to the conservation of these species by providing the PCEs necessary for the expansion of the existing wild populations. Although Molokai—Coastal—Unit 3 is not known to be occupied by *Bidens wiebkei*, *Brighamia rockii*, *Canavalia molokaiensis*, *Hibiscus arnottianus* ssp. *immaculatus*, *H. brackenridgei*, *Ischaemum byrnone*, *Marsilea villosa*, *Peucedanum sandwicense*, or *Sesbania tomentosa*, we have determined this area to be essential for the conservation and recovery of these coastal species because it provides the PCEs necessary for the reestablishment of wild populations within their historical range. Due to their small numbers of individuals or low population sizes,

suitable habitat and space for expansion or reintroduction are essential to achieving population levels necessary for recovery.

Molokai—Coastal—Unit 4 consists of 10 ac (4 ha) on Mokapu Island on the northern coast of Molokai. This area is State-owned, and is classified as a State Seabird Sanctuary. This unit is occupied by the plants *Peucedanum sandwicense* and *Pittosporum halophilum*, and includes the mixed herbland and shrubland, the moisture regime, and canopy, subcanopy, and understory native plant species identified as physical or biological features in the coastal ecosystem (see Table 5). This unit also contains unoccupied habitat that is essential to the conservation of these species by providing the PCEs necessary for the expansion of the existing wild populations. Although Molokai—Coastal—Unit 4 is not known to be occupied by *Bidens wiebkei*, *Brighamia rockii*, *Canavalia molokaiensis*, *Hibiscus arnottianus* ssp. *immaculatus*, *H. brackenridgei*, *Ischaemum byrnone*, *Marsilea villosa*, *Schenkia sebaeoides*, *Sesbania tomentosa*, or *Tetramolopium rockii*, we have determined this area to be essential for the conservation and recovery of these coastal species because it provides the PCEs necessary for the reestablishment of wild populations within their historical range. Due to their small numbers of individuals or low population sizes, suitable habitat and space for expansion or reintroduction are essential to achieving population levels necessary for recovery.

Molokai—Coastal—Unit 5 consists of 1 ac (0.5 ha) on Huelo islet on the northern coast of Molokai. This area is State-owned, and is classified as a State Seabird Sanctuary. This unit is occupied by the plants *Brighamia rockii*, *Peucedanum sandwicense*, and *Pittosporum halophilum*, and includes the mixed herbland and shrubland, the moisture regime, and canopy, subcanopy, and understory native plant species identified as physical or biological features in the coastal ecosystem (see Table 5). This unit also contains unoccupied habitat that is essential to the conservation of these species by providing the PCEs necessary for the expansion of the existing wild populations. Although Molokai—Coastal—Unit 5 is not known to be occupied by *Bidens wiebkei*, *Canavalia molokaiensis*, *Hibiscus arnottianus* ssp. *immaculatus*, *H. brackenridgei*, *Ischaemum byrnone*, *Marsilea villosa*, *Schenkia sebaeoides*, *Sesbania tomentosa*, or *Tetramolopium rockii*, we have determined this area to be essential

for the conservation and recovery of these coastal species because it provides the PCEs necessary for the reestablishment of wild populations within their historical range. Due to their small numbers of individuals or low population sizes, suitable habitat and space for expansion or reintroduction are essential to achieving population levels necessary for recovery.

Molokai—Coastal—Unit 6 consists of 190 ac (77 ha) of State land, and 1,685 ac (682 ha) of privately owned land, from Kaholaiki Bay to Halawa Bay, on the northeastern coast of Molokai. This unit is occupied by the plants *Bidens wiebkei*, *Canavalia molokaiensis*, *Hibiscus arnottianus* ssp. *immaculatus*, and *Ischaemum byrnone*, and includes the mixed herbland and shrubland, the moisture regime, and canopy, subcanopy, and understory native plant species identified as physical or biological features in the coastal ecosystem (see Table 5). This unit also contains unoccupied habitat that is essential to the conservation of these species by providing the PCEs necessary for the expansion of the existing wild populations. Although Molokai—Coastal—Unit 6 is not known to be occupied by *Brighamia rockii*, *Hibiscus brackenridgei*, *Marsilea villosa*, *Peucedanum sandwicense*, *Pittosporum halophilum*, *Schenkia sebaeoides*, *Sesbania tomentosa*, or *Tetramolopium rockii*, we have determined this area to be essential for the conservation and recovery of these coastal species because it provides the PCEs necessary for the reestablishment of wild populations within their historical range. Due to their small numbers of individuals or low population sizes, suitable habitat and space for expansion or reintroduction are essential to achieving population levels necessary for recovery.

Molokai—Coastal—Unit 7 consists of 49 ac (20 ha) of privately owned land from Alanuihipaka Ridge to Kalanikaula, on the northeastern coast of Molokai. This unit includes the mixed herbland and shrubland, the moisture regime, and canopy, subcanopy, and understory native plant species identified as physical or biological features in the coastal ecosystem (see Table 5). Although Molokai—Coastal—Unit 7 is not known to be occupied by *Bidens wiebkei*, *Brighamia rockii*, *Canavalia molokaiensis*, *Hibiscus arnottianus* ssp. *immaculatus*, *H. brackenridgei*, *Ischaemum byrnone*, *Marsilea villosa*, *Peucedanum sandwicense*, *Pittosporum halophilum*, *Schenkia sebaeoides*, *Sesbania tomentosa*, or *Tetramolopium*

*rockii*, we have determined this area to be essential for the conservation and recovery of these coastal species because it provides the PCEs necessary for the reestablishment of wild populations within their historical range. Due to their small numbers of individuals or low population sizes, suitable habitat and space for expansion or reintroduction are essential to achieving population levels necessary for recovery.

Molokai—Lowland Dry—Unit 1 consists of 24 ac (10 ha) of privately owned land, in a small gulch northwest of Mahana, in west-central Molokai. This unit includes the mixed herbland and shrubland, the moisture regime, and canopy, subcanopy, and understory native plant species identified as physical or biological features in the lowland dry ecosystem (see Table 5). Although Molokai—Lowland Dry—Unit 1 is not known to be occupied by *Bonamia menziesii*, *Cyperus trachysanthos*, *Eugenia koolauensis*, *Hibiscus brackenridgei*, *Kokia cookei*, or *Sesbania tomentosa*, we have determined this area to be essential for the conservation and recovery of these lowland dry species because it provides the PCEs necessary for the reestablishment of wild populations within their historical range. Due to their small numbers of individuals or low population sizes, suitable habitat and space for expansion or reintroduction are essential to achieving population levels necessary for recovery.

Molokai—Lowland Dry—Unit 2 consists of 589 ac (238 ha) of State land at Kamiloloa on the southern slopes of Molokai. This unit includes the mixed herbland and shrubland, the moisture regime, and canopy, subcanopy, and understory native plant species identified as physical or biological features in the lowland dry ecosystem (see Table 5). Although Molokai—Lowland Dry—Unit 2 is not known to be occupied by *Bonamia menziesii*, *Cyperus trachysanthos*, *Eugenia koolauensis*, *Hibiscus brackenridgei*, *Kokia cookei*, or *Sesbania tomentosa*, we have determined this area to be essential for the conservation and recovery of these lowland dry species because it provides the PCEs necessary for the reestablishment of wild populations within their historical range. Due to their small numbers of individuals or low population sizes, suitable habitat and space for expansion or reintroduction are essential to achieving population levels necessary for recovery.

Molokai—Lowland Mesic—Unit 1 (and) *Palmeria dolei*—Unit 37—Lowland Mesic (and)

*Pseudonestor xanthophrys*—Unit 37—Lowland Mesic

This area consists of 3,489 ac (1,412 ha) of State land, and 5,281 ac (2,137 ha) of privately owned land, from Waiianui Gulch to Mapulehu, in central Molokai. These units are occupied by the plants *Alectryon macrococcus*, *Ctenitis squamigera*, *Cyanea dunbariae*, *C. mannii*, *C. profuga*, *Cyperus fauriei*, *Cyrtandra filipes*, *Gouania hillebrandii*, *Labordia triflora*, *Neraudia sericea*, *Santalum haleakalae* var. *lanaiense*, *Schiedea lydgatei*, *S. sarmentosa*, *Silene alexandri*, *S. lanceolata*, *Spermolepis hawaiiensis*, and *Zanthoxylum hawaiiense*, and include the mixed herbland and shrubland, the moisture regime, and canopy, subcanopy, and understory native plant species identified as physical or biological features in the lowland mesic ecosystem (see Table 5). These units also contain unoccupied habitat that is essential to the conservation of these species by providing the PCEs necessary for the expansion of the existing wild populations. Although Molokai—Lowland Mesic—Unit 1 is not known to be occupied by *Asplenium dielirectum*, *Bonamia menziesii*, *Canavalia molokaiensis*, *Clermontia oblongifolia* ssp. *brevipes*, *Cyanea procera*, *C. solanacea*, *Diplazium molokaiense*, *Festuca molokaiensis*, *Flueggea neowawraea*, *Isodendron pyrifolium*, *Kadua laxiflora*, *Melicope mucronulata*, *M. munroi*, *M. reflexa*, *Phyllostegia haliakalae*, *P. mannii*, *P. pilosa*, *Sesbania tomentosa*, *Stenogyne bifida*, or *Vigna o-wahuensis*, or the forest birds, the akohekohe (*Palmeria dolei*) and kiwikiu (*Pseudonestor xanthophrys*), we have determined this area to be essential for the conservation and recovery of these lowland mesic species because it provides the PCEs necessary for the reestablishment of wild populations within their historical range. Due to their small numbers of individuals or low population sizes, suitable habitat and space for expansion or reintroduction are essential to achieving population levels necessary for recovery.

Molokai—Lowland Wet—Unit 1 (and) *Palmeria dolei*—Unit 38—Lowland Wet (and)

*Pseudonestor xanthophrys*—Unit 38—Lowland Wet

This area consists of 2,195 ac (888 ha) of State land, and 754 ac (305 ha) of privately owned land (partly within The

Nature Conservancy's Pelekunu Preserve), from Pelekunu Valley to Wailau Valley, in north-central Molokai. These units are occupied by the plant *Cyrtandra filipes*, and include the mixed herbland and shrubland, the moisture regime, and canopy, subcanopy, and understory native plant species identified as physical or biological features in the lowland wet ecosystem (see Table 5). These units also contain unoccupied habitat that is essential to the conservation of this species by providing the PCEs necessary for the expansion of the existing wild populations. Although Molokai—Lowland Wet—Unit 1 is not known to be occupied by *Asplenium dielirectum*, *Bidens wiebkei*, *Canavalia molokaiensis*, *Clermontia oblongifolia* ssp. *brevipes*, *Cyanea dunbariae*, *C. grimesiana* ssp. *grimesiana*, *C. solanacea*, *Lysimachia maxima*, *Melicope reflexa*, *Peucedanum sandwicense*, *Phyllostegia hispida*, *P. mannii*, *Plantago princeps*, *Stenogyne bifida*, or *Zanthoxylum hawaiiense*, or by the forest birds, the akohekohe (*Palmeria dolei*) and kiwikiu (*Pseudonestor xanthophrys*), we have determined this area to be essential for the conservation and recovery of these lowland wet species because it provides the PCEs necessary for the reestablishment of wild populations within their historical range. Due to their small numbers of individuals or low population sizes, suitable habitat and space for expansion or reintroduction are essential to achieving population levels necessary for recovery.

Molokai—Lowland Wet—Unit 2 (and)

*Palmeria dolei*—Unit 39—Lowland Wet (and)

*Pseudonestor xanthophrys*—Unit 39—Lowland Wet

This area consists of 1,356 ac (549 ha) of State land and 594 ac (241 ha) of privately owned land, from Kahanui to Pelekunu Valley, in north-central Molokai. These units are occupied by the plant *Lysimachia maxima*, and include the mixed herbland and shrubland, the moisture regime, and canopy, subcanopy, and understory native plant species identified as physical or biological features in the lowland wet ecosystem (see Table 5). These units also contain unoccupied habitat that is essential to the conservation of this species by providing the PCEs necessary for the expansion of the existing wild populations. Although Molokai—Lowland Wet—Unit 2 is not known to be occupied by *Asplenium dielirectum*,



*Bidens wiebkei*, *Canavalia molokaiensis*, *Clermontia oblongifolia* ssp. *brevipes*, *Cyanea dunbariae*, *C. grimesiana* ssp. *grimesiana*, *C. solanacea*, *Cyrtandra filipes*, *Melicope reflexa*, *Peucedanum sandwicense*, *Phyllostegia hispida*, *P. mannii*, *Plantago princeps*, *Stenogyne bifida*, or *Zanthoxylum hawaiiense*, or by the forest birds, the akohekohe (*Palmeria dolei*) and kiwikiu (*Pseudonestor xanthophrys*), we have determined this area to be essential for the conservation and recovery of these lowland wet species because it provides the PCEs necessary for the reestablishment of wild populations within their historical range. Due to their small numbers of individuals or low population sizes, suitable habitat and space for expansion or reintroduction are essential to achieving population levels necessary for recovery.

Molokai—Lowland Wet—Unit 3 consists of 94 ac (38 ha) of State land, and 3,125 ac (1,265 ha) of privately owned land, from Waiahookalo gulch to Moaula stream and Puniuohua, on eastern Molokai. This unit includes the mixed herbland and shrubland, the moisture regime, and canopy, subcanopy, and understory native plant species identified as physical or biological features in the lowland wet ecosystem (see Table 5). Although Molokai—Lowland Wet—Unit 3 is not known to be occupied by *Asplenium dielarectum*, *Bidens wiebkei*, *Canavalia molokaiensis*, *Clermontia oblongifolia* ssp. *brevipes*, *Cyanea dunbariae*, *C. grimesiana* ssp. *grimesiana*, *C. solanacea*, *Cyrtandra filipes*, *Lysimachia maxima*, *Melicope reflexa*, *Peucedanum sandwicense*, *Phyllostegia hispida*, *P. mannii*, *Plantago princeps*, *Stenogyne bifida*, or *Zanthoxylum hawaiiense*, we have determined this area to be essential for the conservation and recovery of these lowland wet species because it provides the PCEs necessary for the reestablishment of wild populations within their historical range. Due to their small numbers of individuals or low population sizes, suitable habitat and space for expansion or reintroduction are essential to achieving population levels necessary for recovery.

Molokai—Montane Wet—Unit 1 (and) *Palmeria dolei*—Unit 40—Montane Wet (and)

*Pseudonestor xanthophrys*—Unit 40—Montane Wet

This area consists of 1,545 ac (625 ha) of State land, and 1,851 ac (749 ha) of privately owned land, from the headwaters of Waialelia Stream and

above Pelekunu Valley, eastward along the summit area to Mapulehu, in north-central Molokai. These units are occupied by the plants *Bidens wiebkei*, *Clermontia oblongifolia* ssp. *brevipes*, *Cyanea mannii*, *C. profuga*, *Phyllostegia hispida*, and *Pteris lidgatei*, and include the mixed herbland and shrubland, the moisture regime, and canopy, subcanopy, and understory native plant species identified as physical or biological features in the montane wet ecosystem (see Table 5). These units also contain unoccupied habitat that is essential to the conservation of these species by providing the PCEs necessary for the expansion of the existing wild populations. Although Molokai—Montane Wet—Unit 1 is not known to be occupied by *Adenophorus periens*, *Cyanea procera*, *C. solanacea*, *Hesperomannia arborescens*, *Lysimachia maxima*, *Melicope reflexa*, *Phyllostegia mannii*, *P. pilosa*, *Platanthera holochila*, *Schiedea laui*, *Stenogyne bifida*, or *Zanthoxylum hawaiiense*, or by the forest birds, the akohekohe (*Palmeria dolei*) and kiwikiu (*Pseudonestor xanthophrys*), we have determined this area to be essential for the conservation and recovery of these montane wet species because it provides the PCEs necessary for the reestablishment of wild populations within their historical range. Due to their small numbers of individuals or low population sizes, suitable habitat and space for expansion or reintroduction are essential to achieving population levels necessary for recovery.

Molokai—Montane Wet—Unit 2 (and) *Palmeria dolei*—Unit 41—Montane Wet (and)

*Pseudonestor xanthophrys*—Unit 41—Montane Wet

This area consists of 871 ac (353 ha) of State land, and 39 ac (16 ha) of privately owned land, from Honukaupu to Olokui (between Pelekunu and Wailau valleys), in north-central Molokai. These units include the mixed herbland and shrubland, the moisture regime, and canopy, subcanopy, and understory native plant species identified as physical or biological features in the montane wet ecosystem (see Table 5). Although Molokai—Montane Wet—Unit 2 is not known to be occupied by *Adenophorus periens*, *Bidens wiebkei*, *Clermontia oblongifolia* ssp. *brevipes*, *Cyanea mannii*, *C. procera*, *C. profuga*, *C. solanacea*, *Hesperomannia arborescens*, *Lysimachia maxima*, *Melicope reflexa*, *Phyllostegia hispida*, *P. mannii*, *P. pilosa*, *Platanthera holochila*, *Pteris*

*lidgatei*, *Schiedea laui*, *Stenogyne bifida*, or *Zanthoxylum hawaiiense*, or by the forest birds, the akohekohe (*Palmeria dolei*) and kiwikiu (*Pseudonestor xanthophrys*), we have determined this area to be essential for the conservation and recovery of these montane wet species because it provides the PCEs necessary for the reestablishment of wild populations within their historical range. Due to their small numbers of individuals or low population sizes, suitable habitat and space for expansion or reintroduction are essential to achieving population levels necessary for recovery.

Molokai—Montane Wet—Unit 3 consists of 77 ac (31 ha) of State land, and 726 ac (294 ha) of privately owned land, above the east rim of Wailau Valley on eastern Molokai. This unit is occupied by the plant *Melicope reflexa*, and includes the mixed herbland and shrubland, the moisture regime, and canopy, subcanopy, and understory native plant species identified as physical or biological features in the montane wet ecosystem (see Table 5). This unit also contains unoccupied habitat that is essential to the conservation of this species by providing the PCEs necessary for the expansion of the existing wild populations. Although Molokai—Montane Wet—Unit 3 is not known to be occupied by *Adenophorus periens*, *Bidens wiebkei*, *Clermontia oblongifolia* ssp. *brevipes*, *Cyanea mannii*, *C. procera*, *C. profuga*, *C. solanacea*, *Hesperomannia arborescens*, *Lysimachia maxima*, *Phyllostegia hispida*, *P. mannii*, *P. pilosa*, *Platanthera holochila*, *Pteris lidgatei*, *Schiedea laui*, *Stenogyne bifida*, or *Zanthoxylum hawaiiense*, we have determined this area to be essential for the conservation and recovery of these montane wet species because it provides the PCEs necessary for the reestablishment of wild populations within their historical range. Due to their small numbers of individuals or low population sizes, suitable habitat and space for expansion or reintroduction are essential to achieving population levels necessary for recovery.

Molokai—Montane Mesic—Unit 1 (and)

*Palmeria dolei*—Unit 42—Montane Mesic (and)

*Pseudonestor xanthophrys*—Unit 42—Montane Mesic

This area consists of 257 ac (104 ha) of State land, and 559 ac (226 ha) of privately owned land from Kamiloloa to Makolelau in central Molokai. These



units are occupied by the plants *Alectryon macrococcus*, *Bidens wiebkei*, *Santalum haleakalae* var. *lanaiense*, and *Spermolepis hawaiiensis*, and include the mixed hermland and shrubland, the moisture regime, and canopy, subcanopy, and understory native plant species identified as physical or biological features in the montane mesic ecosystem (see Table 5). These units also contain unoccupied habitat that is essential to the conservation of these species by providing the PCEs necessary for the expansion of the existing wild populations. Although Molokai—Montane Mesic—Unit 1 is not known to be occupied by *Asplenium dielerectum*, *Cyanea dunbariae*, *C. mannii*, *C. procera*, *C. solanacea*, *Cyperus fauriei*, *Kadua laxiflora*, *Melicope mucronulata*, *Nerudia sericea*, *Plantago princeps*, or *Stenogyne bifida*, or by the forest birds, the akohekohe (*Palmeria dolei*) and kiwikiu (*Pseudonestor xanthophrys*), we have determined this area to be essential for the conservation and recovery of these montane mesic species because it provides the PCEs necessary for the reestablishment of wild populations within their historical range. Due to their small numbers of individuals or low population sizes, suitable habitat and space for expansion or reintroduction are essential to achieving population levels necessary for recovery.

Molokai—Wet Cliff—Unit 1 (and)

*Palmeria dolei*—Unit 43—Wet Cliff (and)

*Pseudonestor xanthophrys*—Unit 43—Wet Cliff

This area consists of 1,395 ac (565 ha) of State land, and 212 ac (86 ha) of privately owned land, and encircles the plateau between Pelekunu and Wailau valleys, in north-central Molokai. These units are occupied by the plants *Brighamia rockii*, *Canavalia molokaiensis*, *Clermontia oblongifolia* ssp. *brevipes*, *Cyanea munroi*, and *Hibiscus arnottianus* ssp. *immaculatus*, and include the mixed hermland and shrubland, the moisture regime, and the subcanopy and understory native plant species identified as physical or biological features in the wet cliff ecosystem (see Table 5). These units also contain unoccupied habitat that is essential to the conservation of these species by providing the PCEs necessary for the expansion of the existing wild populations. Although Molokai—Wet Cliff—Unit 1 is not known to be occupied by *Cyanea grimesiana* ssp. *grimesiana*, *Hesperomannia arborescens*, *Phyllostegia hispida*, *Pteris*

*lidgatei*, or *Stenogyne bifida*, or by the forest birds, the akohekohe (*Palmeria dolei*) and kiwikiu (*Pseudonestor xanthophrys*), we have determined this area to be essential for the conservation and recovery of these wet cliff species because it provides the PCEs necessary for the reestablishment of wild populations within their historical range. Due to their small numbers of individuals or low population sizes, suitable habitat and space for expansion or reintroduction are essential to achieving population levels necessary for recovery.

Molokai—Wet Cliff—Unit 2 (and)

*Palmeria dolei*—Unit 44—Wet Cliff (and)

*Pseudonestor xanthophrys*—Unit 44—Wet Cliff

This area consists of 462 ac (187 ha) of State land, and 806 ac (326 ha) of privately owned land (partly within The Nature Conservancy's Pelekunu Preserve), along the rim of Pelekunu Valley from Kipapa Ridge to Mapulehu, in central Molokai. These units are occupied by the plants *Clermontia oblongifolia* ssp. *brevipes* and *Phyllostegia hispida*, and include the mixed hermland and shrubland, the moisture regime, and the subcanopy and understory native plant species identified as physical or biological features in the wet cliff ecosystem (see Table 5). These units also contain unoccupied habitat that is essential to the conservation of these species by providing the PCEs necessary for the expansion of the existing wild populations. Although Molokai—Wet Cliff—Unit 2 is not known to be occupied by *Brighamia rockii*, *Canavalia molokaiensis*, *Cyanea grimesiana* ssp. *grimesiana*, *C. munroi*, *Hesperomannia arborescens*, *Hibiscus arnottianus* ssp. *immaculatus*, *Pteris lidgatei*, or *Stenogyne bifida*, or by the forest birds, the akohekohe (*Palmeria dolei*) and kiwikiu (*Pseudonestor xanthophrys*), we have determined this area to be essential for the conservation and recovery of these wet cliff species because it provides the PCEs necessary for the reestablishment of wild populations within their historical range. Due to their small numbers of individuals or low population sizes, suitable habitat and space for expansion or reintroduction are essential to achieving population levels necessary for recovery.

Molokai—Wet Cliff—Unit 3 consists of 1,137 ac (460 ha) of State land, and 225 ac (91 ha) of privately owned land, along the rim of Wailau Valley from Mapulehu to Kahiwa Gulch, in eastern

Molokai. This unit includes the mixed hermland and shrubland, the moisture regime, and the subcanopy and understory native plant species identified as physical or biological features in the wet cliff ecosystem (see Table 5). Although Molokai—Wet Cliff—Unit 3 is not known to be occupied by *Brighamia rockii*, *Canavalia molokaiensis*, *Clermontia oblongifolia* ssp. *brevipes*, *Cyanea grimesiana* ssp. *grimesiana*, *C. munroi*, *Hesperomannia arborescens*, *Hibiscus arnottianus* ssp. *immaculatus*, *Phyllostegia hispida*, *Pteris lidgatei*, or *Stenogyne bifida*, we have determined this area to be essential for the conservation and recovery of these wet cliff species because it provides the PCEs necessary for the reestablishment of wild populations within their historical range. Due to their small numbers of individuals or low population sizes, suitable habitat and space for expansion or reintroduction are essential to achieving population levels necessary for recovery.

## IX. Effects of Critical Habitat Designation

### Section 7 Consultation

Section 7(a)(2) of the Act requires Federal agencies, including the Service, to ensure that any action they fund, authorize, or carry out is not likely to jeopardize the continued existence of any endangered species or threatened species or result in the destruction or adverse modification of designated critical habitat of such species. In addition, section 7(a)(4) of the Act requires Federal agencies to confer with the Service on any agency action which is likely to jeopardize the continued existence of any species proposed to be listed under the Act or result in the destruction or adverse modification of proposed critical habitat.

Decisions by the 5th and 9th Circuit Courts of Appeals have invalidated our regulatory definition of “destruction or adverse modification” (50 CFR 402.02) (see *Gifford Pinchot Task Force v. U.S. Fish and Wildlife Service*, 378 F. 3d 1059 (9th Cir. 2004) and *Sierra Club v. U.S. Fish and Wildlife Service*, 245 F.3d 434, 442F (5th Cir. 2001)), and we do not rely on this regulatory definition when analyzing whether an action is likely to destroy or adversely modify critical habitat. Under the statutory provisions of the Act, we determine destruction or adverse modification on the basis of whether, with implementation of the proposed Federal action, the affected critical habitat would continue to serve its intended conservation role for the species.

If a Federal action may affect a listed species or its critical habitat, the responsible Federal agency (action agency) must enter into consultation with us. Examples of actions that are subject to the section 7 consultation process are actions on State, local, or private lands that require a Federal permit (such as a permit from the U.S. Army Corps of Engineers under section 404 of the Clean Water Act (33 U.S.C. 1251 *et seq.*) or a permit from the Service under section 10 of the Act) or that involve some other Federal action (such as funding from the Federal Highway Administration, Federal Aviation Administration, or the Federal Emergency Management Agency). Federal actions not affecting listed species or critical habitat, and actions on State, local, or private lands that are not federally funded or authorized, do not require section 7 consultation.

As a result of section 7 consultation, we may issue:

(1) A concurrence letter for Federal actions that may affect, but are not likely to adversely affect, listed species or critical habitat; or

(2) A biological opinion for Federal actions that may affect and are likely to adversely affect, listed species or critical habitat.

When we issue a biological opinion concluding that a project is likely to jeopardize the continued existence of a listed species and/or destroy or adversely modify critical habitat, we provide reasonable and prudent alternatives to the project, if any are identifiable, that would avoid the likelihood of jeopardy and/or destruction or adverse modification of critical habitat. We define “reasonable and prudent alternatives” (at 50 CFR 402.02) as alternative actions identified during consultation that:

(1) Can be implemented in a manner consistent with the intended purpose of the action,

(2) Can be implemented consistent with the scope of the Federal agency’s legal authority and jurisdiction,

(3) Are economically and technologically feasible, and

(4) Would, in the Director’s opinion, avoid the likelihood of jeopardizing the continued existence of the listed species and/or avoid the likelihood of destroying or adversely modifying critical habitat.

Reasonable and prudent alternatives can vary from slight project modifications to extensive redesign or relocation of the project. Costs associated with implementing a reasonable and prudent alternative are similarly variable.

Regulations at 50 CFR 402.16 require Federal agencies to reinitiate formal consultation on previously reviewed actions in instances where we have listed a new species or subsequently designated critical habitat that may be affected and the Federal agency has retained discretionary involvement or control over the action (or the agency’s discretionary involvement or control is authorized by law). Consequently, Federal agencies sometimes may need to request reinitiation of consultation with us on actions for which formal consultation has been completed, if those actions with discretionary involvement or control may affect subsequently listed species or designated critical habitat.

#### *Application of the “Adverse Modification” Standard*

The key factor related to the adverse modification determination is whether, with implementation of the proposed Federal action, the affected critical habitat would continue to serve its intended conservation role for the species, or retain those physical or biological features that relate to the ability of the area to periodically support the species. Activities that may destroy or adversely modify critical habitat are those that alter the physical or biological features to an extent that appreciably reduces the conservation value of the critical habitat network for the 135 species identified in this final rule. As discussed above, the role of critical habitat is to support the life history needs of the species and provide for the conservation of the species.

Section 4(b)(8) of the Act requires us to briefly evaluate and describe, in any proposed or final regulation that designates critical habitat, activities involving a Federal action that may destroy or adversely modify such habitat, or that may be affected by such designation.

Activities that may affect critical habitat, when carried out, funded, or authorized by a Federal agency, should result in consultation for the 125 species. These activities include, but are not limited to:

(1) Federal actions that would appreciably degrade or destroy the physical or biological features for the species including, but not limited to, the following: Overgrazing; maintaining or increasing feral ungulate levels; clearing or cutting native live trees and shrubs (*e.g.*, woodcutting, bulldozing, construction, road building, mining, herbicide application); and taking actions that pose a risk of fire.

(2) Federal actions that would alter watershed characteristics in ways that

would appreciably reduce groundwater recharge or alter natural, wetland, aquatic, or vegetative communities. Such actions include new water diversion or impoundment, excess groundwater pumping, and manipulation of vegetation through activities such as the ones mentioned in (1), above.

(3) Recreational activities that may appreciably degrade vegetation.

(4) Mining sand or other minerals.

(5) Introducing or encouraging the spread of nonnative plant species.

(6) Importing nonnative species for research, agriculture, and aquaculture, and releasing biological control agents.

## **X. Exemptions**

### *Application of Section 4(a)(3) of the Act*

Section 4(a)(3)(B)(i) of the Act (16 U.S.C. 1533(a)(3)(B)(i)) provides that: “The Secretary shall not designate as critical habitat any lands or other geographic areas owned or controlled by the Department of Defense, or designated for its use, that are subject to an integrated natural resources management plan [INRMP] prepared under section 101 of the Sikes Act (16 U.S.C. 670a), if the Secretary determines in writing that such plan provides a benefit to the species for which critical habitat is proposed for designation.” There are no Department of Defense (DOD) lands with a completed INRMP within the critical habitat designation.

## **XI. Exclusions**

### *Application of Section 4(b)(2) of the Act*

Section 4(b)(2) of the Act states that the Secretary shall designate or make revisions to critical habitat on the basis of the best available scientific data after taking into consideration the economic impact, national security impact, and any other relevant impacts of specifying any particular area as critical habitat. The Secretary may exclude an area from critical habitat if she determines that the benefits of such exclusion outweigh the benefits of specifying such area as part of the critical habitat, unless she determines, based on the best scientific data available, that the failure to designate such area as critical habitat will result in the extinction of the species.

In considering whether to exclude a particular area from the designation, we identify the benefits of including the area in the designation, identify the benefits of excluding the area from the designation, and evaluate whether the benefits of exclusion outweigh the benefits of inclusion. If the analysis indicates that the benefits of exclusion outweigh the benefits of inclusion, the

Secretary may exercise her discretion to exclude the area only if such exclusion would not result in the extinction of the species.

When identifying the benefits of inclusion for an area, we consider factors such as the additional regulatory benefits that area would receive from the protection from adverse modification or destruction as a result of actions with a Federal nexus; the educational benefits of mapping essential habitat for recovery of the listed species; and any benefits that may result from a designation due to State or Federal laws that may apply to critical habitat.

When identifying the benefits of exclusion, we consider, among other things, whether exclusion of a specific area is likely to result in the continuation, strengthening, or encouragement of partnerships that will result in future conservation. The Secretary places great weight on demonstrated partnerships, as in many cases they can lead to the implementation of conservation actions that provide benefits to the species and their habitat beyond those that are achievable through the designation of critical habitat and section 7 consultations, particularly on private lands. As most endangered or threatened species in Hawaii occur on private and other non-Federal lands, such conservation partnerships are of heightened importance on the islands of Hawaii.

In the case of the 125 Maui Nui species, the benefits of designating critical habitat include educational benefits resulting from identification of the features essential to the conservation of these species and the delineation of areas important for their recovery. Further, there may be additional benefits realized by providing landowners, stakeholders, and project proponents greater certainty about which specific areas are important for the Maui Nui species. Thus, critical habitat designation increases public awareness of the presence of the Maui Nui species and the importance of habitat protection and, in cases where a Federal nexus exists, increases habitat protection for these species due to the protection from adverse modification or destruction of critical habitat.

When we evaluate whether to include or exclude lands from critical habitat where there is a voluntary conservation partnership, we evaluate the evidence of a cooperative relationship, the likelihood that it will result in meaningful conservation for the species at issue, and the possibility it will encourage others to enter into similar

partnerships. Other factors we may consider include, but are not limited to, whether any management plan that may be under consideration is finalized; how it provides for the conservation of the essential physical or biological features; whether there is a reasonable expectation that the conservation management strategies and actions contained in a management plan will be implemented into the future; whether the conservation strategies in the plan are likely to be effective; and whether the plan contains a monitoring program or adaptive management to ensure that the conservation measures are effective and can be adapted in the future in response to new information.

Management plans or agreements, which may maintain the level of protection for the species or provide greater conservation benefits than would be realized due solely to the regulatory effect of critical habitat, may serve to reduce or eliminate the benefits of designating an area as critical habitat.

After identifying the benefits of inclusion and the benefits of exclusion, we carefully weigh the two sides to evaluate whether the benefits of exclusion outweigh the benefits of inclusion. If our analysis indicates that the benefits of exclusion outweigh the benefits of inclusion, we then determine whether exclusion of the particular area would result in the extinction of the species. If exclusion of an area from critical habitat will result in extinction, it will not be excluded from the designation.

Based on the information provided by entities seeking exclusion, as well as any additional public comments received, we evaluated whether certain lands in the proposed critical habitat were appropriate for exclusion from this final designation pursuant to section 4(b)(2) of the Act. We are excluding a total of 84,891 ac (34,355 ha) of lands on Maui, Molokai, and Lanai that meet the definition of critical habitat from the final critical habitat rule under section 4(b)(2) of the Act, based on conservation partnerships, land and resource management plans, or "other relevant factors." On the islands of Maui and Molokai, approximately 59,478 ac (24,070 ha) are excluded under section 4(b)(2) of the Act. All lands within proposed critical habitat on Lanai (14 proposed plant units and 10 proposed tree snail units; 25,413 ac (10,284 ha)) are excluded from final designation pursuant to section 4(b)(2) of the Act for the reasons described below. No lands on Kahoolawe are excluded from the final critical habitat designation. The Secretary has excluded lands under section 4(b)(2) of the Act upon a

determination that the benefits of excluding such areas outweigh the benefits of including them in critical habitat, and that the exclusion will not result in the extinction of the species.

#### *Exclusions Based on Economic Impacts*

Under section 4(b)(2) of the Act, we consider the economic impacts of specifying any particular area as critical habitat. In order to consider economic impacts, we prepared a draft economic analysis of the proposed critical habitat designation and related factors (IEC 2013). The draft analysis, dated January 14, 2013, was made available for public review from January 31, 2013, through March 4, 2013 (78 FR 6785; January 31, 2013), and was also available during the final comment period, which ran from June 10, 2015, through June 25, 2015 (80 FR 32922). Following the close of the comment period, a final analysis of the potential economic effects of the designation was developed taking into consideration the public comments and any new information received (Final Economic Analysis (FEA) 2015).

The intent of the FEA is to quantify the economic impacts of all potential conservation efforts for the Maui Nui species; some of these costs will likely be incurred regardless of whether we designate critical habitat (such costs are considered "baseline" costs). The economic impact of the final critical habitat designation is analyzed by comparing scenarios both "with critical habitat" and "without critical habitat." The "without critical habitat" scenario represents the baseline for the analysis, considering protections already in place for the species (e.g., under the Federal listing and other Federal, State, and local regulations). The baseline, therefore, represents the costs incurred regardless of whether critical habitat is designated. The "with critical habitat" scenario describes the incremental impacts associated specifically with the designation of critical habitat for the species. The incremental conservation efforts and associated impacts are those not expected to occur absent the designation of critical habitat for the species. In other words, the incremental costs are those attributable solely to the designation of critical habitat above and beyond the baseline costs; these are the costs we consider in the final designation of critical habitat. The economic analysis uses the historical record to inform its assessment of potential future impacts of critical habitat and forecasts both baseline and incremental impacts likely to occur during the 10-year period following the designation of critical habitat. This period was determined to be the

appropriate period for analysis because limited planning information was available for most activities to forecast activity levels for projects beyond a 10-year timeframe.

The FEA also addresses how potential economic impacts are likely to be distributed, including an assessment of any local or regional impacts of habitat conservation and the potential effects of conservation activities on government agencies, private businesses, and individuals. The FEA measures lost economic efficiency associated with residential and commercial development projects and activities, such as economic impacts on small entities and the energy industry. Decision-makers can use this information to assess whether the effects of the designation might unduly burden a particular group or economic sector.

The primary purpose of the economic analysis is to estimate the potential incremental economic impacts associated with the designation of critical habitat for the Maui Nui species. This information is intended to assist the Service in considering whether to exclude any particular areas from critical habitat designation under section 4(b)(2) of the Act. The FEA analyzes economic impacts of the conservation efforts for the Maui Nui species associated with the following categories of activity: Residential and commercial development projects, energy projects, and grazing and farming activities. The FEA estimates approximately \$100,000 in present value incremental impacts over a period of 10 years associated with development and energy projects, or roughly \$20,000 in annualized impacts. A further \$5,000 in total potential impacts were estimated for energy projects in areas considered for exclusion, or roughly \$600 in annualized impacts (IEc 2015, p. ES-7). However, the FEA concluded that the direct effect of designation of critical habitat on any of these activities (*i.e.*, the regulation of these activities through section 7 consultation to avoid adverse modification of critical habitat) is likely to be limited. The costs estimated reflect the cost of additional effort under section 7 consultation and the potential costs of project modifications as a result of critical habitat.

The FEA additionally considered the potential indirect effects of the designation, including, for example, perceptual effects on land values, or the potential for third-party lawsuits. Given the uncertainties surrounding the probability of any such effects occurring, and if so, the magnitude of any such effects, quantification of the

potential indirect effects of the designation was not possible. The FEA acknowledges, however, that these uncertainties result in an underestimate of the quantified impacts of the designation (IEc 2015, p. 5-23).

After reviewing the economic analysis the Secretary is not exercising her discretion to exclude any areas from this designation of critical habitat for the Maui Nui species based on economic impacts.

A copy of the FEA with supporting documents may be obtained by contacting the Pacific Islands Fish and Wildlife Office (see **ADDRESSES**) or by downloading from the Internet at <http://www.regulations.gov>.

#### *Exclusions Based on National Security Impacts*

Under section 4(b)(2) of the Act, we consider whether there are lands owned or managed by the DOD where a national security impact might exist. In preparing this final rule, we have determined that the lands within the designation of critical habitat for the Maui Nui species are not owned or managed by the DOD, therefore we anticipate no impact on national security. Consequently, the Secretary is not exercising her discretion to exclude any areas from this final designation based on impacts on national security.

#### *Exclusions Based on Other Relevant Factors*

Under section 4(b)(2) of the Act, we consider any other relevant impacts, in addition to economic impacts and impacts to national security. We consider a number of factors, including whether the landowners have developed any HCPs or other management plans for the area, or whether there are conservation partnerships that would be encouraged by designation of, or exclusion from, critical habitat.

The establishment and encouragement of strong conservation partnerships with non-Federal landowners is especially important in the State of Hawaii, where there are relatively few lands under Federal ownership; we cannot achieve the conservation and recovery of listed species in Hawaii without the help and cooperation of non-Federal landowners. In some cases we are excluding areas where landowners are already actively participating in the restoration or management of habitats essential to listed species, or taking steps to protect and increase numbers of individuals or populations of listed species that occur on their properties. In other cases, we are excluding areas to support existing partnerships and encourage new ones

that will provide important conservation benefits to the Maui Nui species.

More than 60 percent of the United States is privately owned (Lubowski *et al.* 2006, p. 35), and at least 80 percent of endangered or threatened species occur either partially or solely on private lands (Crouse *et al.* 2002, p. 720). In the State of Hawaii, 84 percent of landownership is non-Federal (U.S. General Services Administration, in Western States Tourism Policy Council, 2009). Stein *et al.* (2008, p. 340) found that only about 12 percent of listed species were found almost exclusively on Federal lands (90 to 100 percent of their known occurrences restricted to Federal lands) and that 50 percent of listed species are not known to occur on Federal lands at all. Given the distribution of listed species with respect to landownership, conservation of listed species in many parts of the United States is dependent upon working partnerships with a wide variety of entities and the voluntary cooperation of many non-Federal landowners (Wilcove and Chen 1998, p. 1,407; Crouse *et al.* 2002, p. 720; James 2002, p. 271). Building partnerships and promoting voluntary cooperation of landowners is essential to understanding the status of species on non-Federal lands and necessary to implement recovery actions, such as the reintroduction of listed species, habitat restoration, and habitat protection.

Many non-Federal landowners derive satisfaction from contributing to endangered species recovery. Conservation agreements with non-Federal landowners, safe harbor agreements, other conservation agreements, easements, and State and local regulations enhance species conservation by extending species protections beyond those available through section 7 consultations. We encourage non-Federal landowners to enter into conservation agreements based on a view that we can achieve greater species conservation on non-Federal lands through such partnerships than we can through regulatory methods alone (USFWS and NOAA 1996c (61 FR 63854, December 2, 1996)).

Many private landowners, however, are wary of the possible consequences of attracting endangered species to their property. Mounting evidence suggests that some regulatory actions by the government, while well intentioned and required by law, can (under certain circumstances) have unintended negative consequences for the conservation of species on private lands (Wilcove *et al.* 1996, pp. 5-6; Bean 2002, pp. 2-3; James 2002, pp. 270-271;

Koch 2002, pp. 2–3). Many landowners fear a decline in their property value due to real or perceived restrictions on land-use options where endangered or threatened species are found. Consequently, harboring endangered species is viewed by many landowners as a liability. This perception results in anti-conservation incentives because maintaining habitats that harbor endangered species represents a risk to future economic opportunities (Main *et al.* 1999, pp. 1,264–1,265; Brook *et al.* 2003, pp. 1,644–1,648).

Because so many important conservation areas for the Maui Nui species occur on lands managed by non-Federal entities, collaborative relationships are essential for their recovery. The Maui Nui species and their habitat are expected to benefit substantially from voluntary land management actions that implement appropriate and effective conservation strategies, or that add to our bank of knowledge about the species and their ecological needs. The conservation benefits of critical habitat, on the other hand, are primarily regulatory or prohibitive in nature. Where consistent with the discretion provided by the Act, the Service believes it is both desirable and necessary to implement policies that provide positive incentives to non-Federal landowners and land managers to voluntarily conserve natural resources and to remove or reduce disincentives to conservation (Wilcove *et al.* 1996, pp. 1–14; Bean 2002, p. 2). Thus, we believe it is imperative for the

recovery of the Maui Nui species to support ongoing positive management efforts with non-Federal conservation partners, and to provide positive incentives for other non-Federal land managers who might be considering implementing voluntary conservation activities but have concerns about incurring incidental regulatory, administrative, or economic impacts. Many landowners perceive critical habitat as an unnecessary and duplicative regulatory burden, particularly if those landowners are already developing and implementing conservation and management plans that benefit listed species on their lands. In certain cases, we believe the exclusion of non-Federal lands that are under positive conservation management is likely to strengthen the partnership between the Service and the landowner, which may encourage other conservation partnerships with that landowner in the future. As an added benefit, by modeling positive conservation partnerships that may result in exclusion from critical habitat, such exclusion may also help encourage the formation of new partnerships with other landowners, with consequent benefits to the listed species. For all of these reasons, we place great weight on the value of conservation partnerships with non-Federal landowners when considering the potential benefits of inclusion versus exclusion of areas in critical habitat.

We are excluding a total of approximately 84,891 ac (34,355 ha) of

lands on Maui, Molokai, and Lanai that meet the definition of critical habitat from the final critical habitat rule under section 4(b)(2) of the Act. We are excluding these non-Federal lands because the development and implementation of management plans, and ability to access private lands necessary for surveys or monitoring designed to promote the conservation of these federally listed plant species and their habitat, as well as provide for other native species of concern, are important outcomes of these conservation partnerships which reduce the benefits of overlying a designation of critical habitat. Importantly, such exclusions also are likely to result in the continuation, strengthening, or encouragement of important conservation partnerships that will contribute to the long-term conservation of the Maui Nui species. The Secretary has determined that the benefits of excluding these areas outweigh the benefits of including them in critical habitat, and that such exclusion will not result in the extinction of the species. The specific areas excluded are detailed in Table 8. As a result of our evaluation of whether the benefits of exclusion outweigh those of inclusion in critical habitat, as detailed below, we have excluded approximately 59,479 ac (24,070 ha) on the islands of Maui and Molokai, and 25,413 ac (10,284 ha) on the island of Lanai (resulting in the exclusion of all lands proposed as critical habitat on Lanai). No lands on Kahoolawe were excluded.

TABLE 9—AREAS EXCLUDED FROM CRITICAL HABITAT DESIGNATION BY CRITICAL HABITAT UNIT AND LANDOWNER FOR THE ISLANDS OF MAUI, MOLOKAI, AND LANAI

Unit Name	Landowner or Land Manager	Area Excluded from Critical Habitat, in Acres (Hectares)	Land Management Plan or Conservation Plan
Maui—Coastal—Unit 7	Kaupo Ranch	71 (29)	Leeward Haleakala Watershed Restoration Partnership Management Plan, East Maui Watershed Partnership Management Plan, Southern Haleakala Forest Restoration Project
Maui—Coastal—Unit 9	Maui Land & Pineapple Company	205 (83)	Puu Kukui Watershed Preserve Management Plan, West Maui Mountains Watershed Partnership, Tree Snail Habitat Protection Agreement

Maui—Lowland Dry—Unit 1	Ulupalakua Ranch;	2,672 (1,081)	Leeward Haleakala Watershed Restoration Partnership Management Plan, HCP, Partners for Fish and Wildlife Agreements; East Maui Watershed Partnership Management Plan, Native Watershed Forest Restoration Conservation Plan, Southern Haleakala Forest Restoration Project
	Haleakala Ranch;	2,539 (1,028)	
	Nuu Mauka Ranch;	1,221 (494)	
	Kaupo Ranch	<u>621 (251)</u>	
		7,053 (2,854)	
Maui—Lowland Dry—Unit 2	Haleakala Ranch	732 (296)	East Maui Watershed Partnership Management Plan, Partners for Fish and Wildlife Agreements
Maui—Lowland Dry—Unit 3	Ulupalakua Ranch	901 (365)	Leeward Haleakala Watershed Restoration Partnership Management Plan, HCP, Partners for Fish and Wildlife Agreements
Maui—Lowland Dry—Unit 5	Wailuku Water	704 (285)	West Maui Mountains Watershed Partnership Management Plan, Partners for Fish and
	Company;	75 (31)	

	Kamehameha Schools; Makila Land Company; Kahoma Land Company	911 (369) <u>0.1 (0.05)</u> 1,690 (685)	Wildlife Agreements
Maui—Lowland Dry—Unit 6	Wailuku Water Company	184 (74)	West Maui Mountains Watershed Partnership Management Plan, Partners for Fish and Wildlife Agreements
Maui—Lowland Mesic—Unit 1	Kaupo Ranch	6 (2)	Leeward Haleakala Watershed Restoration Partnership Management Plan, East Maui Watershed Partnership Management Plan, Southern Haleakala Forest Restoration Project
Maui—Lowland Mesic—Unit 2	TNC; Maui Land & Pineapple Company; Kamehameha	255 (103) 548 (222) 193 (78)	Kapunakea Preserve Operational Plan; Puu Kukui Watershed Preserve Management Plan, West Maui Mountains Watershed Partnership,



	Schools; Makila Land Company; Kahoma Land Company	689 (279)  <u>44 (18)</u>  1,729 (700)	Tree Snail Habitat Protection Agreement;  Partners for Fish and Wildlife Agreements
Maui—Lowland Wet—Unit 1 (and) <i>Palmeria dolei</i> —Unit 2— Lowland Wet (and) <i>Pseudonestor xanthophrys</i> —Unit 2—Lowland Wet	East Maui Irrigation Company	802 (325)	East Maui Watershed Partnership  Management Plan & Haiku Uka Watershed  Protection Project
Maui—Lowland Wet—Unit 2 (and) <i>Palmeria dolei</i> —Unit 3— Lowland Wet (and)	Maui Land & Pineapple Company	4,997 (2,022)	Puu Kukui Watershed Preserve Management  Plan, West Maui Mountains Watershed  Partnership, Tree Snail Habitat Protection  Agreement

<i>Pseudonestor xanthophrys</i> —Unit 3—Lowland Wet (and) <i>Newcombia cumingi</i> —Unit 1—Lowland Wet			
Maui—Lowland Wet—Unit 3 (and) <i>Palmeria dolei</i> —Unit 4—Lowland Wet (and) <i>Pseudonestor xanthophrys</i> —Unit 4—Lowland Wet	Maui Land & Pineapple Company	180 (73)	Puu Kukui Watershed Preserve Management Plan, West Maui Mountains Watershed Partnership, Tree Snail Habitat Protection Agreement
Maui—Lowland Wet—Unit 4 (and) <i>Palmeria dolei</i> —Unit 5—	County, Department of Water Supply	301 (122)	West Maui Mountains Watershed Partnership Management Plan, Partners for Fish and Wildlife Agreements

Lowland Wet (and) <i>Pseudonestor xanthophrys</i> —Unit 5—Lowland Wet			
Maui—Lowland Wet—Unit 5 (and) <i>Palmeria dolei</i> —Unit 6— Lowland Wet (and) <i>Pseudonestor xanthophrys</i> —Unit 6—Lowland Wet	Wailuku Water Company	2,082 (843)	West Maui Mountains Watershed Partnership Management Plan, Partners for Fish and Wildlife Agreements
Maui—Lowland Wet—Unit 6 (and) <i>Palmeria dolei</i> —Unit 7— Lowland Wet (and)	TNC	503 (204)	Kapunakea Preserve Operational Plan

<i>Pseudonestor xanthophrys</i> —Unit 7—Lowland Wet			
Maui—Montane Wet—Unit 1 (and) <i>Palmeria dolei</i> —Unit 10— Montane Wet (and) <i>Pseudonestor xanthophrys</i> —Unit 10—Montane Wet	TNC; Haleakala Ranch; East Maui Irrigation Company	1,463 (592) 204 (82) <u>4,273 (1,729)</u> 5,940 (2,403)	Kapunakea Preserve Operational Plan; East Maui Watershed Partnership Management Plan, Partners for Fish and Wildlife Agreements
Maui—Montane Wet—Unit 2 (and) <i>Palmeria dolei</i> —Unit 11— Montane Wet (and) <i>Pseudonestor xanthophrys</i> —Unit	TNC; East Maui Irrigation Company	766 (310) <u>1,338 (541)</u> 2,104 (851)	Kapunakea Preserve Operational Plan; East Maui Watershed Partnership Management Plan & Haiku Uka Watershed Protection Project

11—Montane Wet			
Maui—Montane Wet—Unit 6 (and) <i>Palmeria dolei</i> —Unit 15— Montane Wet (and) <i>Pseudonestor xanthophrys</i> —Unit 15—Montane Wet	Maui Land & Pineapple Company; TNC; Wailuku Water Company; County, Department of Water Supply; Kamehameha Schools; Makila Land Company	1,005 (407) 359 (145) 39 (16) 471 (191) 656 (265) <u>35 (14)</u> 2,565 (1,038)	Kapunakea Preserve Operational Plan, Puu Kukui Watershed Preserve Management Plan, West Maui Mountains Watershed Partnership, Tree Snail Habitat Protection Agreement, West Maui Mountains Watershed Partnership Management Plan, Partners for Fish and Wildlife Agreements
Maui—Montane Wet—Unit 7 (and) <i>Palmeria dolei</i> —Unit 16— Montane Wet (and)	Wailuku Water Company	528 (214)	West Maui Mountains Watershed Partnership Management Plan, Partners for Fish and Wildlife Agreements

<i>Pseudonestor xanthophrys</i> —Unit 16—Montane Wet			
Maui—Montane Wet—Unit 8 (and) <i>Palmeria dolei</i> —Unit 17— Montane Wet (and) <i>Pseudonestor xanthophrys</i> —Unit 17—Montane Wet	Wailuku Water Company	46 (19)	West Maui Mountains Watershed Partnership Management Plan, Partners for Fish and Wildlife Agreements
Maui—Montane Mesic—Unit 1 (and) <i>Palmeria dolei</i> —Unit 18— Montane Mesic (and) <i>Pseudonestor xanthophrys</i> —Unit	TNC; Ulupalakua Ranch; Haleakala Ranch; East Maui Irrigation Company; Nuu Mauka Ranch	1,372 (555) 2,183 (883) 3,232 (1,308) 164 (67) <u>318 (129)</u>	Kapunakea Preserve Operational Plan; Leeward Haleakala Watershed Restoration Partnership Management Plan, HCP, Partners for Fish and Wildlife Agreements; East Maui Watershed Partnership Management Plan,

18—Montane Mesic		7,269 (2,942)	Native Watershed Forest Restoration Conservation Plan, Southern Haleakala Forest Restoration Project
Maui—Montane Mesic—Unit 2 (and) <i>Palmeria dolei</i> —Unit 19— Montane Mesic (and) <i>Pseudonestor xanthophrys</i> —Unit 19—Montane Mesic	Makila Land Company	242 (98)	West Maui Mountains Watershed Partnership Management Plan, Partners for Fish and Wildlife Agreements
Maui—Montane Mesic—Unit 3 (and) <i>Palmeria dolei</i> —Unit 20— Montane Mesic (and) <i>Pseudonestor xanthophrys</i> —Unit	Makila Land Company	44 (18)	West Maui Mountains Watershed Partnership Management Plan, Partners for Fish and Wildlife Agreements

20—Montane Mesic			
Maui—Montane Mesic—Unit 5 (and) <i>Palmeria dolei</i> —Unit 22— Montane Mesic (and) <i>Pseudonestor xanthophrys</i> —Unit 22—Montane Mesic	Wailuku Water Company	134 (54)	West Maui Mountains Watershed Partnership Management Plan, Partners for Fish and Wildlife Agreements
Maui—Montane Mesic—Unit 6 (and) <i>Palmeria dolei</i> —Unit 23— Montane Mesic (and) <i>Pseudonestor xanthophrys</i> —Unit 23—Montane Mesic	Wailuku Water Company	94 (38)	West Maui Mountains Watershed Partnership Management Plan, Partners for Fish and Wildlife Agreements



Maui—Montane Dry—Unit 1	Ulupalakua Ranch; Haleakala Ranch; Nuu Mauka Ranch; Kaupo Ranch	571 (231) 177 (72) 482 (195) <u>233 (94)</u> 1,463 (592)	Leeward Haleakala Watershed Restoration Partnership Management Plan, HCP, Partners for Fish and Wildlife Agreements; East Maui Watershed Partnership Management Plan, Native Watershed Forest Restoration Conservation Plan, Southern Haleakala Forest Restoration Project
Maui—Subalpine—Unit 1 (and) <i>Palmeria dolei</i> —Unit 24— Subalpine (and) <i>Pseudonestor xanthophrys</i> —Unit 24—Subalpine	TNC; Ulupalakua Ranch; Haleakala Ranch; Nuu Mauka Ranch	111 (45) 210 (85) 1,817 (736) <u>73 (29)</u> 2,211 (895)	Kapunakea Preserve Operational Plan; Leeward Haleakala Watershed Restoration Partnership Management Plan, HCP, Partners for Fish and Wildlife Agreements; East Maui Watershed Partnership Management Plan, Native Watershed Forest Restoration Conservation Plan, Southern Haleakala Forest

			Restoration Project
Maui—Subalpine—Unit 2 (and) <i>Palmeria dolei</i> —Unit 25— Subalpine (and) <i>Pseudonestor xanthophrys</i> —Unit 25—Subalpine	TNC; East Maui Irrigation Company	975 (394)  <u>70 (28)</u>  1,045 (422)	Waikamoi Preserve Long-Range Management Plan; East Maui Watershed Partnership Management Plan & Haiku Uka Watershed Protection Project
Maui—Alpine—Unit 1	Haleakala Ranch	15 (6)	East Maui Watershed Partnership Management Plan, Partners for Fish and Wildlife Agreements
Maui—Dry Cliff—Unit 1 (and) <i>Palmeria dolei</i> —Unit 26—Dry Cliff (and) <i>Pseudonestor xanthophrys</i> —Unit 26—Dry Cliff	TNC	264 (107)	Waikamoi Preserve Long-Range Management Plan

Maui—Dry Cliff—Unit 3 (and) <i>Palmeria dolei</i> —Unit 27—Dry Cliff (and) <i>Pseudonestor xanthophrys</i> —Unit 27—Dry Cliff	TNC	93 (38)	Waikamoi Preserve Long-Range Management Plan
Maui—Dry Cliff—Unit 5 (and) <i>Palmeria dolei</i> —Unit 29—Dry Cliff (and) <i>Pseudonestor xanthophrys</i> —Unit 29—Dry Cliff	Makila Land Company	238 (96)	West Maui Mountains Watershed Partnership Management Plan, Partners for Fish and Wildlife Agreements
Maui—Dry Cliff—Unit 7	Wailuku Water Company	808 (327)	West Maui Mountains Watershed Partnership Management Plan, Partners for Fish and

			Wildlife Agreements
Maui—Wet Cliff—Unit 1 (and) <i>Palmeria dolei</i> —Unit 30—Wet Cliff (and) <i>Pseudonestor xanthophrys</i> —Unit 30—Wet Cliff	TNC; East Maui  Irrigation Company	96 (39)  <u>74 (30)</u>  170 (69)	Waikamoi Preserve Long-Range Management  Plan; East Maui Watershed Partnership  Management Plan & Haiku Uka Watershed  Protection Project
Maui—Wet Cliff—Unit 5 (and) <i>Palmeria dolei</i> —Unit 34— Lowland Wet (and) <i>Pseudonestor xanthophrys</i> —Unit 34—Lowland Wet	Maui Land &  Pineapple Company	1,996 (808)	Puu Kukui Watershed Preserve Management  Plan, Tree Snail Habitat Protection  Agreement
Maui—Wet Cliff—Unit 6 (and) <i>Palmeria dolei</i> —Unit 35—	Wailuku Water  Company; County,	2,791 (1,129)  2,917 (1,181)	West Maui Mountains Watershed Partnership  Management Plan, Partners for Fish and

Lowland Wet (and) <i>Pseudonestor xanthophrys</i> —Unit 35—Lowland Wet	Department of Water Supply; Kamehameha Schools; Kahoma Land Company; Makila Land Company	293 (119)  2 (1) <u>990 (401)</u>  6,993 (2,831)	Wildlife Agreements
Maui—Wet Cliff—Unit 7 (and) <i>Palmeria dolei</i> —Unit 36—Wet Cliff (and) <i>Pseudonestor xanthophrys</i> —Unit 36—Wet Cliff	TNC	222 (90)	Kapunakea Preserve Operational Plan

Molokai—Coastal—Unit 2	TNC	924 (374)	Moomomi Preserve Long-Range Management Plan
Molokai—Lowland Mesic—Unit 1 (and) <i>Palmeria dolei</i> —Unit 37— Lowland Mesic (and) <i>Pseudonestor xanthophrys</i> —Unit 37—Lowland Mesic	TNC	388 (157)	Kamakou Preserve Management Plan
Molokai—Montane Wet—Unit 1 (and) <i>Palmeria dolei</i> —Unit 40— Montane Wet (and) <i>Pseudonestor xanthophrys</i> —Unit 40—Montane Wet	TNC	1,419 (574)	Kamakou Preserve Management Plan

<p>Molokai—Montane Mesic—Unit 1 (and)</p> <p><i>Palmeria dolei</i>—Unit 42—Montane Mesic (and)</p> <p><i>Pseudonestor xanthophrys</i>—Unit 42—Montane Mesic</p>	TNC	813 (329)	Kamakou Preserve Management Plan
<p>Molokai—Wet Cliff—Unit 2 (and)</p> <p><i>Palmeria dolei</i>—Unit 44—Wet Cliff (and)</p> <p><i>Pseudonestor xanthophrys</i>—Unit 44—Wet Cliff</p>	TNC	12 (5)	Kamakou Preserve Management Plan

Lanai—Coastal—Unit 1	Lanai Resorts, LLC and Castle & Cooke Properties, Inc.	374 (151)	Lanai Forest and Watershed Partnership, Lanai MOU, Lanai Natural Resources Plan, Lanai Conservation Agreement
Lanai—Coastal—Unit 2	Lanai Resorts, LLC and Castle & Cooke Properties, Inc.	2 (1)	Lanai Forest and Watershed Partnership, Lanai MOU, Lanai Natural Resources Plan, Lanai Conservation Agreement
Lanai—Coastal—Unit 3	Lanai Resorts, LLC and Castle & Cooke Properties, Inc.	510 (206)	Lanai Forest and Watershed Partnership, Lanai MOU, Lanai Natural Resources Plan, Lanai Conservation Agreement
Lanai—Lowland Dry—Unit 1	Lanai Resorts, LLC and Castle & Cooke Properties, Inc.	9,766 (3,952)	Lanai Forest and Watershed Partnership, Lanai MOU, Lanai Natural Resources Plan, Lanai Conservation Agreement
Lanai—Lowland Dry—Unit 2	Lanai Resorts, LLC and Castle & Cooke	939 (380)	Lanai Forest and Watershed Partnership, Lanai MOU, Lanai Natural Resources Plan,



	Properties, Inc.		Lanai Conservation Agreement
Lanai—Lowland Mesic—Unit 1	Lanai Resorts, LLC and Castle & Cooke Properties, Inc.	11,172 (4,521)	Lanai Forest and Watershed Partnership, Lanai MOU, Lanai Natural Resources Plan, Lanai Conservation Agreement
Lanai—Lowland Wet—Unit 1	Lanai Resorts, LLC and Castle & Cooke Properties, Inc.	374 (152)	Lanai Forest and Watershed Partnership, Lanai MOU, Lanai Natural Resources Plan, Lanai Conservation Agreement
Lanai—Lowland Wet—Unit 2	Lanai Resorts, LLC and Castle & Cooke Properties, Inc.	232 (94)	Lanai Forest and Watershed Partnership, Lanai MOU, Lanai Natural Resources Plan, Lanai Conservation Agreement
Lanai—Montane Wet—Unit 1	Lanai Resorts, LLC and Castle & Cooke Properties, Inc.	248 (101)	Lanai Forest and Watershed Partnership, Lanai MOU, Lanai Natural Resources Plan, Lanai Conservation Agreement
Lanai—Dry Cliff—Unit 1	Lanai Resorts, LLC and Castle & Cooke	83 (34)	Lanai Forest and Watershed Partnership, Lanai MOU, Lanai Natural Resources Plan,

	Properties, Inc.		Lanai Conservation Agreement
Lanai—Dry Cliff—Unit 2	Lanai Resorts, LLC and Castle & Cooke Properties, Inc.	354 (143)	Lanai Forest and Watershed Partnership, Lanai MOU, Lanai Natural Resources Plan, Lanai Conservation Agreement
Lanai—Dry Cliff—Unit 3	Lanai Resorts, LLC and Castle & Cooke Properties, Inc.	398 (161)	Lanai Forest and Watershed Partnership, Lanai MOU, Lanai Natural Resources Plan, Lanai Conservation Agreement
Lanai—Wet Cliff—Unit 1	Lanai Resorts, LLC and Castle & Cooke Properties, Inc.	731 (296)	Lanai Forest and Watershed Partnership, Lanai MOU, Lanai Natural Resources Plan, Lanai Conservation Agreement
Lanai—Wet Cliff—Unit 2	Lanai Resorts, LLC and Castle & Cooke Properties, Inc.	230 (93)	Lanai Forest and Watershed Partnership, Lanai MOU, Lanai Natural Resources Plan, Lanai Conservation Agreement

Here we present an overview of each of the areas considered for exclusion, followed by a summary of our analysis of the benefits of inclusion versus exclusion in each case. Maps of each area excluded are provided in our

supporting document “Supplemental Information for the Designation and Nondesignation of Critical Habitat on Molokai, Lanai, Maui, and Kahoolawe for 135 Species,” available at <http://www.regulations.gov> (see **ADDRESSES**).

#### The Nature Conservancy

Kapunakea Preserve Operational Plan, Waikamoi Preserve Long-Range Management Plan, Kamakou Preserve Management Plan, and Moomomi Preserve Long-Range Management Plan

In this final designation, the Secretary has exercised her authority to exclude from critical habitat lands owned or managed by The Nature Conservancy, totaling 10,056 ac (4,062 ha) on the islands of Maui and Molokai. The Nature Conservancy (TNC) is a proven conservation partner, as demonstrated, in part, by their ongoing management programs, documented in long-range management plans and yearly operational plans for TNC’s Kapunakea Preserve on west Maui and Waikamoi Preserve on east Maui, and Kamakou Preserve and Moomomi Preserve on Molokai. These preserves were established by grants of perpetual conservation easements from the private landowners to TNC, or are owned by TNC, and are permanently dedicated to conservation. The Nature Conservancy’s management and protection of these areas currently provide significant conservation benefits to 36 plant and 2 forest bird species that are reported from one or more of the preserves and their habitat. These areas also provide for the conservation and recovery of 69 other plant species. For the reasons described below, we have determined that the benefits of excluding these lands owned or managed by The Nature Conservancy outweigh the benefits of including them in critical habitat. The land is distributed among several critical habitat units, as discussed below.

#### Maui

Kapunakea Preserve encompasses 1,340 ac (542 ha) on west Maui. This preserve was established through a perpetual conservation easement with Pioneer Mill Company, Ltd. (succeeded by Kaanapali Land Management Corp.), in 1992, to protect the natural, ecological, and wildlife features of one of the highest quality native areas on west Maui (TNCH 2008, p. 5). Eleven plant species included in this rule (*Alectryon macrococcus*, *Bidens micrantha* ssp. *kalealaha*, *Bonamia menziesii*, *Colubrina oppositifolia*, *Ctenitis squamigera*, *Cyanea glabra*, *C. lobata*, *Cyrtandra filipes*, *C. munroi*, *Platanthera holochila*, and *Santalum*

*haleakalae* var. *lanaiense*) are reported from the preserve. Kapunakea Preserve falls within four critical habitat units for plants (Maui—Lowland Mesic—Unit 2, Maui—Lowland Wet—Unit 6, Maui—Montane Wet—Unit 6, and Maui—Wet Cliff—Unit 7), and six units for the akohekohe and kiwikiu (*Palmeria dolei*—Unit 7—Lowland Wet, *Pseudonestor xanthophrys*—Unit 7—Lowland Wet, *Palmeria dolei*—Unit 15—Montane Wet, *Pseudonestor xanthophrys*—Unit 15—Montane Wet, *Palmeria dolei*—Unit 36—Wet Cliff, *Pseudonestor xanthophrys*—Unit 36—Wet Cliff). These units are occupied by the plants *Bidens. conjuncta*, *Calamagrostis hillebrandii*, *Ctenitis squamigera*, *Cyanea kunthiana*, *Cyrtandra filipes*, *C. munroi*, *Geranium hillebrandii*, *Myrsine vaccinioides*, *Remya mauiensis*, *Sanicula purpurea*, *Santalum haleakalae* var. *lanaiense*, and *Zanthoxylum hawaiiense*. This area contains unoccupied habitat that is essential to the conservation of 29 plant species, including *Acaena exigua*, *Alectryon macrococcus*, *Asplenium dielerectum*, *Bidens campylothea* ssp. *pentamera*, *B. micrantha* ssp. *kalealaha*, *Bonamia menziesii*, *Clermontia oblongifolia* ssp. *mauiensis*, *Colubrina oppositifolia*, *Cyanea asplenifolia*, *C. glabra*, *C. lobata*, *C. magnalyx*, *Cyrtandra oxybapha*, *Diplazium molokaiense*, *Dubautia plantaginea* ssp. *humilis*, *Gouania vitifolia*, *Hesperomannia arborescens*, *H. arbuscula*, *Huperzia mannii*, *Isodendron pyrifolium*, *Kadua laxiflora*, *Lysimachia lydgatei*, *Peucedanum sandwicense*, *Phyllostegia bracteata*, *Plantago princeps*, *Platanthera holochila*, *Pteris lidgatei*, *Tetramolopium capillare*, and *Wikstroemia villosa*, as well as the birds akohekohe and kiwikiu.

Waikamoi Preserve encompasses 5,141 ac (2,080 ha) along the northern boundary of Haleakala National Park on east Maui. The preserve was established in 1983, through a perpetual conservation easement with Haleakala Ranch Company, to protect one of the largest intact native rain forests in Hawaii (TNCH 2006a, p. 3). Eight plant species included in this rule (*Asplenium peruvianum* var. *insulare*, *Bidens campylothea* ssp. *pentamera*, *Cyanea horrida*, *C. kunthiana*, *Diplazium molokaiense*, *Geranium arboreum*, *G. multiflorum*, and *Phyllostegia pilosa*), and the akohekohe and kiwikiu, are reported from the preserve. Waikamoi Preserve falls within 8 critical habitat units for plants (Maui—Montane Wet—Unit 1, Maui—Montane Wet—Unit 2, Maui—Montane

Mesic—Unit 1, Maui—Subalpine—Unit 1, Maui—Subalpine—Unit 2, Maui—Dry Cliff—Unit 1, Maui—Dry Cliff—Unit 3, and Maui—Wet Cliff—Unit 1), and 16 units for the akohekohe and kiwikiu (*Palmeria dolei*—Unit 10—Montane Wet, *Pseudonestor xanthophrys*—Unit 10—Montane Wet, *Palmeria dolei*—Unit 11—Montane Wet, *Pseudonestor xanthophrys*—Unit 11—Montane Wet, *Palmeria dolei*—Unit 18—Montane Mesic, *Pseudonestor xanthophrys*—Unit 18—Montane Mesic, *Palmeria dolei*—Unit 24—Subalpine, *Pseudonestor xanthophrys*—Unit 24—Subalpine, *Palmeria dolei*—Unit 25—Subalpine, *Pseudonestor xanthophrys*—Unit 25—Subalpine, *Palmeria dolei*—Unit 26—Dry Cliff, *Pseudonestor xanthophrys*—Unit 26—Dry Cliff, *Palmeria dolei*—Unit 27—Dry Cliff, *Pseudonestor xanthophrys*—Unit 27—Dry Cliff, *Palmeria dolei*—Unit 30—Wet Cliff, and *Pseudonestor xanthophrys*—Unit 30—Wet Cliff). These units are occupied by the plants *Argyroxiphium sandwicense* ssp. *macrocephalum*, *Asplenium dielerectum*, *A. peruvianum* var. *insulare*, *Bidens campylothea* ssp. *pentamera*, *B. micrantha* ssp. *kalealaha*, *Clermontia lindseyana*, *C. samuelii*, *Cyanea copelandii* ssp. *haleakalensis*, *C. duvalliorum*, *C. hamatiflora* ssp. *hamatiflora*, *C. horrida*, *C. kunthiana*, *C. maritae*, *C. mceldowneyi*, *C. obtusa*, *Cyrtandra ferripilosa*, *C. oxybapha*, *Diplazium molokaiense*, *Geranium arboreum*, *G. hanaense*, *G. multiflorum*, *Huperzia mannii*, *Melicope adscendens*, *M. balloui*, *Neraudia sericea*, *Phyllostegia pilosa*, *Schiedea haleakalensis*, and *Wikstroemia villosa*, and the akohekohe and kiwikiu. This area contains unoccupied habitat that is essential to the conservation of 16 other plant species (*Adenophorus periens*, *Alectryon macrococcus*, *Bidens campylothea* ssp. *waihoiensis*, *Clermontia oblongifolia* ssp. *mauiensis*, *Cyanea glabra*, *Melicope ovalis*, *Peperomia subpetiolata*, *Phyllostegia bracteata*, *P. haliakalae*, *P. mannii*, *Plantago princeps*, *Platanthera holochila*, *Santalum haleakalae* var. *lanaiense*, *Schiedea jacobii*, *Solanum incompletum*, and *Zanthoxylum hawaiiense*).

#### Molokai

Kamakou Preserve is located in the east Molokai mountains and encompasses 2,633 ac (1,066 ha). This preserve was established in 1982, through a perpetual conservation easement with Molokai Ranch, to protect endemic forest bird habitat and is the primary source area for ground and surface water on the island (TNCH 2006b, p. 2). Nineteen plant species

included in this rule (*Adenophorus periens*, *Asplenium dielirectum*, *Bidens wiebkei*, *Canavalia molokaiensis*, *Clermontia oblongifolia* ssp. *brevipes*, *Cyanea mannii*, *C. procera*, *C. solanacea*, *Cyperus fauriei*, *Lysimachia maxima*, *Melicope mucronulata*, *Phyllostegia hispida*, *P. mannii*, *Platanthera holochila*, *Santalum haleakalae* var. *lanaiense*, *Schiedea laui*, *Stenogyne bifida*, *Vigna o-wahuensis*, and *Zanthoxylum hawaiiense*) are reported from the preserve. Kamakou Preserve falls within four critical habitat units for plants (Molokai—Lowland Mesic—Unit 1, Molokai—Montane Wet—Unit 1, Molokai—Montane Mesic—Unit 1, and Molokai—Wet Cliff—Unit 2) and eight units for the akohekohe and kiwikiu (*Palmeria dolei*—Unit 37—Lowland Mesic, *Pseudonestor xanthophrys*—Unit 37—Lowland Mesic, *Palmeria dolei*—Unit 40—Montane Wet, *Pseudonestor xanthophrys*—Unit 40—Montane Wet, *Palmeria dolei*—Unit 42—Montane Mesic, *Pseudonestor xanthophrys*—Unit 42—Montane Mesic, *Palmeria dolei*—Unit 44—Wet Cliff, and *Pseudonestor xanthophrys*—Unit 44—Wet Cliff). These units are occupied by the plants *Alectryon macrococcus*, *Bidens wiebkei*, *Clermontia oblongifolia* ssp. *brevipes*, *Ctenitis squamigera*, *Cyanea dunbariae*, *C. mannii*, *C. profuga*, *Cyperus fauriei*, *Cyrtandra filipes*, *Gouania hillebrandii*, *Labordia triflora*, *Neraudia sericea*, *Phyllostegia hispida*, *Pteris lidgatei*, *Santalum haleakalae* var. *lanaiense*, *S. lydgatei*, *S. sarmentosa*, *Silene alexandri*, *S. lanceolata*, *Spermolepis hawaiiensis*, and *Zanthoxylum hawaiiense*. This area contains unoccupied habitat that is essential for the conservation of 29 other plant species (*Adenophorus periens*, *Asplenium dielirectum*, *Bonania menziesii*, *Brighamia rockii*, *Canavalia molokaiensis*, *Cyanea grimesiana* ssp. *grimesiana*, *C. munroi*, *C. procera*, *C. solanacea*, *Diplazium molokaiense*, *Eugenia koolauensis*, *Festuca molokaiensis*, *Flueggea neowawraea*, *Hesperomannia arborescens*, *Hibiscus arnottianus* ssp. *immaculatus*, *Isodendron pyriformis*, *Kadua laxiflora*, *Lysimachia maxima*, *Melicope mucronulata*, *M. reflexa*, *Phyllostegia haliakalae*, *P. mannii*, *P. pilosa*, *Plantago princeps*, *Platanthera holochila*, *Schiedea laui*, and *Sesbania tomentosa*, *Stenogyne bifida*, and *Vigna o-wahuensis*), as well as the birds akohekohe and kiwikiu.

Moomomi Preserve encompasses 924 ac (374 ha) along the northwest shore of Molokai that are owned by TNC. This preserve was established in 1988, to

protect the most intact coastal ecosystem in Hawaii, with nesting seabirds, nesting green sea turtles, and a variety of native coastal plants (TNCH 2005, pp. 2–3). One plant species included in this rule, *Tetramolopium rockii*, is reported from the preserve. Moomomi Preserve falls within one critical habitat unit, Molokai—Coastal—Unit 2. This unit is occupied by *Marsilea villosa*. This area contains unoccupied habitat that is essential to the conservation of 11 other plant species (*Bidens wiebkei*, *Brighamia rockii*, *Canavalia molokaiensis*, *Hibiscus arnottianus* ssp. *immaculatus*, *H. brackenridgei*, *Ischaemum byrsonae*, *Peucedanum sandwicense*, *Pittosporum halophilum*, *Schenkia sebaeoides*, and *Sesbania tomentosa*).

All four preserves were established by grants of perpetual conservation easements from the private landowners to TNC, or are owned by TNC, and are included in the State's Natural Area Partnership (NAP) programs, which provide matching funds for the management of private lands dedicated to conservation (TNCH 2005, pp. 2–3; TNCH 2006a, p. 3; TNCH 2006b, p. 2; TNCH 2008, p. 50). These partnerships with the State began in 1983 (with Haleakala Ranch) for Waikamoi, and were followed in 1992 (with Kaanapali Land Management Corporation) for Kapunakea, in 1995 (with Molokai Ranch) for Kamakou, and in 1995 for Moomomi (TNC-owned). Under the NAP program, the State of Hawaii provides matching funds on a two-for-one basis for management of private lands dedicated to conservation. In order to qualify for this program, the land must be dedicated in perpetuity through transfer of fee title or a conservation easement to the State or a cooperating entity. The land must be managed by the cooperating entity or a qualified landowner according to a detailed management plan approved by the Board of Land and Natural Resources. Once approved, the 6-year partnership agreement between the State and the managing entity is automatically renewed each year so that there are always 6 years remaining in the term, although the management plan is updated and funding amounts are reauthorized by the board at least every 6 years. By April 1 of any year, the managing partner may notify the State that it does not intend to renew the agreement; however, in such case, the partnership agreement remains in effect for the balance of the existing 6-year term, and the conservation easement remains in full effect in perpetuity. The conservation easement may be revoked

by the landowner only if State funding is terminated without the concurrence of the landowner and cooperating entity. Prior to terminating funding, the State must conduct one or more public hearings. The NAP program is funded through real estate conveyance taxes placed in a Natural Area Reserve Fund. Participants in the NAP program must provide annual reports to the DLNR, and the DLNR makes annual inspections of the work in the reserve areas (see State of Hawaii 1999, H.R.S. 195–D; State of Hawaii 1996, H.A.R. 13–210).

Management programs within the preserves are documented in long-range management plans and yearly operational plans. These plans detail management measures that protect, restore, and enhance rare plants and animals and their habitats within the preserves and in adjacent areas. These management measures address factors that pose threats to the Maui Nui species in this final rule, including control of nonnative species of ungulates, rodents, and weeds. In addition, habitat restoration and monitoring are also included in these plans.

The primary management goals for each of the four TNC preserves are to: (1) Prevent degradation of native forest and shrubland by reducing feral ungulate damage; (2) improve or maintain the integrity of native ecosystems in selected areas of the preserve by reducing the effects of nonnative plants; (3) conduct small mammal control and reduce their negative impacts where possible; (4) monitor and track the biological and physical resources in the preserve and evaluate changes in these resources over time, and encourage biological and environmental research; (5) prevent extinction of rare species in the preserve; (6) build public understanding and support for the preservation of natural areas, and enlist volunteer assistance for preserve management; and (7) protect the resources from fires in and around the preserve (applicable to preserves in high fire-risk areas) (TNCH 2005, 148 pp. + appendices; TNCH 2006a, 23 pp. + appendices; TNCH 2006b, 21 pp. + appendices; TNCH 2008, 30 pp.).

The goal of TNC's ungulate program (see (1), above) is to bring feral ungulate populations to zero within the preserves as rapidly as possible, and to prevent domestic livestock from entering a preserve. Specific management actions to address feral ungulate impacts include the construction of fences, including strategic fences (fences placed in proximity to natural barriers such as cliffs); annual monitoring of ungulate

presence in transects; monthly boundary fence inspections; and trained staff and volunteer hunting. As axis deer also pose a threat to the preserves, TNC is a member of the Maui Axis Deer Group (MADG), and TNC meets regularly with MADG to seek management solutions. Ungulate management actions also include working with community hunters in conjunction with watershed partnerships for each island. By monitoring ungulate activity within each of the preserves, the staff is able to assess the success of the hunting program. If increased hunting pressure does not reduce feral ungulate activity in a preserve, preserve staff work with the hunting group to identify and implement alternative methods (TNCH 2005, pp. 7–8; TNCH 2006a, pp. 7–10; TNCH 2006b, pp. 8–9; TNCH 2008, pp. 9–10).

The nonnative plant control program (see (2), above) for each of the four TNC preserves focuses on controlling habitat-modifying nonnative plants (weeds) in intact native communities and preventing the introduction of additional nonnative plants. Based on the degree of threat to native ecosystems, weed priority lists have been compiled for each of the preserves, and control and monitoring of the highest priority species are ongoing. Weeds are controlled manually, chemically, or through a combination of both. Preventive measures (prevention protocol) are required by all who enter each of the preserves. This protocol includes such things as brushing footwear before entering the preserve to remove seeds of nonnative plants. Weeds are monitored along transects annually. Weed priority maps are maintained semi-annually. Staff participate as members of the Melastome Action Committee and the Maui and Molokai Invasive Species committees (MISC and MoMISC), and cooperate with the State Division of Conservation and Resources Enforcement (DOCARE) in marijuana control, as needed (TNCH 2005, pp. 8–9; TNCH 2006a, pp. 11–13; TNCH 2006b, pp. 10–12; TNCH 2008, pp. 11–13).

The Nature Conservancy controls or prevents entry of nonnative mammals such as rats (*Rattus* spp.), cats (*Felis catus*), mongoose (*Herpestes auropunctatus*), and dogs (*Canis familiaris*), on their preserves (see (3), above). These mammals have negative impacts on reproduction and persistence of native plants and animals. Independent studies and research regarding the effects of small nonnative mammals on native

ecosystems on all four preserves is encouraged by TNC. Small mammal trapping is conducted in Moomomi Preserve to protect ground-nesting native seabirds from predation (TNCH 2005, p. 6). While the most effective control methods for rats on TNC preserves are still under investigation, an intensive rat baiting program is in place at Kamakou Preserve to control rats, which prey upon native snails and plants (TNCH 2006a, pp. 2, 6; TNCH 2009b, p. 21). The Nature Conservancy's predator control program is directed by adaptive management (TNCH 2010a, pp. 3–5).

Natural resource monitoring and research address the need to track the biological and physical resources of the preserves and evaluate changes in these resources to guide management programs, and contribute to prevention of extinction of rare species (see (4) and (5), above). Vegetation is monitored throughout each preserve to document long-term ecological changes, and rare plant species are monitored to assess population status. The Nature Conservancy provides logistical and other support to PEPP, including implementing threat abatement measures on their preserves (TNCH 2010a, p. 13). Bird surveys are conducted every 5 years to document the relative abundance of all bird species in the preserves (TNCH 2010b, p. 16). Portions of the four preserves are adjacent to other areas managed to protect natural resources. Agreements with those land managers are used to coordinate management efforts, and to share staff, equipment, and expertise to maximize management efficiency. The Nature Conservancy takes an active part in planning and coordinating conservation actions with, and is a member of, the East Maui Watershed Partnership (EMWP), the West Maui Mountains Watershed Partnership (WMMWP), and the East Molokai Watershed Partnership (EMOWP) (TNCH 2006a, p. 3; TNCH 2008, p. 21; TNCH 2010a, p. 2).

The Nature Conservancy's goal to increase conservation and advocacy for native ecosystems in Hawaii is also implemented through their public outreach program (see (6), above). The Nature Conservancy provides sites and volunteer work for youth groups such as Ho'ikaika and AmeriCorps, and summer internships for youth and young adults (Alu Like, State Summer Youth Employment Program, Molokai Environmental Preservation Organization, and the Natural Resources Academy), providing students with hands-on experience in natural resource conservation. Other community groups,

such as the Molokai Advisory Council, Molokai Hunting Working Group, and Kamalo Conservation Advisors, are encouraged to participate in the decision-making process for TNC's natural resources programs. The Nature Conservancy staff present slide shows and talks as requested by community and school groups, and lead guided hikes in their preserves for public schools and targeted community members. The Nature Conservancy produces a quarterly newsletter distributed on Molokai to inform the local community regarding conservation activities and opportunities (TNCH 2006b, pp. 18–19; TNCH 2008, p. 20).

Fire management is an important goal for two Molokai preserves: Kamakou Preserve on Molokai and Kapunakea Preserve on west Maui (TNCH 2006b, p. 15; TNCH 2008, p. 22) (see (7), above). Wildfire management plans are updated annually. Staff is provided with fire suppression training, roads are maintained for access and as fire breaks, and equipment is supplied as needed to allow immediate response to fire threats (TNCH 2005, p. 13).

Our records indicate that between 2010 until 2015 there were no consultations conducted regarding projects receiving Federal funding on these TNC preserves. We believe that there is a low likelihood of a Federal nexus to provide a benefit to the species from designation of critical habitat. In addition, all of the management actions detailed above will either lead to maintenance or enhancement of habitat for the species, or lead to emergence of suitable habitat where it is not present, thereby benefitting the conservation of the 105 plant and 2 forest bird species and their habitat.

Maui Land and Pineapple Company, Inc.

Puu Kukui Watershed Preserve Management Plan, West Maui Mountains Watershed Partnership, and Tree Snail Habitat Protection Agreement

In this final designation, the Secretary has exercised her authority to exclude 8,931 ac (3,614 ha) of lands from critical habitat, under section 4(b)(2) of the Act, that are owned and managed by Maui Land and Pineapple Company (ML & P). Maui Land and Pineapple Company is a proven conservation partner with an established track record of voluntary protection and management of listed species as demonstrated, in part, by their ongoing management program for the Puu Kukui Watershed Preserve (Puu Kukui WP), their participation in the WMMWP, and the tree snail habitat protection agreement for ML & P's Puu

Kukui WP on west Maui. Puu Kukui WP, established in 1988, is permanently dedicated to conservation. The actions of ML & P provide for the conservation of 44 plants, 2 forest birds, and Newcomb's tree snail that occur on their lands and their habitat. For the reasons described below, we have determined that the benefits of excluding lands owned by Maui Land and Pineapple Company outweigh the benefits of including them in critical habitat.

Puu Kukui WP is the largest privately owned watershed preserve in the State, and encompasses over 8,600 ac (3,480 ha) of ML & P's lands on west Maui. The forest, shrubland, and bogs within the preserve serve as a significant water source for west Maui residents and industries. Fourteen plant species (*Bidens conjuncta*, *Ctenitis squamigera*, *Cyanea asplenifolia*, *C. kunthiana*, *C. lobata*, *C. magnicalyx*, *Cyrtandra filipes*, *C. munroi*, *Hesperomannia arborescens*, *H. arbuscula*, *Myrsine vaccinioides*, *Sanicula purpurea*, *Santalum haleakalae* var. *lanaiense*, and *Sesbania tomentosa*), and the Newcomb's tree snail, occur in this area. The area falls within seven critical habitat units for plants (Maui—Coastal—9, Maui—Lowland Mesic—2, Maui—Lowland Wet—2, Maui—Lowland Wet—3, Maui—Montane Wet—6, Maui—Wet Cliff—5, and Maui—Wet Cliff—7), eight critical habitat units for birds (*Palmeria dolei*—Unit 3—Lowland Wet, *Pseudonestor xanthophrys*—Unit 3—Lowland Wet, *Palmeria dolei*—Unit 4—Lowland Wet, *Pseudonestor xanthophrys*—Unit 4—Lowland Wet, *Palmeria dolei*—Unit 15—Montane Wet, *Pseudonestor xanthophrys*—Unit 15—Montane Wet, *Palmeria dolei*—Unit 34—Wet Cliff, and *Pseudonestor xanthophrys*—Unit 34—Wet Cliff), and one critical habitat for the Newcomb's tree snail (*Newcombia cumingi*—Unit 1—Lowland Wet). These units are occupied by the plants *Alectryon macrococcus*, *Bidens conjuncta*, *Calamagrostis hillebrandii*, *Ctenitis squamigera*, *Cyanea asplenifolia*, *C. kunthiana*, *Cyrtandra munroi*, *Geranium hillebrandii*, *Myrsine vaccinioides*, *Pteris lidgatei*, *Remya mauiensis*, *Sanicula purpurea*, *Santalum haleakalae* var. *lanaiense*, *Schenkia sebaeoides*, *Sesbania tomentosa*, and *Zanthoxylum hawaiiense*, and by the Newcomb's tree snail. This area contains habitat that is unoccupied but essential to the conservation of 28 other plant species (*Acaena exigua*, *Asplenium dielirectum*, *Bidens campylotheca* ssp. *pentamera*, *B. micrantha* ssp. *kalealaha*, *Bonamia menziesii*, *Brighamia rockii*,

*Clermontia oblongifolia* ssp. *mauiensis*, *Colubrina oppositifolia*, *Cyanea glabra*, *C. lobata*, *C. magnicalyx*, *Cyrtandra filipes*, *C. oxybapha*, *Diplazium molokaiense*, *Dubautia plantaginea* ssp. *humilis*, *Gouania vitifolia*, *Hesperomannia arborescens*, *H. arbuscula*, *Huperzia mannii*, *Isodendron pyrifolium*, *Kadua laxiflora*, *Lysimachia lidgatei*, *Peucedanum sandwicense*, *Phyllostegia bracteata*, *Plantago princeps*, *Platanthera holochila*, *Tetramolopium capillare*, and *Wikstroemia villosa*), and to the akohekohe and kiwiku.

Maui Land and Pineapple Company understands the importance of this water resource to the community, and recognizes that active management is needed for its protection and conservation, as evidenced by their implementation of an ongoing management program to preserve and protect the Puu Kukui WP. The ML & P Company has proactively managed the Puu Kukui WP since 1988, and joined the State of Hawaii's NAP program in July 1992. The NAP program contract has been continually renewed since that time, and has recently been authorized to continue through Fiscal Year 2018 (ML & P 2010, p. 5; DLNR 2011, in litt.). The primary management goals as outlined in the current Puu Kukui WP management plan for the NAP program, fiscal years 2012–2018 are to: (1) Eliminate ungulate activity in all Puu Kukui WP management units; (2) reduce the range of habitat-modifying weeds and prevent introduction of nonnative plants; (3) track biological and physical resources in the watershed and evaluate changes in these resources over time, including the identification of new threats to the watershed, and provide logistical support to approved research projects that will improve management understanding of the watershed's resources; (4) prevent the extinction of rare species in the watershed; (5) expose the community to projects focusing on preserving and enhancing native plant and animal communities; (6) assist the long-term management of the native ecosystems of west Maui by the WMMWP; and (7) provide adequate manpower and equipment to meet the goals and objectives of the plan. Over 20 years of feral ungulate management has shown that the use of snares and fences has been an effective means of ungulate control, with 60 percent of the preserve not seeing pig activity for 5 or more years. Accessible fences and those with direct ungulate pressure are maintained quarterly. The nonnative plant control program focuses on areas with rare native species, and the maintenance of

the most pristine areas, keeping them as weed-free as possible with manual and mechanical control. The ML & P Company also supports rare plant monitoring and propagule collection by the PEPP. Natural resource monitoring and research address the need to track biological and physical resources in order to guide management programs. Vegetation is monitored through permanent photo points; nonnative species are monitored along permanent transects; and rare, endemic, and indigenous species are also monitored.

The ML & P Company has received funding in eight separate agreements (over \$400,000) with the Service to survey for rare plants on their lands and to build feral ungulate control fences for the protection of listed plants. Additionally, logistical and other support for native bird and invertebrate studies by independent researchers and interagency cooperative agreements is provided.

In our June 11, 2012, proposed rule, we proposed critical habitat in a portion of Puu Kukui WP (534 ac (236 ha)), where the remaining nine wild individuals of Newcomb's tree snail occur (*Newcombia cumingi*—Unit 1—Lowland Wet). This area is overlapped by critical habitat plant unit Maui—Lowland Wet—Unit 2 for plant species. The remaining 65 ac (26 ha) of this unit overlaps State lands. Puu Kukui WP is permanently dedicated to conservation, and the positive management by ML & P of this area has demonstrated their understanding of the importance of this resource to the community, as well as recognition that active management is needed for its protection and conservation. The Service has worked closely with ML & P, and recently established a cooperative agreement for fencing and management for the conservation of this tree snail species; the agreement is in place for 5 years (Service 2012, in litt.). The scope of work for this agreement includes snail surveys; design, placement, and construction of an enclosure fence (to exclude rats and mice) based on fences used to protect Oahu tree snails (*Achatinella* spp.) on Oahu; periodic monitoring; predator control (rats and mice) within the fenced area; and habitat restoration. ML & P has been actively working to develop a solid fence design and plan for installation; the construction of the fence is scheduled to begin in September 2015. Based on our past experience with ML & P and positive conservation partnership to date, we expect the conservation measures provided in this agreement will be continued into the foreseeable future. The Service

anticipates continuing to work with ML & P for the protection and conservation of Newcomb's tree snail on Puu Kukui WP.

The ML & P Company is a member and participant of the WMMWP, established in 1998. Management priorities for the watershed partnership on west Maui include feral animal control, weed control, human activities management, public education and awareness, water and watershed monitoring, and management coordination improvements. The partnership's management actions benefit habitat conservation by: (1) Enabling land managers to construct fences and remove feral ungulates across land ownership boundaries; (2) allowing for more comprehensive conservation planning; (3) expanding the partners' ability to protect forest lands quickly and efficiently; (4) making more efficient use of resources and staff; (5) allowing for greater unity in attaining public funding; and (6) providing greater access to other funding opportunities. The WMMWP provides annual progress reports regarding the success of management actions and benefits provided to species and watershed habitat.

Our records indicate that between 2010 until 2015 there were no consultations conducted regarding projects receiving Federal funding on ML & P lands. We believe that there is a low likelihood of a Federal nexus to provide a benefit to the species from designation of critical habitat. In addition, all of the management actions detailed above will either lead to maintenance or enhancement of habitat for the Maui Nui species, or lead to emergence of suitable habitat where it is not present, thereby benefitting the conservation of the 44 plants, the 2 forest bird species, the tree snail, and their habitat.

#### Ulupalakua Ranch

Leeward Haleakala Watershed Restoration Partnership Management Plan, Habitat Conservation Plan, and Partners for Fish and Wildlife Agreements

In this final designation, the Secretary has exercised her authority to exclude 6,535 ac (2,645 ha) of lands from critical habitat, under section 4(b)(2) of the Act, that are under management by Ulupalakua Ranch. Ulupalakua Ranch is a proven partner, as evidenced, in part, by their history of conservation actions including the Auwahi and Puu Makua restoration agreements and ongoing management of Ulupalakua Ranch lands on east Maui, which provide for the

conservation of 46 plants and the 2 forest birds and their habitat. For the reasons described below, we conclude that the benefits of excluding the lands owned by Ulupalakua Ranch outweigh the benefits of designating them as critical habitat.

Eight plant species included in this rule (*Alectryon macrococcus*, *Cenchrus agrimonoides*, *Flueggea neowawraea*, *Hibiscus brackenridgei*, *Melicope adscendens*, *M. knudsenii*, *Santalum haleakalae* var. *lanaiensis*, and *Zanthoxylum hawaiiense*) are reported from Ulupalakua Ranch lands. The area falls within six critical habitat units for plants (Maui—Coastal—Unit 6, Maui—Lowland Dry—Unit 1, Maui—Lowland Dry—Unit 3, Maui—Montane Mesic—Unit 1, Maui—Montane Dry—Unit 1, and Maui—Subalpine—Unit 1), and four units for the akohekohe and kiwkiu (*Palmeria dolei*—Unit 18—Montane Mesic, *Pseudonestor xanthophrys*—Unit 18—Montane Mesic, *Palmeria dolei*—Unit 24—Subalpine, and *Pseudonestor xanthophrys*—Unit 24—Subalpine). These units are occupied by the plants *Argyroxiphium sandwicense* ssp. *macrocephalum*, *Asplenium dielerectum*, *A. peruvianum* var. *insulare*, *Bidens micrantha* ssp. *kalealaha*, *Bonamia menziesii*, *Canavalia pubescens*, *Cenchrus agrimonoides*, *Clermontia lindseyana*, *Cyanea horrida*, *C. obtusa*, *Cyrtandra ferripilosa*, *C. oxybapha*, *Diplazium molokaiense*, *Flueggea neowawraea*, *Geranium arboreum*, *G. multiflorum*, *Huperzia mannii*, *Melicope adscendens*, *Neraudia sericea*, *Santalum haleakalae* var. *lanaiense*, *Spermolepis hawaiiensis*, and *Vigna o-wahuensis*. This area contains unoccupied habitat that is essential to the conservation of 23 other endangered plant species (*Alectryon macrococcus*, *Bidens campylothea* ssp. *pentamera*, *Brighamia rockii*, *Colubrina oppositifolia*, *Ctenitis squamigera*, *Cyanea glabra*, *C. hamatiflora* ssp. *hamatiflora*, *C. kunthiana*, *C. mceldowneyi*, *Cyperus pennatifloris*, *Hibiscus brackenridgei*, *Ischaemum byrone*, *Melanthera kamolensis*, *Melicope mucronulata*, *Nototrichium humile*, *Peucedanum sandwicense*, *Phyllostegia bracteata*, *P. mannii*, *Schiedea haleakalensis*, *Sesbania tomentosa*, *Solanum incompletum*, and *Wikstroemia villosa*, and *Zanthoxylum hawaiiense*), and to the akohekohe and kiwkiu.

Ulupalakua Ranch is involved in several important voluntary conservation agreements with the Service and is currently carrying out activities on their lands for the conservation of rare and endangered

species and their habitats. In 1997 and 1998, respectively, Ulupalakua Ranch entered into the Partners for Fish and Wildlife Auwahi and Puu Makua agreements to protect and restore dryland forest, including construction of ungulate enclosure fences, a greenhouse to propagate rare plants for outplanting, an access road, and propagation and outplanting of native plants. Preservation of habitat in Auwahi and Puu Makua benefits the 48 listed plant and animal species discussed above. Over the last 14 years, the Service has provided funding for 3 projects in the Auwahi area (Auwahi I, II, and III). Labor, material, and technical assistance is provided by Ulupalakua Ranch, U.S. Geological Survey-Biological Resources Division (USGS-BRD), and volunteers. The Auwahi I project area encompasses 10 ac (4 ha) on the southwest slope of Haleakala. Ulupalakua Ranch and its partners built an ungulate enclosure fence; outplanted native plants, including the listed endangered plants *Alectryon macrococcus* var. *auwahiensis* and *Zanthoxylum hawaiiense*; and removed all nonnative plants and feral ungulates within the fenced enclosure. The Auwahi II project area encompasses 23 ac (9 ha) adjacent to Auwahi I, and the Auwahi III project area encompasses an additional 181 ac (73 ha) (Van Dyke 2011, in litt.). Ulupalakua Ranch and its partners built additional ungulate enclosure fences, propagated and outplanted native plants, and removed nonnative plants and feral ungulates within the fenced enclosures (Van Dyke 2011, in litt.). Within 5 years of fence construction and nonnative species management activities, these three areas have been transformed from nonnative grasslands to a native species-dominated, self-sustaining, dryland forest.

Community volunteer participation is a key element to the success of these projects, and monthly volunteer trips often exceed 50 participants from a pool of 700 interested Maui residents, including school groups, Hawaiian native dance groups, canoe clubs, and other special interest groups.

In 1998, Ulupalakua Ranch entered a 10-year partnership with Ducks Unlimited (a private conservation organization) and the Natural Resources Conservation Service's (NRCS) Wetland Reserve Program (WRP) to create four wetland complexes (completed in 2001) suitable for two endangered birds, the Hawaiian goose or nene and Hawaiian duck or koloa (*Anas wyvilliana*) (NRCS 2001, pp. 1–2). While the endangered nene and koloa are not addressed in this rule, the establishment of wetland complexes for these endangered birds

demonstrates the willingness of Ulupalakua Ranch to protect and conserve native plants and animals on their lands, and their value as a conservation partner.

Ulupalakua Ranch is an active member of the LHWRP, a coalition formed in 2003 by 11 private and public landowners and supporting agencies (LHWRP 2011, in litt). The partnership oversees and manages more than 43,000 ac (17,400 ha) of land on the leeward slopes of Haleakala crater, from Makawao to Kaupo, between 3,500 and 6,500 ft (1,067 and 1,980 m) elevation. The partnership's goals are to: (1) Restore native koa forests to provide increased water quantity and quality, (2) conserve unique endemic plants and animals, (3) protect important Hawaiian cultural resources, and (4) allow diversification of Maui's rural economy. The reestablishment of native koa forest will restore habitat for the 46 plants and 2 forest birds. The LHWRP also provides public outreach regarding the importance of watershed and other natural resources protection by supporting volunteers who participate in tree planting, nonnative plant removal, and seed collection activities.

Between 1999 and 2007, the Service and the DOFAW Natural Area Reserves Fund provided funding for habitat restoration at Puu Makua. Ulupalakua Ranch and its partners, which include USGS-BRD, the LHWRP, and volunteers, built a 100-ac (40-ha) ungulate exclosure, removed feral ungulates and controlled nonnative plants within the fenced exclosure, and outplanted native plants. This project provides public outreach through ongoing volunteer participation to control nonnative plants and outplant native plants.

Our records indicate that between 2010 until 2015 there were three informal section 7 consultations conducted regarding projects on Ulupalakua Ranch lands receiving Federal funding. One project, funded through NRCS, was for the development of a riparian conservation plan and riparian restoration, and we concurred that this project was not likely adversely affect the listed Hawaiian hoary bat (*Lasiurus cinereus semotus*), and would not affect any plant critical habitat that was adjacent to the project area. One project, funded through the Emergency Conservation Program, FSA, included actions for restoration of fences, and we concurred that the project was not likely adversely affect the listed Hawaiian hoary bat or the listed Blackburn's sphinx moth (*Manduca blackburni*). The last project, funded through NRCS, was for a second riparian conservation plan,

and we concurred it was not likely to adversely affect any listed species. We did conduct one formal consultation in 2008 on Ulupalakua Ranch lands on the construction of a communications tower funded by the Federal Communications Commission (FCC). The consultation resulted in recommended mitigation measures for the listed Hawaiian hoary bat and Hawaiian petrel (*Pterodroma phaeopygia sandwichensis*), and determined the project was not likely to adversely affect the Maui silversword. The project was not within critical habitat for the Maui silversword.

Because all three of the informal consultations resulted in a not likely to adversely affect determination, we believe that, although there is a likelihood of a Federal nexus, little if any conservation benefit to the species would result from designation of critical habitat. With regard to the one formal consultation, we have no information to suggest that any similar project is likely to occur in this area again, thus we anticipate little if any additional conservation benefit as a result of future section 7 consultation as a result of critical habitat on these lands. In addition, all of the agreements and partnerships discussed above will either lead to maintenance or enhancement of habitat for the species, or lead to emergence of suitable habitat where it is not present, thereby benefitting the conservation of the 46 plants and the 2 forest bird species, and their habitat.

#### Haleakala Ranch Company

East Maui Watershed Partnership Management Plan and Partners for Fish and Wildlife Agreements

In this final designation, the Secretary has exercised her authority to exclude 8,716 ac (3,527 ha) of lands from critical habitat, under section 4(b)(2) of the Act, that are under management by Haleakala Ranch. Haleakala Ranch is a proven conservation partner, as evidenced, in part, by a history of voluntary management actions and agreements that provide for the conservation of 55 plants and the 2 forest birds and their habitat. For the reasons described below, we conclude that the benefits of excluding Haleakala Ranch lands on east Maui outweigh the benefits of including these lands in critical habitat.

Four plant species included in this rule (*Argyroxiphium sandwicense* ssp. *macrocephalum*, *Canavalia pubescens*, *Geranium arboreum*, and *Hibiscus brackenridgei*) and the akohekohe and kiwikiu are reported from this area. The area falls within seven critical habitat units for plants (Maui—Lowland Dry—

Unit 1, Maui—Lowland Dry— Unit 2, Maui—Montane Wet— Unit 1, Maui—Montane Mesic— Unit 1, Maui—Montane Dry— Unit 1, Maui—Subalpine— Unit 1, and Maui—Alpine— Unit 1), and six units for the akohekohe and kiwikiu (*Palmeria dolei*—Unit 10—Montane Wet, *Pseudonestor xanthophrys*—Unit 10—Montane Wet, *Palmeria dolei*—Unit 18—Montane Mesic, *Pseudonestor xanthophrys*—Unit 18—Montane Mesic, *Palmeria dolei*—Unit 24—Subalpine, and *Pseudonestor xanthophrys*—Unit 24—Subalpine). These units are occupied by the plants *Argyroxiphium sandwicense* ssp. *macrocephalum*, *Asplenium diellectum*, *A. peruvianum* var. *insulare*, *Bidens micrantha* ssp. *kalealaha*, *Bonamia menziesii*, *Canavalia pubescens*, *Cenchrus agrimonoides*, *Clermontia lindseyana*, *Cyanea duvalliorum*, *C. horrida*, *C. maritae*, *C. mceldowneyi*, *C. obtusa*, *Cyrtandra ferripilosa*, *C. oxybapha*, *Diplazium molokaiense*, *Flueggea neowawraea*, *Geranium arboreum*, *G. multiflorum*, *Hibiscus brackenridgei*, *Huperzia mannii*, *Melicope adscendens*, *M. balloui*, *Neraudia sericea*, *Phyllostegia pilosa*, *Santalum haleakalae* var. *lanaiense*, and *Spermolepis hawaiiensis*, and by the birds akohekohe and kiwikiu. This area contains unoccupied habitat that is essential to *Adenophorus periens*, *Alectryon macrococcus*, *Bidens campylotheca* ssp. *pentamera*, *B. campylotheca* ssp. *waihoiensis*, *Clermontia oblongifolia* ssp. *mauiensis*, *C. samuelii*, *Colubrina oppositifolia*, *Ctenitis squamigera*, *Cyanea copelandii* ssp. *haleakalaensis*, *C. glabra*, *C. hamatiflora* ssp. *hamatiflora*, *C. kunthiana*, *Geranium hanaense*, *Melanthera kamolensis*, *Melicope knudsenii*, *M. mucronulata*, *M. ovalis*, *Nototrichium humile*, *Peperomia subpetiolata*, *Phyllostegia bracteata*, *P. mannii*, *Platanthera holochila*, *Schiedea haleakalensis*, *S. jacobii*, *Sesbania tomentosa*, *Solanum incompletum*, *Wikstroemia villosa*, and *Zanthoxylum hawaiiense*.

Haleakala Ranch is involved in several important voluntary conservation agreements with the Service and is currently carrying out activities on its lands for the conservation of rare and endangered species and their habitats. Haleakala Ranch is a member of the EMWP, which was formed in 1991, as a model for large-scale forest protection in Hawaii. The members agree to pool resources and implement a watershed management program to protect 100,000 ac (40,469 ha) of forest across east Maui



(EMWP 2009). The management program includes: (1) Control of feral pigs by public hunting in the privately owned lower watershed areas; (2) control of the invasive plant *Miconia*; and (3) construction of ungulate exclosure fences to protect 12,000 ac (4,856 ha) of lowland and montane wet forest (Tri-Isle Resource Conservation and Development Council, Inc. 2011). In partnership with the Division of Forestry and Wildlife (DOFAW), Haleakala Ranch controls feral ungulates (e.g., axis deer and goats) on their lands in lowland dry habitat at Waiopae, on the south coast of east Maui. In addition to feral ungulate control, Haleakala Ranch and DOFAW control invasive plants that threaten wild populations of two endangered plants, *Alectryon macrococcus* and *Melanthera kamolensis*.

In 1999, Haleakala Ranch entered into an agreement with the Partners for Fish and Wildlife, USGS-BRD, and DHHL, for habitat protection at Puu o Kali, on the west slope of Haleakala. This agreement funded management actions to conserve and protect native dryland forest, including construction of a fence to exclude nonnative axis deer and feral goats, nonnative plant control, and propagation and outplanting of native plants. The project area was accessed through cooperation of the landowner, Haleakala Ranch. Currently, 236 ac (96 ha) are protected within the fenced area, and all axis deer and goats were removed from the fenced area. The continued protection of this area and maintenance of the fenced area is assured into the foreseeable future through the combined efforts of multiple partners, including the State, DHHL, and private landowners.

In 2001, the Service and NRCS provided funding for management actions to conserve and protect the endangered plant *Geranium arboreum* and subalpine habitat on Puu Pahu on the northwestern slopes of Haleakala (USFWS 2007b). These management actions include construction of ungulate exclosure fences and removal of ungulates within the fenced area. The first increment of the fence is completed and encloses approximately 670 ac (271 ha) (Higashino 2011, in litt.). Upon project completion, the fenced area will adjoin the fenced area of Haleakala National Park at 7,500 ft (2,290 m), and will exclude ungulates and allow for their removal from an area larger than 670 ac (271 ha) (USFWS 2007b).

In 1983, Haleakala Ranch granted a permanent conservation easement on 5,140 ac (2,080 ha) of ranch lands to TNC for Waikamoi Preserve. The establishment of this preserve

demonstrates the willingness of Haleakala Ranch to protect and conserve native plants and animals on their lands. In addition, in 2009, Haleakala Ranch entered into a safe harbor agreement (SHA) with the Hawaii DLNR and the Service, to establish a population of the endangered Hawaiian goose on their lands at Waiopae. While the endangered nene is not a species addressed in this final rule, the establishment of a SHA for this endangered bird demonstrates the willingness of Haleakala Ranch to protect and conserve native plants and animals on their lands, and is further evidence of their value as a proven conservation partner.

Our records indicate that between 2010 until 2015 there was one informal section 7 consultation conducted regarding a project on Haleakala Ranch lands receiving Federal funding through the East Maui Watershed Partnership, for ungulate and weed control within a fenced area at Puu Pahu. We concurred that their actions would not have any adverse effects to any listed species within the project area. Because there was only one informal consultation, which resulted in a not likely to adversely affect determination, we believe that there is a likelihood of a Federal nexus; however, there would be little conservation benefit resulting from designation of critical habitat. All of these agreements, partnerships, and management actions will either lead to maintenance or enhancement of habitat for the species, or lead to emergence of suitable habitat where it is not present, thereby benefitting the conservation of the 55 plants and the 2 forest bird species, and their habitat.

East Maui Irrigation Company, Ltd.

East Maui Watershed Partnership Management Plan, Haiku Uka Watershed Protection Project

In this final designation, the Secretary has exercised her authority to exclude 6,721 ac (2,720 ha) of lands from critical habitat, under section 4(b)(2) of the Act, that are managed by East Maui Irrigation Company, Ltd. (EMI). East Maui Irrigation Company is a proven conservation partner, as demonstrated, in part, by their ongoing management and restoration agreements for EMI lands at Haiku Uka on east Maui, and their participation in the EMWP, which provide for the conservation of 47 plants and the 2 forest birds and their habitat. For the reasons discussed below, we have determined that the benefits of excluding EMI lands outweigh the benefits of including them in critical habitat.

Nine plant species included in this rule (*Asplenium peruvianum* var. *insulare*, *Cyanea copelandii* ssp. *haleakalensis*, *C. hamatiflora* ssp. *hamatiflora*, *C. horrida*, *C. kunthiana*, *C. mceldowneyi*, *Diplazium molokaiense*, *Geranium multiflorum*, and *Santalum haleakalae* var. *lanaiense*), and the akohekohe and kiwikiu are reported from EMI lands. The area falls within 6 critical habitat units for plants (Maui—Lowland Wet—Unit 1, Maui—Montane Wet—Unit 1, Maui—Montane Wet—Unit 2, Maui—Montane Mesic—Unit 1, Maui—Subalpine—Unit 2, and Maui—Wet Cliff—Unit 1), and 12 critical habitat units for the akohekohe and kiwikiu (*Palmeria dolei*—Unit 2—Lowland Wet, *Pseudonestor xanthophrys*—Unit 2—Lowland Wet, *Palmeria dolei*—Unit 10—Montane Wet, *Pseudonestor xanthophrys*—Unit 10—Montane Wet, *Palmeria dolei*—Unit 11—Montane Wet, *Pseudonestor xanthophrys*—Unit 11—Montane Wet, *Palmeria dolei*—Unit 18—Montane Mesic, *Pseudonestor xanthophrys*—Unit 18—Montane Mesic, *Palmeria dolei*—Unit 25—Subalpine, *Pseudonestor xanthophrys*—Unit 25—Subalpine, *Palmeria dolei*—Unit 30—Wet Cliff, and *Pseudonestor xanthophrys*—Unit 30—Wet Cliff). These units are occupied by the plants *Argyroxiphium sandwicense* ssp. *macrocephalum*, *Asplenium dielirectum*, *A. peruvianum* var. *insulare*, *Bidens campylotheca* ssp. *waihoiensis*, *Clermontia lindseyana*, *C. samuelii*, *Cyanea asplenifolia*, *C. copelandii* ssp. *haleakalensis*, *C. duvalliorum*, *C. hamatiflora* ssp. *hamatiflora*, *C. horrida*, *C. kunthiana*, *C. maritae*, *C. mceldowneyi*, *C. obtusa*, *Cyrtandra ferripilosa*, *C. oxybapha*, *Diplazium molokaiense*, *Geranium arboreum*, *G. multiflorum*, *Huperzia mannii*, *Melicope adscendens*, *M. balloui*, *M. ovalis*, *Neraudia sericea*, *Phyllostegia pilosa*, and *Schiedea haleakalensis*, and by the birds akohekohe and kiwikiu. This area contains unoccupied habitat that is essential to the conservation of 20 other plant species (*Adenophorus periens*, *Alectryon macrococcus*, *Bidens campylotheca* ssp. *pentamera*, *B. micrantha* ssp. *kalealaha*, *Clermontia oblongifolia* ssp. *mauiensis*, *C. peleana*, *Cyanea glabra*, *Geranium hanaense*, *Mucuna sloanei* var. *persericea*, *Peperomia subpetiolata*, *Phyllostegia bracteata*, *P. haliakalae*, *P. mannii*, *Plantago princeps*, *Platanthera holochila*, *Santalum haleakalae* var. *lanaiense*, *Schiedea jacobii*, *Solanum incompletum*, *Wikstroemia villosa*, and *Zanthoxylum hawaiiense*).

East Maui Irrigation Company, Ltd., a subsidiary of Alexander and Baldwin, owns and operates a ditch system that diverts more than 60 billion gallons per year of surface water from east Maui to central Maui for agricultural, domestic, and other uses. In 1991, EMI, along with the major landowners and land managers (TNC, Maui County, DLNR, and private ranches) of the windward slope of east Maui (encompassing approximately 100,000 ac (40,500 ha)), formed the EMWP. The EMWP prepared a management plan in 1993, to protect the biological and water resources within the partnership lands (EMWP 2009, App. B). The plan identified five priority management activities: (1) Watershed resource monitoring, (2) feral animal control, (3) invasive weed control, (4) management infrastructure, and (5) public education and awareness programs.

In 1993, EMI and DLNR entered into a right-of-entry agreement to permit the use of EMI roads by public hunters in the area of Haiku Uka, with the intention of increasing hunting activities to control feral pigs, goats, and axis deer in the Koolau FR. In 1996, constituents of the EMWP prepared an ungulate exclusion fencing strategy to preserve and protect 12,000 ac (4,856 ha) of land (called the core area) on the east Maui slope between Hanawi NAR and Koolau Gap, including the Haiku Uka area, and TNC's Waikamoi Preserve (EMWP 2009, p. 3). Approximately 7,000 ac (2,833 ha) of the core area consists of State forest reserve and EMI lands, and approximately 5,000 ac (2,024 ha) are within TNC's Waikamoi Preserve. In 2005 and 2006, the Service and others provided funding for the construction of an ungulate exclusion fence at 3,600 ft (1,100 m) elevation and for improving hunter access to EMWP lands. The fence extends from Hanawi Natural Area Reserve west to Koolau Gap, and protects approximately 7,000 ac (2,833 ha) of native forest, including forest in Haiku Uka. The Waikamoi Preserve and Haleakala National Park fences provide the upper boundary of the fenced area (TNC 2006). The fence was completed in 2006, and the enclosed area of 7,000 ac (2,833 ha) is divided into five units (Honomanu, Koolau Gap, Wailuanui, Wailuaiki, and Kopiliua), which are managed through the cooperation of landowners, including EMI, and other partners (EMWP 2009, pp. 3–17). Fencing is one of the most effective strategies currently available to address the threat of ungulates, but it is also costly and difficult to install in the steep, mountainous terrain of Hawaii. The

completion of almost 7 mi (11 km) of fencing around an area of 7,000 ac (2,833 ha) for ungulate management represents a significant contribution to the conservation of the Maui Nui species.

The 1993 EMWP management plan was revised in 2006, and included recommendations for improving threat assessment and feral pig control, and developing more cost-effective methods for natural resource assessments. In 2008 and 2009, the Service provided funding for feral pig reduction and fence monitoring on EMI lands in Haiku Uka (USFWS 2008; Van Dyke 2011, in litt.).

The 2006 EMWP management plan was revised in 2009, to provide long-term protection of the east Maui watershed resources such as ground and surface water, native plants and animals and their habitat, hunting opportunities, commercial harvests, cultural resources, and ecotourism. The 2009 EMWP management plan provides detailed management objectives for protection of the east Maui watershed resources, and recommends that the effectiveness of ongoing management actions be evaluated and modified, as needed, after 5 years (EMWP 2009, pp. 3–17, + appendices). The 2009 EMWP management plan describes specific management actions for the protection of the EMWP lands, including Haiku Uka. These management actions include ungulate (*i.e.*, feral pigs) control through hunting, fencing, fence maintenance, and research on effective feral animal control actions; weed control by controlling existing weeds, preventing the introduction of new weeds, and supporting research on weed control; development of a management program for rare and endangered species that includes surveys, species monitoring, propagation and outplanting of rare plants and release of rare birds, as well as implementing threat abatement actions; monitoring changes in vegetation (both native and nonnative), native forest birds, stream animals, stream flow, and rainfall; monitoring changes in cultural resources, and maintaining and expanding public support for the east Maui watershed; and maintaining existing and developing new funding sources (EMWP 2009, pp. 13–17).

As of 2009, the majority of feral ungulates (*i.e.*, feral pigs) were removed from the five management units (described above). In addition, there are few to no feral pigs in Haiku Uka due to their control by hunting and the construction of exclusion fences (Jokiel 2009, pers. comm.). While native forest dominates Haiku Uka, weed control is ongoing, particularly within disturbance

corridors where new weed species are likely to be introduced (*e.g.*, camps, trails, and helicopter landing zones).

Our records indicate that between 2010 until 2015 there were no consultations conducted regarding projects receiving Federal funding on EMI lands. We believe that there is a low likelihood of a Federal nexus to provide a benefit to the species from designation of critical habitat. EMI has allowed access to their lands to encourage public hunting for the control of feral pigs, goats, and axis deer that pose significant threats to the Maui Nui species. They are founders and active members of the EMWP, and have made significant contributions to the protection of the 47 plants and the 2 forest birds on their lands by assisting in the maintenance of enclosure fences and participating in watershed resource monitoring and invasive weed control. EMI allowed the construction of a significant ungulate enclosure fence extending from Hanawi Natural Area Reserve west to Koolau Gap, resulting in substantial conservation benefits to the Maui Nui species and their habitat. All of these management actions will either lead to maintenance or enhancement of habitat for the species, or lead to emergence of suitable habitat where it is not present, thereby benefitting the conservation of the 47 plants and the 2 forest bird species, and their habitat.

#### Nuu Mauka Ranch

Native Watershed Forest Restoration at Nuu Mauka Conservation Plan, Leeward Haleakala Watershed Restoration Partnership Management Plan, and Southern Haleakala Forest Restoration Project

In this final designation, the Secretary has exercised her authority to exclude 2,094 ac (848 ha) of lands from critical habitat, under section 4(b)(2) of the Act, that are owned by Nuu Mauka Ranch. The ongoing management under the Native Watershed Forest Restoration Conservation Plan, LHWRP management plan, and the Southern Haleakala Forest restoration project agreement for Nuu Mauka Ranch lands on east Maui provide for the conservation of 46 plants and the 2 forest birds and their habitat, and demonstrate the positive benefits of the conservation partnership that has been established with Nuu Mauka Ranch. For the reasons described below, we have determined that the benefits of excluding these lands outweigh the benefits of including them in critical habitat.

The area falls within four critical habitat units for plants (Maui—Lowland

Dry—Unit 1, Maui—Montane Dry—Unit 1, Maui—Montane Mesic—Unit 1, and Maui—Subalpine—Unit 1), and four units for two forest birds, the akohekohe and kiwiku (*Palmeria dolei*—Unit 18—Montane Mesic, *Pseudonestor xanthophrys*—Unit 18—Montane Mesic, *Palmeria dolei*—Unit 24—Subalpine, and *Pseudonestor xanthophrys*—Unit 24—Subalpine). These units are occupied by the plants *Argyroxiphium sandwicense* ssp. *macrocephalum*, *Asplenium dielerectum*, *A. peruvianum* var. *insulare*, *Bidens micrantha* ssp. *kalealaha*, *Bonamia menziesii*, *Cenchrus agrimonoides*, *Clermontia lindseyana*, *Cyanea horrida*, *C. obtusa*, *Cyrtandra ferripilosa*, *C. oxybapha*, *Diplazium molokaiense*, *Flueggea neowawraea*, *Geranium arboreum*, *G. multiflorum*, *Huperzia mannii*, *Melicope adscendens*, *Neraudia sericea*, *Santalum haleakalae* var. *lanaiense*, and *Spermolepis hawaiiensis*. These areas contain unoccupied habitat that is essential to the conservation of 25 other endangered plant species (*Alectryon macrococcus*, *Bidens campylothea* ssp. *pentamera*, *Brighamia rockii*, *Canavalia pubescens*, *Colubrina oppositifolia*, *Ctenitis squamigera*, *Cyanea glabra*, *C. hamatiflora* ssp. *hamatiflora*, *C. kunthiana*, *C. mceldowneyi*, *Cyperus pennatifolius*, *Hibiscus brackenridgei*, *Ischaemum byrone*, *Melanthera kamolensis*, *Melicope mucronulata*, *Nototrichium humile*, *Peucedanum sandwicense*, *Phyllostegia bracteata*, *P. mannii*, *Schiedea haleakalensis*, *Sesbania tomentosa*, *Solanum incompletum*, *Vigna o-wahuensis*, *Wikstroemia villosa*, and *Zanthoxylum hawaiiense*), and to the akohekohe and kiwiku. None of these species currently occurs on Nuau Mauka Ranch lands.

Nuau Mauka Ranch is involved in several important voluntary conservation agreements with the Service and other agencies and is currently carrying out activities on their lands for the conservation of rare and endangered species and their habitats. In 2008, the Ranch worked with the USGS-Pacific Island Ecosystem Research Center and NRCS to develop cost-effective, substrate-appropriate restoration methodologies for establishment of native koa forests in degraded pasturelands (Nuau Mauka Ranch and LHWRP 2012, p. 7). Nuau Mauka Ranch is a current partner of the LHWRP, with the main goal of protection and restoration of leeward Haleakala's upland watershed (see "Ulupalakua Ranch," above, for further discussion). In 2012, Nuau Mauka Ranch obtained a conservation district use permit for a watershed protection

project. The ultimate goal of this project is to improve water quality and groundwater recharge through the restoration of degraded agricultural land to a native forest community (Nuau Mauka Ranch and LHWRP 2012, 11 pp.). Nuau Mauka Ranch has contributed approximately \$500,000 of their own funds, and received additional funding through the Service and NRCS, for construction of a 7.6-mile long deer-proof fence to prevent access by deer and goats into a 1,023-ac (414 ha) upper elevation watershed area on the south slopes of leeward Haleakala (Southern Haleakala Forest Restoration Project) (Nuau Mauka Ranch and LHWRP 2012, 11 pp.). Nuau Mauka Ranch has also prepared a conservation plan, "Native Watershed Forest Restoration at Nuau Mauka" (2012), and has appended it to the LHWRP management plan. Restoration activities outlined in the plan include mechanical and chemical control of invasive plant species including *Grevillea robusta* (silk oak), *Schinus terebinthifolius* (Christmas berry), *Tecoma stans* (yellow elder), and *Sphaeropteris cooperi* (Australian tree fern), which are known threats to the 48 species and their habitat. Currently, Nuau Mauka Ranch conducts removal of feral ungulates from all fenced areas, along with fence monitoring and follow-up monitoring to assess erosion rates. Also, with fencing and ungulate removal completed, the plan includes continued restoration activities, such as replanting and seed scattering of common native plant species.

Our records indicate that between 2010 until 2015 there were no consultations conducted regarding projects receiving Federal funding on Nuau Mauka Ranch lands, therefore in general we believe that there is a low likelihood of a Federal nexus to provide a benefit to the species from designation of critical habitat. However, as Federal funding has contributed to conservation projects on Nuau Mauka Ranch lands in the past (fence construction for exclusion of ungulates), it is possible that in the future such a conservation project may trigger consultation under Section 7. As consultation for a project designed to provide conservation benefit is most likely to result in a not likely to adversely affect determination, and the benefit accruing from the funded conservation project would be likely relatively greater than the regulatory benefit of critical habitat, the incremental benefit of critical habitat is reduced under such circumstances. Overall, these conservation actions, the Southern Haleakala Forest Restoration Project, and Nuau Mauka Ranch's

conservation plan will lead to maintenance or enhancement of habitat for the species, or lead to emergence of suitable habitat where it is not present, thereby benefitting the conservation of the 46 plants and the 2 forest bird species, and their habitat.

#### Kaupo Ranch

Leeward Haleakala Watershed Restoration Partnership Management Plan and Southern Haleakala Forest Restoration Project

In this final designation, the Secretary has exercised her authority to exclude 931 ac (377 ha) of lands from critical habitat, under section 4(b)(2) of the Act, that are owned or managed by Kaupo Ranch. Kaupo Ranch has undertaken voluntary conservation measures on their lands, demonstrating their value as a partner through participation in the LHWRP management plans and the Southern Haleakala Forest Restoration Project for Kaupo Ranch lands on east Maui. These actions provide positive conservation benefits for 26 plant species and their habitat. We have determined that the benefits of excluding Kaupo Ranch lands from critical habitat outweigh the benefits of including them, for the reasons discussed below.

Kaupo Ranch lands fall within three critical habitat units for plants (Maui—Lowland Dry—Unit 1, Maui—Montane Dry—Unit 1, and Maui—Coastal—Unit 7). These units are occupied by the plants *Bonamia menziesii*, *Cenchrus agrimonoides*, *Flueggea neowawraea*, *Santalum haleakalae* var. *lanaiense*, and *Spermolepis hawaiiensis*. These areas contain unoccupied habitat that is essential to the conservation of 21 other endangered plant species (*Alectryon macrococcus*, *Bidens micrantha* ssp. *kalealaha*, *Brighamia rockii*, *Canavalia pubescens*, *Colubrina oppositifolia*, *Ctenitis squamigera*, *Cyperus pennatifolius*, *Geranium arboreum*, *Hibiscus brackenridgei*, *Ischaemum byrone*, *Melanthera kamolensis*, *Melicope adscendens*, *M. knudsenii*, *M. mucronulata*, *Neraudia sericea*, *Nototrichium humile*, *Peucedanum sandwicense*, *Sesbania tomentosa*, *Solanum incompletum*, *Vigna o-wahuensis*, and *Zanthoxylum hawaiiense*). None of these species currently occurs on Kaupo Ranch lands.

Kaupo Ranch is a current partner of the LHWRP, with the main goal of protection and restoration of leeward Haleakala's upland watershed (LHWRP 2006, 65 pp.). Kaupo Ranch has been a long time cooperator with HNP, providing access to the park's Kaupo Gap hiking trail across their private

lands (Kean 2012, pers. comm.). This trail extends from the park's boundary near the summit of Haleakala through Kaupo Ranch lands to the coast. The Ranch was also a cooperator with the Service in the creation of Nu'u Makai Wetland Reserve, contributing 87 ac (35 ha) of their ranch lands in the coastal area to support landscape-scale wetland protection (The Conservation Registry and USFWS 2012, in litt.). In addition, Kaupo Ranch participated in the construction of an ungulate exclusion fence on the upper portion of their lands, bordering HNP, that protects 50 ac (20 ha) of native montane dry forest habitat (Southern Haleakala Forest Restoration Project) and acts as a buffer to the lower boundary of the montane mesic ecosystem that provides habitat for forest birds (DLNR 2012, in litt.). Additional conservation actions in this fenced area include weed control and outplanting of native plants. While these actions do not directly address the Maui Nui species in this final rule, they demonstrate the willingness of Kaupo Ranch to protect and conserve native habitat on their lands and to provide outreach and support to the neighboring national park, and their value as a partner in conservation.

Our records indicate that between 2010 until 2015 there was one informal consultation conducted regarding a project receiving Federal funding through NRCS's Environmental Quality Incentives Program (EQIP) on Kaupo Ranch lands for brush management and prescribed grazing to improve ranching operations; however, we concurred that the project would not likely adversely affect the listed Hawaiian hoary bat or the listed Hawaiian goose. We believe that there is a low likelihood of a Federal nexus that would provide a benefit to the species from designation of critical habitat, because past history indicates that any action likely to trigger consultation would likely be designed to benefit the species, and would not result in additional conservation measures. In contrast, conservation actions taken through the LHWRP management plan, cooperation with Haleakala National Park to provide additional public access, creation and protection of a wetland, and construction of an ungulate-exclusion fence to protect dry forest habitat, along with other conservation actions by Kaupo Ranch discussed above, will either lead to maintenance or enhancement of habitat for the species, or lead to emergence of suitable habitat where it is not present, thereby benefitting the conservation of the 25 plants and their habitat.

#### Wailuku Water Company

West Maui Mountains Watershed Partnership Management Plan, and Partners for Fish and Wildlife Agreements

In this final designation, the Secretary has exercised her authority to exclude 7,410 ac (2,999 ha) of lands from critical habitat, under section 4(b)(2) of the Act, that are owned or managed by Wailuku Water Company on west Maui, and under management as part of the West Maui Mountains Watershed Partnership (WMMWP). We believe that the ongoing conservation actions through the WMMWP management plan and Partners for Fish and Wildlife Agreements for Wailuku Water Company lands on west Maui provide important conservation benefits for 51 plants and 2 forest birds and their habitat. We have concluded that the benefits of excluding these lands outweigh the benefit of including them in critical habitat, for the reasons discussed below.

The Wailuku Water Company lands fall within 10 critical habitat units for plants (Maui—Lowland Dry—Unit 5, Maui—Lowland Dry—Unit 6, Maui—Lowland Wet—Unit 5, Maui—Montane Wet—Unit 6, Maui—Montane Wet—Unit 7, Maui—Montane Wet—Unit 8, Maui—Montane Mesic—Unit 5, Maui—Montane Mesic—Unit 6, Maui—Dry Cliff—Unit 7, and Maui—Wet Cliff—Unit 6) and 12 critical habitat units for the two forest birds, the akohekohe and kiwikiu (*Palmeria dolei*—Unit 6—Lowland Wet, *Pseudonestor xanthophrys*—Unit 6—Lowland Wet, *Palmeria dolei*—Unit 15—Montane Wet, *Pseudonestor xanthophrys*—Unit 15—Montane Wet, *Palmeria dolei*—Unit 16—Montane Wet, *Pseudonestor xanthophrys*—Unit 16—Montane Wet, *Palmeria dolei*—Unit 22—Montane Mesic, *Pseudonestor xanthophrys*—Unit 22—Montane Mesic, *Palmeria dolei*—Unit 23—Montane Mesic, *Pseudonestor xanthophrys*—Unit 23—Montane Mesic, *Palmeria dolei*—Unit 35—Wet Cliff, and *Pseudonestor xanthophrys*—Unit 35—Wet Cliff). These units are occupied by the plants *Alectryon macrococcus*, *Asplenium dielerectum*, *Bidens campylothea* ssp. *pentamera*, *B. conjuncta*, *Calamagrostis hillebrandii*, *Cenchrus agrimonoides*, *Ctenitis squamigera*, *Cyanea kunthiana*, *Cyrtandra munroi*, *C. oxybapha*, *Geranium hillebrandii*, *Gouania hillebrandii*, *Hibiscus brackenridgei*, *Kadua coriacea*, *Myrsine vaccinioides*, *Platanthera holochila*, *Remya mauiensis*, *Sanicula purpurea*, *Santalum haleakalae* var. *lanaiense*, *Schiedea salicaria*, *Spermolepis*

*hawaiiensis*, and *Tetramolopium capillare*. These areas contain unoccupied habitat that is essential to the conservation of 29 other endangered plant species (*Acaena exigua*, *B. micrantha* ssp. *kalealaha*, *Bonamia menziesii*, *Clermontia oblongifolia* ssp. *mauiensis*, *Cyanea asplenifolia*, *C. glabra*, *C. lobata*, *C. magnicalyx*, *C. obtusa*, *Cyrtandra filipes*, *Diplazium molokaiense*, *Dubautia plantaginea* ssp. *humilis*, *Gouania vitifolia*, *Hesperomannia arborescens*, *H. arbuscula*, *Huperzia mannii*, *Isodendron pyrifolium*, *Kadua laxiflora*, *Lysimachia lydgatei*, *Neraudia sericea*, *Peucedanum sandwicense*, *Phyllostegia bracteata*, *Plantago princeps*, *Pteris lidgatei*, *Sesbania tomentosa*, *Stenogyne kauaulaensis*, *Tetramolopium remyi*, *Wikstroemia villosa*, and *Zanthoxylum hawaiiense*), and the akohekohe and kiwikiu. The plant species *Alectryon macrococcus*, *Cyanea kunthiana*, *C. magnicalyx*, *Cyrtandra oxybapha*, *Dubautia plantaginea* ssp. *humilis*, *Hesperomannia arborescens*, *Plantago princeps*, *Platanthera holochila*, *Remya mauiensis*, *Santalum haleakalae* var. *lanaiense*, and *Schiedea salicaria* are reported from Wailuku Water Company lands on west Maui.

Wailuku Water Company is one of the founding members and a funder of the WMMWP, created in 1998. This partnership serves to protect over 47,000 ac (19,000 ha) of forest and watershed vegetation on the summit and slopes of the west Maui mountains (WMMWP 2013). Management priorities of the watershed partnership are: (1) Feral animal control, (2) nonnative plant control, (3) human activities management, (4) public education and awareness, (5) water and watershed monitoring, and (6) management coordination (WMMWP 2013). Four principal streams, Waihee, Waiehu, Iao, and Waikapu, are part of the watershed area owned by the Wailuku Water Company on west Maui, which primarily provide water for agricultural use (WMMWP 2013). Conservation actions described in the WMMWP management plan are partly funded by Service grants through the Partners for Fish and Wildlife Program, with at least three grants recently funding projects on Wailuku Water Company lands (WMMWP 2010, 2011, 2012). Wailuku Water Company's conservation commitments include the following conservation actions: (1) Strategic fencing and removal of ungulates, (2) regular monitoring for ungulates after fencing, (3) monitoring of habitat recovery through photopoints and vegetation succession analyses, and (4)

continued surveys for rare taxa prior to fence installations. In 2009, four strategic fences were installed in Waiehu on Wailuku Water Company lands through a Service Partnership agreement. Funding for animal control checks has been provided, and these checks follow a regular schedule. Decontamination protocols are followed for all equipment used in the field to prevent introduction of nonnative plant species (WMMWP 2010). Wailuku Water Company allows surveys for rare taxa on their lands. Additional conservation actions in this area include weed control and outplanting of native plants (WMMWP 2010).

Our records indicate that between 2010 until 2015 there was one informal consultation conducted regarding a habitat protection project receiving Federal funding through the Service's Partners for Fish and Wildlife program on Wailuku Water Company land; however, we concurred that the project would not likely adversely affect listed plant species. We thus believe there is a low likelihood of a Federal nexus to provide a benefit to the species from designation of critical habitat. The WMMWP management plan and the commitments by Wailuku Water Company to implement the conservation actions listed above will either lead to maintenance or enhancement of habitat for the species, or lead to emergence of suitable habitat where it is not present, thereby benefitting the conservation of the 51 plants, the 2 forest birds, and their habitat. Through their actions, Wailuku Water Company has enabled the implementation of important conservation activities on their lands, including fencing and removal of ungulates, and weed control and outplanting of native plants. Survey access for rare taxa on private lands allows for the collection of important data regarding these species that would otherwise not be available. These actions demonstrate the willingness of Wailuku Water Company to protect and conserve native habitat and the west Maui watershed on their lands, and their value as a partner in conservation.

County of Maui, Department of Water Supply (DWS)

West Maui Mountains Watershed Partnership Management Plan, and Partners for Fish and Wildlife Agreements

In this final designation, the Secretary has exercised her authority to exclude 3,690 ac (1,493 ha) of lands from critical habitat, under section 4(b)(2) of the Act, that are owned by the County of Maui

DWS on west Maui, and under management as part of the WMMWP. The County of Maui DWS has demonstrated their value as a conservation partner and funder of the WMMWP, which provides for important conservation actions that benefit the Maui Nui species through implementation of the WMMWP management plan on west Maui. The management plans and projects supported by the County of Maui DWS provide for the conservation of 39 plants and the 2 forest birds and their habitat on their lands. For the reasons discussed below, we have determined that the benefits of excluding County of Maui DWS lands outweigh the benefits of including them in critical habitat.

The County of Maui DWS lands fall within three critical habitat units for plants (Maui—Lowland Wet—Unit 4, Maui—Montane Wet—Unit 6, and Maui—Wet Cliff—Unit 6) and six critical habitat units for the two forest birds, the akohekohe and kiwikiu (*Palmeria dolei*—Unit 5—Lowland Wet, *Pseudonestor xanthophrys*—Unit 5—Lowland Wet, *Palmeria dolei*—Unit 15—Montane Wet, *Pseudonestor xanthophrys*—Unit 15—Montane Wet, *Palmeria dolei*—Unit 35—Wet Cliff, and *Pseudonestor xanthophrys*—Unit 35—Wet Cliff). These units are occupied by the plants *Alectryon macrococcus*, *Bidens conjuncta*, *Calamagrostis hillebrandii*, *Ctenitis squamigera*, *Cyanea asplenifolia*, *C. kunthiana*, *Cyrtandra munroi*, *Geranium hillebrandii*, *Myrsine vaccinioides*, *Remya maiensis*, *Sanicula purpurea*, and *Santalum haleakalae* var. *lanaiense*. These areas contain unoccupied habitat that is essential to the conservation of 27 other endangered plant species (*Acaena exigua*, *Asplenium dielerectum*, *Bidens campylotheca* ssp. *pentamera*, *B. micrantha* ssp. *kalealaha*, *Bonamia menziesii*, *Clermontia oblongifolia* ssp. *mauiensis*, *Cyanea glabra*, *C. lobata*, *C. magnicalyx*, *Cyrtandra filipes*, *Cyrtandra oxybapha*, *Diplazium molokaiense*, *Dubautia plantaginea* ssp. *humilis*, *Gouania vitifolia*, *Hesperomannia arborescens*, *H. arbuscula*, *Huperzia mannii*, *Isodendron pyriformum*, *Kadua laxiflora*, *Lysimachia lydgatei*, *Peucedanum sandwicense*, *Phyllostegia bracteata*, *Plantago princeps*, *Platanthera holochila*, *Pteris lidgatei*, *Tetramolopium capillare*, and *Wikstroemia villosa*), and for the akohekohe and kiwikiu. The plant species *Bidens conjuncta*, *Cyrtandra filipes*, *Hesperomannia arborescens*,

and *Platanthera holochila* are reported from Maui County lands on west Maui.

Our records indicate that between 2010 until 2015 there was one informal consultation conducted regarding a project receiving Federal funding through the Fish and Wildlife Service's Partners for Fish and Wildlife Program on Maui County lands for habitat protection; however, we concurred that the project would not likely adversely affect listed plant species. We believe that there is a low likelihood of a Federal nexus to provide a benefit to the species from designation of critical habitat. Maui County DWS provides water to approximately 35,000 customers on Maui and Molokai combined (Maui County 2012). The DWS is a founding partner and funder of the WMMWP, with the main goal of protection and restoration of west Maui's upland watershed. The Maui County DWS provides financial support to both the Maui and Molokai watershed partnerships, and to other organizations, private landowners, Federal, and State agencies (Maui County 2012). Conservation actions by Maui County DWS conducted through the WMMWP are also partly funded by Service grants through the Partners for Fish and Wildlife Program (WMMWP 2010, 2011, 2012; USFWS 2010). Maui County DWS's conservation commitments include the following conservation actions: (1) Strategic fencing and removal of ungulates and removal of invasive nonnative plants; (2) regular monitoring to detect changes in management programs; (3) reducing the threat of fire; and (4) gaining community support for conservation programs. In addition, the DWS received funding for installation of an ungulate exclusion fence on the upper portion of their lands on west Maui that protects native habitat and acts as a buffer to the lower boundary of the habitat for plants and the two forest birds. The DWS also received funding in 2010 for feral animal removal from their lands (USFWS 2010). Other conservation actions in this fenced area include weed control and outplanting of native plants. The WMMWP management plan and the commitments by Maui County DWS to implement the conservation actions listed above will either lead to maintenance or enhancement of habitat for the species, or lead to emergence of suitable habitat where it is not present, thereby benefitting the conservation of the 39 plants, the 2 forest birds, and their habitat. These actions demonstrate the willingness of Maui County DWS to protect and conserve native habitat and the west Maui watershed on their lands,

and their value as a conservation partner.

#### Kamehameha Schools

West Maui Mountains Watershed Partnership Management Plan, and Partners for Fish and Wildlife Agreements

In this final designation, the Secretary has exercised her authority to exclude 1,217 ac (492 ha) of lands from critical habitat, under section 4(b)(2) of the Act, that are owned or managed by Kamehameha Schools on west Maui, and under management as part of the WMMWP. Kamehameha Schools is an established conservation partner, and has participated in the development, implementation, and funding of management plans and projects that benefit the Maui Nui species and other listed species throughout the Hawaiian islands. In this case, the ongoing conservation actions through the WMMWP management plan for Kamehameha Schools lands on west Maui provide for the conservation of 43 plants and 2 forest birds and their habitat. We have determined that the benefits of excluding Kamehameha Schools lands outweigh the benefits of including them in critical habitat for the reasons discussed below.

The Kamehameha Schools lands fall within four critical habitat units for plants (Maui—Lowland Dry—Unit 5, Maui—Lowland Mesic—Unit 2, Maui—Montane Wet—Unit 6, and Maui—Wet Cliff—Unit 6) and four critical habitat units for the two forest birds, the akohekohe and kiwikiu (*Palmeria dolei*—Unit 15—Montane Wet, *Pseudonestor xanthophrys*—Unit 15—Montane Wet, *Palmeria dolei*—Unit 35—Wet Cliff, and *Pseudonestor xanthophrys*—Unit 35—Wet Cliff). These units are occupied by the plants *Alectryon macrococcus*, *Asplenium dielirectum*, *Bidens campylotheca* ssp. *pentamera*, *B. conjuncta*, *Calamagrostis hillebrandii*, *Cenchrus agrimonoides*, *Ctenitis squamigera*, *Cyanea kunthiana*, *C. munroi*, *Geranium hillebrandii*, *Gouania hillebrandii*, *Kadua coriacea*, *Myrsine vaccinioides*, *Remya mauiensis*, *Sanicula purpurea*, *Santalum haleakalae* var. *lanaiense*, *Sesbania tomentosa*, *Spermolepis hawaiiensis*, *Tetramolopium capillare*, and *Zanthoxylum hawaiiense*. These areas contain unoccupied habitat that is essential to the conservation of 24 other endangered plant species (*Acaena exigua*, *Bonamia menziesii*, *Cyanea glabra*, *C. lobata*, *C. magnicalyx*, *C. obtusa*, *Cyrtandra filipes*, *C. oxybapha*, *Dubautia plantaginea* ssp. *humilis*, *Hesperomannia arborescens*, *H.*

*arbuscula*, *Hibiscus brackenridgei*, *Huperzia mannii*, *Isodendron pyrifolium*, *Kadua laxiflora*, *Lysimachia lydgatei*, *Neraudia sericea*, *Phyllostegia bracteata*, *Plantago princeps*, *Platanthera holochila*, *Pteris lidgatei*, *Schiedea salicaria*, *Sesbania tomentosa*, and *Tetramolopium remyi*), and the akohekohe and kiwikiu. *Alectryon macrococcus* is reported from Kamehameha Schools' lands on west Maui.

Kamehameha Schools was established in 1887, through the will of Princess Bernice Pauahi Paki Bishop. The trust is used primarily to operate a college preparatory program; however, part of Kamehameha School's mission is to protect Hawaii's environment through recognition of the significant cultural value of the land and its unique flora and fauna. Kamehameha Schools has established a policy to guide the sustainable stewardship of its lands including natural resources, water resources, and ancestral places (Kamehameha Schools 2013). Kamehameha Schools is a founder and funder of the WMMWP, and also participates in the watershed partnerships for Oahu, Molokai, Kauai, and the island of Hawaii (WMMWP 2013). Conservation actions conducted by the WMMWP are partly funded by Service grants through the Partners for Fish and Wildlife Program (WMMWP 2010, 2011, 2012). Kamehameha Schools' conservation commitments include the following conservation actions: (1) Strategic fencing and removal of ungulates; (2) regular monitoring for ungulates after fencing; (3) monitoring of habitat recovery; and (4) continued surveys for rare taxa prior to new fence installations. In addition, Kamehameha Schools participated in the construction of strategic ungulate exclusion fences on the upper elevations of their lands on west Maui, which protect native habitat and act as a buffer to the lower boundary of the lowland mesic, montane wet, and wet cliff ecosystems. Other conservation actions in this area include weed control and outplanting of native plants. Kamehameha Schools is also conducting voluntary actions to promote the conservation of rare and endangered species and their lowland dry ecosystem habitats on the island of Hawaii, including the installation of fencing to exclude ungulates, restoring habitat, conducting actions to reduce rodent populations, reestablishing native plant species, and conducting activities to reducing the threat of wildfire. The WMMWP management plan and the commitments by

Kamehameha Schools to implement the conservation actions listed above will either lead to maintenance or enhancement of habitat for the species, or lead to emergence of suitable habitat where it is not present, thereby benefitting the conservation of the 43 plants, the 2 forest birds, and their habitat. Our records indicate that between 2010 until 2015 there were no consultations conducted regarding projects receiving Federal funding on Kamehameha Schools lands, therefore we believe that in general there is a low likelihood of a Federal nexus to provide a benefit to the species from designation of critical habitat. However, as the WMMWP has received Federal funding for conservation projects in the past, it is possible that in the future such a conservation project undertaken on Kamehameha Schools property may trigger consultation under Section 7. As consultation for a project designed to provide conservation benefit is most likely to result in a not likely to adversely affect determination, and the benefit accruing from the funded conservation project would be likely relatively greater than the regulatory benefit of critical habitat, the incremental benefit of critical habitat is reduced under such circumstances. Overall, the actions described above demonstrate the willingness of Kamehameha Schools to protect and conserve native habitat and the watershed on their west Maui lands, and their value as a partner in conservation.

#### Makila Land Company

West Maui Mountains Watershed Partnership Management Plan, and Partners for Fish and Wildlife Agreements

In this final designation, the Secretary has exercised her authority to exclude 3,150 ac (1,275 ha) of lands from critical habitat, under section 4(b)(2) of the Act, that are owned and managed by Makila Land Company on west Maui, and under management as part of the WMMWP. The Makila Land Company is an established partner in the WMMWP, and ongoing conservation actions through the WMMWP management plan for Makila Land Company lands on west Maui provide for the conservation of 47 plants and 2 forest birds and their habitat. For the reasons discussed below, we have determined that the benefits of excluding Makila Land Company lands outweigh the benefits of including them in critical habitat.

The Makila Land Company lands fall within seven critical habitat units for plants (Maui—Lowland Dry—Unit 5,



Maui—Lowland Mesic—Unit 2, Maui—Montane Wet—Unit 6, Maui—Montane Mesic—Unit 2, Maui—Montane Mesic—Unit 3, Maui—Dry Cliff—Unit 5, and Maui—Wet Cliff—Unit 6) and 10 critical habitat units for the two forest birds, the akohekohe and kiwikiu (*Palmeria dolei*—Unit 15—Montane Wet, *Pseudonestor xanthophrys*—Unit 15—Montane Wet, *Palmeria dolei*—Unit 19—Montane Mesic, *Pseudonestor xanthophrys*—Unit 19—Montane Mesic, *Palmeria dolei*—Unit 20—Montane Mesic, *Pseudonestor xanthophrys*—Unit 20—Montane Mesic, *Palmeria dolei*—Unit 29—Dry Cliff, *Pseudonestor xanthophrys*—Unit 29—Dry Cliff, *Palmeria dolei*—Unit 35—Wet Cliff, and *Pseudonestor xanthophrys*—Unit 35—Wet Cliff). These units are occupied by the plants *Alectryon macrococcus*, *Asplenium dielerectionum*, *Bidens campylothea* ssp. *pentamera*, *B. conjuncta*, *Calamagrostis hillebrandii*, *Cenchrus agrimonoides*, *Ctenitis squamigera*, *Cyanea kunthiana*, *C. magnicalyx*, *Cyrtandra filipes*, *Cyrtandra. munroi*, *Diplazium molokaiense*, *Geranium hillebrandii*, *Gouania hillebrandii*, *Kadua coriacea*, *Lysimachia lydgatei*, *Myrsine vaccinioides*, *Remya mauiensis*, *Sanicula purpurea*, *Santalum haleakalae* var. *lanaiense*, *Spermolepis hawaiiensis*, *Tetramolopium capillare*, and *Zanthoxylum hawaiiense*. These areas contain unoccupied habitat that is essential to the conservation of 25 other endangered plant species (*Acaena exigua*, *Bonamia menziesii*, *Colubrina oppositifolia*, *Cyanea glabra*, *C. lobata*, *C. obtusa*, *Cyrtandra filipes*, *C. oxybapha*, *Dubautia plantaginea* ssp. *humilis*, *Gouania vitifolia*, *Hesperomannia arborescens*, *H. arbuscula*, *Hibiscus brackenridgei*, *Huperzia mannii*, *Isodendron pyrifolium*, *Kadua laxiflora*, *Neraudia sericea*, *Phyllostegia bracteata*, *Plantago princeps*, *Platanthera holochila*, *Pteris lidgatei*, *Schiedea salicaria*, *Sesbania tomentosa*, *Stenogyne kauaulaensis*, and *Tetramolopium remyi*), and the akohekohe and kiwikiu. The plant species *Bidens campylothea* ssp. *pentamera*, *Gouania hillebrandii*, *Kadua laxiflora*, *Lysimachia lydgatei*, *Plantago princeps*, *Remya mauiensis*, *Stenogyne kauaulaensis*, *Tetramolopium capillare*, and *Zanthoxylum hawaiiense* are reported from on Makila Land Company lands on west Maui.

Makila Land Company has set aside upper elevation areas of their property at Puehuhunui and Kauaula on west Maui for conservation and protection of rare dry to mesic forest communities. Makila Land Company is a long-time

cooperator with the WMMWP. Conservation actions conducted by the WMMWP are partly funded by Service grants through the Partners for Fish and Wildlife Program (WMMWP 2010, 2011, 2012). Makila Land Company's conservation commitments include the following conservation actions: (1) Strategic fencing and removal of ungulates; (2) regular monitoring for ungulates after fencing; (3) vegetation monitoring; and (4) allowing surveys for rare taxa by the State and the Service's Plant Extinction Prevention Program (PEPP) staff. Much of the area is accessible only by helicopter due to waterfalls and steep terrain. The installation of strategic ungulate exclusion fences on the higher elevation portions of its lands protect native habitat and act as a buffer to the boundaries of the montane wet and wet cliff ecosystems' habitat. Additional conservation actions in these fenced areas include weed control and outplanting of native plants. The WMMWP management plan and the commitments by Makila Land Company to implement the conservation actions listed above will either lead to maintenance or enhancement of habitat for the species, or lead to emergence of suitable habitat where it is not present, thereby benefitting the conservation of the 47 plants and 2 forest birds, and their habitat. Our records indicate that between 2010 until 2015 there were no consultations conducted regarding projects receiving Federal funding on Makila Land Company lands. We believe that there is a low likelihood of a Federal nexus to provide a benefit to the species from designation of critical habitat. The actions described above demonstrate the willingness of Makila Land Company to protect and conserve native habitat and the west Maui watershed on their lands, and their value as a partner in conservation.

#### Kahoma Land Company

West Maui Mountains Watershed Partnership Management Plan, and Partners for Fish and Wildlife Agreements

In this final designation, the Secretary has exercised her authority to exclude 46 ac (19 ha) of lands from critical habitat, under section 4(b)(2) of the Act, that are owned or managed by Kahoma Land Company on west Maui, and under management as part of the WMMWP. The ongoing conservation actions through the WMMWP management plan for Kahoma Land Company lands on west Maui provide for the conservation of 26 plants and 2 forest birds and their habitat. For the

reasons discussed below, we have determined that the benefits of excluding Kahoma Land Company lands outweigh the benefits of including them in critical habitat.

Kahoma Land Company lands fall within three critical habitat units for plants (Maui—Lowland Dry—Unit 5, Maui—Lowland Mesic—Unit 2, and Maui—Wet Cliff—Unit 6) and two critical habitat units for the two forest birds, the akohekohe and kiwikiu (*Palmeria dolei*—Unit 35—Wet Cliff and *Pseudonestor xanthophrys*—Unit 35—Wet Cliff). The area owned by Kahoma Land that is overlapped by Maui—Lowland Dry—Unit 5 is so small (0.1 ac, 0.05 ha) that it will be excluded, but not included in the analysis for lowland dry species here. The two remaining units are occupied by the plants *Alectryon macrococcus*, *Ctenitis squamigera*, *Cyrtandra. munroi*, *Remya mauiensis*, *Santalum haleakalae* var. *lanaiense*, and *Zanthoxylum hawaiiense*. These areas contain unoccupied habitat that is essential to the conservation of 20 other endangered plant species (*Asplenium dielerectionum*, *Bidens campylothea* ssp. *pentamera*, *B. conjuncta*, *Bonamia menziesii*, *Colubrina oppositifolia*, *Cyanea glabra*, *C. lobata*, *C. magnicalyx*, *Cyrtandra filipes*, *Dubautia plantaginea* ssp. *humilis*, *Gouania vitifolia*, *Hesperomannia arborescens*, *H. arbuscula*, *Isodendron pyrifolium*, *Kadua laxiflora*, *Lysimachia lydgatei*, *Plantago princeps*, *Platanthera holochila*, *Pteris lidgatei*, and *Tetramolopium capillare*), and the akohekohe and kiwikiu. None of the plant species discussed in this rule currently occurs on Kahoma Land Company lands on west Maui.

Kahoma Land Company is a coalition of Maui residents formed in June 2000, to acquire former sugar cane land adjacent to Kahoma Valley on west Maui. Kahoma Land Company's long-term management goals for this area include development of land tracts, diversified agriculture, and ecotourism ventures. Approximately 690 ac (279 ha) of the coalition's lands are within the WMMWP boundaries between two State Natural Area Reserves, and 46 ac (19 ha) are within proposed critical habitat. Kahoma Land Company is also a current member of the WMMWP (WMMWP 2013). Kahoma Land Company's conservation actions conducted by the WMMWP are partly funded by Service grants through the Partners for Fish and Wildlife Program (WMMWP 2010, 2011, 2012). Its conservation commitments include the following conservation actions: (1) Strategic fencing and removal of ungulates; (2) regular monitoring for ungulates after fencing;

(3) monitoring of habitat recovery through vegetation succession analyses; and (4) continued surveys for rare taxa prior to new fence installations. The WMMWP management plan includes actions taken on Kahoma lands to control ungulates, including construction of strategic fencing. Ungulate control checks are currently underway on Kahoma lands, with addition of new check installations (WMMWP 2010, p. 1). Additional conservation actions in this area include weed control and outplanting of native plants. The WMMWP management plan and the commitments by Kahoma Land Company to implement the conservation actions listed above will either lead to maintenance or enhancement of habitat for the species, or lead to emergence of suitable habitat where it is not present, thereby benefitting the conservation of the 26 plants, the 2 forest birds, and their habitat. Our records indicate that between 2010 until 2015 there was one informal consultation conducted regarding a project receiving Federal funding through the Fish and Wildlife Service's Partners for Fish and Wildlife Program on Kahoma Land lands for habitat protection; however, we concurred that the project would not likely adversely affect listed plant species. We believe that there is a low likelihood of a Federal nexus to provide a benefit to the species from designation of critical habitat. The action described above demonstrate the willingness of Kahoma Land Company to protect and conserve native habitat and the west Maui watershed on their lands, and their value as a partner in conservation.

Lanai Resorts, LLC, and Castle & Cooke Properties, Inc.

Lanai Conservation Plan and Lanai Conservation Memorandum of Understanding Between Lanai Resorts, LLC, Castle & Cooke Properties, Inc., and U.S. Department of the Interior Fish and Wildlife Service and Lanai Natural Resources Plan

In this final designation, the Secretary has exercised her authority to exclude 25,413 ac (10,284 ha) of lands from critical habitat, under section 4(b)(2) of the Act, that are owned by Lanai Resorts, LLC (LR), also known as Pulama Lanai (PL.). Our partnership with PL (and Castle & Cooke Properties, Inc. (CCPI), which holds rights on PL land for the possible development of a wind farm) provides significant conservation benefits to 38 plant and 2 Lanai tree snail species on Lanai, as demonstrated by the ongoing conservation efforts on the island, the

commitment to develop the Lanai Natural Resources Plan (LNRP), and a memorandum of understanding (MOU) between the Service and LR and CCPI. For the reasons discussed below, we have determined that the benefits of excluding these areas outweigh the benefits of including them in critical habitat.

The areas owned by LR and CCPI fall within 14 critical habitat units that were proposed for plants (Lanai—Coastal—Unit 1, Lanai—Coastal—Unit 2, Lanai—Coastal—Unit 3, Lanai—Lowland Dry—Unit 1, Lanai—Lowland Dry—Unit 2, Lanai—Lowland Mesic—Unit 1, Lanai—Lowland Wet—Unit 1, Lanai—Lowland Wet—Unit 2, Lanai—Montane Wet—Unit 1, Lanai—Dry Cliff—Unit 1, Lanai—Dry Cliff—Unit 2, Lanai—Dry Cliff—Unit 3, Lanai—Wet Cliff—Unit 1, and Lanai—Wet Cliff—Unit 2) and 10 critical habitat units that were proposed for 2 Lanai tree snails (*Partulina semicarinata*—Unit 1—Lowland Wet, *Partulina semicarinata*—Unit 2—Lowland Wet, *Partulina semicarinata*—Unit 3—Montane Wet, *Partulina semicarinata*—Unit 4—Wet Cliff, *Partulina semicarinata*—Unit 5—Wet Cliff, *Partulina variabilis*—Unit 1—Lowland Wet, *Partulina variabilis*—Unit 2—Lowland Wet, *Partulina variabilis*—Unit 3—Montane Wet, *Partulina variabilis*—Unit 4—Wet Cliff, and *Partulina variabilis*—Unit 5—Wet Cliff). These units are occupied by the plants *Abutilon eremitopetalum*, *Bidens micrantha* ssp. *kalealaha*, *Bonamia menziesii*, *Ctenitis squamigera*, *Cyanea gibsonii*, *C. lobata*, *C. munroi*, *Cyrtandra munroi*, *Kadua cordata* ssp. *remyi*, *K. laxiflora*, *Labordia tinifolia* var. *lanaiensis*, *Melicope munroi*, *Pleomele fernaldii*, *Santalum haleakalae* var. *lanaiense*, *Schenkia sebaeoides*, *Spermolepis hawaiiensis*, and *Viola lanaiensis*, and by the Lanai tree snails. These areas contain unoccupied habitat that is essential to the conservation of 21 other endangered plant species (*Adenophorus periens*, *Asplenium dielerectum*, *Brighamia rockii*, *Canavalia pubescens*, *Cenchrus agrimonoides*, *Clermontia oblongifolia* ssp. *mauiensis*, *Cyperus fauriei*, *C. trachysanthos*, *Diplazium molokaiense*, *Hesperomannia arborescens*, *Hibiscus brackenridgei*, *Neraudia sericea*, *Phyllostegia haliakalae*, *Portulaca sclerocarpa*, *Sesbania tomentosa*, *Silene lanceolata*, *Solanum incompletum*, *Tetramolopium lepidotum* ssp. *lepidotum*, *T. remyi*, *Vigna o-wahuensis*, and *Zanthoxylum hawaiiense*).

In 2001, the Board of Land and Natural Resources (BLNR) approved its department's (Department of Land and Natural Resources (DLNR) participation

in a Lanai watershed management program that included the Service (through a private stewardship grant), the Hawaii Department of Health, and CCPI, which at the time, was the primary landowner of Lanai (Leone 2001, in litt). In 2002, the Service and CCPI entered into a memorandum of agreement (MOA) for construction of ungulate-proof fence at Lanaihale, intended to prevent entry by ungulates and to protect the watershed and the listed species within the area. The term of the MOA was through 2025. The fencing of the summit at Lanaihale was planned to be constructed in three stages or "increments." In 2004, the DLNR also provided funding through the Landowner Incentive Program to the Bishop Museum to remove nonnative plants and outplant and establish a population of more than 500 individuals of *Bidens micrantha* ssp. *kalealaha* and *Pleomele fernaldii* in Waiapaa Gulch at Lanaihale. Museum staff were to also collect seed for long-term storage and provide educational experiences for local Lanai students (Bishop Museum 2009, pp. 1–2). In 2006, a fire resulted in the loss of half of the remaining wild individuals of *B. micrantha* ssp. *kalealaha*, and by 2007, none remained. Outplanting was conducted within an ungulate-free enclosure at Awehi Gulch. Also in 2007, the west side (Increment II) of the Lanaihale summit fence perimeter was completed; however, ungulates were able to access the fenced area because the gates were not completed (Service 2008, p. 12). In 2008, more wild individuals of *B. micrantha* ssp. *kalealaha* were discovered in Waiapaa Gulch, and many seedlings were grown for outplanting by a student group at the local high school, with a second outplanted population established in 2009. This population was fenced by the Lanai Institute for the Environment (LIFE) (Bishop Museum 2009, pp. 3–4).

In 2012, CCPI sold the fee interest in their lands on Lanai to Larry Ellison. Ellison subsequently developed PL to manage the island's operations and land. In the sale, CCPI retained the rights to pursue the possible development of a wind power facility in the future.

The Service and PL and CCPI signed an expansive MOU on January 26, 2015, with a term that extends through 2028. Amongst the commitments made by PL and CCPI in this MOU are the following: (1) The completion of a Lanai Natural Resources Plan (LNRP) within 18 months of the date of the agreement. Implementation of the LNRP will include identification of priority ecosystems and species, prioritization of



management actions required, and commitment of funding; (2) maintenance and monitoring of the completed existing Lanaihale fences; (3) ungulate eradication within existing Lanaihale fences and control efforts in other priority areas as identified in the LNRP; (4) cooperation with, and support of management and monitoring within, TNC's Kanepuu Preserve units; (5) protection of rare plant clusters; (6) Lanai tree snail protection, management, and monitoring; (7) identification of rare species for immediate protective intervention efforts; (8) protection of coastal areas; and (9) establishment of nearly 7,000 ac (2,800 ha) of "no development areas" as determined by the LNRP, within which enhancement of overall ecological condition and conservation of listed species will be emphasized. PL additionally agrees to provide more than \$200,000 in funding each year toward achievement of the conservation measures described in the MOU.

Under the terms of the MOU, PL will prepare the LNRP. This plan will include a description of detailed management actions with timelines that will benefit and provide protection for 38 plant species, the two Lanai tree snails, and their habitat on the island of Lanai. The MOU provides for the Service to be a member of the LNRP planning and implementation team, and an active participant in the ongoing conservation efforts on the island of Lanai.

PL has committed to implementing certain protective measures in advance of the LNRP to ensure species conservation. Actions currently being implemented include: (1) Planning and construction of an enclosure for the protection of the two Lanai tree snails; (2) planning, construction, and maintenance of fences around three rare plant populations; (3) outplanting of rare species in protected locations; (4) implementation of biosecurity measures to avoid the incursion and spread of invasive species; (5) maintenance of all existing fences; (6) predator control where necessary and appropriate to protect listed species; and (7) identification of other priority actions and sites. These measures are currently underway and being conducted in coordination with the Service.

Our records indicate that between 2010 until 2015 there were no section 7 consultations regarding federally-funded projects on Lanai. We believe that there is a low likelihood of a Federal nexus to provide a benefit to the species from designation of critical habitat. However, we note that CCPI has indicated the possibility of putting forth

a project proposal to develop a wind farm on Lanai. Whether such a proposal may proceed, and when, is unknown at this time. Should this occur, however, there would likely be a Federal nexus that would trigger consultation under section 7 on these lands. The Service has considered this possibility, and noted that the most likely placement of towers and roads for a potential wind farm is largely discontinuous with the areas that were proposed as critical habitat. Because any consultation that may occur under section 7 as a result would involve only a very small proportion of the critical habitat proposed on Lanai, in contrast to the significant and comprehensive nature of the conservation benefits to be accrued from the MOU and LNRP, as well as from our partnership with PL and CCPI, we conclude that even if consultation were to take place in the future for such an activity, we do not anticipate that it would result in benefit to the species that would outweigh the benefits realized through the MOU and LNRP, and our partnership with PL and CCPI. The commitments provided under the terms of the MOU between the Service and PL and CCPI, in the form of management actions that will be included in the LNRP and actions already underway in advance of the LNRP, will lead to protection of individuals from threats and either maintenance or enhancement of habitat for the species, or lead to emergence of suitable habitat where it is not present, thereby benefitting the conservation of 38 plant species, the two Lanai tree snails, and their habitat on the island of Lanai. The development of the MOU with the Service to protect listed species on the island of Lanai, the current conservation efforts underway by PL, and the development of the Lanai Natural Resources Plan by PL demonstrates the willingness of PL and CCPI to contribute to the conservation of listed species and their habitat, and their value as a partner in conservation. The strength of this partnership leads us to anticipate that these benefits will continue into the future.

*Benefits of Inclusion*—We find there are minimal benefits to including the areas described above in critical habitat. As discussed earlier, the designation of critical habitat invokes the provisions of section 7 of the Act. However, in the cases under consideration here, should there be a Federal nexus that would require consultation under section 7, we find the requirement that Federal agencies consult with us and ensure that their actions are not likely to destroy or adversely modify critical habitat will

not result in significant benefits to the species. An evaluation of our consultation history on the islands of Maui Nui demonstrates that there is a low probability of a Federal nexus for many of the areas being excluded; furthermore, when consultation did occur for actions in the excluded areas, the projected outcomes of such actions were that they were not likely to adversely affect the listed species, as the actions in question were generally designed to benefit the species or their habitat. For example, between 2010 and 2015, we conducted 111 consultations for the island of Maui. Only two were formal consultations, one for the Habitat Conservation Plan (HCP) for the Kaheawa Wind Power II project on State land on west Maui, and one (with a reinitiation) for operations (road project) on Federal land in Haleakala National Park (neither of these areas are excluded in this final designation). In both cases we concluded that the project, as proposed, was not likely to destroy or adversely modify critical habitat.

Of the remaining 109 consultations, 25 were informal consultations and 84 were requests for technical assistance or species lists. The majority (19) of these informal consultations were conducted for projects involving road repair or modifications, bridge repairs, or construction of communications towers. Eight of the informal consultations involved projects in areas being excluded from critical habitat; however, we concurred with each agency's determination that the project, as proposed, was not likely to adversely affect listed species. We did conduct a single formal consultation, in 2008, on the construction of a communications tower funded by the FCC. However, the project area did not fall within critical habitat boundaries, and as we have no information to suggest that any similar activity is likely to occur again, there is little benefit that would be gained through the designation of critical habitat. Based on our consultation history on these lands (one formal consultation in 2008, and only 7 informal consultations over the past 5 years) and the fact that most of these informal consultations were for federally funded actions designed to benefit the species, we find it unlikely that the designation of critical habitat would provide significant benefits to the species through section 7 consultation in these particular cases.

In addition, if a Federal nexus were to occur for an action taking place within an area occupied by one or more listed species, section 7 consultation would already be triggered and the Federal agency would consider the effects of its

actions on the species through a jeopardy analysis. Because one of the primary threats to these species is habitat loss and degradation, the consultation process under section 7 of the Act for projects with a Federal nexus will, in evaluating the effects to these species, evaluate the effects of the action on the conservation or function of the habitat for the species regardless of whether critical habitat is designated for these lands. As noted in our economic analysis (IEC 2013, p. 2–11), the Service's recommendations for offsetting adverse project impacts to habitat that is occupied by a listed bird, invertebrate, or plant species under the jeopardy standard are often the same as recommendations we would make to offset adverse impacts to critical habitat, with the exception of the conservation project's location. Although the standards for jeopardy and adverse modification are not the same, any additional conservation that could be attained through the section 7 prohibition on adverse modification analysis would not likely be significant in this case because of the consultation history and conservation agreements already in place.

In addition, the existing conservation programs being implemented by these landowners substantially reduce the regulatory benefits of critical habitat. All of the areas described are managed by proven conservation partners, and have management plans in place that provide significant benefits to the Maui Nui species and their habitat, as detailed above. The designation of critical habitat carries no requirement that non-Federal landowners undertake any proactive conservation measures, for example with regard to the maintenance, restoration, or enhancement of habitat for listed species. Any voluntary action by a non-Federal landowner that contributes to the maintenance, restoration, or enhancement of habitat is therefore a valuable benefit to the listed species, and in the particular cases considered here, is a significant benefit above and beyond that which can be provided by critical habitat designation. Based on the track record of these landowners, it is reasonable to expect that these beneficial conservation efforts will continue into the future and that critical habitat would provide little conservation benefit in comparison.

Another potential benefit of including lands in a critical habitat designation is that the designation can serve to educate landowners, State and local government agencies, and the public regarding the potential conservation value of an area, and may help focus conservation efforts

on areas of high conservation value for certain species. Any information about the Maui Nui species and their habitat that reaches a wider audience, including parties engaged in conservation activities, is valuable. However, in these cases, the educational value of critical habitat is limited because the landowners and land managers in question are already aware of the presence of the species, are knowledgeable about the species, and have furthermore already taken proactive steps to manage for the conservation of these species, as demonstrated by their ongoing conservation efforts and participation in conservation agreements.

There is a long history of critical habitat designation in Hawaii, and neither the State nor county jurisdictions have ever initiated their own additional requirements in areas because they were identified as critical habitat. Therefore, based on this history, we believe this potential benefit of critical habitat is limited.

*Benefits of Exclusion*—The benefits of excluding the areas described above from designated critical habitat are relatively substantial. Excluding the areas owned and managed by these landowners and land managers from critical habitat designation will provide significant benefit in terms of sustaining and enhancing the partnership between the Service and these landowners and partners, with positive consequences for conservation for the species that are the subject of this rule as well as other species that may benefit from such partnerships in the future. As described above, partnerships with non-Federal landowners are vital to the conservation of listed species, especially on non-Federal lands; therefore, the Service is committed to supporting and encouraging such partnerships through the recognition of positive conservation contributions. In the cases considered here, the measures these landowners and land managers have already put in place to enhance species conservation likely exceed any potential benefits that would accrue through section 7 consultation, particularly since the likelihood for a Federal nexus is so minimal on many of these lands. Furthermore, in those cases where a Federal nexus may occur and trigger consultation through section 7, our consultation history demonstrates that most federally funded or authorized actions in these specific areas have been related to conservation actions, thus critical habitat would not result in additional conservation measures, which minimizes or eliminates the

regulatory benefit of critical habitat in these particular cases.

The designation of critical habitat, on the other hand, could have an unintended negative effect on our relationship with non-Federal landowners and land managers due to the perceived imposition of government regulation. According to some researchers, the designation of critical habitat on private lands significantly reduces the likelihood that landowners will support and carry out conservation actions (Main *et al.* 1999, p. 1,263; Bean 2002, p. 2). The magnitude of this negative outcome is greatly amplified in situations where active management measures (such as reintroduction, fire management, and control of invasive species) are necessary for species conservation (Bean 2002, pp. 3–4). We believe the judicious exclusion of specific areas of non-federally owned lands from critical habitat designation can contribute to species recovery and provide a superior level of conservation than critical habitat. Therefore, we consider the positive effect of excluding proven conservation partners from critical habitat to be a significant benefit of exclusion.

*Benefits of Exclusion Outweigh the Benefits of Inclusion*—We have reviewed and evaluated the exclusion of 84,891 ac (34,354 ha) of land owned and managed by 13 landowners on the islands of Maui, Molokai, and Lanai from critical habitat designation (see Table 9). The benefits of including these lands in the designation are comparatively small, as the habitat on the covered lands is already being monitored and managed under various management plans or agreements, as detailed above, to improve the habitat elements that are equivalent to the physical or biological features that are outlined in this critical habitat rule. In addition, we see little likelihood of these areas benefitting from the application of section 7 to critical habitat, as the probability of a non-conservation action with a Federal nexus on these lands is low, as reflected in the consultation history between 2010 and 2015 (and consultation history for the islands of Maui Nui since 2003, as provided in our proposed rule (77 FR 34464, June 11, 2012)). We therefore anticipate little, if any, additional protections through application of the section 7 prohibition on adverse modification or destruction due to the designation of critical habitat on these lands. The potential educational benefits of inclusion are also limited. All of the landowners and land managers under consideration are proven conservation partners, and have

demonstrated their knowledge of the species and their habitat needs. In addition, as described above, they have all developed or participated in an active community outreach program that has increased community awareness of the Maui Nui species, and they contribute to our knowledge of the species through monitoring and adaptive management of their lands.

In contrast, the benefits derived from excluding these owners and enhancing our partnership with these landowners and land managers is significant. The positive conservation results that we believe will be realized through the maintenance of these existing partnerships, as well as through the encouragement of future partnerships for listed species, are a significant benefit of exclusion. In cases such as these, where the benefits of including the areas in question are minimal, the benefits of excluding proven partners with such a positive track record for proactive conservation measures are relatively greater.

For the reasons discussed above, we have determined that the additional regulatory benefit of designating critical habitat, afforded through the section 7(a)(2) consultation process, is minimal because of limited potential for a Federal nexus not related to conservation actions and because conservation measures specifically benefitting the Maui Nui species and their habitat are in place as demonstrated by the provisions of the various management plans and voluntary agreements described above. The positive conservation outcomes provided by these plans and agreements greatly reduce the benefit of critical habitat in the specific cases considered here. In addition, the potential educational and informational benefits of critical habitat designation on lands containing the physical or biological features essential to the conservation of the Maui Nui species would be minimal, because the landowners and land managers under consideration are already making significant contributions to our understanding of these species, and continue to disseminate useful information to the public.

On the other hand, because voluntary conservation efforts for the benefit of listed species on private lands are so valuable, the Service considers the maintenance and encouragement of proven conservation partnerships to be a significant benefit of exclusion. The development and maintenance of effective working partnerships with private landowners for the conservation of listed species is particularly important in areas such as Hawaii, a

State with relatively little Federal landownership but many species of conservation concern. Excluding these areas from critical habitat will help foster the partnership we have developed with the landowners and land managers in question have developed with Federal, State, and local conservation organizations, and will encourage the continued implementation of voluntary conservation actions for the benefit of the Maui Nui species and their habitat on these lands. In addition, these partnerships not only provide a benefit for the conservation of the Maui Nui species, but may also serve as a model and aid in fostering future cooperative relationships with other parties here and in other locations for the benefit of other endangered or threatened species. Therefore, in consideration of the factors discussed above in the *Benefits of Exclusion* section, including the relevant impacts to current and future partnerships, we have determined that the benefits of exclusion of lands owned and managed by the 13 landowners considered here and identified in Table 9 outweigh the benefits of designating these privately owned lands as critical habitat.

#### Summary of Benefits of Exclusion Outweighs the Benefits of Inclusion, by Landowner

*The Nature Conservancy.* In this final designation, the Secretary has exercised her authority to exclude from critical habitat lands owned or managed by The Nature Conservancy, totaling 10,056 ac (4,062 ha) on the islands of Maui and Molokai. The Nature Conservancy (TNC) is a proven conservation partner, as demonstrated, in part, by their ongoing management programs, documented in long-range management plans and yearly operational plans for TNC's Kapunakea Preserve on west Maui and Waikamoi Preserve on east Maui, and Kamakou Preserve and Moomomi Preserve on Molokai. The Nature Conservancy's management and protection of these areas currently provide significant conservation benefits to many of the Maui Nui species and their habitat which lessens the incremental benefit of critical habitat, particularly as there is little likelihood of a Federal nexus on these lands that would potentially trigger the consideration of adverse modification or destruction of critical habitat through section 7 consultation. The landowner and public are already aware of the conservation value of these areas due to their designation as TNC Preserves, and TNC's active outreach program. The benefits of exclusion, on the other hand,

are significant, as excluding areas covered by existing plans and programs can encourage land managers to partner with the Services in the future, by removing any real or perceived disincentives for engaging in conservation activities, and thereby provide a benefit by encouraging future conservation partnerships and beneficial management actions. We give great weight to the benefits of excluding areas where we have demonstrated partnerships, especially on private lands. Here the conservation actions of TNC provide benefits on these private lands beyond those that can be achieved through critical habitat and section 7 consultations, and significant conservation benefits would be realized through the exclusion of these lands, which will continue and strengthen our positive relationship with TNC, as well as encourage additional beneficial conservation partnerships in the future. The Secretary has therefore concluded that in this particular case, the benefits of excluding TNC lands outweigh those of including them in critical habitat. As detailed below, the Secretary has further determined that such exclusion will not result in the extinction of any of the Maui Nui species in question.

*Maui Land and Pineapple Company, Inc.* In this final designation, the Secretary has exercised her authority to exclude 8,931 ac (3,614 ha) of lands from critical habitat, under section 4(b)(2) of the Act, that are owned and managed by Maui Land and Pineapple Company (ML & P). Maui Land and Pineapple Company is a proven conservation partner with an established track record of voluntary protection and management of listed species as demonstrated, in part, by their ongoing management program for the Puu Kukui Watershed Preserve (Puu Kukui WP), their participation in the WMMWP, and the tree snail habitat protection agreement for ML & P's Puu Kukui WP on west Maui. ML & P's management and protection of these areas currently provide significant conservation benefits to many of the Maui Nui species and their habitat, which lessens the incremental benefit of critical habitat. The designation of critical habitat would add little, if any, additional benefit beyond that provided by the current management plans, as our consultation history indicates there is little likelihood of a Federal nexus on these lands that would potentially trigger the consideration of adverse modification or destruction of critical habitat through section 7 consultation. The landowner and public are already aware of the conservation value of these

areas, as Puu Kukui is the largest privately owned watershed preserve in the State, and the actions of the WMMWP are well known. The benefits of exclusion, on the other hand, are significant, as excluding areas covered by existing management plans and programs can encourage land managers to partner with the Services in the future, by removing any real or perceived disincentives for engaging in conservation activities, and thereby provide a benefit by encouraging future conservation partnerships and beneficial management actions. We give great weight to the benefits of excluding areas where we have demonstrated partnerships, especially on private lands. Here the conservation actions of ML & P provide benefits on these private lands beyond those that can be achieved through critical habitat and section 7 consultations, and significant conservation benefits would be realized through the exclusion of these lands, which will continue and strengthen our positive relationship with ML & P, as well as encourage additional beneficial conservation partnerships in the future. The Secretary has therefore concluded that in this particular case, the benefits of excluding ML & P lands outweigh those of including them in critical habitat. As detailed below, the Secretary has further determined that such exclusion will not result in the extinction of any of the Maui Nui species in question.

*Ulupalakua Ranch.* In this final designation, the Secretary has exercised her authority to exclude 6,535 ac (2,645 ha) of lands from critical habitat, under section 4(b)(2) of the Act, that are under management by Ulupalakua Ranch. Ulupalakua Ranch is a proven partner, as evidenced, in part, by their history of conservation actions including the Auwahi and Puu Makua restoration agreements and ongoing management of Ulupalakua Ranch lands on east Maui; Ulupalakua Ranch is also an active member of the LHWRP. Ulupalakua Ranch's management and protection of these areas currently provide significant conservation benefits to many of the Maui Nui species and their habitat, which lessens the incremental benefit of critical habitat. Ulupalakua Ranch is currently carrying out activities on their lands for the conservation of rare and endangered species and their habitats; funding for these projects through Federal sources (*e.g.*, from the Service and NRCS) has resulted in a history of informal consultations for this area. These activities, however, were designed either entirely or in part to benefit the listed species or their

habitat, and all resulted in not likely to adversely affect determinations. In addition, one formal consultation did take place on Ulupalakua Ranch lands in 2008, for the construction of a communications tower. However, as the action area did not overlap critical habitat, and we have no information to suggest that such a project is likely to occur again, we conclude there is little if any additional benefit to be gained from the designation of critical habitat on Ulupalakua Ranch lands. Therefore, in this particular case, although there is a likelihood of a Federal nexus, we expect any regulatory benefit realized as a result of critical habitat would be minimal. In addition, the landowner and public are already aware of the conservation value of this area through Ulupalakua Ranch's active volunteer and outreach program. The benefits of exclusion, on the other hand, are significant, as excluding areas covered by existing plans and programs can encourage land managers to partner with the Services in the future, by removing any real or perceived disincentives for engaging in conservation activities, and thereby provide a benefit by encouraging future conservation partnerships and beneficial management actions. We give great weight to the benefits of excluding areas where we have demonstrated partnerships, especially on private lands. Here the conservation actions of Ulupalakua Ranch provide benefits on these private lands beyond those that can be achieved through critical habitat and section 7 consultations, and significant conservation benefits would be realized through the exclusion of these lands, which will continue and strengthen our positive relationship with Ulupalakua Ranch, as well as encourage additional beneficial conservation partnerships in the future. The combination of conservation gained from continuing management actions by this landowner and the importance of maintaining, enhancing, and developing conservation partnerships in this situation are sufficient to outweigh the potential benefits that may be realized through section 7 for these areas. The Secretary has therefore concluded that in this particular case, the benefits of excluding Ulupalakua Ranch lands outweigh those of including them in critical habitat. As detailed below, the Secretary has further determined that such exclusion will not result in the extinction of any of the Maui Nui species in question.

*Haleakala Ranch Company.* In this final designation, the Secretary has exercised her authority to exclude 8,716

ac (3,527 ha) of lands from critical habitat, under section 4(b)(2) of the Act, that are under management by Haleakala Ranch. Haleakala Ranch is a proven conservation partner, as evidenced, in part, by a history of significant voluntary management actions and agreements that provide for the conservation of many of the Maui Nui species and their habitat, and by their participation in the EMWP, as detailed above; all of these actions lessen the incremental benefit of critical habitat. Haleakala Ranch is currently carrying out activities on their lands for the conservation of rare and endangered species and their habitats; past funding for these projects through Federal sources (*e.g.*, from the Service and NRCS) has recently resulted in informal consultation under section 7. That consultation was for management actions designed to benefit the species (ungulate and weed control), and resulted in a not likely to adversely affect determination. Therefore, in this particular case, although there is a likelihood of a Federal nexus, we expect any regulatory benefit realized as a result of critical habitat would be minimal. In this case, the landowner and public are aware of the conservation value of this area through the long history of conservation activities that have occurred there. The benefits of exclusion, on the other hand, are significant, as excluding areas covered by existing plans and programs can encourage land managers to partner with the Services in the future, by removing any real or perceived disincentives for engaging in conservation activities, and thereby provide a benefit by encouraging future conservation partnerships and beneficial management actions. We give great weight to the benefits of excluding areas where we have demonstrated partnerships, especially on private lands. Here the conservation actions of Haleakala Ranch provide benefits on these private lands beyond those that can be achieved through critical habitat and section 7 consultations, and significant conservation benefits would be realized through the exclusion of these lands, which will continue and strengthen our positive relationship with Haleakala Ranch, as well as encourage additional beneficial conservation partnerships in the future. The combination of conservation gained from continuing management actions by this landowner and the importance of maintaining, enhancing, and developing conservation partnerships in this situation are sufficient to outweigh the potential benefits that may be realized

through section 7 for these areas. The Secretary has therefore concluded that in this particular case, the benefits of excluding Haleakala Ranch lands outweigh those of including them in critical habitat. As detailed below, the Secretary has further determined that such exclusion will not result in the extinction of any of the Maui Nui species in question.

*East Maui Irrigation Company, Ltd.* In this final designation, the Secretary has exercised her authority to exclude 6,721 ac (2,720 ha) of lands from critical habitat, under section 4(b)(2) of the Act, that are managed by East Maui Irrigation Company, Ltd. (EMI). East Maui Irrigation Company is a proven conservation partner, as demonstrated, in part, by their ongoing management and restoration agreements for EMI lands at Haiku Uka on east Maui, and their founding participation in the EMWP. EMI's management and protection of these areas currently provide significant conservation benefits to many of the Maui Nui species and their habitat; actions have included the facilitation of ungulate control measures and the construction of 7 mi (11 km) of ungulate exclusion fencing in an area of essential habitat, watershed resource monitoring, and invasive weed control. All of these actions lessen the incremental benefit of critical habitat, as the regulatory effect of critical habitat would add little, if any, additional benefit beyond that provided by the current management plans, as our consultation history indicates there is little likelihood of a Federal nexus on these lands that would potentially trigger the consideration of adverse modification or destruction of critical habitat through section 7 consultation. The landowner is already aware of the conservation value of these lands through their conservation history and participation in the EMWP. The benefits of exclusion, on the other hand, are significant, as excluding areas covered by existing plans and programs can encourage land managers to partner with the Services in the future, by removing any real or perceived disincentives for engaging in conservation activities, and thereby provide a benefit by encouraging future conservation partnerships and beneficial management actions. We give great weight to the benefits of excluding areas where we have demonstrated partnerships, especially on private lands. Here the conservation actions of EMI provide benefits on these private lands beyond those that can be achieved through critical habitat and section 7 consultations, and significant

conservation benefits would be realized through the exclusion of these lands, which will continue and strengthen our positive relationship with EMI, as well as encourage additional beneficial conservation partnerships in the future. The Secretary has therefore concluded that in this particular case, the benefits of excluding EMI lands outweigh those of including them in critical habitat. As detailed below, the Secretary has further determined that such exclusion will not result in the extinction of any of the Maui Nui species in question.

*Nuu Mauka Ranch.* In this final designation, the Secretary has exercised her authority to exclude 2,094 ac (848 ha) of lands from critical habitat, under section 4(b)(2) of the Act, that are owned by Nuu Mauka Ranch. Nuu Mauka Ranch's management and protection of these areas currently provide significant conservation benefits to many of the Maui Nui species and their habitat through ongoing management under the Native Watershed Forest Restoration Conservation Plan, LHWRP management plan, and the Southern Haleakala Forest restoration project agreement for Nuu Mauka Ranch lands on east Maui, all of which lessen the incremental benefit of critical habitat. Nuu Mauka Ranch is currently carrying out activities on their lands for the conservation of rare and endangered species and their habitats; past funding for these projects through Federal sources (*e.g.*, from the Service and NRCS) indicates the potential for a Federal nexus on these lands. However, past actions have been designed to benefit the Maui Nui species or their habitat (*e.g.*, construction of an ungulate exclusion fence), therefore in this particular case we expect any regulatory benefit realized as a result of critical habitat would be minimal. The designation of critical habitat would add little, if any, additional benefit beyond that provided by the current management plans, as our consultation history indicates there is little likelihood of a Federal nexus on these lands that would potentially trigger the consideration of adverse modification or destruction of critical habitat through section 7 consultation. The landowner is already aware of the conservation value of these lands through their conservation history and participation in the LHWRP. The benefits of exclusion, on the other hand, are significant, as excluding areas covered by existing plans and programs can encourage land managers to partner with the Services in the future, by removing any real or perceived

disincentives for engaging in conservation activities, and thereby provide a benefit by encouraging future conservation partnerships and beneficial management actions. We give great weight to the benefits of excluding areas where we have demonstrated partnerships, especially on private lands. Here the conservation actions of Nuu Mauka Ranch provide benefits on these private lands beyond those that can be achieved through critical habitat and section 7 consultations, and significant conservation benefits would be realized through the exclusion of these lands, which will continue and strengthen our positive relationship with Nuu Mauka Ranch, as well as encourage additional beneficial conservation partnerships in the future. The combination of conservation gained from continuing management actions by this landowner and the importance of maintaining, enhancing, and developing conservation partnerships in this situation are sufficient to outweigh the potential benefits that may be realized through section 7 for these areas. The Secretary has therefore concluded that in this particular case, the benefits of excluding Nuu Mauka Ranch lands outweigh those of including them in critical habitat. As detailed below, the Secretary has further determined that such exclusion will not result in the extinction of any of the Maui Nui species in question.

*Kaupo Ranch.* In this final designation, the Secretary has exercised her authority to exclude 931 ac (377 ha) of lands from critical habitat, under section 4(b)(2) of the Act, that are owned or managed by Kaupo Ranch. Kaupo Ranch has undertaken voluntary conservation measures on their lands, demonstrating their value as a partner through participation in the LHWRP management plans and the Southern Haleakala Forest Restoration Project for Kaupo Ranch lands on east Maui. Kaupo Ranch's management and protection of these areas currently provide significant conservation benefits to many of the Maui Nui species and their habitat, which lessens the incremental benefit of critical habitat. Kaupo Ranch is currently carrying out activities on their lands for the conservation of rare and endangered species and their habitats; examples include weed control, outplanting of native plants, and the construction of an ungulate exclusion fence. Funding for brush management and prescribed grazing has resulted in one recent informal consultation for this area; this resulted in a not likely to adversely affect determination. Therefore, in this particular case,

although there is some potential for a Federal nexus, we expect any regulatory benefit realized as a result of critical habitat would be minimal, as the most likely trigger for consultation would be actions designed to benefit the species. The landowner is already aware of the conservation value of this area through their active management history, partnership with Haleakala National Park, and participation in the LHWRP. The benefits of exclusion, on the other hand, are significant, as excluding areas covered by existing plans and programs can encourage land managers to partner with the Services in the future, by removing any real or perceived disincentives for engaging in conservation activities, and thereby provide a benefit by encouraging future conservation partnerships and beneficial management actions. We give great weight to the benefits of excluding areas where we have demonstrated partnerships, especially on private lands. Here the conservation actions of Kaupo Ranch provide benefits on these private lands beyond those that can be achieved through critical habitat and section 7 consultations, and significant conservation benefits would be realized through the exclusion of these lands, which will continue and strengthen our positive relationship with Kaupo Ranch, as well as encourage additional beneficial conservation partnerships in the future. The Secretary has therefore concluded that in this particular case, the benefits of excluding Kaupo Ranch lands outweigh those of including them in critical habitat. As detailed below, the Secretary has further determined that such exclusion will not result in the extinction of any of the Maui Nui species in question.

*Wailuku Water Company.* In this final designation, the Secretary has exercised her authority to exclude 7,410 ac (2,999 ha) of lands from critical habitat, under section 4(b)(2) of the Act, that are owned or managed by Wailuku Water Company on west Maui, and under management as part of the West Maui Mountains Watershed Partnership (WMMWP). The ongoing conservation actions through the WMMWP management plan and Partners for Fish and Wildlife Agreements for Wailuku Water Company lands on west Maui provide significant conservation benefits to many of the Maui Nui species and their habitat, which lessens the incremental benefit of critical habitat. Wailuku Water Company is one of the founding members and a funder of the WMMWP, and participates in numerous management actions on their lands that contribute to the conservation

of rare and endangered species and their habitats. In the recent past, Federal funding for habitat restoration on Wailuku Water Company lands through the Service's Partners for Fish and Wildlife Program has led to informal consultation under section 7. However, the outcome was a not likely to adversely affect determination, as the project was designed to benefit the species and their habitat. Therefore, in this particular case, although there is some potential for a Federal nexus, we expect any regulatory benefit realized as a result of critical habitat would be minimal, as the most likely trigger for consultation would be actions designed to benefit the species. The landowner is already aware of the conservation value of this area through their active management history and participation in the WMMWP. The benefits of exclusion, on the other hand, are significant, as excluding areas covered by existing plans and programs can encourage land managers to partner with the Services in the future, by removing any real or perceived disincentives for engaging in conservation activities, and thereby provide a benefit by encouraging future conservation partnerships and beneficial management actions. We give great weight to the benefits of excluding areas where we have demonstrated partnerships, especially on private lands. Here the conservation actions of Wailuku Water Company provide benefits on these private lands beyond those that can be achieved through critical habitat and section 7 consultations, and significant conservation benefits would be realized through the exclusion of these lands, which will continue and strengthen our positive relationship with Wailuku Water Company, as well as encourage additional beneficial conservation partnerships in the future. The combination of conservation gained from continuing management actions by this landowner and the importance of maintaining, enhancing, and developing conservation partnerships in this situation are sufficient to outweigh the potential benefits that may be realized through section 7 for these areas. The Secretary has therefore concluded that in this particular case, the benefits of excluding Wailuku Water Company lands outweigh those of including them in critical habitat. As detailed below, the Secretary has further determined that such exclusion will not result in the extinction of any of the Maui Nui species in question.

*County of Maui, Department of Water Supply (DWS).* In this final designation,

the Secretary has exercised her authority to exclude 3,690 ac (1,493 ha) of lands from critical habitat, under section 4(b)(2) of the Act, that are owned by the County of Maui DWS on west Maui, and under management as part of the WMMWP. The County of Maui DWS has demonstrated their value as a conservation partner as a founding partner and funder of the WMMWP, which provides for important conservation actions through implementation of the WMMWP management plan on west Maui. The management plans and projects supported by the County of Maui DWS provide significant conservation benefits to many of the Maui Nui species and their habitat, which lessens the incremental benefit of critical habitat. The DWS is a founding partner and funder of the WMMWP, and provides financial support to several partnerships and organizations that contribute to conservation actions benefitting the conservation of rare and endangered species and their habitats. In the recent past, one of their habitat protection projects received Federal funding through the Service's Partners for Fish and Wildlife Program, which led to informal consultation under section 7. However, the outcome was a not likely to adversely affect determination, as the project was designed to benefit the species and their habitat. Therefore, in this particular case, although there is some potential for a Federal nexus, we expect any regulatory benefit realized as a result of critical habitat would be minimal, as the most likely trigger for consultation would be actions designed to benefit the species. The landowner is already aware of the conservation value of this area through their active management history and participation in the WMMWP. The benefits of exclusion, on the other hand, are significant, as excluding areas covered by existing plans and programs can encourage land managers to partner with the Services in the future, by removing any real or perceived disincentives for engaging in conservation activities, and thereby provide a benefit by encouraging future conservation partnerships and beneficial management actions. We give great weight to the benefits of excluding areas where we have demonstrated partnerships, especially on non-Federal lands. Here the conservation actions of Maui County DWS provide benefits on these lands beyond those that can be achieved through critical habitat and section 7 consultations, and significant conservation benefits would be realized through the exclusion of these lands,

which will continue and strengthen our positive relationship with Maui County DWS, as well as encourage additional beneficial conservation partnerships in the future. The combination of conservation gained from continuing management actions by this landowner and the importance of maintaining, enhancing, and developing conservation partnerships in this situation are sufficient to outweigh the potential benefits that may be realized through section 7 for these areas. The Secretary has therefore concluded that in this particular case, the benefits of excluding Maui County DWS lands outweigh those of including them in critical habitat. As detailed below, the Secretary has further determined that such exclusion will not result in the extinction of any of the Maui Nui species in question.

*Kamehameha Schools.* In this final designation, the Secretary has exercised her authority to exclude 1,217 ac (492 ha) of lands from critical habitat, under section 4(b)(2) of the Act, that are owned or managed by Kamehameha Schools on west Maui, and under management as part of the WMMWP. Kamehameha Schools is an established conservation partner, and has participated in the development, implementation, and funding of management plans and projects that benefit the Maui Nui species and other listed species throughout the Hawaiian islands. The ongoing conservation actions through the WMMWP management plan for Kamehameha Schools lands on west Maui currently provide significant conservation benefits to many of the Maui Nui species and their habitat, which lessens the incremental benefit of critical habitat. Past funding for WMMWP projects through Federal sources (*e.g.*, from the Service) indicates the potential for a Federal nexus should a project occur on Kamehameha Schools lands. However, such past actions have been designed to benefit the Maui Nui species or their habitat, therefore in this particular case we expect any regulatory benefit realized as a result of critical habitat would be minimal. The designation of critical habitat would add little, if any, additional benefit beyond that provided by the current management plans, as our consultation history indicates there is little likelihood of a Federal nexus on these lands that would potentially trigger the consideration of adverse modification or destruction of critical habitat through section 7 consultation. The landowner is aware of the conservation value of these areas, as Kamehameha Schools has a long history of conservation

actions in partnership with the Service here and in other areas. The benefits of exclusion, on the other hand, are significant, as excluding areas covered by existing management plans and programs can encourage land managers to partner with the Services in the future, by removing any real or perceived disincentives for engaging in conservation activities, and thereby provide a benefit by encouraging future conservation partnerships and beneficial management actions. We give great weight to the benefits of excluding areas where we have demonstrated partnerships, especially on private lands. Here the conservation actions of Kamehameha Schools provide benefits on these private lands beyond those that can be achieved through critical habitat and section 7 consultations, and significant conservation benefits would be realized through the exclusion of these lands, which will continue and strengthen our positive relationship with Kamehameha Schools, as well as encourage additional beneficial conservation partnerships in the future. The Secretary has therefore concluded that in this particular case, the benefits of excluding Kamehameha Schools lands outweigh those of including them in critical habitat. As detailed below, the Secretary has further determined that such exclusion will not result in the extinction of any of the Maui Nui species in question.

*Makila Land Company.* In this final designation, the Secretary has exercised her authority to exclude 3,150 ac (1,275 ha) of lands from critical habitat, under section 4(b)(2) of the Act, that are owned and managed by Makila Land Company on west Maui, and under management as part of the WMMWP. The Makila Land Company is an established partner in the WMMWP, and ongoing conservation actions through the WMMWP management plan for Makila Land Company lands on west Maui currently provide significant conservation benefits to many of the Maui Nui species and their habitat, which lessens the incremental benefit of critical habitat. The designation of critical habitat would add little, if any, additional benefit beyond that provided by the current management plans, as our consultation history indicates there is little likelihood of a Federal nexus on these lands that would potentially trigger the consideration of adverse modification or destruction of critical habitat through section 7 consultation. The landowner is already aware of the conservation value of these areas through their history of conservation actions in partnership with the Service

and participation in the WMMWP. The benefits of exclusion, on the other hand, are significant, as excluding areas covered by existing management plans and programs can encourage land managers to partner with the Services in the future, by removing any real or perceived disincentives for engaging in conservation activities, and thereby provide a benefit by encouraging future conservation partnerships and beneficial management actions. We give great weight to the benefits of excluding areas where we have demonstrated partnerships, especially on private lands. Here the conservation actions of Makila Land Company provide benefits on these private lands beyond those that can be achieved through critical habitat and section 7 consultations, and significant conservation benefits would be realized through the exclusion of these lands, which will continue and strengthen our positive relationship with Makila Land Company, as well as encourage additional beneficial conservation partnerships in the future. The Secretary has therefore concluded that in this particular case, the benefits of excluding Makila Land Company lands outweigh those of including them in critical habitat. As detailed below, the Secretary has further determined that such exclusion will not result in the extinction of any of the Maui Nui species in question.

*Kahoma Land Company.* In this final designation, the Secretary has exercised her authority to exclude 46 ac (19 ha) of lands from critical habitat, under section 4(b)(2) of the Act, that are owned or managed by Kahoma Land Company on west Maui, and under management as part of the WMMWP. The ongoing conservation actions through the WMMWP management plan for Kahoma Land Company lands on west Maui provide significant conservation benefits to many of the Maui Nui species and their habitat, which lessens the incremental benefit of critical habitat. The Kahoma Land Company is a coalition of Maui residents that participate in conservation actions on their lands that contribute to the conservation of rare and endangered species and their habitats, including weed control, outplanting of native plants, strategic fencing, and ungulate removal. In the recent past, Federal funding for habitat restoration on Kahoma Land Company lands through the Service's Partners for Fish and Wildlife Program has led to informal consultation under section 7. However, the outcome was a not likely to adversely affect determination, as the project was designed to benefit the



species and their habitat. Therefore, in this particular case, although there is some potential for a Federal nexus, we expect any regulatory benefit realized as a result of critical habitat would be minimal, as the most likely trigger for consultation would be actions designed to benefit the species. The landowner is already aware of the conservation value of this area through their active management history and participation in the WMMWP. The benefits of exclusion, on the other hand, are significant, as excluding areas covered by existing plans and programs can encourage land managers to partner with the Services in the future, by removing any real or perceived disincentives for engaging in conservation activities, and thereby provide a benefit by encouraging future conservation partnerships and beneficial management actions. We give great weight to the benefits of excluding areas where we have demonstrated partnerships, especially on private lands. Here the conservation actions of Kahoma Land Company provide benefits on these private lands beyond those that can be achieved through critical habitat and section 7 consultations, and significant conservation benefits would be realized through the exclusion of these lands, which will continue and strengthen our positive relationship with Kahoma Land Company, as well as encourage additional beneficial conservation partnerships in the future. The combination of conservation gained from continuing management actions by this landowner and the importance of maintaining, enhancing, and developing conservation partnerships in this situation are sufficient to outweigh the potential benefits that may be realized through section 7 for these areas. The Secretary has therefore concluded that in this particular case, the benefits of excluding Kahoma Land Company lands outweigh those of including them in critical habitat. As detailed below, the Secretary has further determined that such exclusion will not result in the extinction of any of the Maui Nui species in question.

*Lanai Resorts, LLC, and Castle & Cooke Properties, Inc.* In this final designation, the Secretary has exercised her authority to exclude 25,413 ac (10,284 ha) of lands from critical habitat, under section 4(b)(2) of the Act, that are owned by Lanai Resorts, LLC (LR), also known as Pulama Lanai (PL). Our partnership with PL (and Castle & Cooke Properties, Inc. (CCPI), which holds rights on PL land for the possible development of a wind farm) provides

significant conservation benefits to many of the Maui Nui species and their habitat, as demonstrated by the ongoing conservation efforts on the island, the commitment to develop the Lanai Natural Resources Plan (LNRP), and a memorandum of understanding (MOU) between the Service and LR and CCPI. The terms of the MOU, signed on January 26, 2015, are sweeping, and include a number of substantial management commitments that stand to make significant contributions to the conservation of the listed species on Lanai and their habitat. All of these considerations serve to lessen the incremental benefit of critical habitat. Examples of actions included in the MOU are the identification of priority ecosystems and species, prioritization of management actions required, and commitment of funding to maintain and monitor fences, control ungulates, protect rare plant clusters, protect, manage and monitor the Lanai tree snails, and establish “no development” areas. In addition, PL has committed to implementing certain protective measures in advance of the LNRP to ensure species conservation.

At present, the designation of critical habitat on Lanai would add little, if any, additional benefit beyond that provided by the MOU and LNRP, as our consultation history indicates there is little likelihood of a Federal nexus on these lands that would potentially trigger the consideration of adverse modification or destruction of critical habitat through section 7 consultation. It is possible, however, that consultation may be triggered in the future by a Federal permitting requirement should CCPI decide to pursue their option to develop a wind farm on the island. Even under such a circumstance, however (which currently remains speculative), we believe that consultation would be unlikely to result in benefits to the Maui Nui species greater than those realized through the MOU and LNRP, as critical habitat was not proposed within the potential footprint of the prospective wind farm, and similar consultations in the past have resulted in not likely to destroy or adversely modify findings (see *Benefits of Inclusion*, above). Therefore, we would not expect that critical habitat would result in added benefits to the species through conservation measures, even in the event of a future Federal nexus on these lands; any regulatory benefit realized as a result of critical habitat would likely be minimal compared to the conservation benefits gained through our partnership with PL and CCPI. The landowners are already well aware of

the conservation value of this area through their work with the Service to develop the MOU, as well as their past management efforts.

The benefits of exclusion, on the other hand, are substantial, as excluding areas covered by existing plans and programs can encourage land managers to partner with the Services in the future, by removing any real or perceived disincentives for engaging in conservation activities, and thereby provide a benefit by encouraging future conservation partnerships and beneficial management actions. We give great weight to the benefits of excluding areas where we have demonstrated partnerships, especially on private lands. Here the development of the MOU with the Service to protect listed species on the island of Lanai, the current conservation efforts underway by PL, and the development of the Lanai Natural Resources Plan by PL demonstrates the willingness of PL and CCPI to contribute to the conservation of listed species and their habitat, and their value as a partner in conservation. Their conservation actions provide significant benefits for the Maui Nui species and their habitat on these private lands beyond those that can be achieved through critical habitat and section 7 consultations, and significant conservation benefits would be realized through the exclusion of these lands, which will continue and strengthen our positive relationship with PL and CCPI, as well as encourage additional beneficial conservation partnerships in the future. The combination of conservation gained from continuing management actions by this landowner and the importance of maintaining, enhancing, and developing conservation partnerships in this situation are sufficient to outweigh the potential benefits that may be realized through section 7 for these areas. The Secretary has therefore concluded that in this particular case, the benefits of excluding PL and CCPI lands outweigh those of including them in critical habitat. As detailed below, the Secretary has further determined that such exclusion will not result in the extinction of any of the Maui Nui species in question.

*Exclusion Will Not Result in Extinction of the Species*—We have determined that the exclusion of 84,891 ac (34,354 ha) from the designation of critical habitat for the Maui Nui species on lands on Maui, Molokai, and Lanai owned and managed by the 13 landowners identified here will not result in extinction of the species. In fact, exclusion of these lands is based, in part, on our conclusion that such exclusion will likely result in the



maintenance, restoration, or enhancements of the physical or biological features essential to the conservation of the Maui Nui species. Furthermore, exclusion of these lands is likely to improve our ability to form and maintain conservation partnerships with private landowners in areas essential to the conservation of the Maui Nui species. As discussed above, reintroduction and reestablishment of populations into areas that are not currently occupied by the species will be required to achieve their conservation. Exclusion is not likely to reduce the likelihood that reintroductions would occur or be successful. Exclusion of lands that are managed by private landowners for restoration or maintenance of suitable native habitat is more likely to facilitate robust partnerships with private landowners that would be required to support a reintroduction program that would be effective in conserving many of the Maui Nui species, such as the kiwiku. Excluding lands covered by voluntary conservation partnerships is likely to restore, maintain, and increase the strength and number of partnerships with private landowners that are needed to recover the species.

In each case, we have evaluated ongoing conservation efforts that are currently in effect through existing management plans and determined that such efforts will adequately protect the geographical areas containing the physical or biological features essential to the conservation of the species. An important consideration as we evaluate these exclusions and their potential effect on the species in question is that critical habitat does not carry with it a regulatory requirement to restore or actively manage habitat for the benefit of listed species; the regulatory effect of critical habitat is only the avoidance of destruction or adverse modification of critical habitat should an action with a Federal nexus occur. It is therefore advantageous for the conservation of the species to support the proactive efforts of non-Federal landowners who are contributing to the enhancement of essential habitat features for listed species through exclusion. The actions of the non-Federal landowners we have excluded from critical habitat in this final rule provide tangible conservation benefits that reduce the likelihood of extinction for the Maui Nui species and increase the recovery potential of these species.

We have determined that there is a low likelihood of a Federal nexus that would trigger the regulatory protections of critical habitat for many of the areas excluded here. However, for those areas

that may have projects occur with a Federal nexus and affecting any of the listed species in occupied areas, the jeopardy standard of section 7 of the Act, coupled with current land management measures that are not under Federal purview, provides assurances that these species will not go extinct as a result of excluding these lands from the critical habitat designation. For projects that may occur in areas not occupied by any listed species and that have a Federal nexus, there is greater potential for critical habitat to provide some benefit through consultation to assure the avoidance of destruction or adverse modification of critical habitat. However, for the particular areas excluded here, we have analyzed section 7 consultation history and determined that most past Federal actions have been designed to benefit the species or habitat (e.g., habitat restoration activities funded, in part, by the Service's Partners for Fish and Wildlife Program). Furthermore, even if not for a conservation project, all section 7 consultations in the excluded areas have resulted in not likely to adversely affect determinations. In such cases, critical habitat does not provide additional benefits to the species in terms of protecting essential but unoccupied habitat areas. For the specific areas excluded in this final rule, we have concluded that not only would such exclusions not result in the extinction of any of the Maui Nui species, but in fact the exclusion demonstrated conservation partners participating in such federally funded programs for habitat protection, restoration, or enhancement is more likely to increase the probability of species recovery and conservation, by removing real or perceived regulatory constraints and encouraging the implementation of proactive conservation measures that provide significant benefits to the species that would not otherwise be realized.

We particularly considered the potential for extinction as a result of exclusion from critical habitat for those species in this rule which occur only on lands being excluded from the final designation. These include the listed species that occur only on Lanai (the two Lanai tree snails, and the plants *Abutilon eremitopetalum*, *Cyanea gibsonii*, *Kadua cordata* ssp. *remyi*, *Labordia tinifolia* var. *lanaiensis*, *Pleomele fernaldii*, and *Viola lanaiensis*) and the plant *Stenogyne kauaulaensis* that occurs in the wild only in Montane Mesic 2 on the island of Maui. For the Lanai species, as described above, we have determined

that exclusion of all areas proposed as critical habitat on Lanai, owned and managed by PL and CCPI, will provide significant conservation benefits to the species. As noted earlier, the designation of critical habitat carries no requirement that non-Federal landowners undertake any proactive conservation measures, therefore voluntary actions by a private landowner that contribute to active management for the conservation of listed species is a significant benefit above and beyond that which can be provided by critical habitat designation. In this particular case, based on the substantial conservation gains that will be realized through the implementation of our MOU and our partnership with PL and CCPI, we conclude that exclusion of areas proposed as critical habitat on Lanai will not result in the extinction of these species, but will increase the probability of their conservation and recovery. Although there is some potential for future consultation under section 7 on Lanai should CCPI proceed with the development of a potential wind farm, the footprint of that wind farm is not within the areas proposed as critical habitat, and none of the species occur within that area. Any potential effect of the wind farm on the species at issue here is limited to the potential widening of an access road along The Nature Conservancy's Kanepuu Preserve, but as this area is not occupied by any of the listed species, such an action would not be anticipated to contribute to the increased vulnerability to extinction of any of the Lanai species. We similarly conclude that exclusion will not result in the extinction of the plant *Stenogyne kauaulaensis*, with the last remaining wild population on lands on Maui owned by the Makila Land Company. This population is in an area inaccessible to ungulates, and is being monitored by the PEPP; outplantings of the species have occurred in west Maui, in an area that is retained within the final designation in the Panaewa section of the West Maui Natural Area Reserve. As described above, the Makila Land Company is a long-time cooperator in the WMMWP and partner with the Service to fund and implement habitat protection and restoration actions that benefit the species, and has set aside upper elevation areas of their property for conservation and protection of rare dry to mesic forest communities. Proactive conservation actions that occur on these lands include fencing and removal of ungulates, weed control, outplanting of native plants, and allowing monitoring of rare plants by

the State and PEPP. All of these actions provide significant conservation for the last remaining wild population of *Stenogyne kauaulaensis*, and we conclude that exclusion of these lands will likely improve the status and recovery potential of the species, through maintaining and enhancing our positive conservation partnership with Makila Land Company and recognizing the importance of their ongoing management actions.

In addition, the species for which we are excluding critical habitat are subject to other protections as well; these protections remain in effect even absent the designation of critical habitat. Section 195D–4 of Hawaii Revised Statutes (endangered species and threatened species) stipulates that species determined to be endangered or threatened under the Federal Act shall be deemed endangered or threatened under the State law. Under the State law, it is unlawful, with some exceptions, to “take” such species, or to possess, sell, carry or transport them. The statutory protections for this species under State law provide additional assurances that exclusion of this area from critical habitat will not result in extinction of one or more of the Maui Nui species in this final rule that currently occupy, or potentially could occupy, these lands.

We have thoroughly considered the effect of each of the exclusions made in this final rule. In every case, exclusion is based upon the strength of existing conservation actions, commitments, and partnerships, which our analysis demonstrates will provide significant conservation benefits to the Maui Nui species, above and beyond those that would be realized through the designation of critical habitat. Based on

the management plans and agreements in place, and the proven track record of our conservation partners, we reasonably assume these positive actions will continue into the future. For all of these reasons, we conclude not only that exclusion will not result in the extinction of any of the Maui Nui species, but that exclusion will result in the improvement of the status of each species in question, due to the positive conservation efforts taking place in those areas excluded. Therefore, based on all of these considerations, the Secretary has determined that the failure to designate any of the areas proposed as critical habitat as a result of exclusion will not result in the extinction of the species concerned, and is exercising her discretion under section 4(b)(2) of the Act to exclude from this final critical habitat designation portions of the proposed critical habitat units that are within the areas identified in Table 89, totaling 84,891 ac (34,354 ha).

#### *Summary of Exclusions Based on Other Relevant Factors*

As discussed under *Exclusions Based on Other Relevant Factors*, above, we considered the benefits of excluding areas from critical habitat that are covered by partnerships or voluntary conservation efforts. We believe these exclusions of specific areas of non-federally owned lands can contribute to species recovery and provide a superior level of conservation than designation of critical habitat, that voluntary conservation management by landowners extends species protections beyond those available through section 7 consultations, and that implementation of the conservation measures identified here is consistent

with accepted conservation biology principles, lessening the benefits of critical habitat designation. In addition, we believe that excluding these lands will encourage other conservation partnerships.

We have excluded from the final critical habitat designation a variety of lands for which there is evidence of a conservation partnership with private landowners. We find that the benefits of the critical habitat exclusions outweigh the benefits of including the areas as critical habitat. This is largely due to (1) the important role that conservation of the species’ habitats on private lands will play in the recovery of each species; (2) the need to maintain or develop effective cooperative conservation partnerships with private landowners; and (3) the likely increase in cooperation from a significant proportion of private landowners that will occur as a result of the exclusions from critical habitat.

Maps of areas essential to the conservation of the species covered in this rule, identified through designated critical habitat, or through partnerships and conservation agreements with landowners and land managers but excluded from critical habitat under section 4(b)(2) of the Act, are available in the document “Supplementary Information for the Designation and Nondesignation of Critical Habitat on Molokai, Lanai, Maui, and Kahoolawe for 135 Species,” available on the Internet at <http://www.regulations.gov> under Docket No. FWS–R1–ES–2015–0071.

The total area excluded from critical habitat designation in this rule is summarized by landowner in the following table.

TABLE 10—TOTAL AREA (AC, HA) EXCLUDED FROM CRITICAL HABITAT BY ISLAND AND LAND OWNER OR LAND MANAGER

Island	Land owner or land manager	Area excluded AC (HA)
Maui	County Department of Water Supply	3,690 (1,493)
	East Maui Irrigation Company, Ltd	6,721 (2,720)
	Haleakala Ranch	8,716 (3,527)
	Kahoma Ranch	46 (19)
	Kamehameha Schools	1,217 (492)
	Kaupo Ranch	931 (377)
	Makila Land Company	3,150 (1,275)
	Maui Land & Pineapple Company	8,931 (3,614)
	Nuu Mauka Ranch LLC	2,094 (848)
	The Nature Conservancy	6,481 (2,623)
	Ulupalakua Ranch	6,535 (2,645)
	Wailuku Water Company	7,410 (2,999)
Molokai	The Nature Conservancy	3,557 (1,440)
Lanai	Lanai Resorts (dba Pulama Lanai), Castle & Cooke Properties	25,413 (10,284)

## XII. Required Determinations

### *Regulatory Planning and Review (Executive Orders 12866 and 13563)*

Executive Order 12866 provides that the Office of Information and Regulatory Affairs (OIRA) will review all significant rules. The Office of Information and Regulatory Affairs has determined that this rule is not significant.

Executive Order 13563 reaffirms the principles of E.O. 12866 while calling for improvements in the nation's regulatory system to promote predictability, to reduce uncertainty, and to use the best, most innovative, and least burdensome tools for achieving regulatory ends. The executive order directs agencies to consider regulatory approaches that reduce burdens and maintain flexibility and freedom of choice for the public where these approaches are relevant, feasible, and consistent with regulatory objectives. E.O. 13563 emphasizes further that regulations must be based on the best available science and that the rulemaking process must allow for public participation and an open exchange of ideas. We have developed this rule in a manner consistent with these requirements.

### *Regulatory Flexibility Act (5 U.S.C. 601 et seq.)*

Under the Regulatory Flexibility Act (RFA; 5 U.S.C. 601 et seq.), as amended by the Small Business Regulatory Enforcement Fairness Act of 1996 (SBREFA; 5 U.S.C. 801 et seq.), whenever an agency is required to publish a notice of rulemaking for any proposed or final rule, it must prepare and make available for public comment a regulatory flexibility analysis that describes the effects of the rule on small entities (i.e., small businesses, small organizations, and small government jurisdictions). However, no regulatory flexibility analysis is required if the head of the agency certifies the rule will not have a significant economic impact on a substantial number of small entities. The SBREFA amended the RFA to require Federal agencies to provide a certification statement of the factual basis for certifying that the rule will not have a significant economic impact on a substantial number of small entities.

According to the Small Business Administration, small entities include small organizations such as independent nonprofit organizations; small governmental jurisdictions, including school boards and city and town governments that serve fewer than 50,000 residents; and small businesses (13 CFR 121.201). Small businesses include manufacturing and mining

concerns with fewer than 500 employees, wholesale trade entities with fewer than 100 employees, retail and service businesses with less than \$5 million in annual sales, general and heavy construction businesses with less than \$27.5 million in annual business, special trade contractors doing less than \$11.5 million in annual business, and agricultural businesses with annual sales less than \$750,000. To determine if potential economic impacts to these small entities are significant, we considered the types of activities that might trigger regulatory impacts under this designation as well as types of project modifications that may result. In general, the term "significant economic impact" is meant to apply to a typical small business firm's business operations.

The Service's current understanding of the requirements under the RFA, as amended, and following recent court decisions, is that Federal agencies are only required to evaluate the potential incremental impacts of rulemaking on those entities directly regulated by the rulemaking itself, and therefore, not required to evaluate the potential impacts to indirectly regulated entities. The regulatory mechanism through which critical habitat protections are realized is section 7 of the Act, which requires Federal agencies, in consultation with the Service, to ensure that any action authorized, funded, or carried by the Agency is not likely to destroy or adversely modify critical habitat. Therefore, under section 7 only Federal action agencies are directly subject to the specific regulatory requirement (avoiding destruction and adverse modification) imposed by critical habitat designation. Consequently, it is our position that only Federal action agencies will be directly regulated by this designation. There is no requirement under RFA to evaluate the potential impacts to entities not directly regulated. Moreover, Federal agencies are not small entities. Therefore, because no small entities are directly regulated by this rulemaking, the Service certifies that, if promulgated, the final critical habitat designation will not have a significant economic impact on a substantial number of small entities.

During the development of this final rule we reviewed and evaluated all information submitted during the comment period that may pertain to our consideration of the probable incremental economic impacts of this critical habitat designation. Based on this information, we affirm our certification that this final critical habitat designation will not have a

significant economic impact on a substantial number of small entities, and a regulatory flexibility analysis is not required.

### *Energy Supply, Distribution, or Use— Executive Order 13211*

Executive Order 13211 (Actions Concerning Regulations That Significantly Affect Energy Supply, Distribution, or Use) requires agencies to prepare Statements of Energy Effects when undertaking certain actions. OMB has provided guidance for implementing this Executive Order that outlines nine outcomes that may constitute "a significant adverse effect" when compared to not taking the regulatory action under consideration. The economic analysis finds that none of these criteria is relevant to this analysis. As described in the economic analysis (FEA 2015, Chapter 4 and Appendix A), renewable energy projects (e.g., wind and geothermal developments) are expected to be subject to section 7 consultations, and the economic analysis concludes that the impacts of critical habitat designation on these activities are most likely limited to additional administrative costs of section 7 consultation (FEA 2015, Appendix A). Based on information in the economic analysis, energy-related impacts associated with conservation activities for the Maui Nui species within critical habitat are not expected. As such, the designation of critical habitat is not expected to significantly affect energy supplies, distribution, or use. Therefore, this action is not a significant energy action, and no Statement of Energy Effects is required.

### *Unfunded Mandates Reform Act (2 U.S.C. 1501 et seq.)*

In accordance with the Unfunded Mandates Reform Act (2 U.S.C. 1501 et seq.), we make the following findings:

(1) This rule will not produce a Federal mandate. In general, a Federal mandate is a provision in legislation, statute, or regulation that would impose an enforceable duty upon State, local, or tribal governments, or the private sector, and includes both "Federal intergovernmental mandates" and "Federal private sector mandates." These terms are defined in 2 U.S.C. 658(5)–(7). "Federal intergovernmental mandate" includes a regulation that "would impose an enforceable duty upon State, local, or tribal governments" with two exceptions. It excludes "a condition of Federal assistance." It also excludes "a duty arising from participation in a voluntary Federal program," unless the regulation "relates

to a then-existing Federal program under which \$500,000,000 or more is provided annually to State, local, and tribal governments under entitlement authority," if the provision would "increase the stringency of conditions of assistance" or "place caps upon, or otherwise decrease, the Federal Government's responsibility to provide funding," and the State, local, or tribal governments "lack authority" to adjust accordingly. At the time of enactment, these entitlement programs were: Medicaid; Aid to Families with Dependent Children work programs; Child Nutrition; Food Stamps; Social Services Block Grants; Vocational Rehabilitation State Grants; Foster Care, Adoption Assistance, and Independent Living; Family Support Welfare Services; and Child Support Enforcement. "Federal private sector mandate" includes a regulation that "would impose an enforceable duty upon the private sector, except (i) a condition of Federal assistance or (ii) a duty arising from participation in a voluntary Federal program."

The designation of critical habitat does not impose a legally binding duty on non-Federal Government entities or private parties. Under the Act, the only regulatory effect is that Federal agencies must ensure that their actions do not destroy or adversely modify critical habitat under section 7. While non-Federal entities that receive Federal funding, assistance, or permits, or that otherwise require approval or authorization from a Federal agency for an action, may be indirectly impacted by the designation of critical habitat, the legally binding duty to avoid destruction or adverse modification of critical habitat rests squarely on the Federal agency. Furthermore, to the extent that non-Federal entities are indirectly impacted because they receive Federal assistance or participate in a voluntary Federal aid program, the Unfunded Mandates Reform Act would not apply, nor would critical habitat shift the costs of the large entitlement programs listed above onto State governments.

(2) The designation of critical habitat imposes no obligation on State or local governments. By definition, Federal agencies are not considered small entities, although the activities they fund or permit may be proposed or carried out by small entities. Consequently, we do not believe that the critical habitat designation will significantly or uniquely affect small government entities. As such, a Small Government Agency Plan is not required.

#### *Federalism—Executive Order 13132*

In accordance with Executive Order 13132 (Federalism), this rule does not have significant Federalism effects. A federalism summary impact statement is not required. In keeping with Department of the Interior and Department of Commerce policy, we requested information from, and coordinated development of, this critical habitat designation with appropriate State resource agencies in Hawaii. We received comments from Hawaii elected officials; Maui County Council; Hawaii Department of Land and Natural Resources, Division of Forestry and Wildlife; Hawaii Department of Hawaiian Home Lands; Hawaii Department of Agriculture; the University of Hawaii Institute for Astronomy; Maui County Police Department; and, Maui County Planning Department and have addressed them in the Summary of Comments and Recommendations section of the rule. From a federalism perspective, the designation of critical habitat directly affects only the responsibilities of Federal agencies. The Act imposes no other duties with respect to critical habitat, either for States and local governments, or for anyone else. As a result, the rule does not have substantial direct effects either on the States, or on the relationship between national government and the States, or on the distribution of powers and responsibilities among the various levels of government. The designation may have some benefit to these governments because the areas that contain the features essential to the conservation of the species are more clearly defined, and the physical and biological features of the habitat necessary to the conservation of the species are specifically identified. This information does not alter where and what federally sponsored activities may occur. However, it may assist local governments in long-range planning (because these local governments no longer have to wait for case-by-case section 7 consultations to occur).

Where State and local governments require approval or authorization from a Federal agency for actions that may affect critical habitat, consultation under section 7(a)(2) will be required. While non-Federal entities that receive Federal funding, assistance, or permits, or that otherwise require approval or authorization from a Federal agency for an action, may be indirectly impacted by the designation of critical habitat, the legally binding duty to avoid destruction or adverse modification of

critical habitat rests squarely on the Federal agency.

#### *Civil Justice Reform—Executive Order 12988*

In accordance with Executive Order 12988 (Civil Justice Reform), the Office of the Solicitor has determined that the rule does not unduly burden the judicial system and that it meets the requirements of sections 3(a) and 3(b)(2) of the Order. We are designating critical habitat in accordance with the provisions of the Act. To assist the public in understanding the habitat needs of the species, the rule identifies the elements of the physical or biological features essential to the conservation of the Maui Nui species. The designated areas of critical habitat are presented on maps, and the rule provides several options for the interested public to obtain more detailed location information, if desired.

#### *Paperwork Reduction Act of 1995 (44 U.S.C. 3501 et seq.)*

This rule does not contain any new collections of information that require approval by OMB under the Paperwork Reduction Act of 1995 (44 U.S.C. 3501 et seq.). This rule will not impose recordkeeping or reporting requirements on State or local governments, individuals, businesses, or organizations. An agency may not conduct or sponsor, and a person is not required to respond to, a collection of information unless it displays a currently valid OMB control number.

#### *National Environmental Policy Act (42 U.S.C. 4321 et seq.)*

It is our position that, outside the jurisdiction of the U.S. Court of Appeals for the Tenth Circuit, we do not need to prepare environmental analyses as defined by NEPA (NEPA; 42 U.S.C. 4321 et seq.) in connection with designating critical habitat under the Act. This position was upheld by the U.S. Court of Appeals for the Ninth Circuit (*Douglas County v. Babbitt*, 48 F.3d 1495 (9th Cir. 1995), cert. denied 516 U.S. 1042 (1996)).

### **XIII. References Cited**

A complete list of references cited is available on the Internet at <http://www.regulations.gov> and upon request from the Pacific Islands Fish and Wildlife Office (see **FOR FURTHER INFORMATION CONTACT**, above).

#### *Authors*

The primary authors of this document are the staff members of the Pacific Islands Fish and Wildlife Office.

**List of Subjects in 50 CFR Part 17**

Endangered and threatened species, Exports, Imports, Reporting and recordkeeping requirements, Transportation.

**Regulation Promulgation**

Accordingly, we amend part 17, subchapter B of chapter I, title 50 of the Code of Federal Regulations, as set forth below:

**PART 17—[AMENDED]**

■ 1. The authority citation for part 17 continues to read as follows:

**Authority:** 16 U.S.C. 1361–1407; 1531–1544; 4201–4245, unless otherwise noted.

■ 2. Amend § 17.11(h) by:

■ a. Revising the entries for “Honeycreeper, crested” and

“Parrotbill, Maui (honeycreeper)” under BIRDS; and

■ b. Revising the entry for “Snail, Newcomb’s tree” under SNAILS.

The revisions read as follows:

**§ 17.11 Endangered and threatened wildlife.**

\* \* \* \* \*

(h) \* \* \*

Species		Historic range	Vertebrate population where endangered or threatened	Status	When listed	Critical habitat	Special rules
Common name	Scientific name						
* BIRDS	*	*	*	*	*		*
Honeycreeper, crested (Akohekohe).	<i>Palmeria dolei</i> .....	U.S.A. (HI) .....	Entire .....	E	1	17.95(b)	NA
Parrotbill, Maui (Kiwikiu).	<i>Pseudonestor xanthophrys</i> .	U.S.A. (HI) .....	Entire .....	E	1	17.95(b)	NA
* SNAILS	*	*	*	*	*		*
Snail, Newcomb’s tree.	<i>Newcombia cumingi</i>	U.S.A. (HI) .....	NA .....	E	815	17.95(f)	NA
*	*	*	*	*	*		*

■ 3. Amend § 17.12(h) by:

■ a. Removing the entries for *Centaurium sebaeoides*, *Cyanea dunbarii*, *Cyanea macrostegia* ssp. *gibsonii*, *Hedyotis mannii*, *Hedyotis schlectendahlia* var. *remyi*, *Lipochaeta kamolensis*, and *Mariscus fauriei* under FLOWERING PLANTS;

■ b. Adding entries for *Cyanea dunbariae*, *Cyanea gibsonii*, *Cyperus fauriei*, *Kadua cordata* ssp. *remyi*, *Kadua laxiflora*, *Melanthera kamolensis*, and *Schenckia sebaeoides* in alphabetical order under FLOWERING PLANTS;

■ c. Revising the entries for *Acaena exigua*, *Bidens campylothea* ssp. *pentamera*, *Bidens campylothea* ssp. *waihoiensis*, *Bidens conjuncta*, *Bidens micrantha* ssp. *kalealaha*, *Bonamia menziesii*, *Calamagrostis hillebrandii*, *Canavalia pubescens*, *Clermontia peleana*, *Cyanea asplenifolia*, *Cyanea duvalliorum*, *Cyanea grimesiana* ssp.

*grimesiana*, *Cyanea horrida*, *Cyanea kunthiana*, *Cyanea magnicalyx*, *Cyanea maritae*, *Cyanea munroi*, *Cyanea obtusa*, *Cyanea profuga*, *Cyanea solanacea*, *Cyperus trachysanthos*, *Cyrtandra ferripilosa*, *Cyrtandra filipes*, *Cyrtandra oxybapha*, *Festuca molokaiensis*, *Geranium hanaense*, *Geranium hillebrandii*, *Gouania hillebrandii*, *Hesperomannia arborescens*, *Hibiscus brackenridgei*, *Kokia cookei*, *Melicope munroi*, *Mucuna sloanei* var. *persericea*, *Myrsine vaccinioides*, *Neraudia sericea*, *Peperomia subpetiolata*, *Phyllostegia bracteata*, *Phyllostegia haliakalae*, *Phyllostegia hispida*, *Phyllostegia pilosa*, *Pittosporum halophilum*, *Platanthera holochila*, *Portulaca sclerocarpa*, *Santalum haleakalae* var. *lanaiense*, *Schiedea jacobii*, *Schiedea laui*, *Schiedea salicaria*, *Sesbania tomentosa*, *Solanum incompletum*, *Stenogyne kauaulaensis*,

*Tetramolopium remyi*, *Vigna o-wahuensis*, and *Wikstroemia villosa* under FLOWERING PLANTS;

■ d. Removing the entries for *Asplenium fragile* var. *insulare*, *Diellia erecta*, and *Phlegmariurus* (= *Lycopodium*, = *Huperzia*) *mannii* under FERNS AND ALLIES;

■ e. Adding entries for *Asplenium dielerectionum* and *Asplenium peruvianum* var. *insulare* in alphabetical order under FERNS AND ALLIES; and

■ f. Revising the entries for *Adenophorus periens*, *Huperzia* (= *Phlegmariurus*, = *Lycopodium*) *mannii*, *Marsilea villosa*, and *Pteris lidgatei* under FERNS AND ALLIES.

The revisions and additions read as follows:

**§ 17.12 Endangered and threatened plants.**

\* \* \* \* \*

(h) \* \* \*

Species		Historic range	Family	Status	When listed	Critical habitat	Special rules
Scientific name	Common name						
* FLOWERING PLANTS	*	*	*	*	*		*

Species		Historic range	Family	Status	When listed	Critical habitat	Special rules
Scientific name	Common name						
<i>Acaena exigua</i> .....	Liliwai .....	U.S.A. (HI) .....	Rosaceae .....	E	467	17.99(e)(1)	NA
<i>Bidens campylothea</i> ssp. <i>pentamera</i> .	Kookoolau .....	U.S.A. (HI) .....	Asteraceae .....	E	815	17.99(e)(1)	NA
<i>Bidens campylothea</i> ssp. <i>waihoiensis</i> .	Kookoolau .....	U.S.A. (HI) .....	Asteraceae .....	E	815	17.99(e)(1)	NA
<i>Bidens conjuncta</i> .....	Kookoolau .....	U.S.A. (HI) .....	Asteraceae .....	E	815	17.99(e)(1)	NA
<i>Bidens micrantha</i> ssp. <i>kalealaha</i> .	Kookoolau .....	U.S.A. (HI) .....	Asteraceae .....	E	467	17.99(e)(1)	NA
<i>Bonamia menziesii</i> ..	None .....	U.S.A. (HI) .....	Convolvulaceae .....	E	559	17.99(a)(1), (c), (e)(1), (i), and (k)	NA
<i>Calamagrostis hillebrandii</i> .	None .....	U.S.A. (HI) .....	Poaceae .....	E	815	17.99(e)(1)	NA
<i>Canavalia pubescens</i> .	Awikiwiki .....	U.S.A. (HI) .....	Fabaceae .....	E	815	17.99(e)(1)	NA
<i>Clermontia peleana</i>	Oha wai .....	U.S.A. (HI) .....	Campanulaceae .....	E	532	17.99(e)(1) and (k)	NA
<i>Cyanea asplenifolia</i>	Haha .....	U.S.A. (HI) .....	Campanulaceae .....	E	815	17.99(e)(1)	NA
<i>Cyanea dunbariae</i> ...	Haha .....	U.S.A. (HI) .....	Campanulaceae .....	E	594	17.99(c)	NA
<i>Cyanea duvalliorum</i>	Haha .....	U.S.A. (HI) .....	Campanulaceae .....	E	815	17.99(e)(1)	NA
<i>Cyanea gibsonii</i> .....	Haha .....	U.S.A. (HI) .....	Campanulaceae .....	E	435	NA	NA
<i>Cyanea grimesiana</i> ssp. <i>grimesiana</i> .	Haha .....	U.S.A. (HI) .....	Campanulaceae .....	E	592, 815	17.99(c) and (i)	NA
<i>Cyanea horrida</i> .....	Haha nui .....	U.S.A. (HI) .....	Campanulaceae .....	E	815	17.99(e)(1)	NA
<i>Cyanea kunthiana</i> ....	Haha .....	U.S.A. (HI) .....	Campanulaceae .....	E	815	17.99(e)(1)	NA
<i>Cyanea magnicalyx</i>	Haha .....	U.S.A. (HI) .....	Campanulaceae .....	E	815	17.99(e)(1)	NA
<i>Cyanea maritae</i> .....	Haha .....	U.S.A. (HI) .....	Campanulaceae .....	E	815	17.99(e)(1)	NA
<i>Cyanea munroi</i> .....	Haha .....	U.S.A. (HI) .....	Campanulaceae .....	E	815	17.99(c)	NA
<i>Cyanea obtusa</i> .....	Haha .....	U.S.A. (HI) .....	Campanulaceae .....	E	815	17.99(e)(1)	NA
<i>Cyanea profuga</i> .....	Haha .....	U.S.A. (HI) .....	Campanulaceae .....	E	815	17.99(c)	NA
<i>Cyanea solanacea</i> ...	Popolo .....	U.S.A. (HI) .....	Campanulaceae .....	E	815	17.99(c)	NA
<i>Cyperus fauriei</i> .....	None .....	U.S.A. (HI) .....	Cyperaceae .....	E	532	17.99(c) and (k)	NA

Species		Historic range	Family	Status	When listed	Critical habitat	Special rules
Scientific name	Common name						
<i>Cyperus trachysanthos</i> .	Puukaa .....	U.S.A. (HI) .....	Cyperaceae .....	E	592	17.99(a)(1), (c), and (i)	NA
<i>Cyrtandra ferripilosa</i>	Haiwale .....	U.S.A. (HI) .....	Gesneriaceae .....	E	815	17.99(e)(1)	NA
<i>Cyrtandra filipes</i> .....	Haiwale .....	U.S.A. (HI) .....	Gesneriaceae .....	E	815	17.99(c) and (e)(1)	NA
<i>Cyrtandra oxybapha</i>	Haiwale .....	U.S.A. (HI) .....	Gesneriaceae .....	E	815	17.99(e)(1)	NA
<i>Festuca molokaiensis</i> .	None .....	U.S.A. (HI) .....	Poaceae .....	E	815	17.99(c)	NA
<i>Geranium hanaense</i>	Nohoanu .....	U.S.A. (HI) .....	Geraniaceae .....	E	815	17.99(e)(1)	NA
<i>Geranium hillebrandii</i>	Nohoanu .....	U.S.A. (HI) .....	Geraniaceae .....	E	815	17.99(e)(1)	NA
<i>Gouania hillebrandii</i>	None .....	U.S.A. (HI) .....	Rhamnaceae .....	E	165	17.99(c), (e)(1), and (e)(2)	NA
<i>Hesperomannia arborescens</i> .	None .....	U.S.A. (HI) .....	Asteraceae .....	E	536	17.99(c), (e)(1), and (i)	NA
<i>Hibiscus brackenridgei</i> .	Mao hau hele .....	U.S.A. (HI) .....	Malvaceae .....	E	559	17.99(c), (e)(1), (e)(2), (i), and (k)	NA
<i>Kadua cordata</i> ssp. <i>remyi</i> .	Kopa .....	U.S.A. (HI) .....	Rubiaceae .....	E	666	NA	NA
<i>Kadua laxiflora</i> .....	Pilo .....	U.S.A. (HI) .....	Rubiaceae .....	E	480	17.99(c) and (e)(1)	NA
<i>Kokia cookei</i> .....	Cooke's kokio .....	U.S.A. (HI) .....	Malvaceae .....	E	74	17.99(c)	NA
<i>Melanthra kamolensis</i> .	Nehe .....	U.S.A. (HI) .....	Asteraceae .....	E	467	17.99(e)(1)	NA
<i>Melicope munroi</i> .....	Alani .....	U.S.A. (HI) .....	Rutaceae .....	E	666	17.99(c)	NA
<i>Mucuna sloanei</i> var. <i>persericea</i> .	Sea bean .....	U.S.A. (HI) .....	Fabaceae .....	E	815	17.99(e)(1)	NA
<i>Myrsine vaccinioides</i>	Kolea .....	U.S.A. (HI) .....	Myrsinaceae .....	E	815	17.99(e)(1)	NA
<i>Neraudia sericea</i> .....	None .....	U.S.A. (HI) .....	Urticaceae .....	E	559	17.99(c), (e)(1), and (e)(2)	NA
<i>Peperomia subpetiolata</i> .	Alaala wai nui .....	U.S.A. (HI) .....	Piperaceae .....	E	815	17.99(e)(1)	NA

Species		Historic range	Family	Status	When listed	Critical habitat	Special rules
Scientific name	Common name						
<i>Phyllostegia bracteata</i> .	None	U.S.A. (HI)	Lamiaceae	E	815	17.99(e)(1)	NA
<i>Phyllostegia haliakalae</i> .	None	U.S.A. (HI)	Lamiaceae	E	815	17.99(c) and (e)(1)	NA
<i>Phyllostegia hispida</i>	None	U.S.A. (HI)	Lamiaceae	E	762	17.99(c)	NA
<i>Phyllostegia pilosa</i> ...	None	U.S.A. (HI)	Lamiaceae	E	815	17.99(c) and (e)(1)	NA
<i>Pittosporum halophilum</i> .	Hoawa	U.S.A. (HI)	Pittosporaceae	E	815	17.99(c)	NA
<i>Platanthera holochila</i>	None	U.S.A. (HI)	Orchidaceae	E	592	17.99(a)(1), (c), (e)(1), and (i)	NA
<i>Portulaca sclerocarpa</i> .	Poe	U.S.A. (HI)	Portulacaceae	E	532	17.99(k)	NA
<i>Santalum haleakalae</i> var. <i>lanaiense</i> .	Lanai sandalwood, iliahi.	U.S.A. (HI)	Santalaceae	E	215, 815	17.99(c) and (e)(1)	NA
<i>Schenkia sebaeoides</i>	Awiwi	U.S.A. (HI)	Gentianaceae	E	448	17.99(a)(1), (c), (e)(1), and (i)	NA
<i>Schiedea jacobii</i> .....	None	U.S.A. (HI)	Caryophyllaceae	E	815	17.99(e)(1)	NA
<i>Schiedea laui</i> .....	None	U.S.A. (HI)	Caryophyllaceae	E	815	17.99(c)	NA
<i>Schiedea salicaria</i> ...	None	U.S.A. (HI)	Caryophyllaceae	E	815	17.99(e)(1)	NA
<i>Sesbania tomentosa</i>	Ohai	U.S.A. (HI)	Fabaceae	E	559	17.99(a)(1), (c), (e)(1), (e)(2), (g), (i), and (k)	NA
<i>Solanum incompletum</i> .	Popolo ku mai	U.S.A. (HI)	Solanaceae	E	559	17.99(e)(1) and (k)	NA
<i>Stenogyne kauaulaensis</i> .	None	U.S.A. (HI)	Lamiaceae	E	815	17.99(e)(1)	NA
<i>Tetramolopium remyi</i>	None	U.S.A. (HI)	Asteraceae	E	435	17.99(e)(1)	NA
<i>Vigna o-wahuensis</i> ..	None	U.S.A. (HI)	Fabaceae	E	559	17.99(c), (e)(1), (e)(2), (i), and (k)	NA
<i>Wikstroemia villosa</i> ..	Akia	U.S.A. (HI)	Thymelaeaceae	E	815	17.99(e)(1)	NA



Species		Historic range	Family	Status	When listed	Critical habitat	Special rules
Scientific name	Common name						
*	*	*	*	*	*		*
FERNS AND ALLIES							
*	*	*	*	*	*		*
<i>Adenophorus periens</i>	Pendant kihi fern ....	U.S.A. (HI) .....	Grammitidaceae .....	E	559	17.99(a)(1), (c), (e)(1), (i), and (k)	NA
*	*	*	*	*	*		*
<i>Asplenium dielerectum</i>	Asplenium-leaved diellia.	U.S.A. (HI) .....	Aspleniaceae .....	E	559	17.99(a)(1), (c), (e)(1), (i), and (k)	NA
*	*	*	*	*	*		*
<i>Asplenium peruvianum</i> var. <i>insulare</i>	None .....	U.S.A. (HI) .....	Aspleniaceae .....	E	553	17.99(e)(1) and (k)	NA
*	*	*	*	*	*		*
<i>Huperzia mannii</i> .....	Wawaeiole .....	U.S.A. (HI) .....	Lycopodiaceae .....	E	467	17.99(e)(1)	NA
*	*	*	*	*	*		*
<i>Marsilea villosa</i> .....	Ihi ihi .....	U.S.A. (HI) .....	Marsileaceae .....	E	474	17.99(c) and (i)	NA
*	*	*	*	*	*		*
<i>Pteris lidgatei</i> .....	None .....	U.S.A. (HI) .....	Adiantaceae .....	E	553	17.99(c), (e)(1), and (i)	NA
*	*	*	*	*	*		*

■ 4. Amend § 17.95 as follows:

■ a. In paragraph (b), by adding entries for “Crested Honeycreeper (Akohekohe) (*Palmeria dolei*)” and “Maui Parrotbill (Kiwikiu) (*Pseudonestor xanthophrys*)” in the same alphabetical order as these species occur in the table at § 17.11(h); and

■ b. In paragraph (f), by adding an entry for “Newcomb’s tree snail (*Newcombia cumingi*),” to the end of the paragraph.

The additions read as follows:

**§ 17.95 Critical habitat—fish and wildlife**

\* \* \* \* \*

(b) *Birds.*

\* \* \* \* \*

Crested Honeycreeper (Akohekohe) (*Palmeria dolei*).

(1) Critical habitat units are depicted for Maui County, Hawaii, on the maps below.

(2) *Primary constituent elements.* (i) In units 1 and 37, the primary constituent elements of critical habitat for the Akohekohe are:

(A) Elevation: Less than 3,300 ft (1,000 m).

(B) Annual precipitation: 50 to 75 in (130 to 190 cm).

(C) Substrate: Shallow soils, little to no herbaceous layer.

(D) Canopy: *Acacia*, *Diospyros*, *Metrosideros*, *Myrsine*, *Pouteria*, *Santalum*.

(E) Subcanopy: *Dodonaea*, *Freycinetia*, *Leptecophylla*, *Melanthera*, *Osteomeles*, *Pleomele*, *Psydrax*.

(F) Understory: *Carex*, *Dicranopteris*, *Diplazium*, *Elaphoglossum*, *Peperomia*.

(ii) In units 2, 3, 4, 5, 6, 7, 8, 9, 38, and 39, the primary constituent elements of critical habitat for the Akohekohe are:

(A) Elevation: Less than 3,300 ft (1,000 m).

(B) Annual precipitation: Greater than 75 in (190 cm).

(C) Substrate: Clays; ashbeds; deep, well-drained soils; lowland bogs.

(D) Canopy: *Antidesma*, *Metrosideros*, *Myrsine*, *Pisonia*, *Psychotria*.

(E) Subcanopy: *Cibotium*, *Claoxylon*, *Kadua*, *Melicope*.

(F) Understory: *Alyxia*, *Cyrtandra*, *Dicranopteris*, *Diplazium*, *Machaerina*, *Microlepia*.

(iii) In units 10, 11, 12, 13, 14, 15, 16, 40, and 41, the primary constituent elements of critical habitat for the Akohekohe are:

(A) Elevation: Between 3,300 and 6,500 ft (1,000 and 2,000 m)

(B) Annual precipitation: Greater than 75 in (190 cm).

(C) Substrate: Well-developed soils, montane bogs.

(D) Canopy: *Acacia*, *Charpentiera*, *Cheirodendron*, *Metrosideros*.

(E) Subcanopy: *Broussaisia*, *Cibotium*, *Eurya*, *Ilex*, *Myrsine*.

(F) Understory: Ferns, *Carex*, *Coprosma*, *Leptecophylla*, *Oreobolus*, *Rhynchospora*, *Vaccinium*.

(iv) In units 18, 19, 20, 21, 22, and 42, the primary constituent elements of critical habitat for the Akohekohe are:

(A) Elevation: Between 3,300 and 6,500 ft (1,000 and 2,000 m).

(B) Annual precipitation: Between 50 and 75 in (130 and 190 cm).

(C) Substrate: Deep ash deposits, thin silty loams.

(D) Canopy: *Acacia*, *Ilex*, *Metrosideros*, *Myrsine*, *Nestegis*, *Nothocestrum*, *Pisonia*, *Pittosporum*, *Psychotria*, *Sophora*, *Zanthoxylum*.

(E) Subcanopy: *Alyxia*, *Charpentiera*, *Coprosma*, *Dodonaea*, *Kadua*, *Labordia*, *Leptecophylla*, *Phyllostegia*, *Vaccinium*.

(F) Understory: Ferns, *Carex*, *Peperomia*.

(v) In units 24 and 25, the primary constituent elements of critical habitat for the Akohekohe are:

(A) Elevation: Between 6,500 and 9,800 ft (2,000 and 3,000 m).

(B) Annual precipitation: Between 15 and 40 in (38 and 100 cm).

(C) Substrate: Dry ash; sandy loam; rocky, undeveloped soils; weathered lava.

(D) Canopy: *Chamaesyce*, *Chenopodium*, *Metrosideros*, *Myoporum*, *Santalum*, *Sophora*.

(E) Subcanopy: *Coprosma*, *Dodonaea*, *Dubautia*, *Geranium*, *Leptecophylla*, *Vaccinium*, *Wikstroemia*.

(F) Understory: Ferns, *Bidens*, *Carex*, *Deschampsia*, *Eragrostis*, *Gahnia*, *Luzula*, *Panicum*, *Pseudognaphalium*, *Sicyos*, *Tetramolopium*.

(vi) In units 26, 27, 28, and 29, the primary constituent elements of critical habitat for the Akohekohe are:

(A) Elevation: Unrestricted.

(B) Annual precipitation: Less than 75 in (190 cm).

(C) Substrate: Greater than 65 degree slope, rocky talus.

(D) Canopy: None.

(E) Subcanopy: *Antidesma*, *Chamaesyce*, *Diospyros*, *Dodonaea*.

(F) Understory: *Bidens*, *Eragrostis*, *Melanthera*, *Schiedea*.

(vii) In units 30, 31, 32, 33, 35, 36, 43, and 44, the primary constituent elements of critical habitat for the Akohekohe are:

(A) Elevation: Unrestricted.

(B) Annual precipitation: Greater than 75 in (190 cm).

(C) Substrate: Greater than 65 degree slope, shallow soils, weathered lava.

(D) Canopy: None.

(E) Subcanopy: *Broussaisia*, *Cheirodendron*, *Leptecophylla*, *Metrosideros*.

(F) Understory: Bryophytes, ferns, *Coprosma*, *Dubautia*, *Kadua*, *Peperomia*.

(3) Existing manmade features and structures, such as buildings, roads, railroads, airports, runways, other paved areas, lawns, and other urban landscaped areas, do not contain one or more of the physical or biological features. Federal actions limited to those areas, therefore, would not trigger a consultation under section 7 of the Act unless they may affect the species or physical or biological features in adjacent critical habitat.

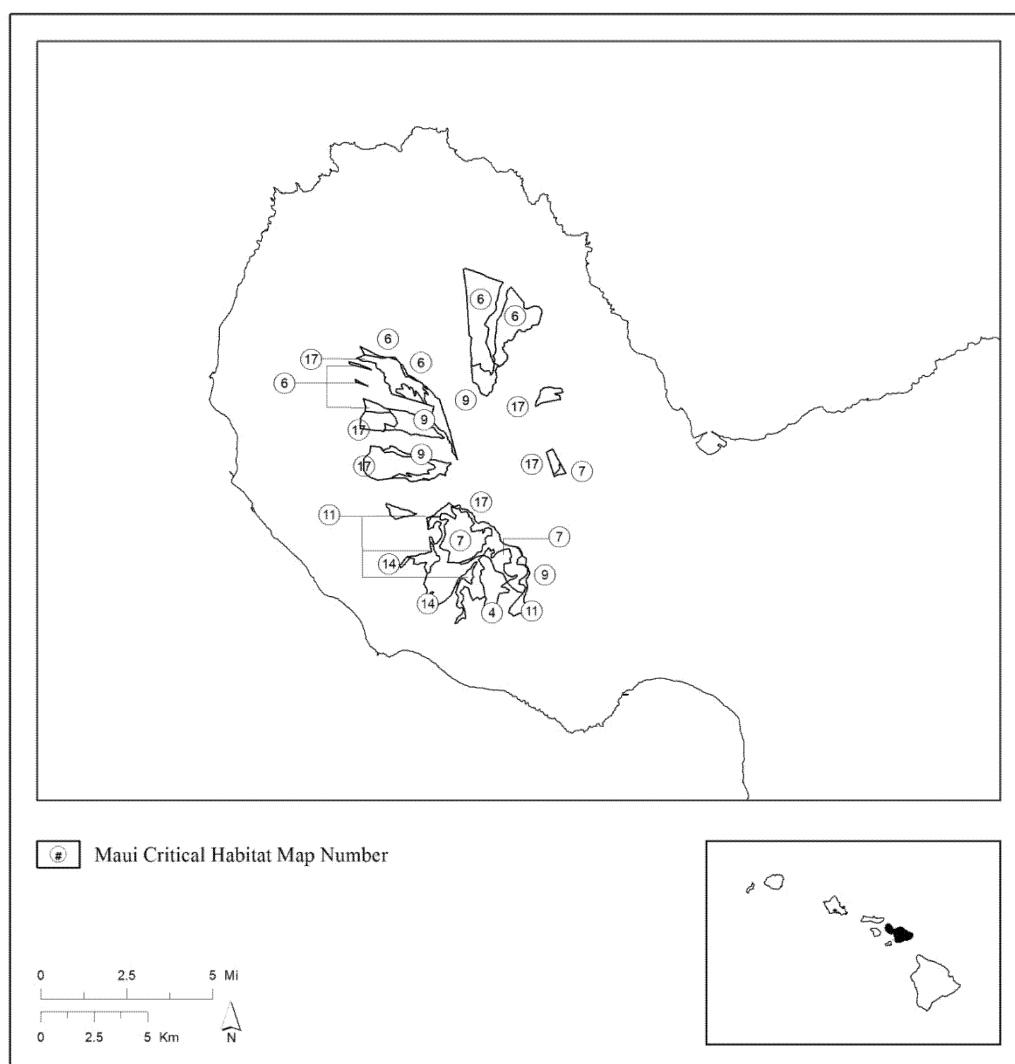
(4) *Critical habitat maps*. Maps were created in GIS, with coordinates in UTM Zone 4, units in meters using North American datum of 1983 (NAD 83).

(5) Index maps of critical habitat units for the Akohekohe follow:

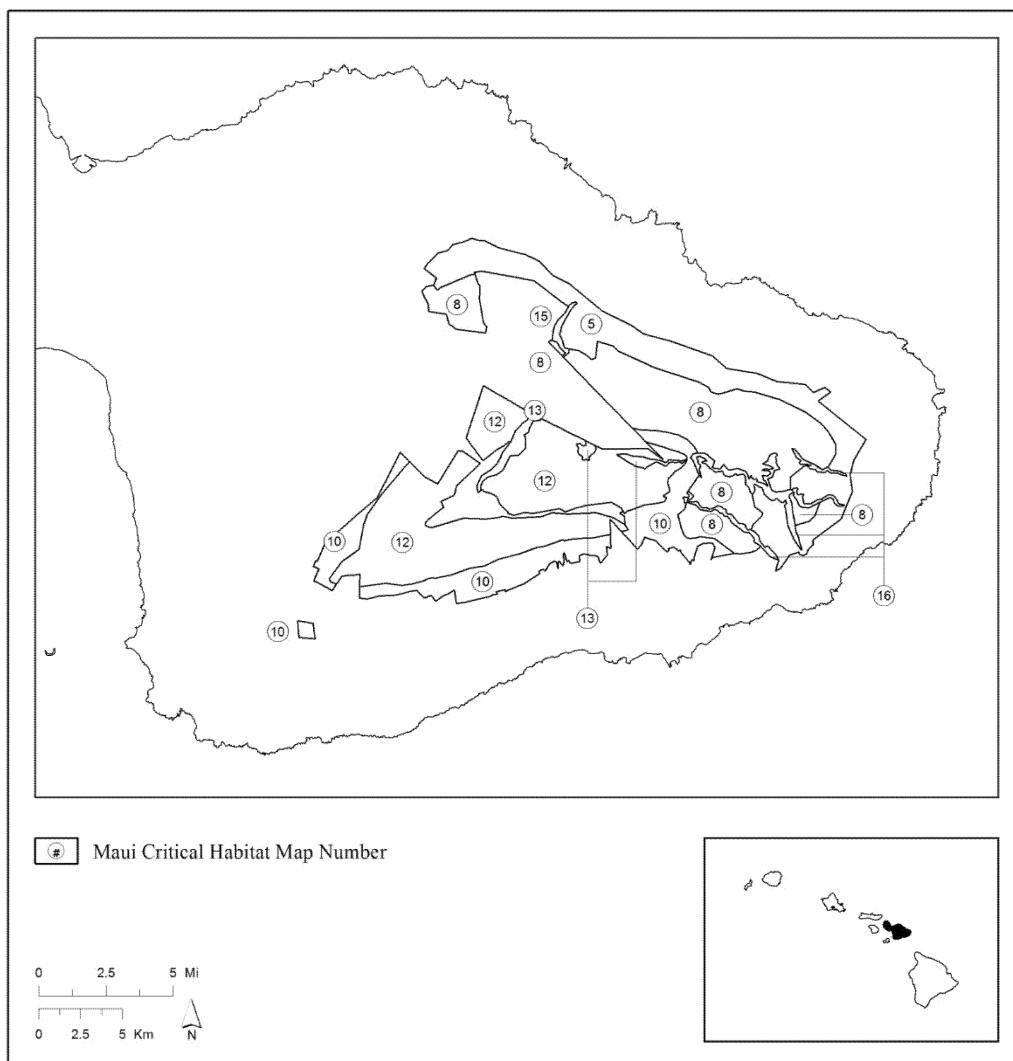
BILLING CODE 4333-15-P

## Map 1

### *Palmeria dolei*—Index Map 1—West Maui



## Map 2

*Palmeria dolei*—Index Map 2—East Maui

Map 3

Palmeria dolei—Index Map 3--Molokai



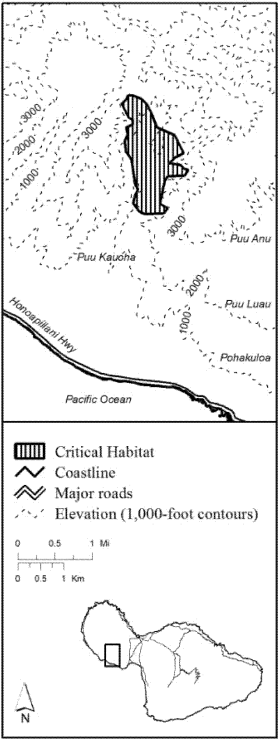
(6) *Palmeria dolei*—Unit 1—Lowland Mesic-Maui, Maui County, Hawaii (477 ac; 193 ha). This unit is critical habitat for the Akohekohe, *Palmeria dolei*. Map of *Palmeria dolei*—Unit 1—Lowland Mesic-Maui follows:

Map 4

*Palmeria dolei*

Unit 1

Lowland Mesic-Maui



(7) *Palmeria dolei*—Unit 2—Lowland Wet-Maui, Maui County, Hawaii (16,079

ac, 6,507 ha). This unit is critical habitat for the Akohekohe, *Palmeria dolei*. Map

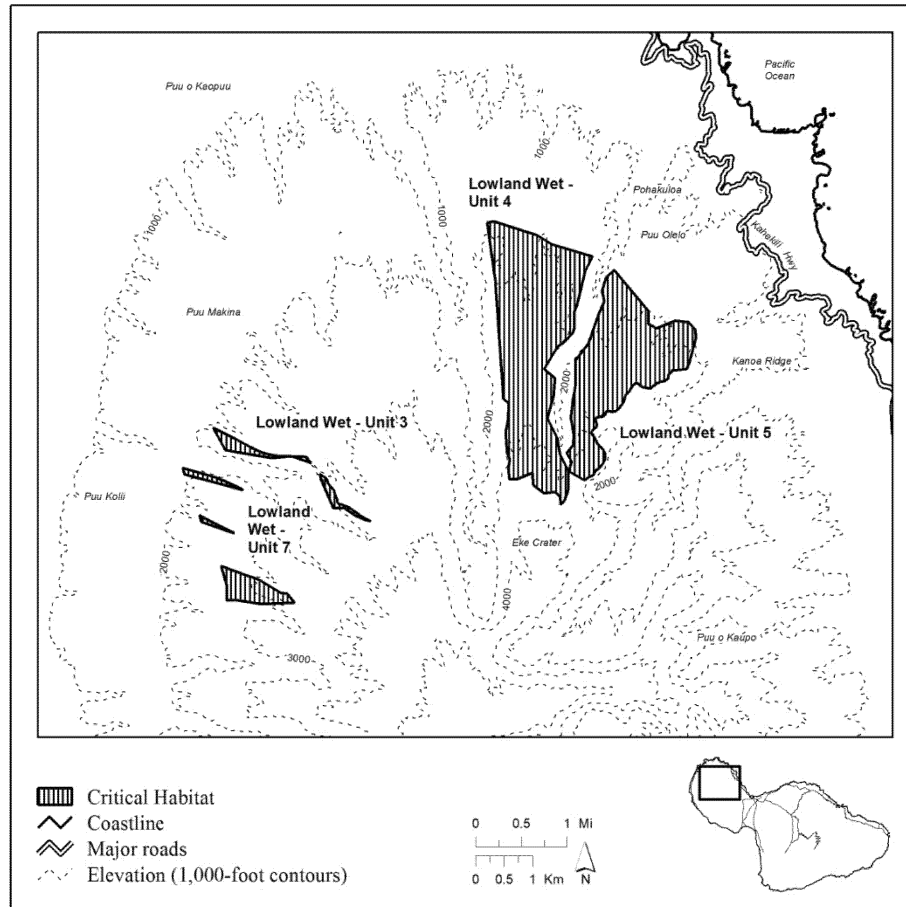
of *Palmeria dolei*—Unit 2—Lowland Wet-Maui follows:

Lowland Wet-Maui, *Palmeria dolei*—Unit 4—Lowland Wet 4-Maui, *Palmeria dolei*—Unit 5—Lowland Wet-Maui, and *Palmeria dolei*—Unit 7—Lowland Wet-Maui follows:

## Map 6

*Palmeria dolei* Unit 3, Unit 4, Unit 5, and Unit 7

## Lowland Wet-Maui



(9) *Palmeria dolei*—Unit 6—Lowland Wet-Maui, Maui County, Hawaii (30 ac, 12 ha); *Palmeria dolei*—Unit 8—Lowland Wet-Maui, Maui County, Hawaii (898 ac, 364 ha); and *Palmeria*

*dolei*—Unit 9—Lowland Wet-Maui, Maui County, Hawaii (230 ac, 93 ha). These units are critical habitat for the Akohekohe, *Palmeria dolei*. Map of *Palmeria dolei*—Unit 6—Lowland Wet-

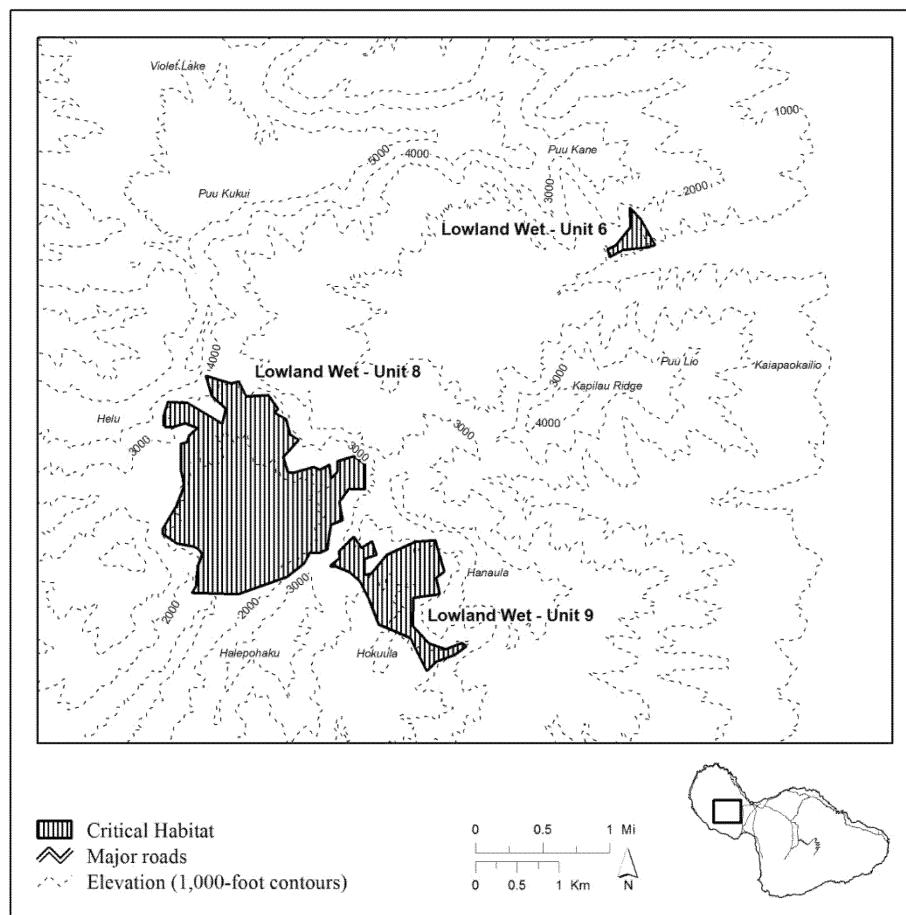
Maui, *Palmeria dolei*—Unit 8—Lowland Wet-Maui, and *Palmeria dolei*—Unit 9—Lowland Wet-Maui follows:

## Map 7

*Palmeria dolei*

## Unit 6, Unit 8, and Unit 9

## Lowland Wet-Maui



(10) *Palmeria dolei*—Unit 10—Montane Wet-Maui, Maui County, Hawaii (2,110 ac, 854 ha); *Palmeria dolei*—Unit 11—Montane Wet-Maui, Maui County, Hawaii (14,583 ac, 5,901 ha); *Palmeria dolei*—Unit 12—Montane Wet-Maui, Maui County, Hawaii (2,228

ac, 902 ha); *Palmeria dolei*—Unit 13—Montane Wet-Maui, Maui County, Hawaii (1,833 ac, 742 ha); and *Palmeria dolei*—Unit 14—Montane Wet-Maui, Maui County, Hawaii (387 ac, 156 ha). These units are critical habitat for the Akohekohe, *Palmeria dolei*. Map of

*Palmeria dolei*—Unit 10—Montane Wet-Maui, *Palmeria dolei*—Unit 11—Montane Wet-Maui, *Palmeria dolei*—Unit 12—Montane Wet-Maui, *Palmeria dolei*—Unit 13—Montane Wet-Maui, and *Palmeria dolei*—Unit 14—Montane Wet-Maui follows:

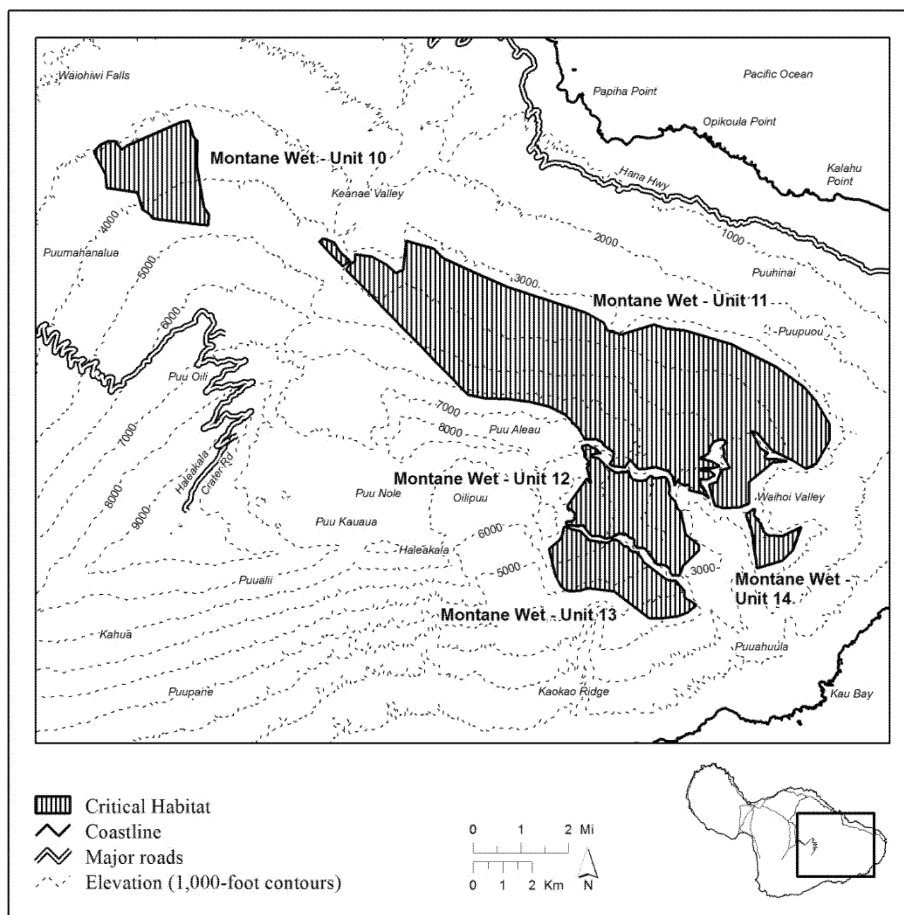


## Map 8

*Palmeria dolei*

## Unit 10, Unit 11, Unit 12, Unit 13, and Unit 14

## Montane Wet-Maui



(11) *Palmeria dolei*—Unit 15—Montaine Wet-Maui, Maui County, Hawaii (1,399 ac, 566 ha), and *Palmeria dolei*—Unit 16—Montane Wet-Maui,

Maui County, Hawaii (80 ac, 32 ha). These units are critical habitat for the Akohekohe, *Palmeria dolei*. Map of *Palmeria dolei*—Unit 15—Montane Wet-

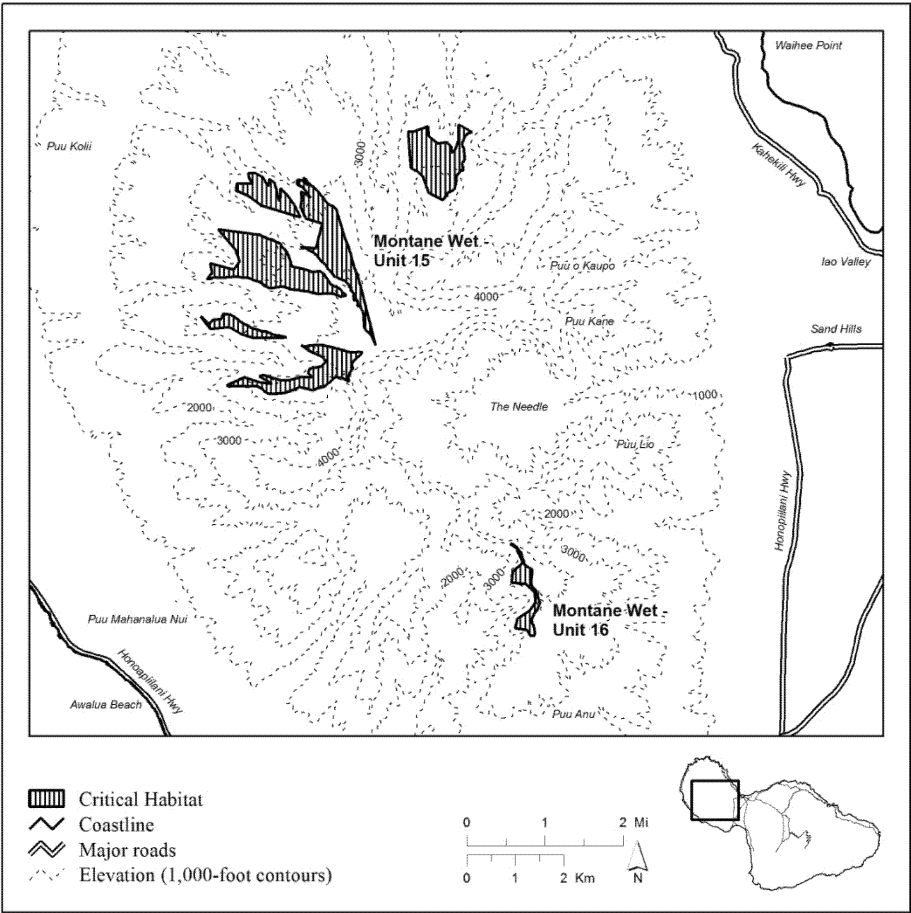
Maui, and *Palmeria dolei*—Unit 16—Montane Wet-Maui follows:

Map 9

*Palmeria dolei*

Unit 15 and Unit 16

Montane Wet-Maui



(12) [Reserved]  
(13) *Palmeria dolei*—Unit 18—  
Montane Mesic-Maui, Maui County,

Hawaii (10,972 ac, 4,440 ha). This unit  
is critical habitat for the Akohekohe,

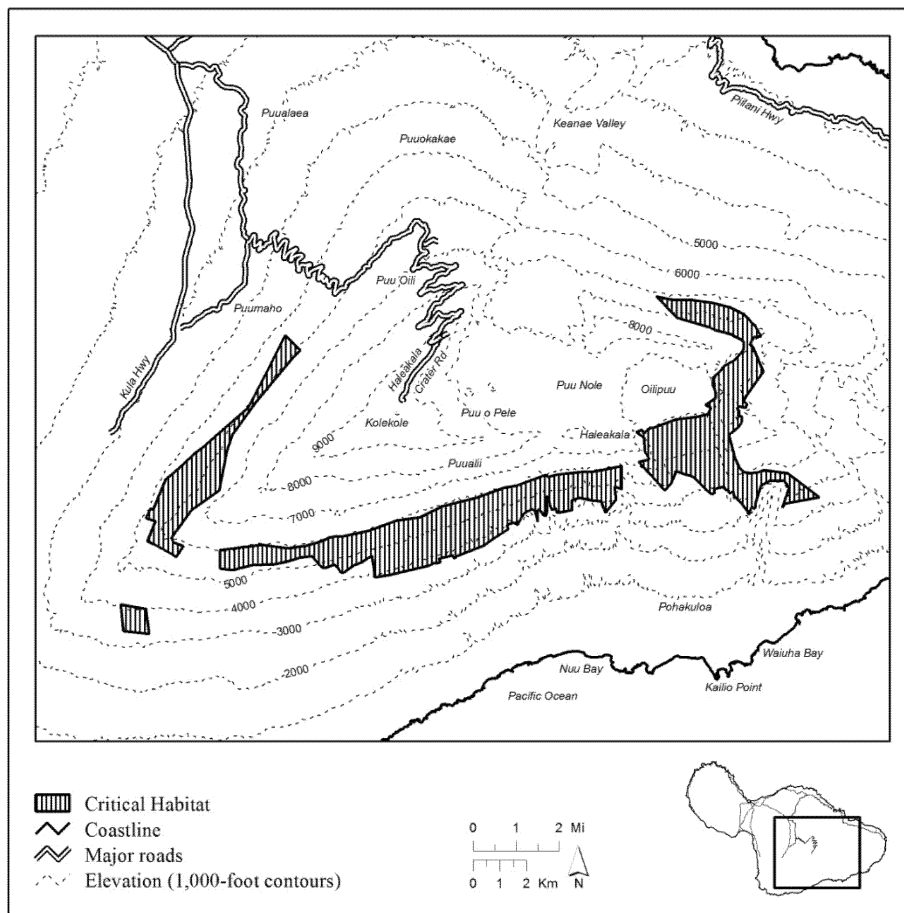
*Palmeria dolei*. Map of *Palmeria dolei*—  
Unit 18—Montane Mesic-Maui follows:

## Map 10

*Palmeria dolei*

## Unit 18

## Montane Mesic-Maui



(14) *Palmeria dolei*—Unit 19—Montane Mesic-Maui, Maui County, Hawaii (124 ac, 50 ha); *Palmeria dolei*—Unit 20—Montane Mesic-Maui, Maui County, Hawaii (174 ac, 70 ha); *Palmeria dolei*—Unit 21—Montane

Mesic-Maui, Maui County, Hawaii (72 ac, 29 ha); and *Palmeria dolei*—Unit 22—Montane Mesic-Maui, Maui County, Hawaii (170 ac, 69 ha). These units are critical habitat for the Akohekohe, *Palmeria dolei*. Map of

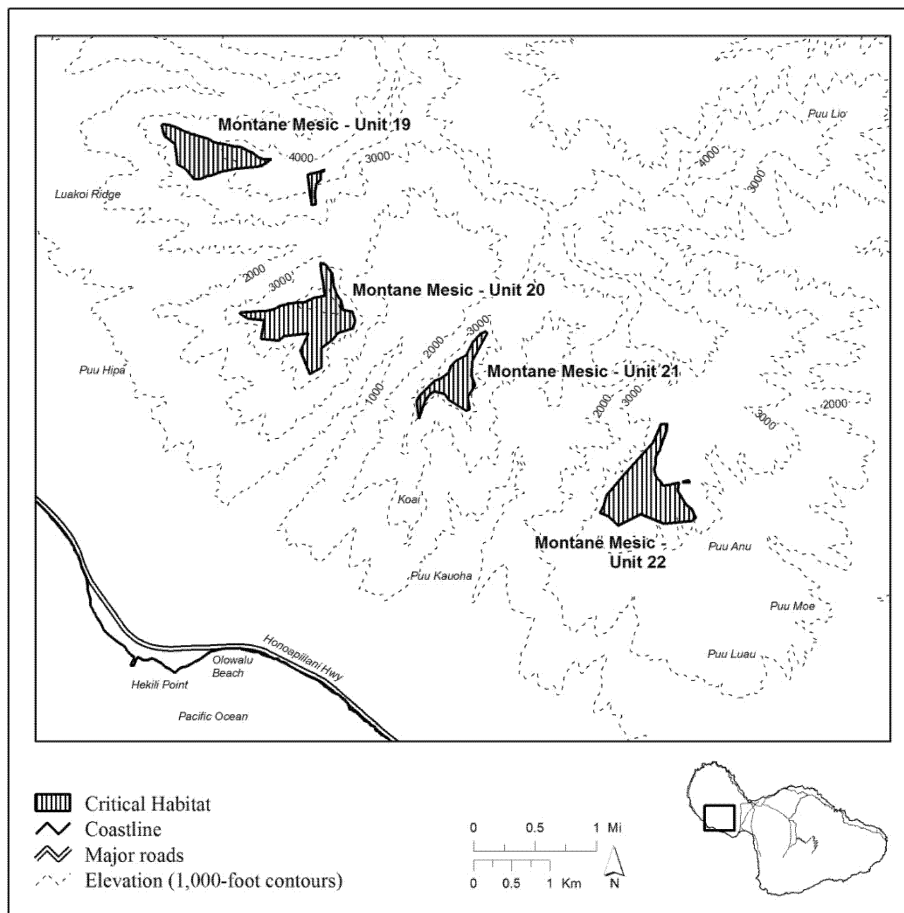
*Palmeria dolei*—Unit 19—Montane Mesic-Maui, *Palmeria dolei*—Unit 20—Montane Mesic-Maui, *Palmeria dolei*—Unit 21—Montane Mesic-Maui, and *Palmeria dolei*—Unit 22—Montane Mesic-Maui follows:

## Map 11

*Palmeria dolei*

## Unit 19, Unit 20, Unit 21, and Unit 22

## Montane Mesic-Maui



(15) [Reserved]  
 (16) *Palmeria dolei*—Unit 24—  
 Subalpine-Maui, Maui County, Hawaii  
 (15,975 ac, 6,465 ha), and *Palmeria*

*dolei*—Unit 25—Subalpine-Maui, Maui  
 County, Hawaii (9,886 ac, 4,001 ha).  
 These units are critical habitat for the  
 Akohekohe, *Palmeria dolei*. Map of

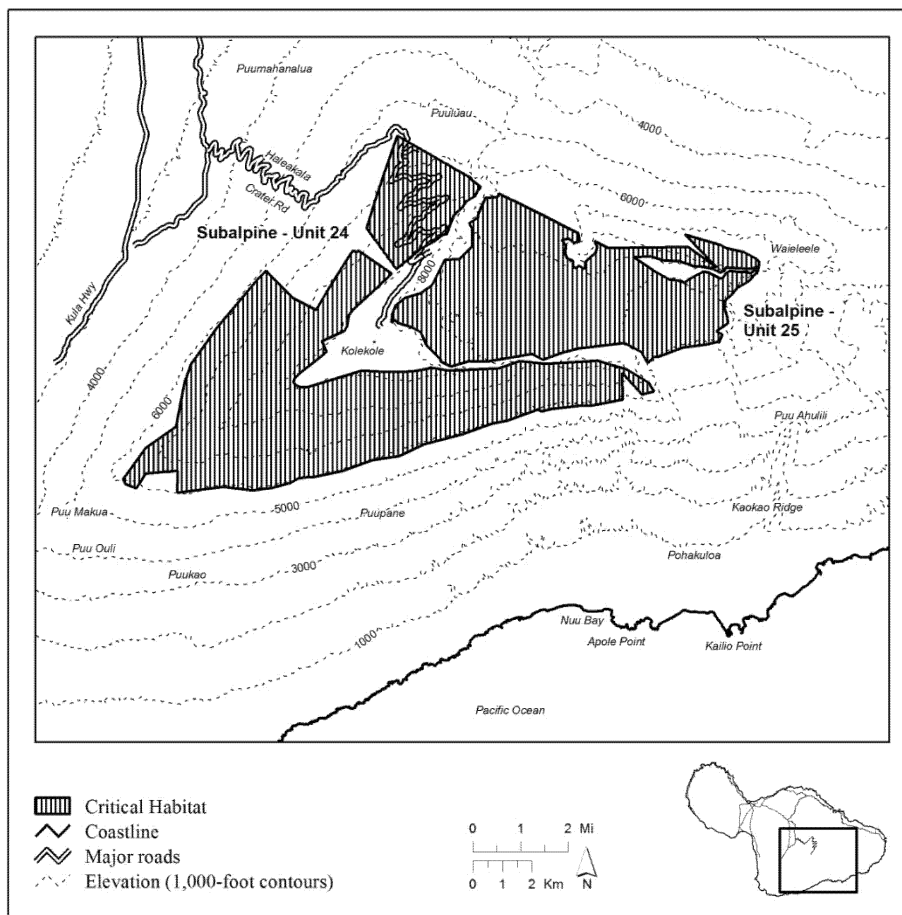
*Palmeria dolei*—Unit 24—Subalpine-  
 Maui and *Palmeria dolei*—Unit 25—  
 Subalpine-Maui follows:

## Map 12

*Palmeria dolei*

## Unit 24 and Unit 25

## Subalpine-Maui



(17) *Palmeria dolei*—Unit 26—Dry Cliff-Maui, Maui County, Hawaii (755 ac, 305 ha); *Palmeria dolei*—Unit 27—Dry Cliff-Maui, Maui County, Hawaii (200 ac, 81 ha); and *Palmeria dolei*—

Unit 28—Dry Cliff-Maui, Maui County, Hawaii (315 ac, 127 ha). These units are critical habitat for the Akohekohe, *Palmeria dolei*. Map of *Palmeria dolei*—Unit 26—Dry Cliff-Maui, *Palmeria*

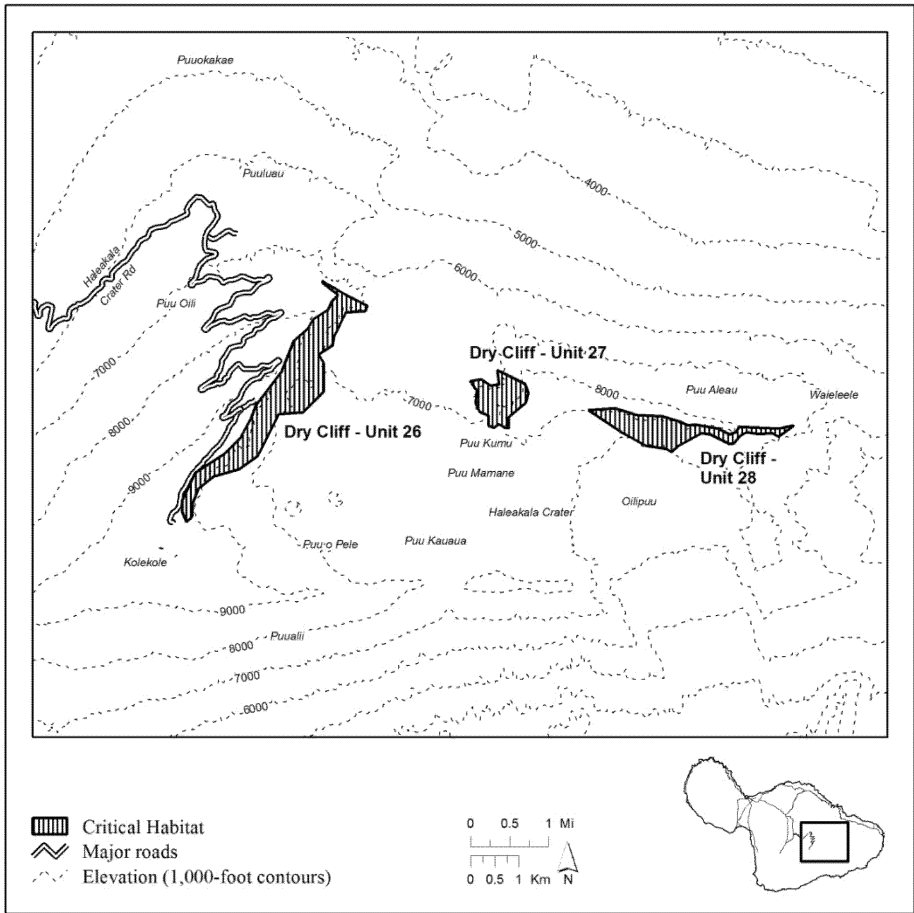
*dolei*—Unit 27—Dry Cliff-Maui, and *Palmeria dolei*—Unit 28—Dry Cliff-Maui follows:

Map 13

*Palmeria dolei*

Unit 26, Unit 27, and Unit 28

Dry Cliff-Maui



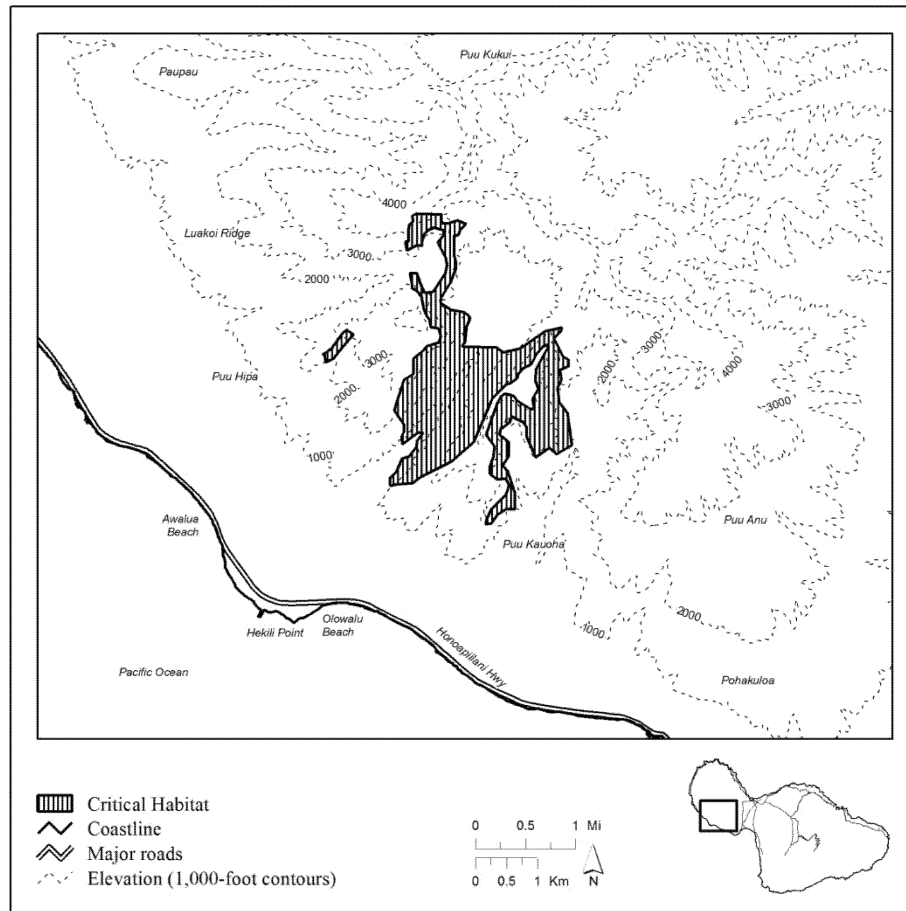
(18) *Palmeria dolei*—Unit 29—Dry Cliff-Maui, Maui County, Hawaii (1,298 ac, 525 ha). This unit is critical habitat for the Akohekohe, *Palmeria dolei*. Map of *Palmeria dolei*—Unit 29—Dry Cliff-Maui follows:

## Map 14

*Palmeria dolei*

## Unit 29

## Dry Cliff-Maui

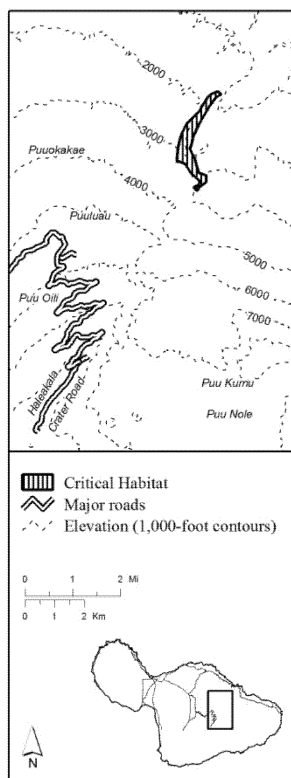


(19) *Palmeria dolei*—Unit 30—Wet Cliff-Maui, Maui County, Hawaii (290

ac, 117 ha). This unit is critical habitat for the Akohekohe, *Palmeria dolei*. Map

of *Palmeria dolei*—Unit 30—Wet Cliff-Maui follows:

## Wet Cliff-Maui



*dolei*—Unit 32—Wet Cliff-Maui, and *Palmeria dolei*—Unit 33—Wet Cliff-Maui follows:

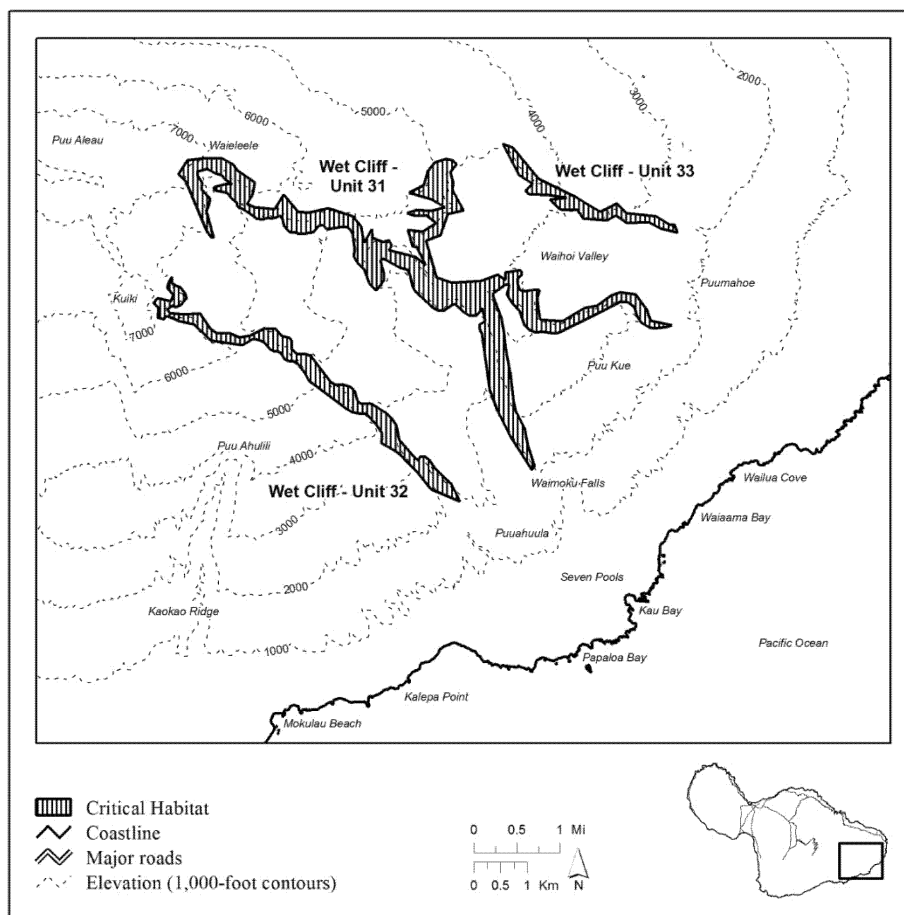


## Map 16

*Palmeria dolei*

## Unit 31, Unit 32, and Unit 33

## Wet Cliff-Maui



(21) [Reserved]  
 (22) *Palmeria dolei*—Unit 35—Wet Cliff-Maui, Maui County, Hawaii (2,110 ac, 854 ha), and *Palmeria dolei*—Unit

36—Wet Cliff-Maui, Maui County, Hawaii (556 ac, 225 ha). These units are critical habitat for the Akohekohe, *Palmeria dolei*. Map of *Palmeria dolei*—

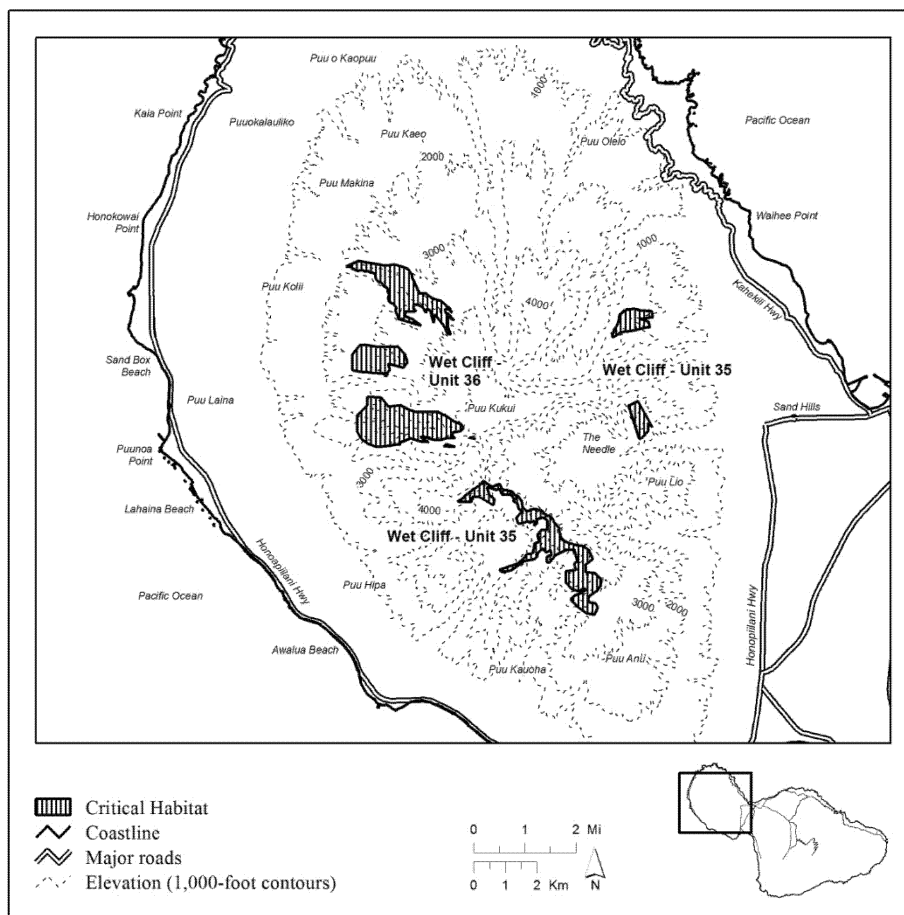
Unit 35—Wet Cliff-Maui, and *Palmeria dolei*—Unit 36—Wet Cliff-Maui follows:

## Map 17

### *Palmeria dolei*

#### Unit 35 and Unit 26

#### Wet Cliff-Maui



(23) *Palmeria dolei*—Unit 37—  
Lowland Mesic-Molokai, Maui County,  
Hawaii (8,770 ac, 3,549 ha). This unit is

critical habitat for the Akohekohe,  
*Palmeria dolei*. Map of *Palmeria dolei*—

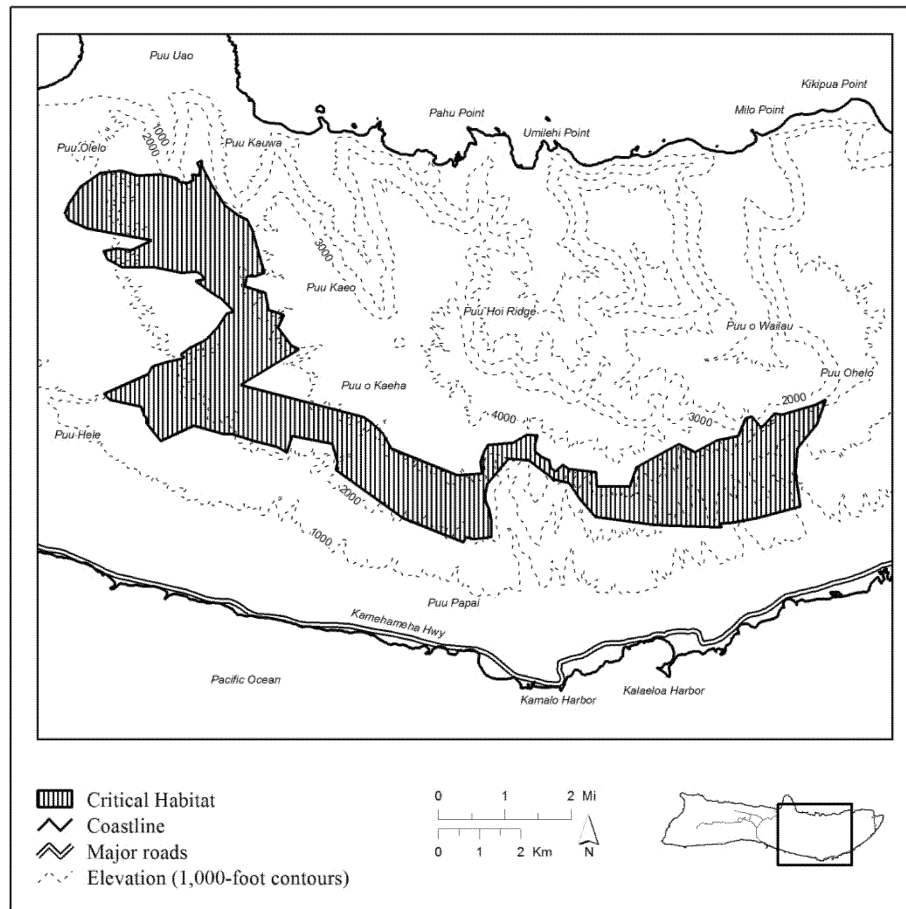
Unit 37—Lowland Mesic-Molokai  
follows:

## Map 18

*Palmeria dolei*

## Unit 37

## Lowland Mesic-Molokai



(24) *Palmeria dolei*—Unit 38—  
Lowland Wet-Molokai, Maui County,  
Hawaii (2,949 ac, 1,193 ha), and  
*Palmeria dolei*—Unit 39—Lowland

Wet-Molokai, Maui County, Hawaii  
(1,950 ac, 789 ha). These units are  
critical habitat for the Akohekohe,  
*Palmeria dolei*. Map of *Palmeria dolei*—

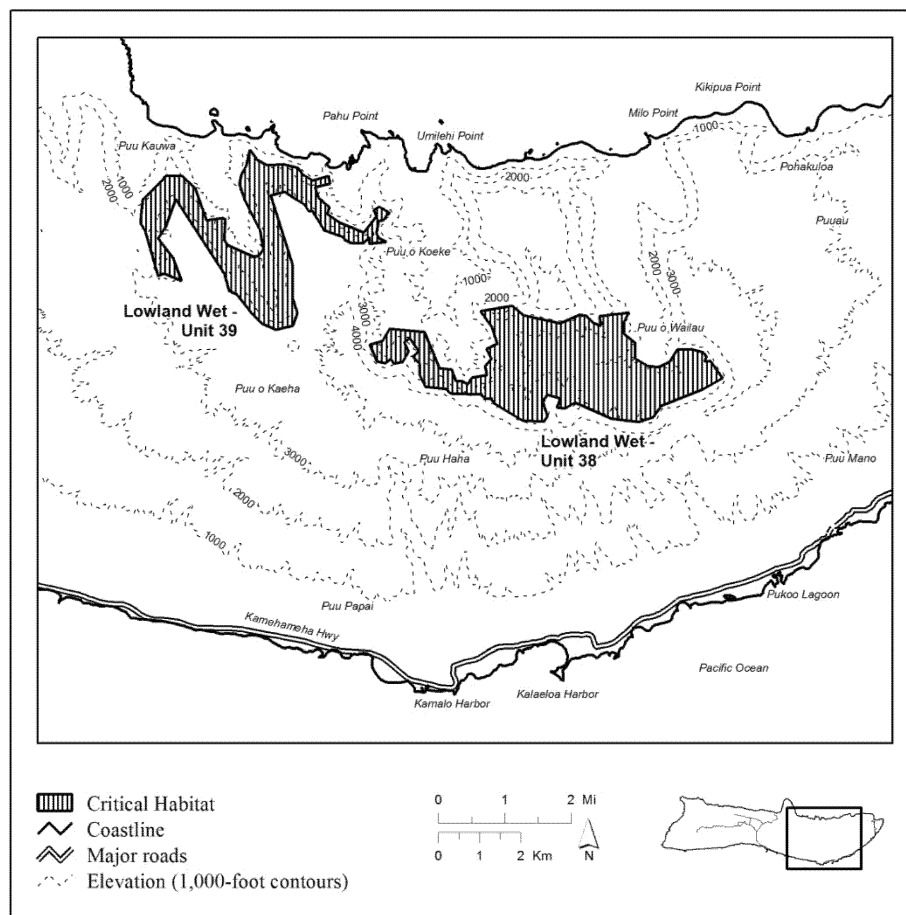
Unit 38—Lowland Wet-Molokai and  
*Palmeria dolei*—Unit 39—Lowland  
Wet-Molokai follows:

## Map 19

*Palmeria dolei*

## Unit 38 and Unit 39

## Lowland Wet-Molokai



(25) *Palmeria dolei*—Unit 40—Montane Wet-Molokai, Maui County, Hawaii (3,397 ac, 1,375 ha), and *Palmeria dolei*—Unit 41—Montane Wet-

Molokai, Maui County, Hawaii (910 ac, 368 ha). These units are critical habitat for the Akohekohe, *Palmeria dolei*. Map of *Palmeria dolei*—Unit 40—Montane

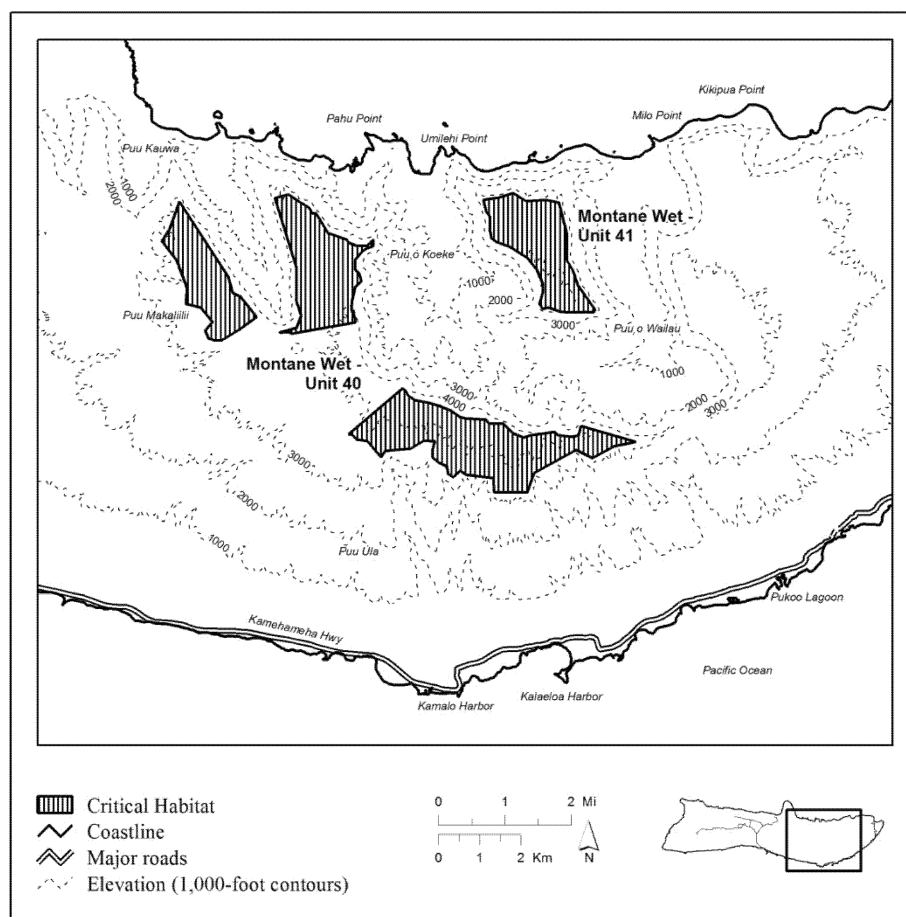
Wet-Molokai and *Palmeria dolei*—Unit 41—Montane Wet-Molokai follows:

## Map 20

*Palmeria dolei*

## Unit 40 and Unit 41

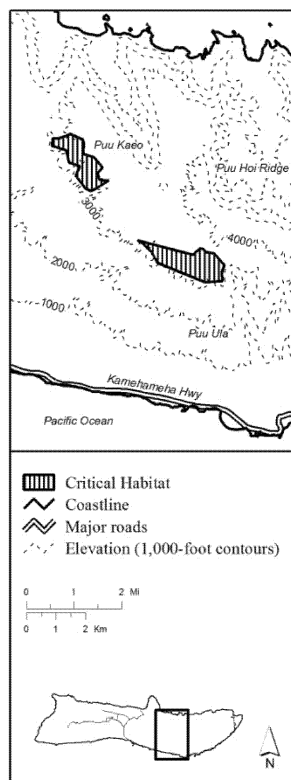
## Montane Wet-Molokai



(26) *Palmeria dolei*—Unit 42—  
Montane Mesic-Molokai, Maui County,  
Hawaii (816 ac, 330 ha). This unit is

critical habitat for the Akohekohe,  
*Palmeria dolei*. Map of *Palmeria dolei*—

Unit 42—Montane Mesic-Molokai  
follows:

**Map 21*****Palmeria dolei*****Unit 42****Montane Mesic-Molokai**

(27) *Palmeria dolei*—Unit 43—Wet Cliff-Molokai, Maui County, Hawaii (1,607 ac, 651 ha), and *Palmeria dolei*—Unit 44—Wet Cliff-Molokai, Maui

County, Hawaii (1,268 ac, 513 ha). These units are critical habitat for the Akohekohe, *Palmeria dolei*. Map of *Palmeria dolei*—Unit 43—Wet Cliff-

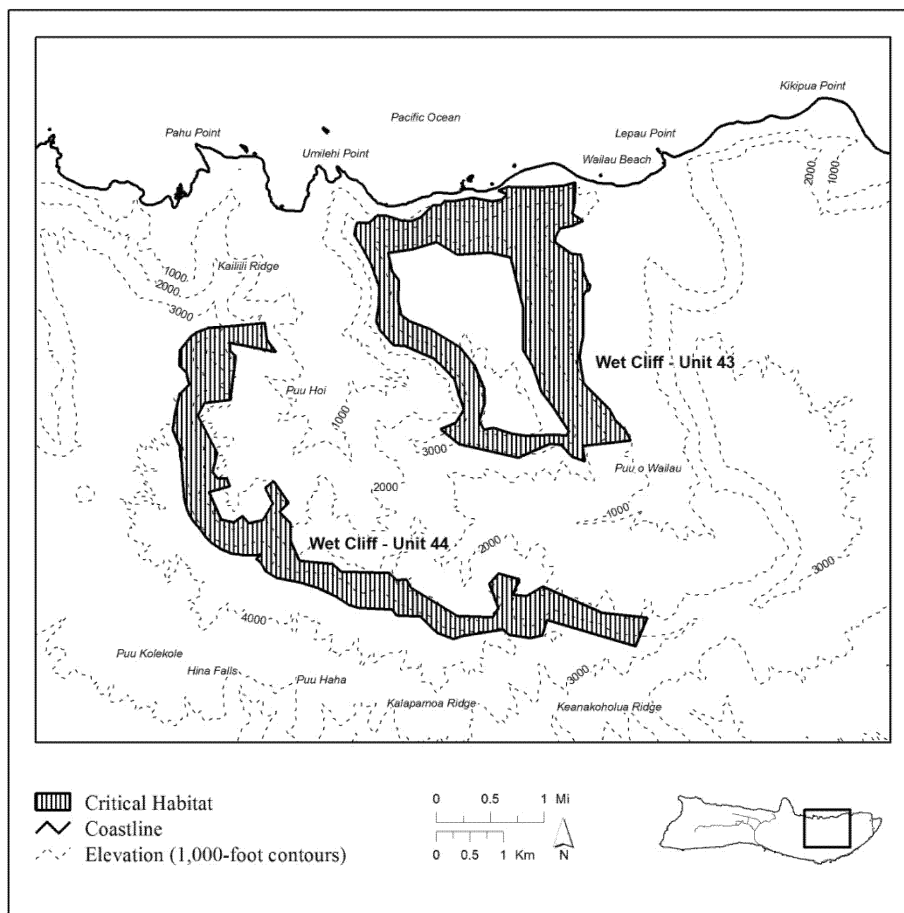
Molokai and *Palmeria dolei*—Unit 44—Wet Cliff-Molokai follows:

## Map 22

*Palmeria dolei*

## Unit 43 and Unit 44

## Wet Cliff-Molokai



\* \* \* \* \*

Maui Parrotbill (Kiwikiu)  
(*Pseudonestor xanthophrys*)

(1) Critical habitat units are depicted for Maui County, Hawaii, on the maps below.

(2) *Primary constituent elements.* (i) In units 1 and 37, the primary constituent elements of critical habitat for the Kiwikiu are:

(A) Elevation: Less than 3,300 ft (1,000 m).

(B) Annual precipitation: 50 to 75 in (130 to 190 cm).

(C) Substrate: Shallow soils, little to no herbaceous layer.

(D) Canopy: *Acacia*, *Diospyros*, *Metrosideros*, *Myrsine*, *Pouteria*, *Santalum*.

(E) Subcanopy: *Dodonaea*, *Freycinetia*, *Leptecophylla*, *Melanthera*, *Osteomeles*, *Pleomele*, *Psydrax*.

(F) Understory: *Carex*, *Dicranopteris*, *Diplazium*, *Elaphoglossum*, *Peperomia*.

(ii) In units 2, 3, 4, 5, 6, 7, 8, 9, 38, and 39, the primary constituent elements of critical habitat for the Kiwikiu are:

(A) Elevation: Less than 3,300 ft (1,000 m).

(B) Annual precipitation: Greater than 75 in (190 cm).

(C) Substrate: Clays; ashbeds; deep, well-drained soils; lowland bogs.

(D) Canopy: *Antidesma*, *Metrosideros*, *Myrsine*, *Pisonia*, *Psychotria*.

(E) Subcanopy: *Cibotium*, *Claoxylon*, *Kadua*, *Melicope*.

(F) Understory: *Alyxia*, *Cyrtandra*, *Dicranopteris*, *Diplazium*, *Machaerina*, *Microlepia*.

(iii) In units 10, 11, 12, 13, 14, 15, 16, 40, and 41, the primary constituent elements of critical habitat for the Kiwikiu are:

(A) Elevation: Between 3,300 and 6,500 ft (1,000 and 2,000 m)

(B) Annual precipitation: Greater than 75 in (190 cm).

(C) Substrate: Well-developed soils, montane bogs.

(D) Canopy: *Acacia*, *Charpentiera*, *Cheirodendron*, *Metrosideros*.

(E) Subcanopy: *Broussaisia*, *Cibotium*, *Eurya*, *Ilex*, *Myrsine*.

(F) Understory: Ferns, *Carex*, *Coprosma*, *Leptecophylla*, *Oreobolus*, *Rhynchospora*, *Vaccinium*.

(iv) In units 18, 19, 20, 21, 22, and 42, the primary constituent elements of critical habitat for the Kiwikiu are:

(A) Elevation: Between 3,300 and 6,500 ft (1,000 and 2,000 m).

(B) Annual precipitation: Between 50 and 75 in (130 and 190 cm).

(C) Substrate: Deep ash deposits, thin silty loams.

(D) Canopy: *Acacia*, *Ilex*, *Metrosideros*, *Myrsine*, *Nestegis*, *Nothocestrum*, *Pisonia*, *Pittosporum*, *Psychotria*, *Sophora*, *Zanthoxylum*.

(E) Subcanopy: *Alyxia*, *Charpentiera*, *Coprosma*, *Dodonaea*, *Kadua*, *Labordia*, *Leptecophylla*, *Phyllostegia*, *Vaccinium*.

(F) Understory: Ferns, *Carex*, *Peperomia*.

(v) In units 24 and 25, the primary constituent elements of critical habitat for the Kiwikiu are:

(A) Elevation: Between 6,500 and 9,800 ft (2,000 and 3,000 m).

(B) Annual precipitation: Between 15 and 40 in (38 and 100 cm).

(C) Substrate: Dry ash; sandy loam; rocky, undeveloped soils; weathered lava.

(D) Canopy: *Chamaesyce*, *Chenopodium*, *Metrosideros*, *Myoporum*, *Santalum*, *Sophora*.

(E) Subcanopy: *Coprosma*, *Dodonaea*, *Dubautia*, *Geranium*, *Leptecophylla*, *Vaccinium*, *Wikstroemia*.

(F) Understory: Ferns, *Bidens*, *Carex*, *Deschampsia*, *Eragrostis*, *Gahnia*, *Luzula*, *Panicum*, *Pseudognaphalium*, *Sicyos*, *Tetramolopium*.

(vi) In units 26, 27, 28, and 29, the primary constituent elements of critical habitat for the Kiwikiu are:

(A) Elevation: Unrestricted.

(B) Annual precipitation: Less than 75 in (190 cm).

(C) Substrate: Greater than 65 degree slope, rocky talus.

(D) Canopy: None.

(E) Subcanopy: *Antidesma*, *Chamaesyce*, *Diospyros*, *Dodonaea*.

(F) Understory: *Bidens*, *Eragrostis*, *Melanthera*, *Schiedea*.

(vii) In units 30, 31, 32, 33, 35, 36, 43, and 44, the primary constituent elements of critical habitat for the Kiwikiu are:

(A) Elevation: Unrestricted.

(B) Annual precipitation: Greater than 75 in (190 cm).

(C) Substrate: Greater than 65 degree slope, shallow soils, weathered lava.

(D) Canopy: None.

(E) Subcanopy: *Broussaisia*, *Cheirodendron*, *Leptecophylla*, *Metrosideros*.

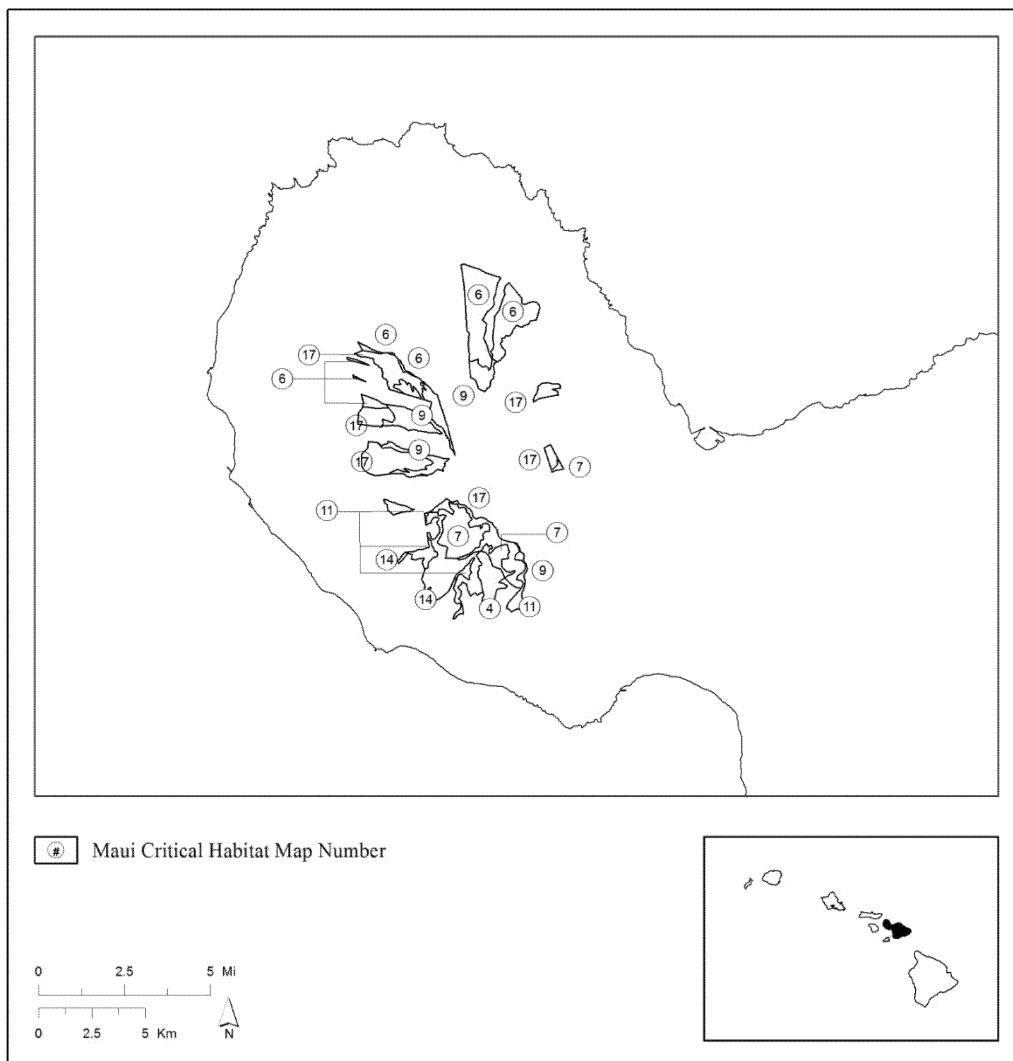
(F) Understory: Bryophytes, ferns, *Coprosma*, *Dubautia*, *Kadua*, *Peperomia*.

(3) Existing manmade features and structures, such as buildings, roads, railroads, airports, runways, other paved areas, lawns, and other urban landscaped areas, do not contain one or more of the physical or biological features. Federal actions limited to those areas, therefore, would not trigger a consultation under section 7 of the Act unless they may affect the species or physical or biological features in adjacent critical habitat.

(4) *Critical habitat maps*. Maps were created in GIS, with coordinates in UTM Zone 4, units in meters using North American datum of 1983 (NAD 83).

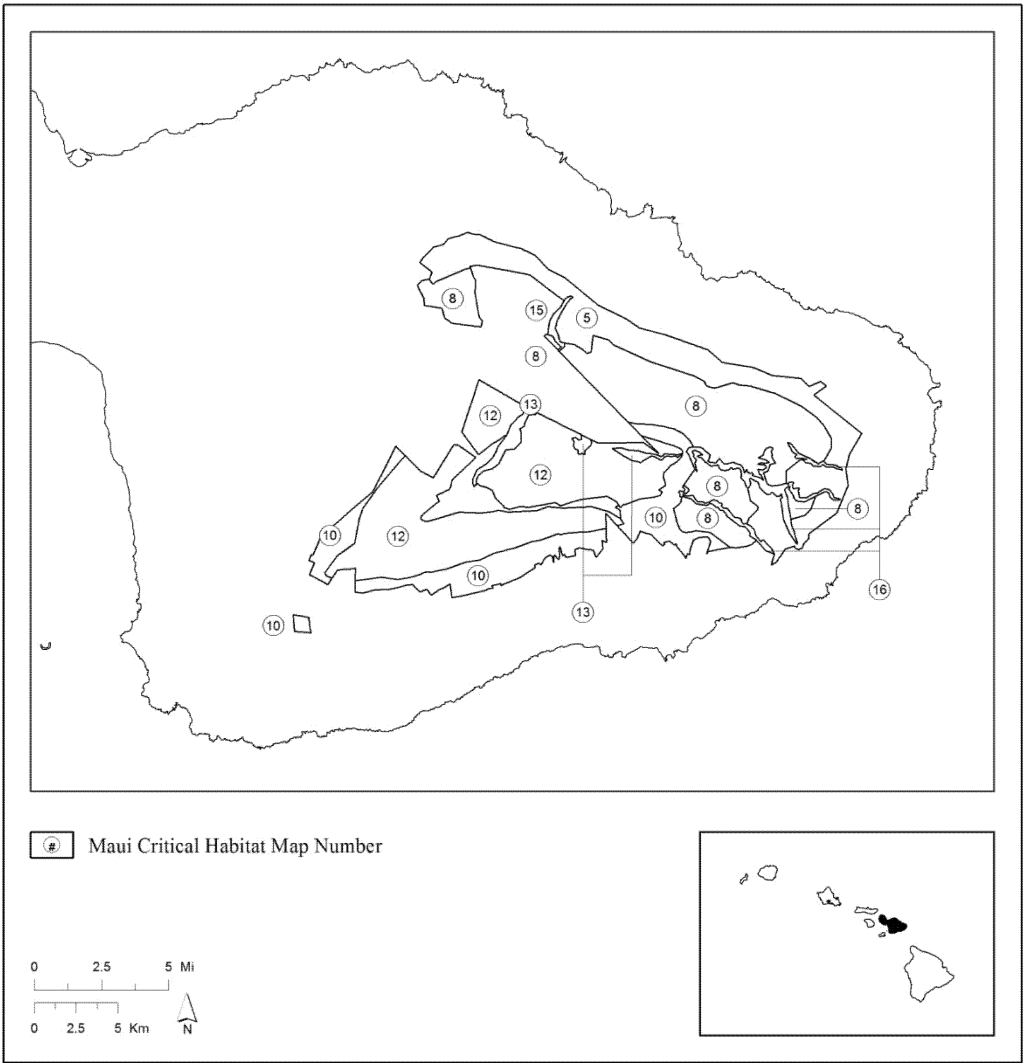
(5) Index maps of critical habitat units for the Kiwikiu follow:



**Map 1*****Pseudonestor xanthophrys*—Index Map 1—West Maui**

Map 2

*Pseudonestor xanthophrys*—Index Map 2—East Maui



## Map 3

*Pseudonestor xanthophrys*—Index Map 3—Molokai

(6) *Pseudonestor xanthophrys*—Unit 1—Lowland Mesic-Maui, Maui County, Hawaii (477 ac; 193 ha). This unit is

critical habitat for the Kiwikuu, *Pseudonestor xanthophrys*. Map of

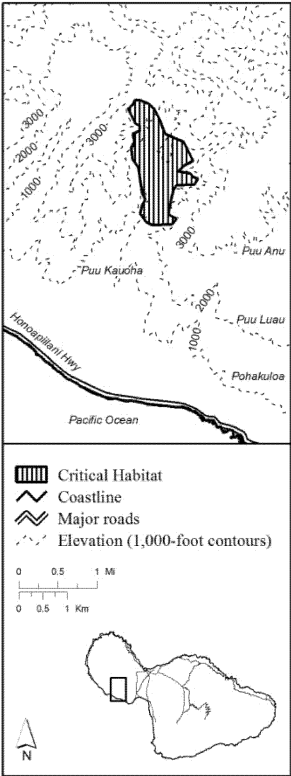
*Pseudonestor xanthophrys*—Unit 1—Lowland Mesic-Maui follows:

Map 4

Pseudonestor xanthophrys

Unit 1

Lowland Mesic-Maui



(7) *Pseudonestor xanthophrys*—Unit 2—Lowland Wet-Maui, Maui County, Hawaii (16,079 ac, 6,507 ha). This unit

is critical habitat for the Kiwikiu, *Pseudonestor xanthophrys*. Map of

*Pseudonestor xanthophrys*—Unit 2—Lowland Wet-Maui follows:

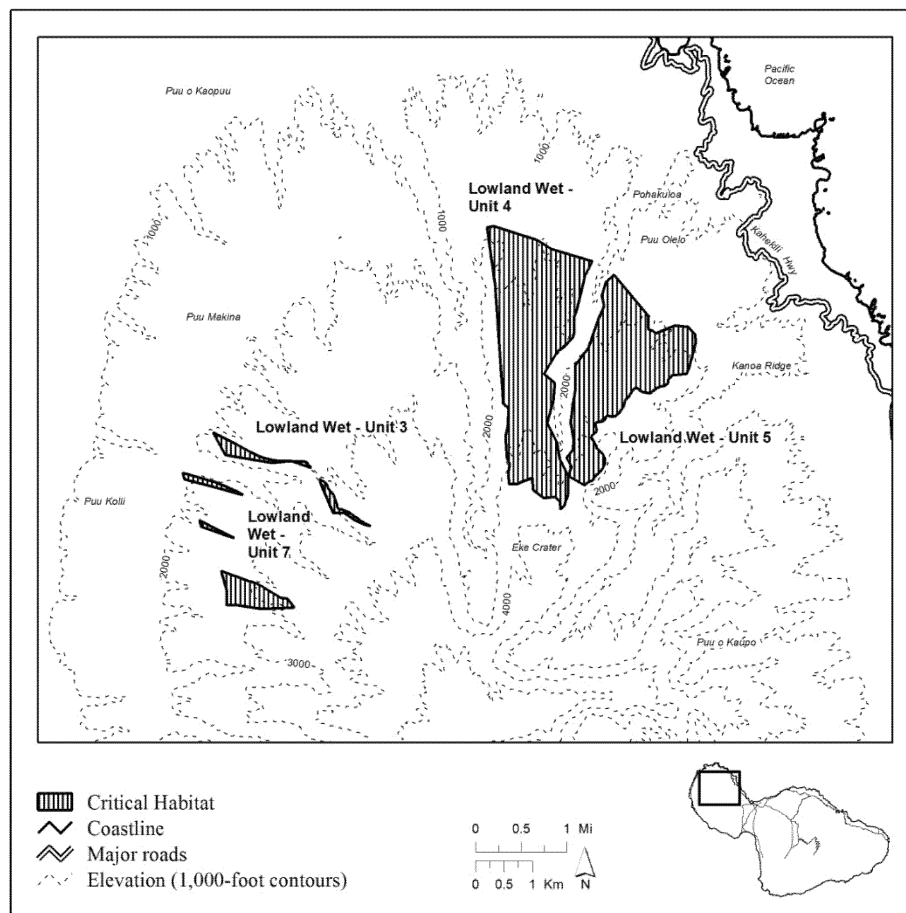
Lowland Wet-Maui, *Pseudonestor xanthophrys*—Unit 4—Lowland Wet 4-Maui, *Pseudonestor xanthophrys*—Unit 5—Lowland Wet-Maui, and *Pseudonestor xanthophrys*—Unit 7—Lowland Wet-Maui follows:

## Map 6

*Pseudonestor xanthophrys*

## Unit 3, Unit 4, Unit 5, and Unit 7

## Lowland Wet-Maui



(9) *Pseudonestor xanthophrys*—Unit 6—Lowland Wet-Maui, Maui County, Hawaii (30 ac, 12 ha); *Pseudonestor xanthophrys*—Unit 8—Lowland Wet-Maui, Maui County, Hawaii (898 ac, 364

ha); and *Pseudonestor xanthophrys*—Unit 9—Lowland Wet-Maui, Maui County, Hawaii (230 ac, 93 ha). These units are critical habitat for the Kiwikiu, *Pseudonestor xanthophrys*. Map of

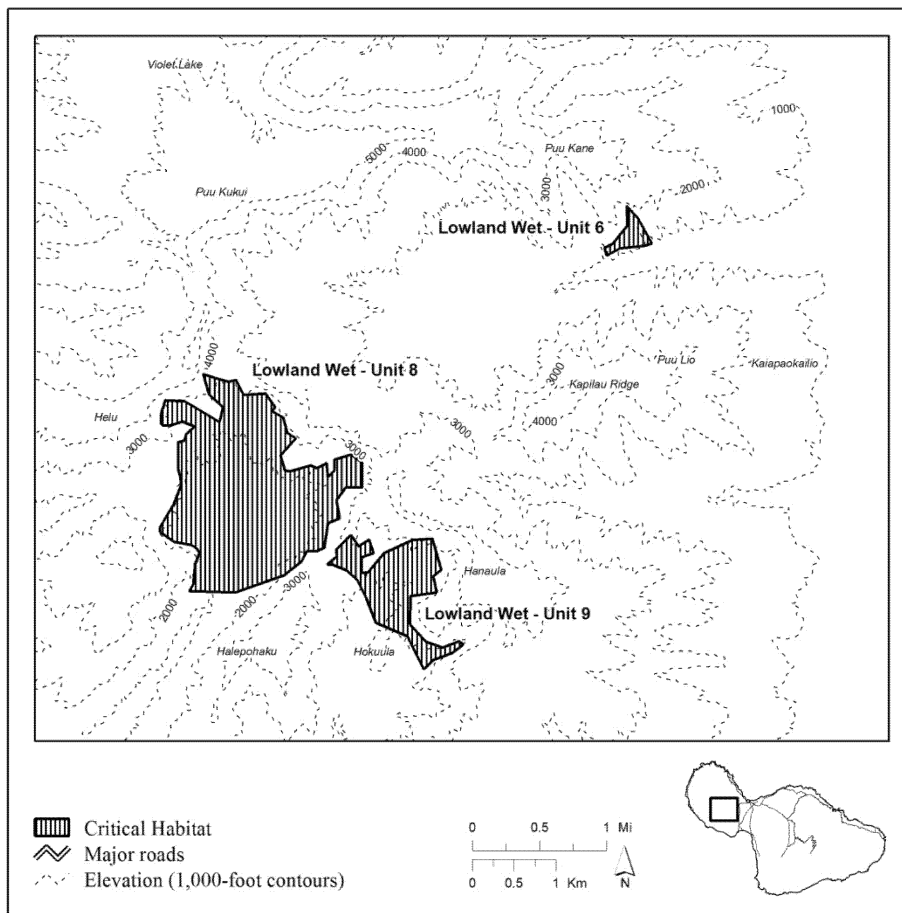
*Pseudonestor xanthophrys*—Unit 6—Lowland Wet-Maui, *Pseudonestor xanthophrys*—Unit 8—Lowland Wet-Maui, and *Pseudonestor xanthophrys*—Unit 9—Lowland Wet-Maui follows:

## Map 7

*Pseudonestor xanthophrys*

## Unit 6, Unit 8, and Unit 9

## Lowland Wet-Maui



(10) *Pseudonestor xanthophrys*—Unit 10—Montane Wet-Maui, Maui County, Hawaii (2,110 ac, 854 ha); *Pseudonestor xanthophrys*—Unit 11—Montane Wet-Maui, Maui County, Hawaii (14,583 ac, 5,901 ha); *Pseudonestor xanthophrys*—Unit 12—Montane Wet-Maui, Maui County, Hawaii (2,228 ac, 902 ha);

*Pseudonestor xanthophrys*—Unit 13—Montane Wet-Maui, Maui County, Hawaii (1,833 ac, 742 ha); and *Pseudonestor xanthophrys*—Unit 14—Montane Wet-Maui, Maui County, Hawaii (387 ac, 156 ha). These units are critical habitat for the Kiwikuu, *Pseudonestor xanthophrys*. Map of

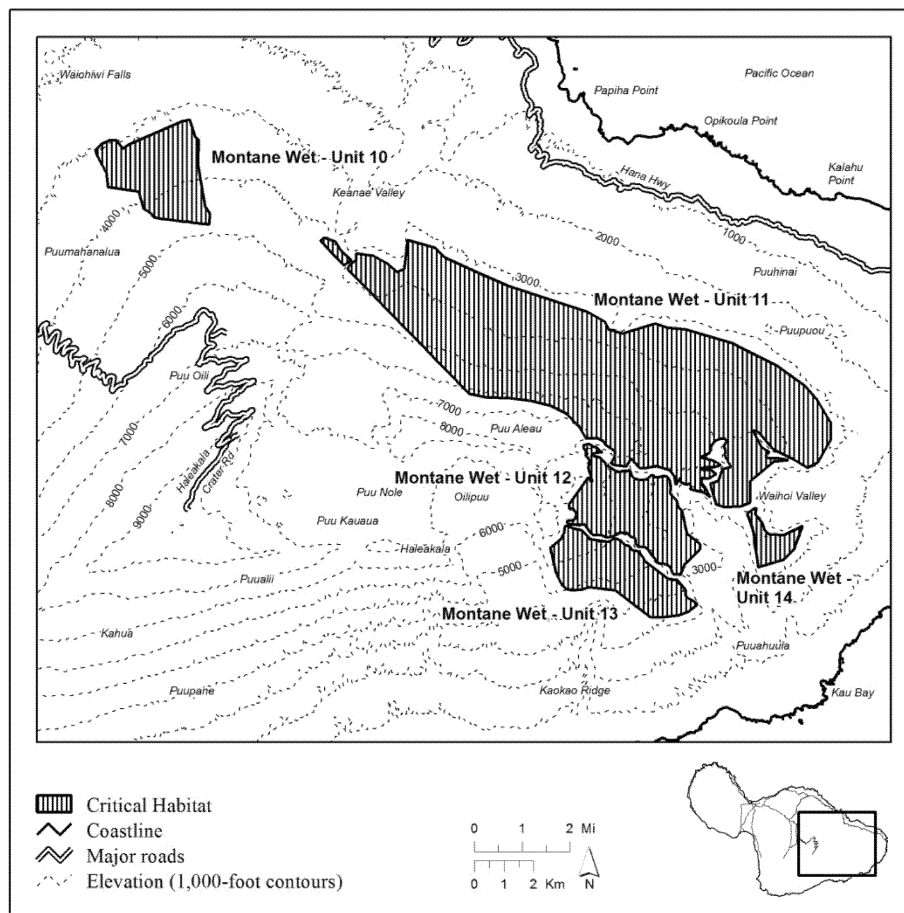
*Pseudonestor xanthophrys*—Unit 10—Montane Wet-Maui, *Pseudonestor xanthophrys*—Unit 11—Montane Wet-Maui, *Pseudonestor xanthophrys*—Unit 12—Montane Wet-Maui, *Pseudonestor xanthophrys*—Unit 13—Montane Wet-Maui, and *Pseudonestor xanthophrys*—Unit 14—Montane Wet-Maui follows:

## Map 8

*Pseudonestor xanthophrys*

## Unit 10, Unit 11, Unit 12, Unit 13, and Unit 14

## Montane Wet- Maui



(11) *Pseudonestor xanthophrys*—Unit 15—Montane Wet-Maui, Maui County, Hawaii (1,399 ac, 566 ha), and *Pseudonestor xanthophrys*—Unit 16—

Montane Wet-Maui, Maui County, Hawaii (80 ac, 32 ha). These units are critical habitat for the Kiwikiu, *Pseudonestor xanthophrys*. Map of

*Pseudonestor xanthophrys*—Unit 15—Montane Wet-Maui, and *Pseudonestor xanthophrys*—Unit 16—Montane Wet-Maui follows:

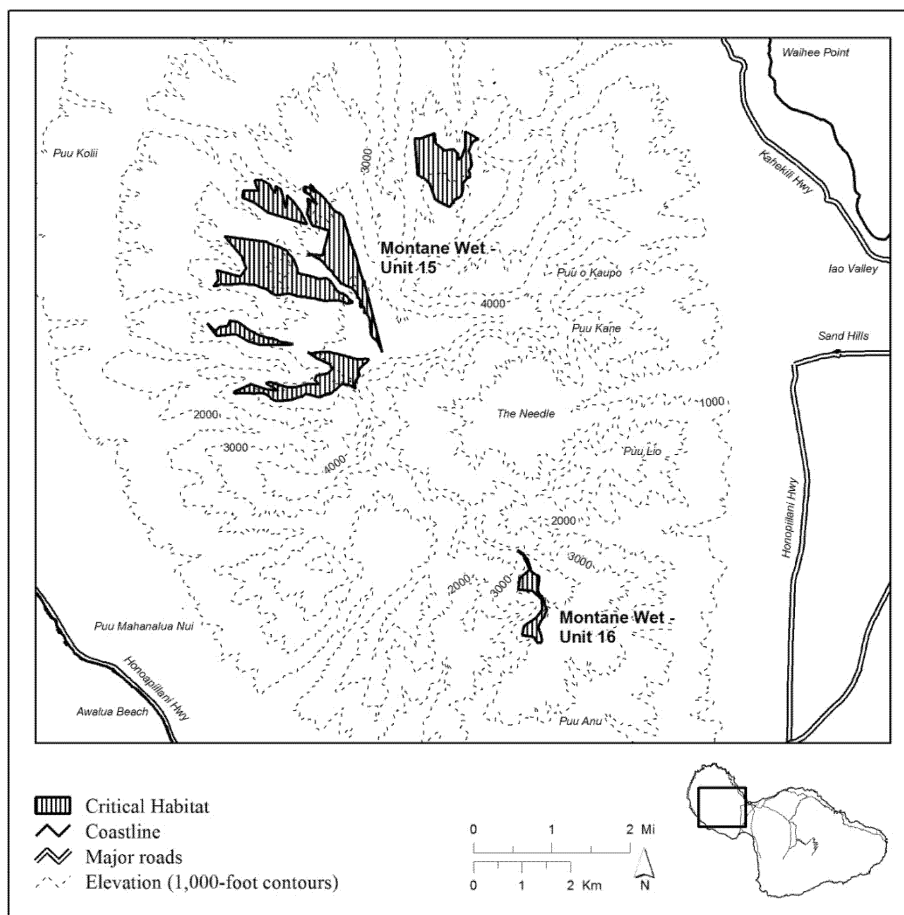


## Map 9

*Pseudonestor xanthophrys*

## Unit 15 and Unit 16

## Montane Wet-Maui



(12) [Reserved]  
 (13) *Pseudonestor xanthophrys*—Unit  
 18—Montane Mesic-Maui, Maui

County, Hawaii (10,972 ac, 4,440 ha).  
 This unit is critical habitat for the  
 Kiwikuu, *Pseudonestor xanthophrys*.

Map of *Pseudonestor xanthophrys*—  
 Unit 18—Montane Mesic-Maui follows:

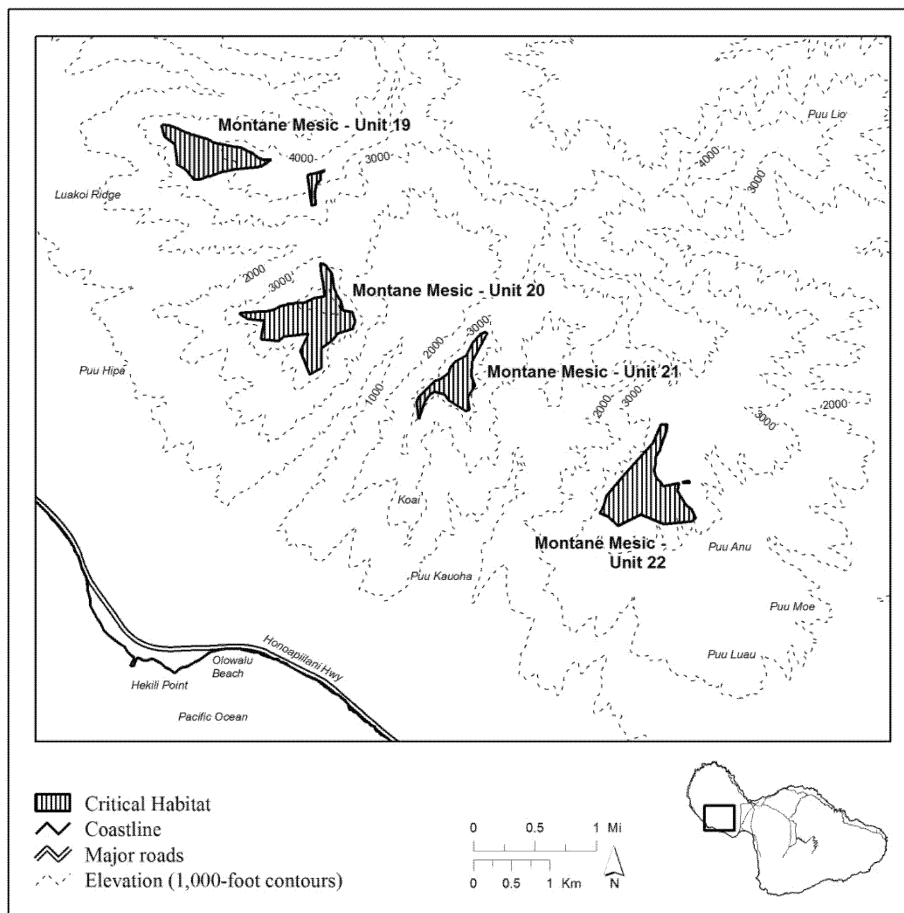
Montane Mesic-Maui, *Pseudonestor xanthophrys*—Unit 20—Montane Mesic-Maui, *Pseudonestor xanthophrys*—Unit 21—Montane Mesic, and *Pseudonestor xanthophrys*—Unit 22—Montane Mesic-Maui follows:

## Map 11

*Pseudonestor xanthophrys*

## Unit 19, Unit 20, Unit 21, and Unit 22

## Montane Mesic-Maui



(15) [Reserved]  
 (16) *Pseudonestor xanthophrys*—Unit 24—Subalpine-Maui, Maui County, Hawaii (15,975 ac, 6,465 ha), and *Pseudonestor xanthophrys*—Unit 25—

Subalpine-Maui, Maui County, Hawaii (9,886 ac, 4,001 ha). These units are critical habitat for the Kiwikiu, *Pseudonestor xanthophrys*. Map of

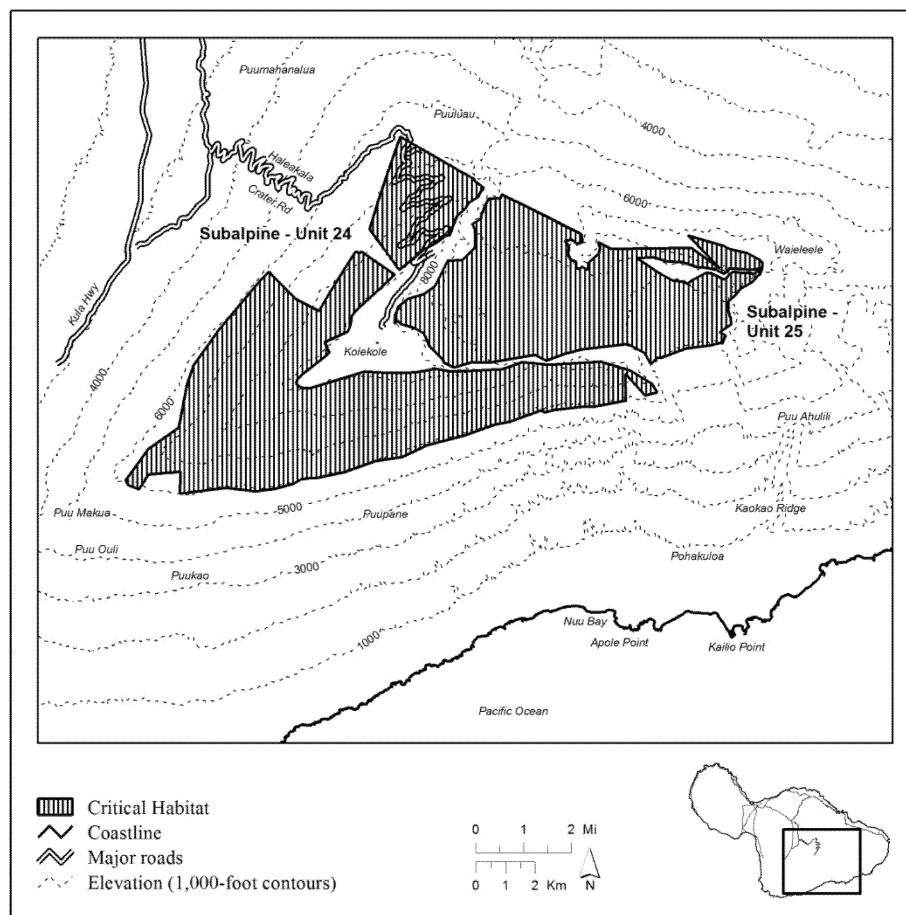
*Pseudonestor xanthophrys*—Unit 24—Subalpine-Maui and *Pseudonestor xanthophrys*—Unit 25—Subalpine-Maui follows:

## Map 12

*Pseudonestor xanthophrys*

## Unit 24 and Unit 25

## Subalpine-Maui



(17) *Pseudonestor xanthophrys*—Unit 26—Dry Cliff-Maui, Maui County, Hawaii (755 ac, 305 ha); *Pseudonestor xanthophrys*—Unit 27—Dry Cliff-Maui, Maui County, Hawaii (200 ac, 81 ha);

and *Pseudonestor xanthophrys*—Unit 28—Dry Cliff-Maui, Maui County, Hawaii (315 ac, 127 ha). These units are critical habitat for the Kiwikuu, *Pseudonestor xanthophrys*. Map of

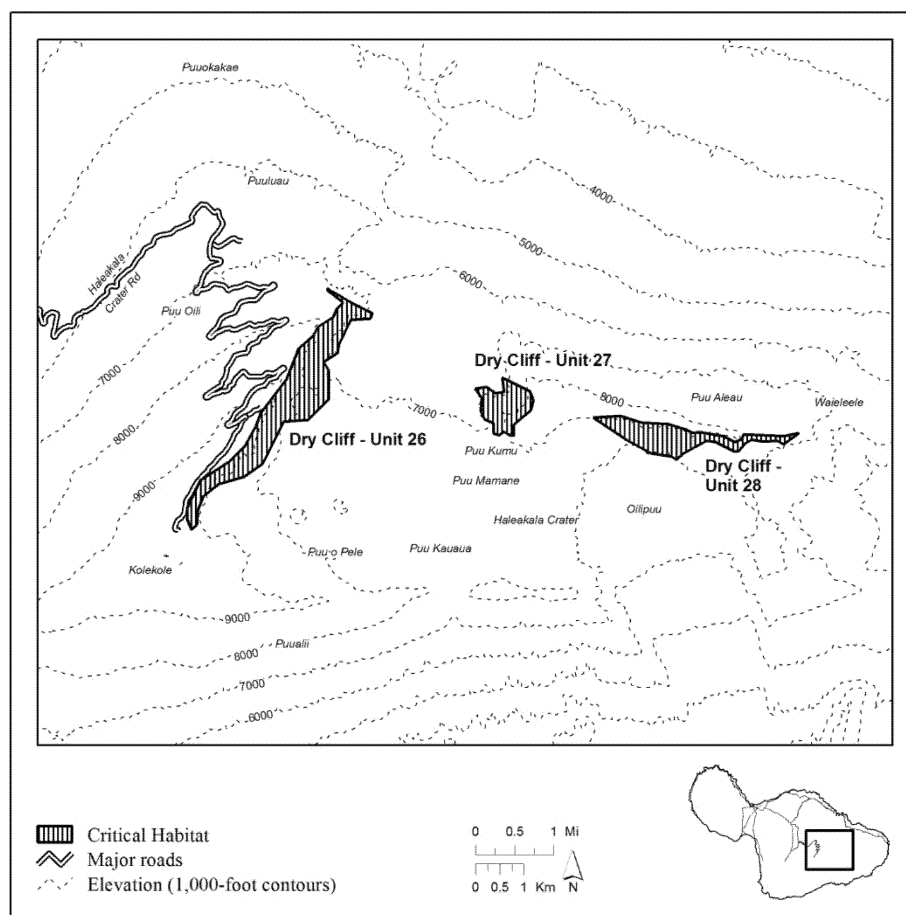
*Pseudonestor xanthophrys*—Unit 26—Dry Cliff-Maui, *Pseudonestor xanthophrys*—Unit 27—Dry Cliff-Maui, and *Pseudonestor xanthophrys*—Unit 28—Dry Cliff-Maui follows:

## Map 13

*Pseudonestor xanthophrys*

## Unit 26, Unit 27, and Unit 28

## Dry Cliff-Maui



(18) *Pseudonestor xanthophrys*—Unit 29—Dry Cliff-Maui, Maui County, Hawaii (1,298 ac, 525 ha). This unit is

critical habitat for the Kiwikuu, *Pseudonestor xanthophrys*. Map of

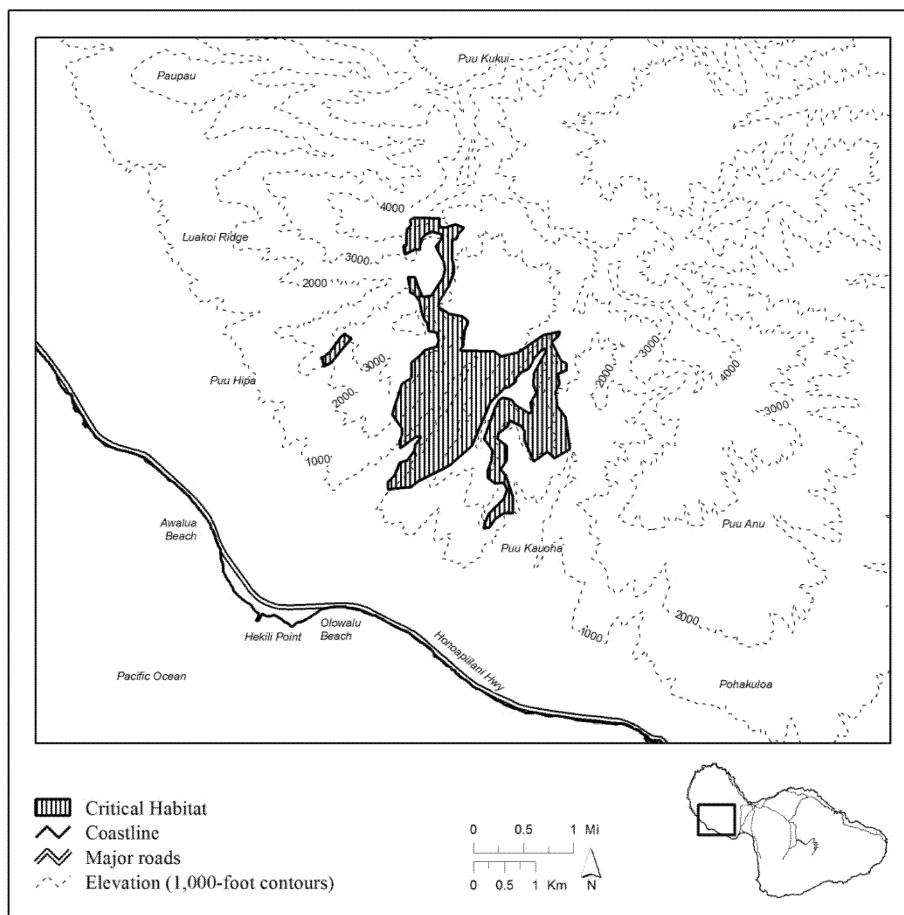
*Pseudonestor xanthophrys*—Unit 29—Dry Cliff-Maui follows:

## Map 14

*Pseudonestor xanthophrys*

## Unit 29

## Dry Cliff-Maui



(19) *Pseudonestor xanthophrys*—Unit 30—Wet Cliff-Maui, Maui County, Hawaii (290 ac, 117 ha). This unit is

critical habitat for the Kiwiku, *Pseudonestor xanthophrys*. Map of

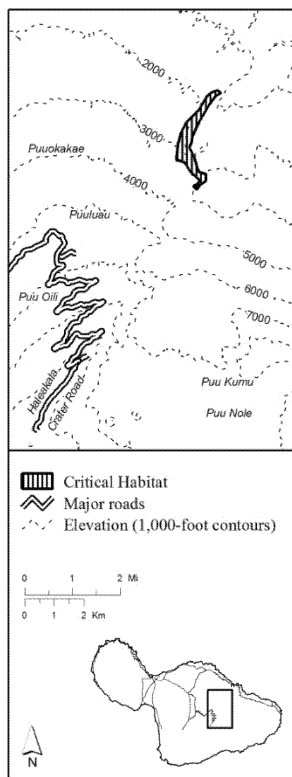
*Pseudonestor xanthophrys*—Unit 30—Wet Cliff-Maui follows:

## Map 15

*Pseudonestor xanthophrys*

## Unit 30

## Wet Cliff-Maui



(20) *Pseudonestor xanthophrys*—Unit 31—Wet Cliff-Maui, Maui County, Hawaii (1,407 ac, 569 ha); *Pseudonestor xanthophrys*—Unit 32—Wet Cliff-Maui, Maui County, Hawaii (438 ac, 177 ha);

and *Pseudonestor xanthophrys*—Unit 33—Wet Cliff-Maui, Maui County, Hawaii (184 ac, 75 ha). These units are critical habitat for the Kiwiku, *Pseudonestor xanthophrys*. Map of

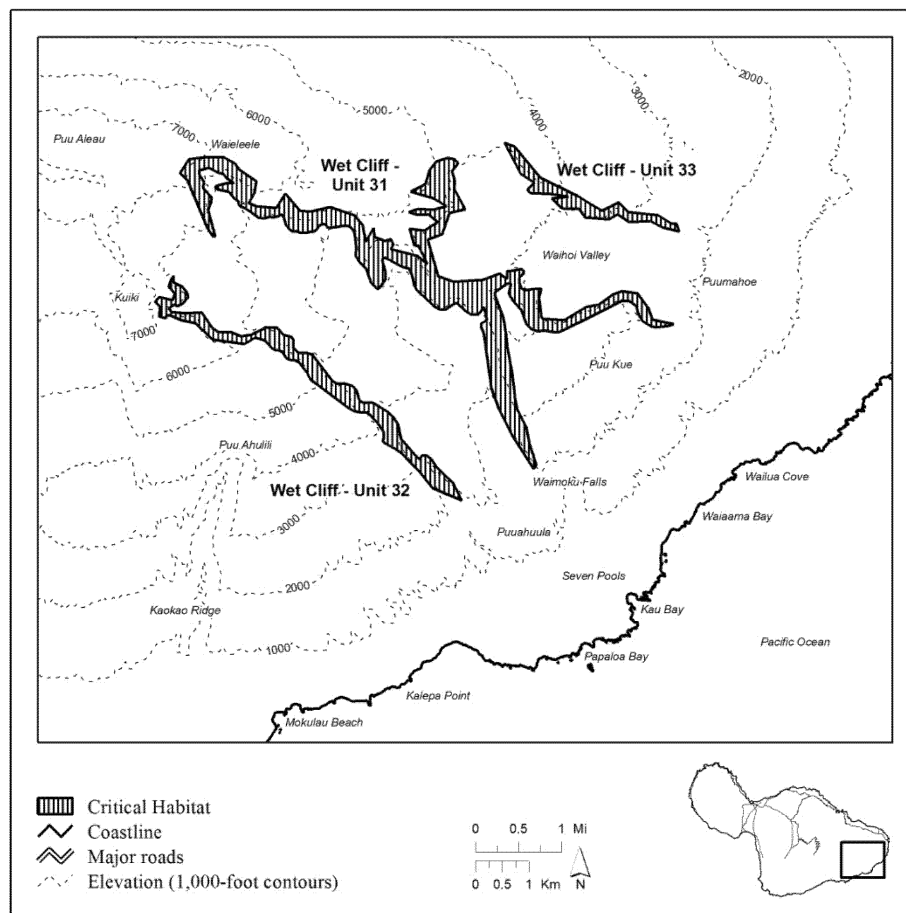
*Pseudonestor xanthophrys*—Unit 31—Wet Cliff-Maui, *Pseudonestor xanthophrys*—Unit 32—Wet Cliff-Maui, and *Pseudonestor xanthophrys*—Unit 33—Wet Cliff-Maui follows:

## Map 16

*Pseudonestor xanthophrys*

## Unit 31, Unit 32, and Unit 33

## Wet Cliff-Maui



(21) [Reserved]  
 (22) *Pseudonestor xanthophrys*—Unit 35—Wet Cliff-Maui, Maui County, Hawaii (2,110 ac, 854 ha), and

*Pseudonestor xanthophrys*—Unit 36—Wet Cliff-Maui, Maui County, Hawaii (556 ac, 225 ha). These units are critical habitat for the Kiwikiu, *Pseudonestor*

*xanthophrys*. Map of *Pseudonestor xanthophrys*—Unit 35—Wet Cliff-Maui, and *Pseudonestor xanthophrys*—Unit 36—Wet Cliff-Maui follows:

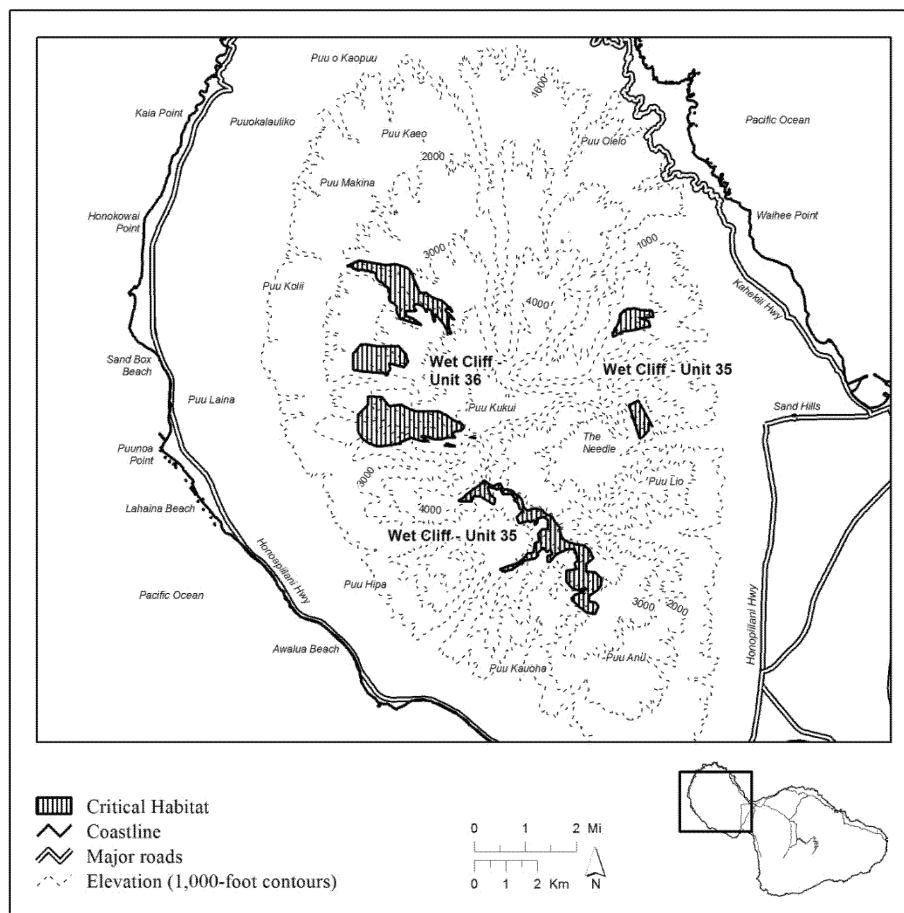


## Map 17

*Pseudonestor xanthophrys*

## Unit 35 and Unit 36

## Wet Cliff-Maui



(23) *Pseudonestor xanthophrys*—Unit 37—Lowland Mesic-Molokai, Maui County, Hawaii (8,770 ac, 3,549 ha).

This unit is critical habitat for the Kiwikiu, *Pseudonestor xanthophrys*. Map of *Pseudonestor xanthophrys*—

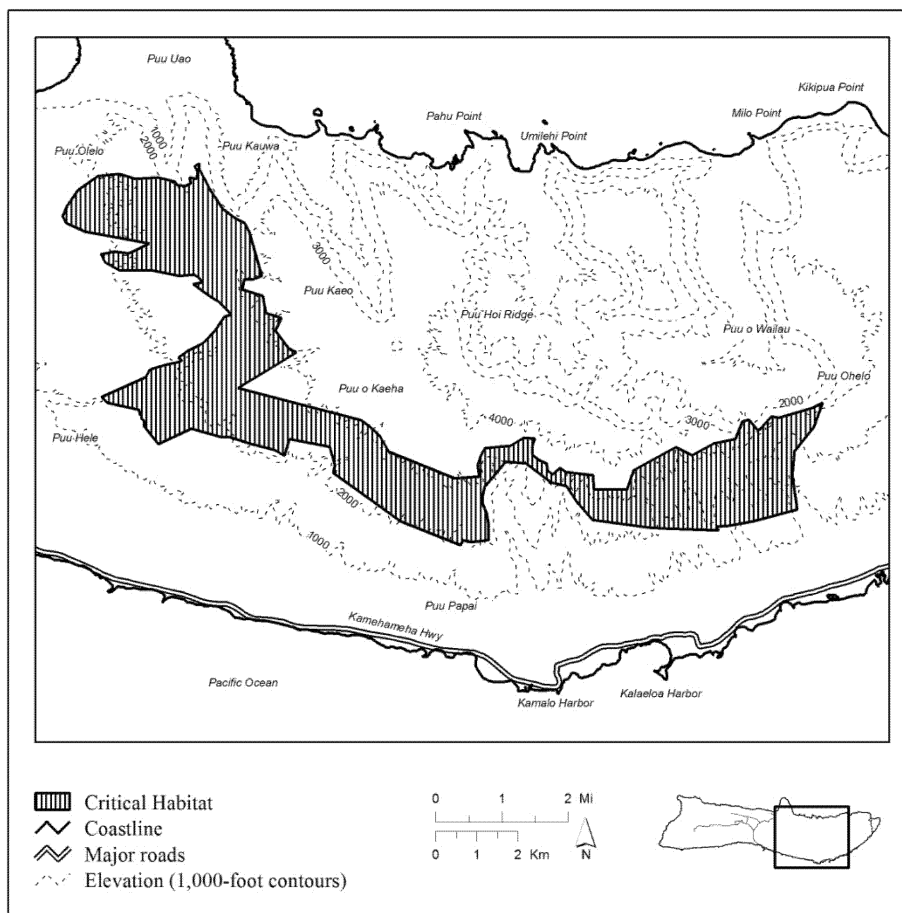
Unit 37—Lowland Mesic-Molokai follows:

## Map 18

*Pseudonestor xanthophrys*

## Unit 37

## Lowland Mesic-Molokai



(24) *Pseudonestor xanthophrys*—Unit 38—Lowland Wet-Molokai, Maui County, Hawaii (2,949 ac, 1,193 ha), and *Pseudonestor xanthophrys*—Unit 39—

Lowland Wet-Molokai, Maui County, Hawaii (1,950 ac, 790 ha). These units are critical habitat for the Kiwikiu, *Pseudonestor xanthophrys*. Map of

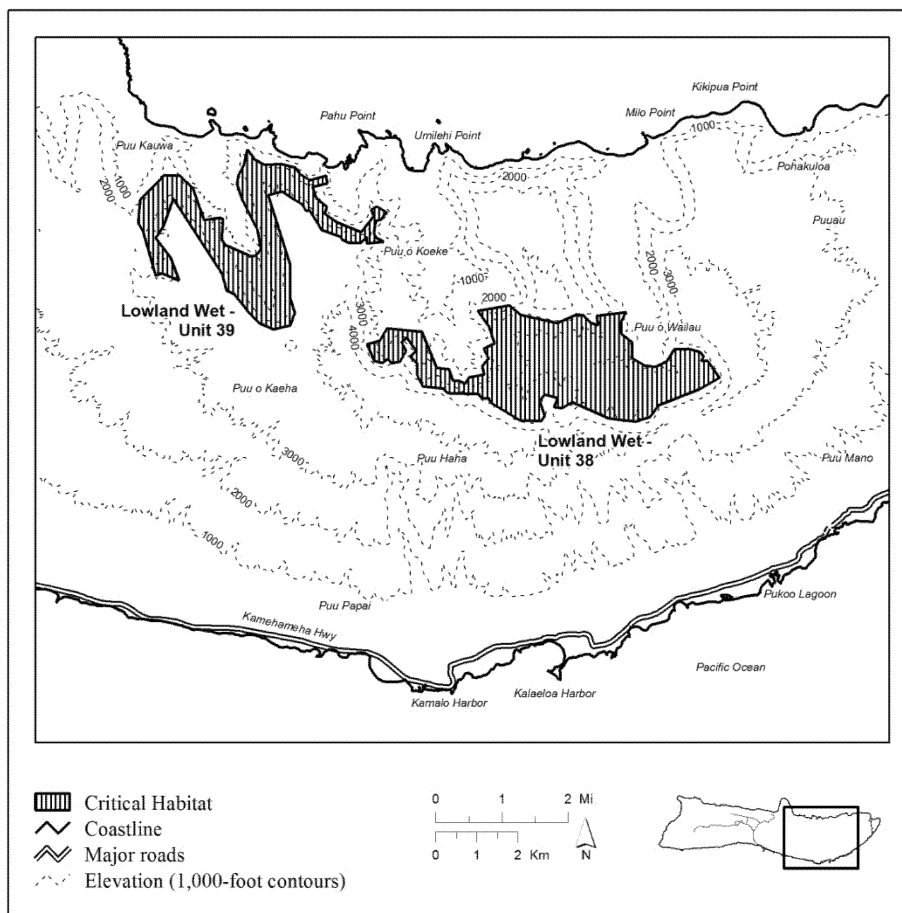
*Pseudonestor xanthophrys*—Unit 38—Lowland Wet-Molokai and *Pseudonestor xanthophrys*—Unit 39—Lowland Wet-Molokai follows:

## Map 19

*Pseudonestor xanthophrys*

## Unit 38 and Unit 39

## Lowland Wet-Molokai



(25) *Pseudonestor xanthophrys*—Unit 40—Montane Wet-Molokai, Maui County, Hawaii (3,397 ac, 1,375 ha), and *Pseudonestor xanthophrys*—Unit 41—

Montane Wet-Molokai, Maui County, Hawaii (910 ac, 368 ha). These units are critical habitat for the Kiwikiu, *Pseudonestor xanthophrys*. Map of

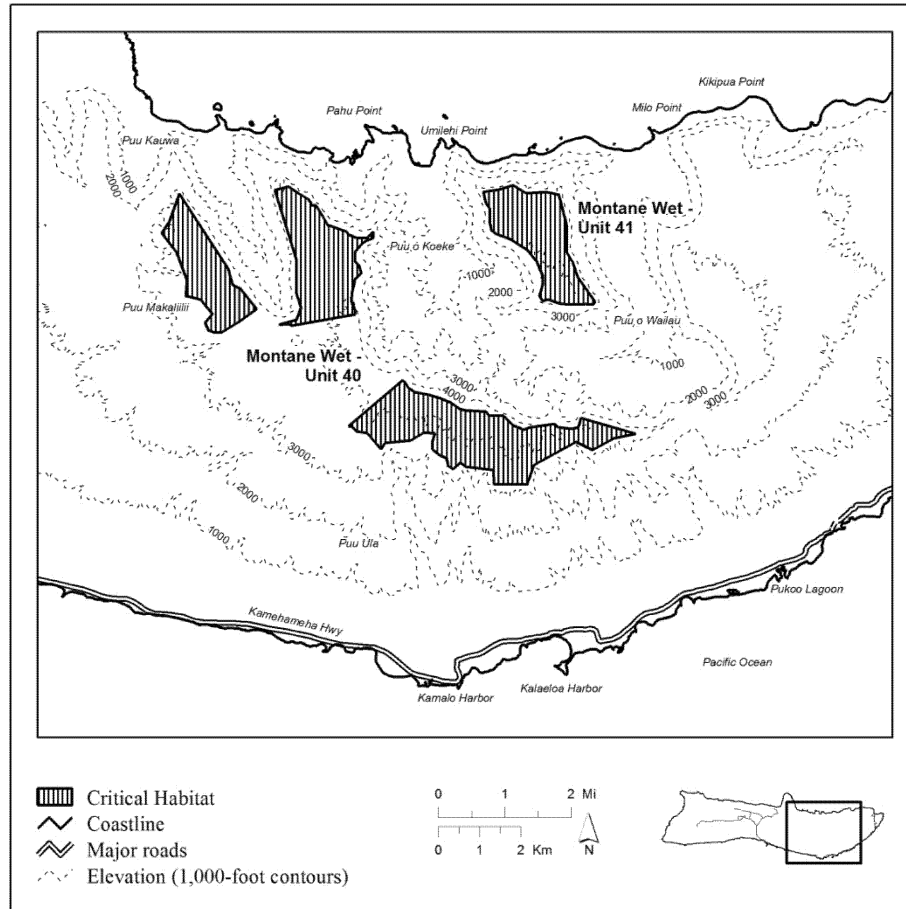
*Pseudonestor xanthophrys*—Unit 40—Montane Wet-Molokai and *Pseudonestor xanthophrys*—Unit 41—Montane Wet-Molokai follows:

## Map 20

*Pseudonestor xanthophrys*

## Unit 40 and Unit 41

## Montane Wet-Molokai



(26) *Pseudonestor xanthophrys*—Unit 42—Montane Mesic-Molokai, Maui County, Hawaii (816 ac, 330 ha). This

unit is critical habitat for the Kiwikiu, *Pseudonestor xanthophrys*. Map of

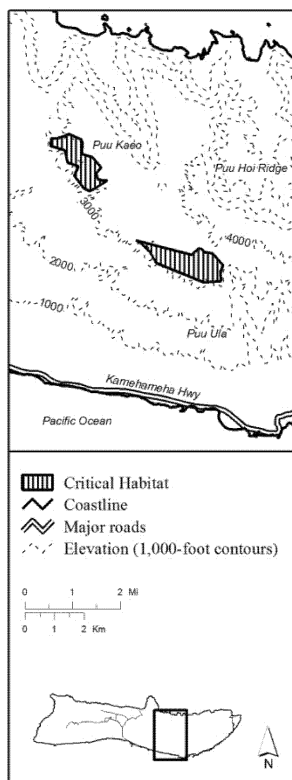
*Pseudonestor xanthophrys*—Unit 42—Montane Mesic-Molokai follows:

## Map 21

*Pseudonestor xanthophrys*

## Unit 42

## Montane Mesic-Molokai



(27) *Pseudonestor xanthophrys*—Unit 43—Wet Cliff-Molokai, Maui County, Hawaii (1,607 ac, 651 ha), and *Pseudonestor xanthophrys*—Unit 44—

Wet Cliff-Molokai, Maui County, Hawaii (1,268 ac, 513 ha). These units are critical habitat for the Kiwikiu, *Pseudonestor xanthophrys*. Map of

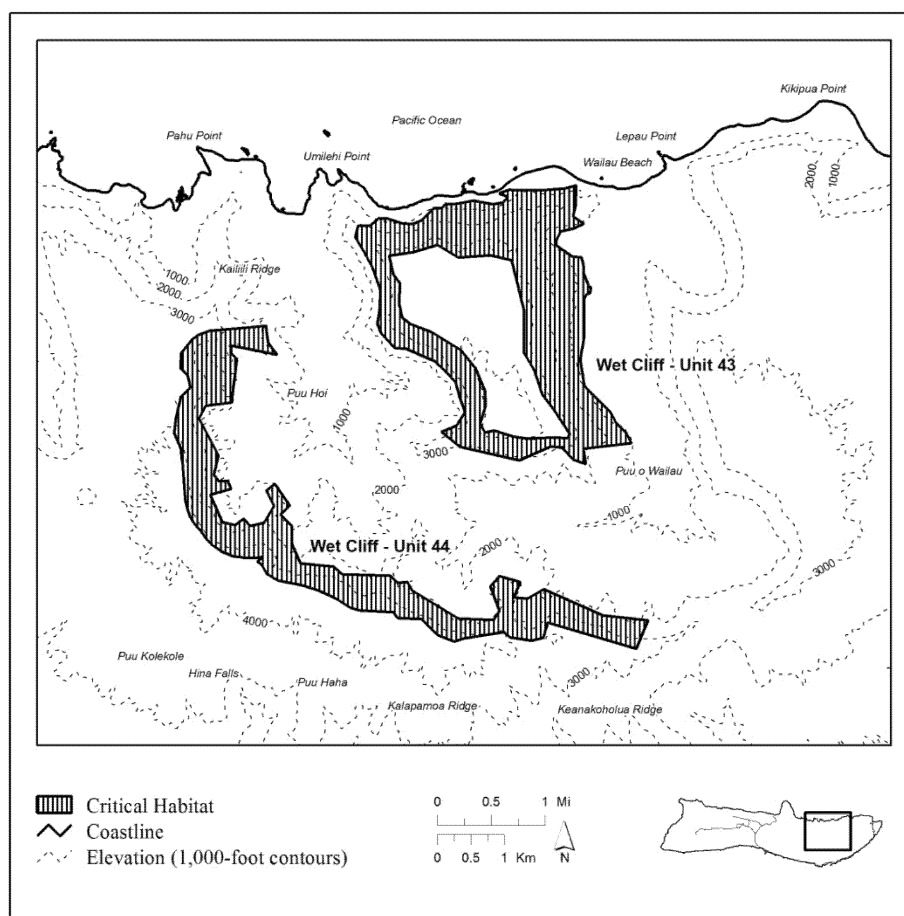
*Pseudonestor xanthophrys*—Unit 43—Wet Cliff-Molokai and *Pseudonestor xanthophrys*—Unit 44—Wet Cliff-Molokai follows:

## Map 22

*Pseudonestor xanthophrys*

## Unit 43 and Unit 44

## Wet Cliff-Molokai



\* \* \* \* \*

(f) *Clams and Snails.*

\* \* \* \* \*

Newcomb's tree snail (*Newcombia cumingi*)

(1) The critical habitat unit is depicted for Maui County, Hawaii, on the map below.

(2) *Primary constituent elements.* In unit 1, the primary constituent elements of critical habitat for the Newcomb's tree snail are:

(i) Elevation: Less than 3,300 ft (1,000 m).

(ii) Annual precipitation: Greater than 75 in (190 cm).

(iii) Substrate: Clays; ashbeds; deep, well-drained soils; lowland bogs.

(iv) Canopy: *Antidesma*, *Metrosideros*, *Myrsine*, *Pisonia*, *Psychotria*.

(v) Subcanopy: *Cibotium*, *Claoxylon*, *Kadua*, *Melicope*.

(vi) Understory: *Alyxia*, *Cyrtandra*, *Dicranopteris*, *Diplazium*, *Machaerina*, *Microlepia*.

(3) Existing manmade features and structures, such as buildings, roads, railroads, airports, runways, other paved areas, lawns, and other urban landscaped areas, do not contain one or more of the physical or biological features. Federal actions limited to those

areas, therefore, would not trigger a consultation under section 7 of the Act unless they may affect the species or physical or biological features in adjacent critical habitat.

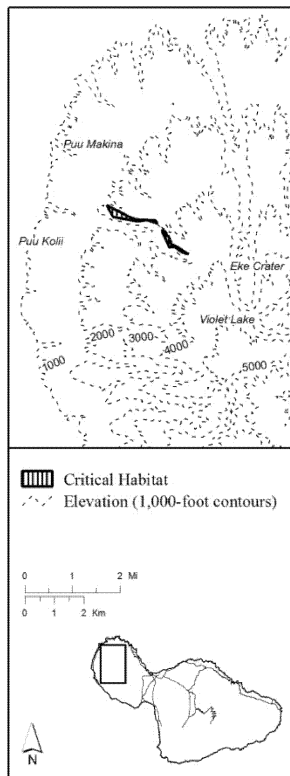
(4) *Critical habitat map.* Map was created in GIS, with coordinates in UTM Zone 4, units in meters using North American datum of 1983 (NAD 83).

(5) *Newcombia cumingi*—Unit 1—Lowland Wet-Maui, Maui County, Hawaii (65 ac, 26 ha). This unit is critical habitat for the Newcomb's tree snail, *Newcombia cumingi*. Map of *Newcombia cumingi*—Unit 1—Lowland Wet-Maui follows:

*Newcombia cumingi*

## Unit 1

## Lowland Wet-Maui



\* \* \* \* \*

**§ 17.96 [Amended]****■ 5. Amend § 17.96 as follows:**

- a. In paragraph (a), by removing the entry for “Family Rhamnaceae: *Gouania hillebrandii*”; and
- b. By removing and reserving paragraph (b).
- 6. Amend § 17.99 as follows:

- a. Revise the section heading.
- b. Amend paragraph (a)(1) by removing the words listed in the “Remove” column below and adding in their place the words listed in the “Add” column below:

Paragraph designation	Remove	Add
(a)(1)(cxxxiv), the introductory text .....	Kauai 11— <i>Centaurium sebaeoides</i> —a .....	Kauai 11— <i>Schenkia sebaeoides</i> —a.
(a)(1)(clxxi), the introductory text .....	Kauai 11— <i>Diellia erecta</i> —a .....	Kauai 11— <i>Asplenium dielirectum</i> —a.

- c. Amend paragraph (a)(1) by revising paragraphs (a)(1)(cxxxiv)(B) and (a)(1)(clxxi)(B).

- d. Amend paragraph (a)(1)(cdix), the Table of Protected Species Within Each Critical Habitat Unit for Kauai, by removing the words listed in the

“Remove” column below and adding in their place the words listed in the “Add” column below:

Column heading	Remove	Add
Unit name .....	Kauai 11— <i>Centaurium sebaeoides</i> —a .....	Kauai 11— <i>Schenkia sebaeoides</i> —a.
Species occupied .....	<i>Centaurium sebaeoides</i> .....	<i>Schenkia sebaeoides</i> .
Unit name .....	Kauai 11— <i>Diellia erecta</i> —a .....	Kauai 11— <i>Asplenium dielirectum</i> —a.
Species unoccupied .....	<i>Diellia erecta</i> .....	<i>Asplenium dielirectum</i> .

■ e. Amend paragraph (b)(1) by removing the words listed in the “Remove” column below in all places that they appear and adding in their place the words listed in the “Add” column below:

Remove	Add
Family Gentianaceae: <i>Centaurium sebaeoides</i> (awiwi). Kauai 11— <i>Centaurium sebaeoides</i> —a. <i>Centaurium sebaeoides</i> .	Family Gentianaceae: <i>Schenkia sebaeoides</i> (awiwi). Kauai 11— <i>Schenkia sebaeoides</i> —a. <i>Schenkia sebaeoides</i> .

■ f. Amend the paragraph (b)(2) by removing the words listed in the “Remove” column below in all places that they appear and adding in their place the words listed in the “Add” column below:

Remove	Add
Family Aspleniaceae: <i>Diellia erecta</i> (no common name). Kauai 11— <i>Diellia erecta</i> —a.	Family Aspleniaceae: <i>Asplenium dielirectum</i> (asplenium-leaved diellia). Kauai 11— <i>Asplenium dielirectum</i> —a.

Remove	Add
<i>Diellia erecta</i> .....	<i>Asplenium dielirectum</i> .

■ g. Revise paragraphs (c), (d), (e), and (f).

■ h. Amend paragraph (i) by removing the words listed in the “Remove” column below and adding in their place the words listed in the “Add” column below:

Paragraph designation	Remove	Add
(i)(2)(i) .....	<i>Centaurium sebaeoides</i> .....	<i>Schenkia sebaeoides</i> .
(i)(3)(i) .....	<i>Centaurium sebaeoides</i> .....	<i>Schenkia sebaeoides</i> .
(i)(4)(i) .....	<i>Centaurium sebaeoides</i> .....	<i>Schenkia sebaeoides</i> .
(i)(5)(i) .....	<i>Centaurium sebaeoides</i> .....	<i>Schenkia sebaeoides</i> .
(i)(6)(i) .....	<i>Centaurium sebaeoides</i> .....	<i>Schenkia sebaeoides</i> .
(i)(7)(i) .....	<i>Centaurium sebaeoides</i> .....	<i>Schenkia sebaeoides</i> .
(i)(7)(ii) .....	<i>Centaurium sebaeoides</i> .....	<i>Schenkia sebaeoides</i> .
(i)(8)(i) .....	<i>Centaurium sebaeoides</i> .....	<i>Schenkia sebaeoides</i> .
(i)(16)(i) .....	<i>Diellia erecta</i> .....	<i>Asplenium dielirectum</i> .
(i)(17)(i) .....	<i>Diellia erecta</i> .....	<i>Asplenium dielirectum</i> .
(i)(18)(i) .....	<i>Diellia erecta</i> .....	<i>Asplenium dielirectum</i> .

■ i. Amend paragraph (i)(35), the Table of Protected Species Within Each Critical Habitat Unit for Oahu, by

removing the words listed in the “Remove” column below in all places that they appear and adding in their

place the words listed in the “Add” column below:

Column heading	Remove	Add
Species occupied .....	<i>Centaurium sebaeoides</i> .....	<i>Schenkia sebaeoides</i> .
Species unoccupied .....	<i>Centaurium sebaeoides</i> .....	<i>Schenkia sebaeoides</i> .
Species unoccupied .....	<i>Diellia erecta</i> .....	<i>Asplenium dielirectum</i> .

■ j. Amend paragraph (j)(1), under the heading FAMILY GENTIANACEAE, by removing the words listed in the

“Remove” column below in all places that they appear and adding in their

place the words listed in the “Add” column below:

Remove	Add
<i>Centaurium sebaeoides</i> (AWIWI) .....	<i>Schenkia sebaeoides</i> (AWIWI).
<i>Centaurium sebaeoides</i> .....	<i>Schenkia sebaeoides</i> .

■ k. Amend paragraph (j)(2), under the heading FAMILY ASPLENIACEAE, by removing the words listed in the

“Remove” column below in all places that they appear and adding in their

place the words listed in the “Add” column below:

Remove	Add
<i>Diellia erecta</i> (ASPLENIUM-LEAVED DIELLIA) .....	<i>Asplenium dielirectum</i> (ASPLENIUM-LEAVED DIELLIA).
<i>Diellia erecta</i> .....	<i>Asplenium dielirectum</i> .

■ l. Amend paragraph (k) by removing the words listed in the “Remove” column below and adding in their place

the words listed in the “Add” column below:



Paragraph designation	Remove	Add
(k)(62), the introductory text .....	Hawaii 17— <i>Diellia erecta</i> —a .....	Hawaii 17— <i>Asplenium dielirectum</i> —a.
(k)(65), the introductory text .....	Hawaii 18— <i>Diellia erecta</i> —b .....	Hawaii 18— <i>Asplenium dielirectum</i> —b.
(k)(70), the introductory text .....	Hawaii 19— <i>Mariscus fauriei</i> —a .....	Hawaii 19— <i>Cyperus fauriei</i> —a.
(k)(77), the introductory text .....	Hawaii 24— <i>Asplenium fragile</i> var. <i>insulare</i> —a	Hawaii 24— <i>Asplenium peruvianum</i> var. <i>insulare</i> —a.

■ m. Amend paragraph (k) by revising paragraphs (k)(62)(ii), (k)(65)(ii), (k)(70)(ii), and (k)(77)(ii).

■ n. Amend paragraph (k)(104), the Table of Protected Species Within Each Critical Habitat Unit for the Island of Hawaii, by removing the words listed in

the “Remove” column below in all places that they appear and adding in their place the words listed in the “Add” column below:

Column heading	Remove	Add
Unit name .....	Hawaii 24— <i>Asplenium fragile</i> var. <i>insulare</i> —a	Hawaii 24— <i>Asplenium peruvianum</i> var. <i>insulare</i> —a.
Species occupied .....	<i>Asplenium fragile</i> var. <i>insulare</i> .....	<i>Asplenium peruvianum</i> var. <i>insulare</i> .
Unit name .....	Hawaii 17— <i>Diellia erecta</i> —a .....	Hawaii 17— <i>Asplenium dielirectum</i> —a.
Unit name .....	Hawaii 18— <i>Diellia erecta</i> —b .....	Hawaii 18— <i>Asplenium dielirectum</i> —b.
Species occupied .....	<i>Diellia erecta</i> .....	<i>Asplenium dielirectum</i> .
Unit name .....	Hawaii 19— <i>Mariscus fauriei</i> —a .....	Hawaii 19— <i>Cyperus fauriei</i> —a.
Species occupied .....	<i>Mariscus fauriei</i> .....	<i>Cyperus fauriei</i> .

■ o. Amend paragraph (l)(1) by removing the words listed in the

“Remove” column below in all places that they appear and adding in their

place the words listed in the “Add” column below:

Remove	Add
Family Cyperaceae: <i>Mariscus fauriei</i> (NCN) .....	Family Cyperaceae: <i>Cyperus fauriei</i> (NCN).
Hawaii 19— <i>Mariscus fauriei</i> —a .....	Hawaii 19— <i>Cyperus fauriei</i> —a.
<i>Mariscus fauriei</i> .....	<i>Cyperus fauriei</i> .

■ p. Amend paragraph (l)(2) by removing the words listed in the

“Remove” column below in all places that they appear and adding in their

place the words listed in the “Add” column below:

Remove	Add
Family Aspleniaceae: <i>Asplenium fragile</i> var. <i>insulare</i> (NCN) .....	Family Aspleniaceae: <i>Asplenium peruvianum</i> var. <i>insulare</i> (NCN).
Hawaii 24— <i>Asplenium fragile</i> var. <i>insulare</i> —a .....	Hawaii 24— <i>Asplenium peruvianum</i> var. <i>insulare</i> —a.
<i>Asplenium fragile</i> var. <i>insulare</i> .....	<i>Asplenium peruvianum</i> var. <i>insulare</i> .
Family Aspleniaceae: <i>Diellia erecta</i> (asplenium-leaved diellia) .....	Family Aspleniaceae: <i>Asplenium dielirectum</i> (asplenium-leaved diellia).
Hawaii 17— <i>Diellia erecta</i> —a .....	Hawaii 17— <i>Asplenium dielirectum</i> —a.
Hawaii 18— <i>Diellia erecta</i> —b .....	Hawaii 18— <i>Asplenium dielirectum</i> —b.
<i>Diellia erecta</i> .....	<i>Asplenium dielirectum</i> .

The revisions and additions read as follows:

**§ 17.99 Critical habitat; plants on the Hawaiian Islands.**

- (a) \* \* \*  
(1) \* \* \*  
(cxxxiv) \* \* \*

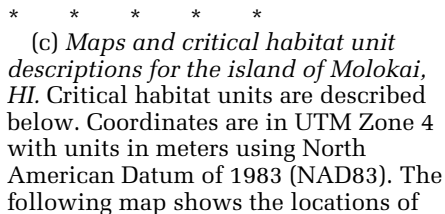
(B) Note: Map 67 follows:

\* \* \* \* \*

(clxxi) \* \* \*

(B) Note: Map 86 follows:



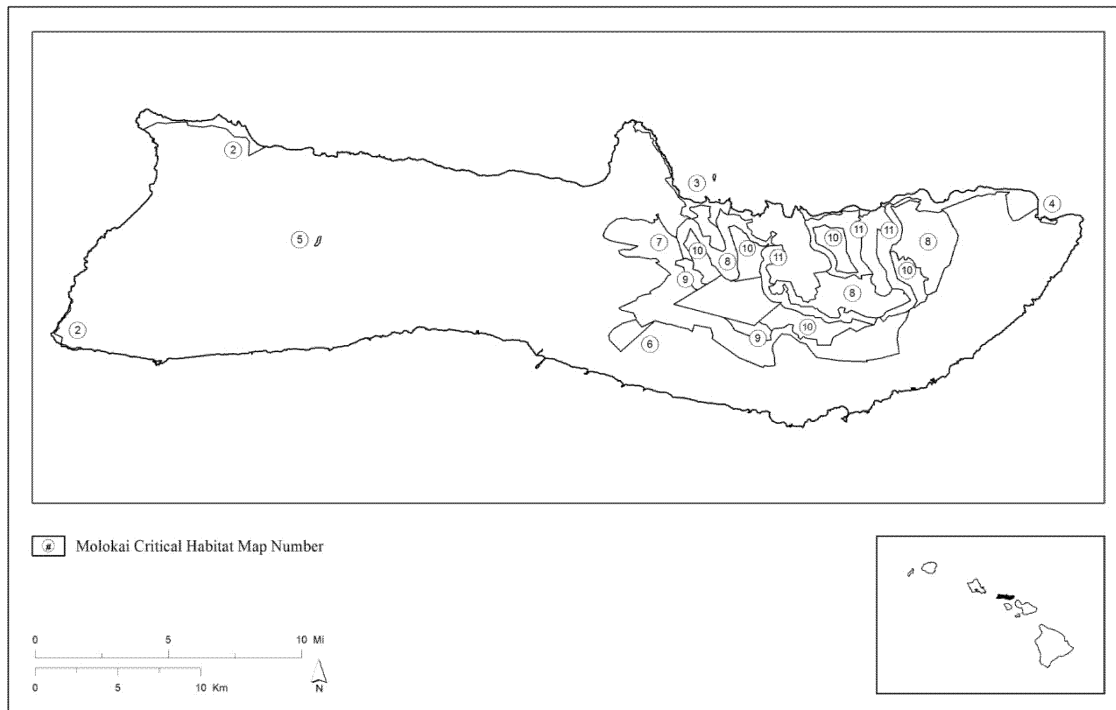


biological features. Federal actions limited to those areas, therefore, would not trigger a consultation under section 7 of the Act unless they may affect the species or physical or biological features in adjacent critical habitat.

(1) NOTE: Map 1—Index map follows:

## Map 1

## Molokai Critical Habitat—Island Index Map



(2) Molokai—Coastal—Unit 1 (125 ac, 50 ha) and Molokai—Coastal—Unit 2 (977 ac, 396 ha).

(i) These units are critical habitat for *Bidens wiebkei*, *Brighamia rockii*,

*Canavalia molokaiensis*, *Hibiscus arnottianus* ssp. *immaculatus*, *Hibiscus brackenridgei*, *Ischaemum byrone*, *Marsilea villosa*, *Peucedanum sandwicense*, *Pittosporum halophilum*,

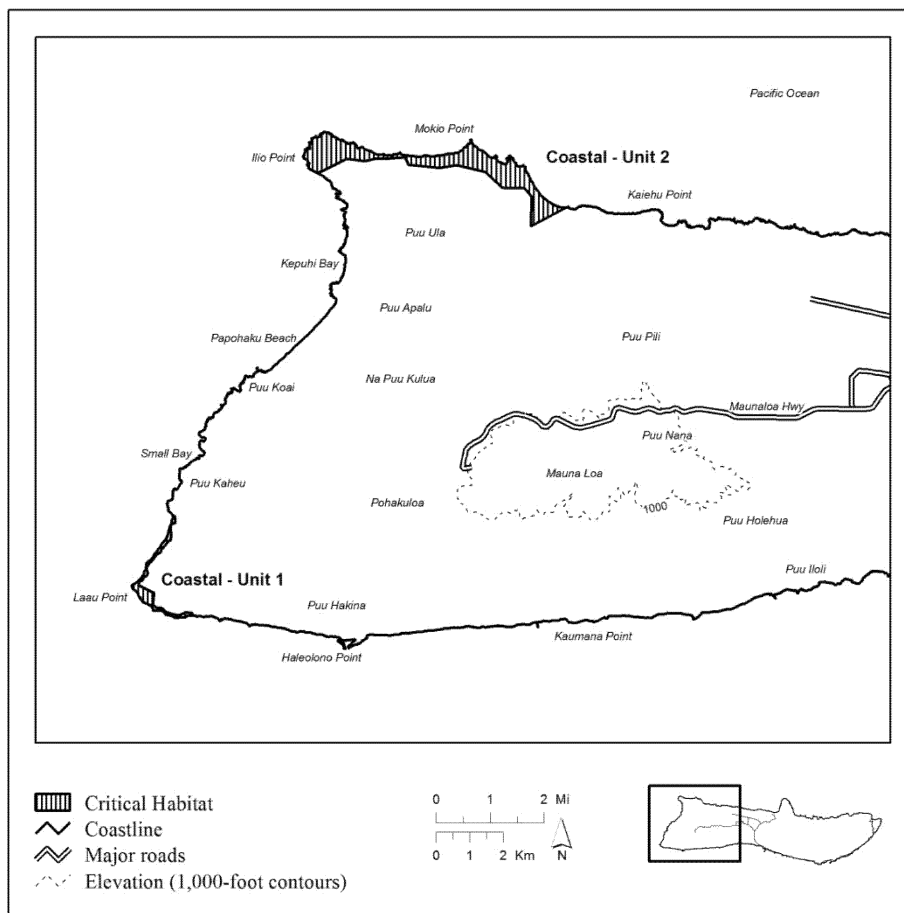
*Schenkia sebaeoides*, *Sesbania tomentosa*, and *Tetramolopium rockii*.

(ii) Map of Molokai—Coastal—Unit 1 and Molokai—Coastal—Unit 2 (Map 2) follows:

## Map 2

## Molokai—Coastal

## Unit 1 and Unit 2



(3) Molokai—Coastal—Unit 3 (805 ac, 325 ha), Molokai—Coastal—Unit 4 (10 ac, 4 ha), and Molokai—Coastal—Unit 5 (1 ac, 0.5 ha).

(i) These units are critical habitat for *Bidens wiebkei*, *Brighamia rockii*,

*Canavalia molokaiensis*, *Hibiscus arnottianus* ssp. *immaculatus*, *Hibiscus brackenridgei*, *Ischaemum byrhone*, *Marsilea villosa*, *Peucedanum sandwicense*, *Pittosporum halophilum*,

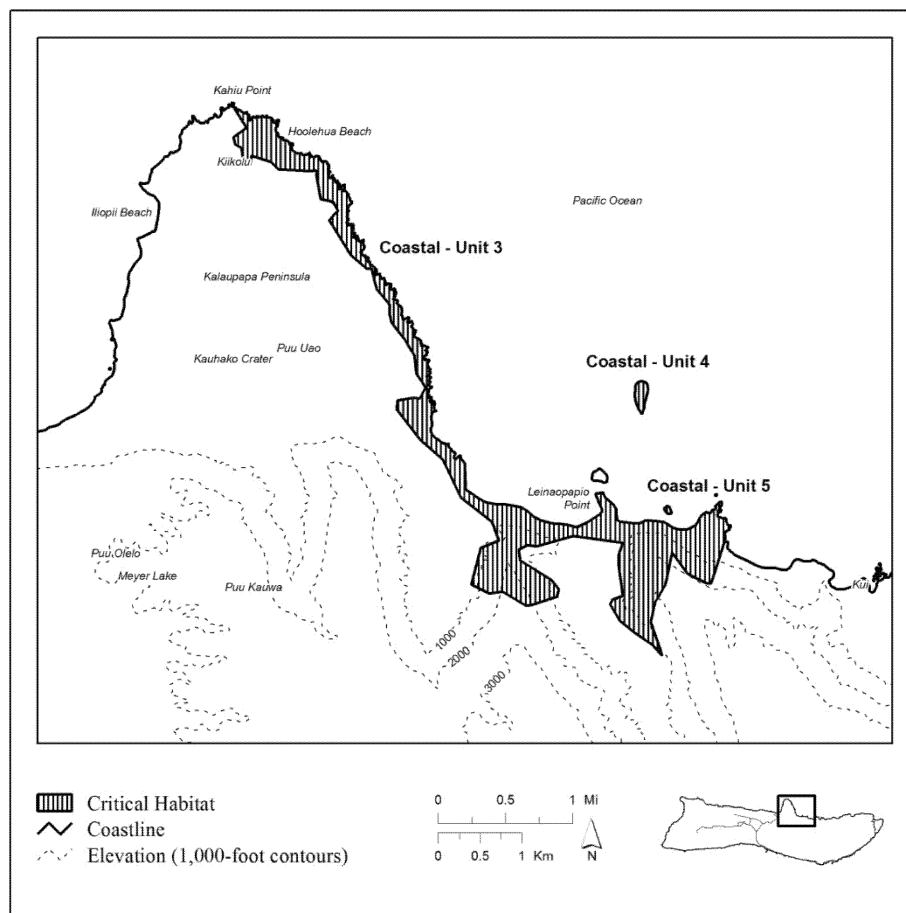
*Schenkia sebaeoides*, *Sesbania tomentosa*, and *Tetramolopium rockii*.

(ii) Map of Molokai—Coastal—Unit 3, Molokai—Coastal—Unit 4, and Molokai—Coastal—Unit 5 (Map 3) follows:

## Map 3

## Molokai—Coastal

## Unit 3, Unit 4, and Unit 5



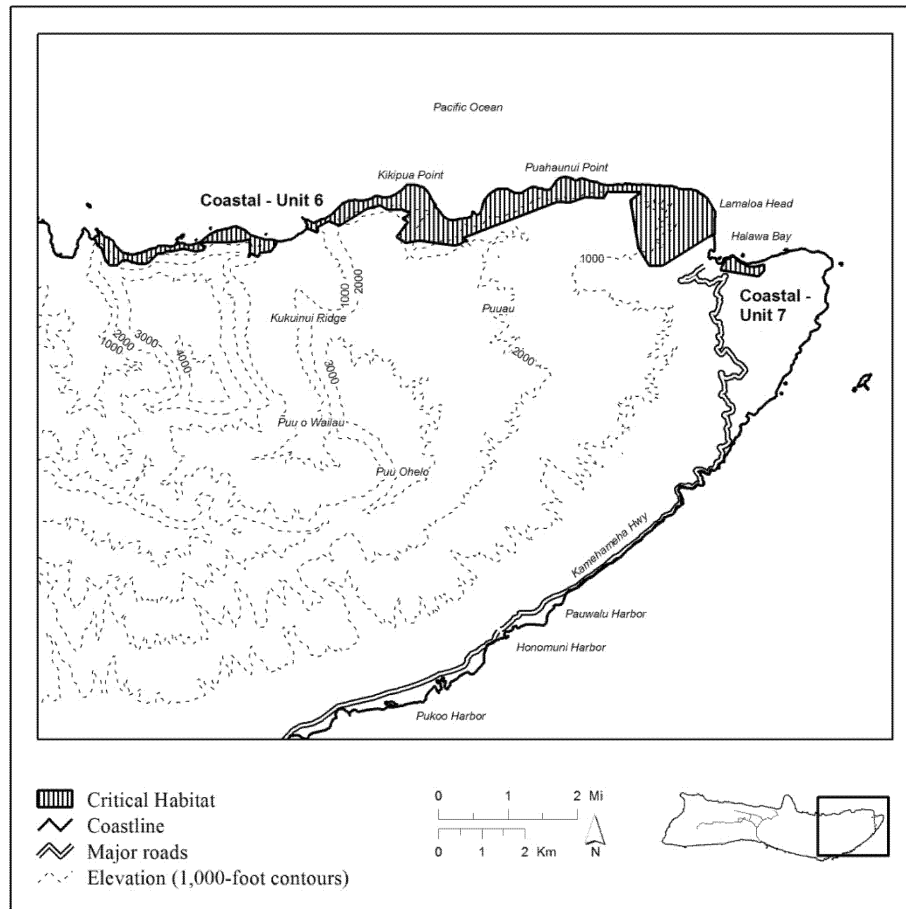
(4) Molokai—Coastal—Unit 6 (1,884 ac, 762 ha) and Molokai—Coastal—Unit 7 (49 ac, 24 ha).

(i) These units are critical habitat for *Bidens wiebkei*, *Brighamia rockii*,

*Canavalia molokaiensis*, *Hibiscus arnottianus* ssp. *immaculatus*, *Hibiscus brackenridgei*, *Ischaemum byrone*, *Marsilea villosa*, *Peucedanum sandwicense*, *Pittosporum halophilum*,

*Schenkia sebaeoides*, *Sesbania tomentosa*, and *Tetramolopium rockii*.

(ii) Map of Molokai—Coastal—Unit 6 and Molokai—Coastal—Unit 7 (Map 4) follows:

**Map 4****Molokai—Coastal****Unit 6 and Unit 7**

(5) Molokai—Lowland Dry—Unit 1  
(24 ac, 10 ha).

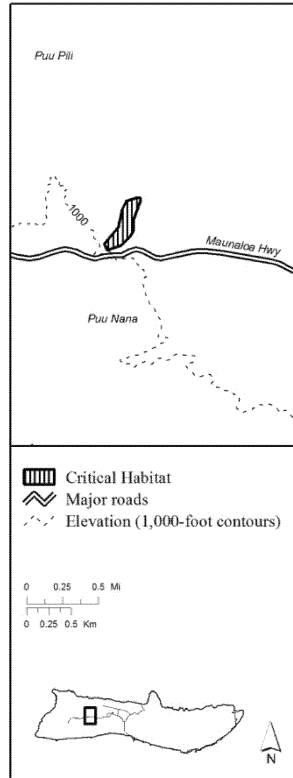
(i) This unit is critical habitat for *Bonamia menziesii*, *Cyperus trachysanthos*, *Eugenia koolauensis*, *Hibiscus brackenridgei*, *Kokia cookei*, and *Sesbania tomentosa*.

(ii) Map of Molokai—Lowland Dry—Unit 1 (Map 5) follows:

## Map 5

### Molokai—Lowland Dry

#### Unit 1



(6) Molokai—Lowland Dry—Unit 2  
(589 ac, 238 ha)

(i) This unit is critical habitat for *Bonamia menziesii*, *Cyperus trachysanthos*, *Eugenia koolauensis*, *Hibiscus brackenridgei*, *Kokia cookei*, and *Sesbania tomentosa*.

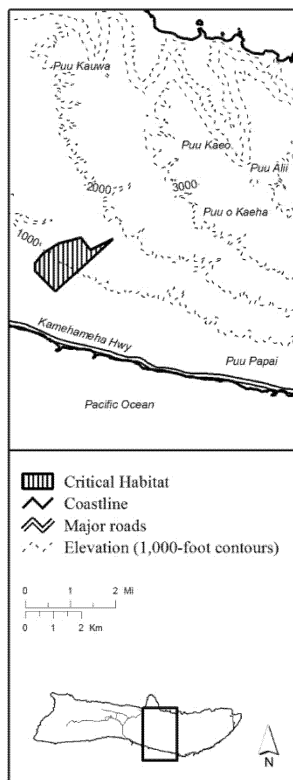
(ii) Map of Molokai—Lowland Dry—Unit 2 (Map 6) follows:



## Map 6

## Molokai—Lowland Dry

## Unit 2



(7) Molokai—Lowland Mesic—Unit 1 (8,770 ac, 3,549 ha).

(i) This unit is critical habitat for *Alectryon macrococcus*, *Asplenium dielirectum*, *Bonamia menziesii*, *Canavalia molokaiensis*, *Clermontia oblongifolia* ssp. *brevipes*, *Ctenitis squamigera*, *Cyanea dunbariae*, *Cyanea mannii*, *Cyanea procera*, *Cyanea profuga*, *Cyanea solanacea*, *Cyperus*

*fauriei*, *Cyrtandra filipes*, *Diplazium molokaiense*, *Festuca molokaiensis*, *Flueggea neowawraea*, *Gouania hillebrandii*, *Isodendrion pyrifolium*, *Kadua laxiflora*, *Labordia triflora*, *Melicope mucronulata*, *Melicope munroi*, *Melicope reflexa*, *Neraudia sericea*, *Phyllostegia haliakalae*, *Phyllostegia mannii*, *Phyllostegia pilosa*,

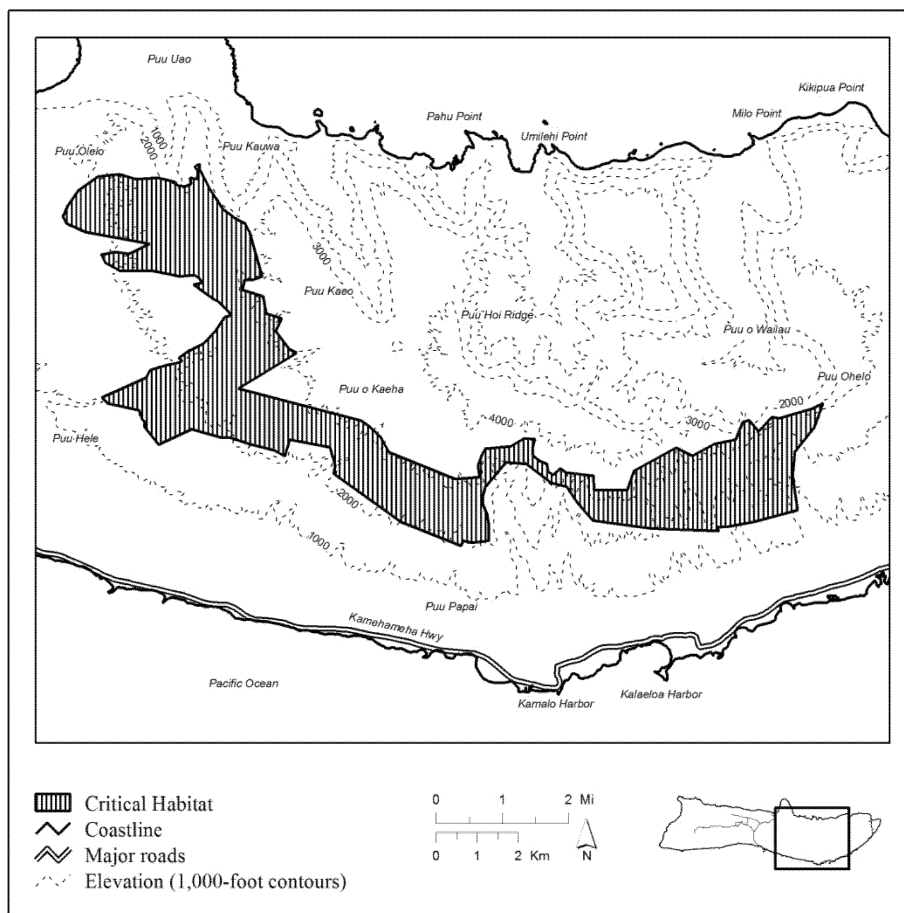
*Santalum haleakalae* var. *lanaiense*, *Schiedea lydgatei*, *Schiedea sarmentosa*, *Sesbania tomentosa*, *Silene alexandri*, *Silene lanceolata*, *Spermolepis hawaiiensis*, *Stenogyne bifida*, *Vigna o-wahuensis*, and *Zanthoxylum hawaiiense*.

(ii) Map of Molokai—Lowland Mesic—Unit 1 (Map 7) follows:

## Map 7

## Molokai—Lowland Mesic

## Unit 1



(8) Molokai—Lowland Wet—Unit 1 (2,949 ac, 1,193 ha), Molokai—Lowland Wet—Unit 2 (1,950 ac, 789 ha), and Molokai—Lowland Wet—Unit 3 (3,219 ac, 1,303 ha).

(i) These units are critical habitat for *Asplenium dielarectum*, *Bidens wiebkei*,

*Canavalia molokaiensis*, *Clermontia oblongifolia* ssp. *brevipes*, *Cyanea dunbariae*, *Cyanea grimesiana* ssp. *grimesiana*, *Cyanea solanacea*, *Cyrtandra filipes*, *Lysimachia maxima*, *Melicope reflexa*, *Peucedanum sandwicense*, *Phyllostegia hispida*,

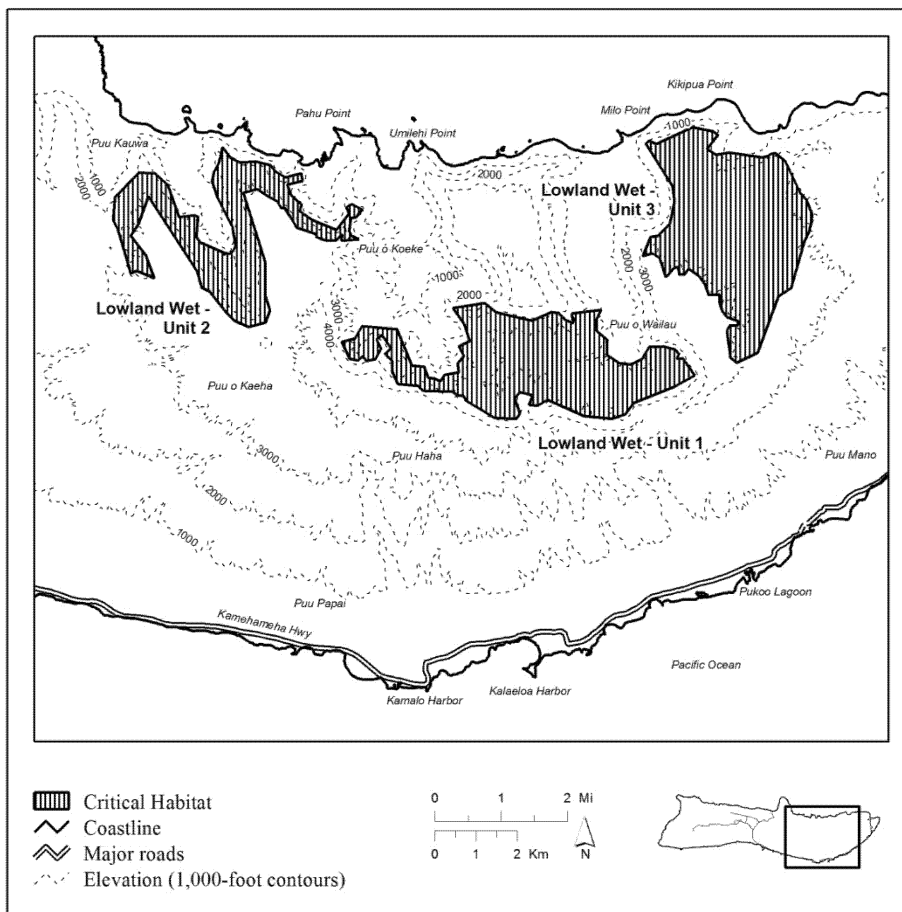
*Phyllostegia mannii*, *Plantago princeps*, *Stenogyne bifida*, and *Zanthoxylum hawaiiense*.

(ii) Map of Molokai—Lowland Wet—Unit 1, Molokai—Lowland Wet—Unit 2, and Molokai—Lowland Wet—Unit 3 (Map 8) follows:

## Map 8

## Molokai—Lowland Wet

## Unit 1, Unit 2, and Unit 3



(9) Molokai—Montane Wet—Unit 1 (3,397 ac, 1,375 ha), Molokai—Montane Wet—Unit 2 (910 ac, 368 ha), and Molokai—Montane Wet—Unit 3 (803 ac, 325 ha).

(i) These units are critical habitat for *Adenophorus periens*, *Bidens wiebkei*,

*Clermontia oblongifolia* ssp. *brevipes*, *Cyanea mannii*, *Cyanea procera*, *Cyanea profuga*, *Cyanea solanacea*, *Hesperomannia arborescens*, *Lysimachia maxima*, *Melicope reflexa*, *Phyllostegia hispida*, *Phyllostegia mannii*, *Phyllostegia pilosa*, *Platanthera*

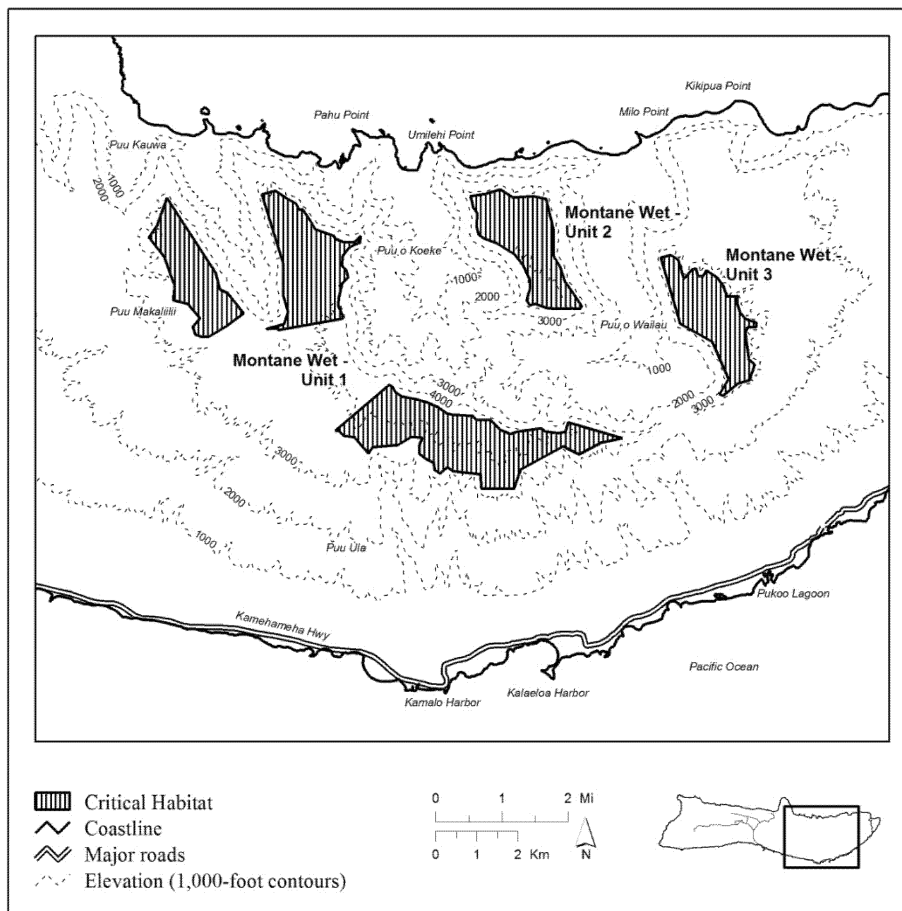
*holochila*, *Pteris lidgatei*, *Schiedea laui*, *Stenogyne bifida*, and *Zanthoxylum hawaiiense*.

(ii) Map of Molokai—Montane Wet—Unit 1, Molokai—Montane Wet—Unit 2, and Molokai—Montane Wet—Unit 3 (Map 9) follows:

## Map 9

## Molokai—Montane Wet

## Unit 1, Unit 2, and Unit 3



(10) Molokai—Montane Mesic—Unit 1 (816 ac, 330 ha).

(i) This unit is critical habitat for *Alectryon macrococcus*, *Asplenium dielirectum*, *Bidens wiebkei*, *Cyanea*

*dunbariae*, *Cyanea mannii*, *Cyanea procera*, *Cyanea solanacea*, *Cyperus fauriei*, *Kadua laxiflora*, *Melicope mucronulata*, *Neraudia sericea*, *Plantago princeps*, *Santalum haleakalae*

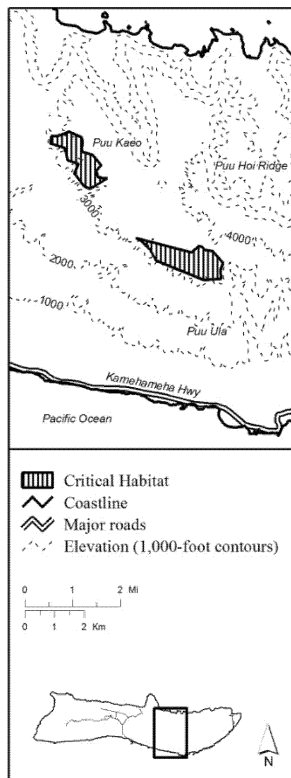
var. *lanaiense*, *Spermolepis hawaiiensis*, and *Stenogyne bifida*.

(ii) Map of Molokai—Montane Mesic—Unit 1 (Map 10) follows:

## Map 10

## Molokai—Montane Mesic

## Unit 1



(11) Molokai—Wet Cliff—Unit 1 (1,607 ac, 651 ha), Molokai—Wet Cliff—Unit 2 (1,268 ac, 513 ha), and Molokai—Wet Cliff—Unit 3 (1,362 ac, 551 ha).

(i) This unit is critical habitat for *Brighamia rockii*, *Canavalia molokaiensis*, *Clermontia oblongifolia*

*ssp. brevipes*, *Cyanea grimesiana ssp. grimesiana*, *Cyanea munroi*, *Hesperomannia arborescens*, *Hibiscus arnottianus ssp. immaculatus*, *Phyllostegia hispida*, *Pteris lidgatei*, and *Stenogyne bifida*.

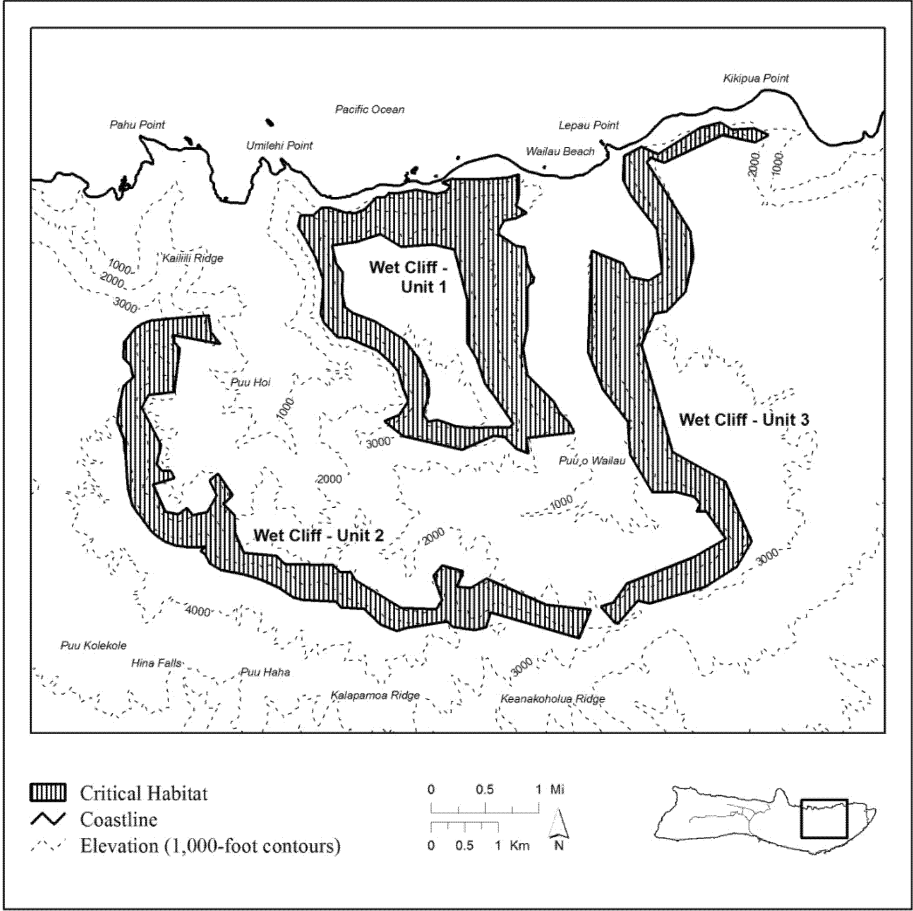
(ii) Map of Molokai—Wet Cliff—Unit 1, Molokai—Wet Cliff—Unit 2, and Molokai—Wet Cliff—Unit 3 (Map 11) follows:

BILLING CODE 4333-15-C

Map 11

Molokai—Wet Cliff

Unit 1, Unit 2, and Unit 3



(12) OCCUPANCY OF SPECIES BY DESIGNATED CRITICAL HABITAT UNITS FOR MOLOKAI

Unit	Species occupied	Species unoccupied
Molokai—Coastal—Unit 1 .....	<div>Marsilea villosa.</div>	<div>Bidens wiebkei. Brighamia rockii. Canavalia molokaiensis. Hibiscus arnottianus ssp. immaculatus. Hibiscus brackenridgei. Ischaemum byrone.  Peucedanum sandwicense. Pittosporum halophilum. Schenkia sebaeoides. Sesbania tomentosa. Tetramolopium rockii.</div>
Molokai—Coastal—Unit 2 .....	<div>Marsilea villosa.</div>	<div>Bidens wiebkei. Brighamia rockii. Canavalia molokaiensis. Hibiscus arnottianus ssp. immaculatus. Hibiscus brackenridgei. Ischaemum byrone.  Peucedanum sandwicense. Pittosporum halophilum. Schenkia sebaeoides. Sesbania tomentosa.</div>

## (12) OCCUPANCY OF SPECIES BY DESIGNATED CRITICAL HABITAT UNITS FOR MOLOKAI—Continued

Unit	Species occupied	Species unoccupied
Molokai—Coastal—Unit 3 .....	<i>Pittosporum halophilum</i> . <i>Schenkia sebaeoides</i> . <i>Tetramolopium rockii</i> .	<i>Tetramolopium rockii</i> . <i>Bidens wiebkei</i> . <i>Brighamia rockii</i> . <i>Canavalia molokaiensis</i> . <i>Hibiscus arnottianus</i> ssp. <i>immaculatus</i> . <i>Hibiscus brackenridgei</i> . <i>Ischaemum byrone</i> . <i>Marsilea villosa</i> . <i>Peucedanum sandwicense</i> .  <i>Sesbania tomentosa</i> .
Molokai—Coastal—Unit 4 .....	<i>Peucedanum sandwicense</i> . <i>Pittosporum halophilum</i> .	<i>Bidens wiebkei</i> . <i>Brighamia rockii</i> . <i>Canavalia molokaiensis</i> . <i>Hibiscus arnottianus</i> ssp. <i>immaculatus</i> . <i>Hibiscus brackenridgei</i> . <i>Ischaemum byrone</i> . <i>Marsilea villosa</i> .  <i>Schenkia sebaeoides</i> . <i>Sesbania tomentosa</i> . <i>Tetramolopium rockii</i> . <i>Bidens wiebkei</i> .
Molokai—Coastal—Unit 5 .....	<i>Peucedanum sandwicense</i> . <i>Pittosporum halophilum</i> .	<i>Canavalia molokaiensis</i> . <i>Hibiscus arnottianus</i> ssp. <i>immaculatus</i> . <i>Hibiscus brackenridgei</i> . <i>Ischaemum byrone</i> . <i>Marsilea villosa</i> .  <i>Schenkia sebaeoides</i> . <i>Sesbania tomentosa</i> . <i>Tetramolopium rockii</i> .
Molokai—Coastal—Unit 6 .....	<i>Bidens wiebkei</i> .  <i>Canavalia molokaiensis</i> . <i>Hibiscus arnottianus</i> ssp. <i>immaculatus</i> .  <i>Ischaemum byrone</i> .	 <i>Brighamia rockii</i> .  <i>Hibiscus brackenridgei</i> .  <i>Marsilea villosa</i> . <i>Peucedanum sandwicense</i> . <i>Pittosporum halophilum</i> . <i>Schenkia sebaeoides</i> . <i>Sesbania tomentosa</i> . <i>Tetramolopium rockii</i> .
Molokai—Coastal—Unit 7 .....		<i>Bidens wiebkei</i> . <i>Brighamia rockii</i> . <i>Canavalia molokaiensis</i> . <i>Hibiscus arnottianus</i> ssp. <i>immaculatus</i> . <i>Hibiscus brackenridgei</i> . <i>Ischaemum byrone</i> . <i>Marsilea villosa</i> . <i>Peucedanum sandwicense</i> . <i>Pittosporum halophilum</i> . <i>Schenkia sebaeoides</i> . <i>Sesbania tomentosa</i> . <i>Tetramolopium rockii</i> .
Molokai—Lowland Dry—Unit 1 .....		<i>Bonamia menziesii</i> . <i>Cyperus trachysanthos</i> . <i>Eugenia koolauensis</i> . <i>Hibiscus brackenridgei</i> . <i>Kokia cookei</i> . <i>Sesbania tomentosa</i> .
Molokai—Lowland Dry—Unit 2 .....		<i>Bonamia menziesii</i> . <i>Cyperus trachysanthos</i> . <i>Eugenia koolauensis</i> . <i>Hibiscus brackenridgei</i> . <i>Kokia cookei</i> .

## (12) OCCUPANCY OF SPECIES BY DESIGNATED CRITICAL HABITAT UNITS FOR MOLOKAI—Continued

Unit	Species occupied	Species unoccupied
Molokai—Lowland Mesic—Unit 1 .....	<i>Alectryon macrococcus</i> .  <i>Ctenitis squamigera</i> . <i>Cyanea dunbariae</i> . <i>Cyanea mannii</i> .  <i>Cyanea profuga</i> .  <i>Cyperus fauriei</i> . <i>Cyrtandra filipes</i> .  <i>Gouania hillebrandii</i> .  <i>Labordia triflora</i> .  <i>Neraudia sericea</i> .  <i>Santalum haleakalae</i> var. <i>lanaiense</i> . <i>Schiedea lydgatei</i> . <i>Schiedea sarmentosa</i> .  <i>Silene alexandri</i> . <i>Silene lanceolata</i> . <i>Spermolepis hawaiiensis</i> .  <i>Zanthoxylum hawaiiense</i> .	<i>Sesbania tomentosa</i> .  <i>Asplenium dielerectum</i> . <i>Bonamia menziesii</i> . <i>Canavalia molokaiensis</i> . <i>Clermontia oblongifolia</i> ssp. <i>brevipes</i> .  <i>Cyanea procera</i> .  <i>Cyanea solanacea</i> .  <i>Diplazium molokaiense</i> . <i>Festuca molokaiensis</i> . <i>Flueggea neowawraea</i> .  <i>Isodendron pyrifolium</i> . <i>Kadua laxiflora</i> .  <i>Melicope mucronulata</i> . <i>Melicope munroi</i> . <i>Melicope reflexa</i> .  <i>Phyllostegia haliakalae</i> . <i>Phyllostegia mannii</i> . <i>Phyllostegia pilosa</i> .  <i>Sesbania tomentosa</i> .  <i>Stenogyne bifida</i> . <i>Vigna o-wahuensis</i> .
Molokai—Lowland Wet—Unit 1 .....	<i>Cyrtandra filipes</i> .	<i>Asplenium dielerectum</i> . <i>Bidens wiebkei</i> . <i>Canavalia molokaiensis</i> . <i>Clermontia oblongifolia</i> ssp. <i>brevipes</i> . <i>Cyanea dunbariae</i> . <i>Cyanea grimesiana</i> ssp. <i>grimesiana</i> . <i>Cyanea solanacea</i> .  <i>Lysimachia maxima</i> . <i>Melicope reflexa</i> . <i>Peucedanum sandwicense</i> . <i>Phyllostegia hispida</i> . <i>Phyllostegia mannii</i> . <i>Plantago princeps</i> . <i>Stenogyne bifida</i> . <i>Zanthoxylum hawaiiense</i> .
Molokai—Lowland Wet—Unit 2 .....	<i>Lysimachia maxima</i> .	<i>Asplenium dielerectum</i> . <i>Bidens wiebkei</i> . <i>Canavalia molokaiensis</i> . <i>Clermontia oblongifolia</i> ssp. <i>brevipes</i> . <i>Cyanea dunbariae</i> . <i>Cyanea grimesiana</i> ssp. <i>grimesiana</i> . <i>Cyanea solanacea</i> . <i>Cyrtandra filipes</i> .  <i>Melicope reflexa</i> . <i>Peucedanum sandwicense</i> . <i>Phyllostegia hispida</i> . <i>Phyllostegia mannii</i> . <i>Plantago princeps</i> . <i>Stenogyne bifida</i> . <i>Zanthoxylum hawaiiense</i> .
Molokai—Lowland Wet—Unit 3 .....		<i>Asplenium dielerectum</i> . <i>Bidens wiebkei</i> .



## (12) OCCUPANCY OF SPECIES BY DESIGNATED CRITICAL HABITAT UNITS FOR MOLOKAI—Continued

Unit	Species occupied	Species unoccupied
Molokai—Montane Wet—Unit 1 .....	<i>Bidens wiebkei</i> . <i>Clermontia oblongifolia</i> ssp. <i>brevipes</i> . <i>Cyanea mannii</i> .  <i>Cyanea profuga</i> .   <i>Phyllostegia hispida</i> .   <i>Pteris lidgatei</i> .	<i>Canavalia molokaiensis</i> . <i>Clermontia oblongifolia</i> ssp. <i>brevipes</i> . <i>Cyanea dunbariae</i> . <i>Cyanea grimesiana</i> ssp. <i>grimesiana</i> . <i>Cyanea solanacea</i> . <i>Cyrtandra filipes</i> . <i>Lysimachia maxima</i> . <i>Melicope reflexa</i> . <i>Peucedanum sandwicense</i> . <i>Phyllostegia hispida</i> . <i>Phyllostegia mannii</i> . <i>Plantago princeps</i> . <i>Stenogyne bifida</i> . <i>Zanthoxylum hawaiiense</i> . <i>Adenophorus periens</i> .  <i>Cyanea procera</i> .  <i>Cyanea solanacea</i> . <i>Hesperomannia arborescens</i> . <i>Lysimachia maxima</i> . <i>Melicope reflexa</i> .  <i>Phyllostegia mannii</i> . <i>Phyllostegia pilosa</i> . <i>Platanthera holochila</i> .  <i>Schiedea laui</i> . <i>Stenogyne bifida</i> . <i>Zanthoxylum hawaiiense</i> . <i>Adenophorus periens</i> . <i>Bidens wiebkei</i> . <i>Clermontia oblongifolia</i> ssp. <i>brevipes</i> . <i>Cyanea mannii</i> . <i>Cyanea procera</i> . <i>Cyanea profuga</i> . <i>Cyanea solanacea</i> . <i>Hesperomannia arborescens</i> . <i>Lysimachia maxima</i> . <i>Melicope reflexa</i> . <i>Phyllostegia hispida</i> . <i>Phyllostegia mannii</i> . <i>Phyllostegia pilosa</i> . <i>Platanthera holochila</i> . <i>Pteris lidgatei</i> . <i>Schiedea laui</i> . <i>Stenogyne bifida</i> . <i>Zanthoxylum hawaiiense</i> . <i>Adenophorus periens</i> . <i>Bidens wiebkei</i> . <i>Clermontia oblongifolia</i> ssp. <i>brevipes</i> . <i>Cyanea mannii</i> . <i>Cyanea procera</i> . <i>Cyanea profuga</i> . <i>Cyanea solanacea</i> . <i>Hesperomannia arborescens</i> . <i>Lysimachia maxima</i> .  <i>Phyllostegia hispida</i> . <i>Phyllostegia mannii</i> . <i>Phyllostegia pilosa</i> . <i>Platanthera holochila</i> . <i>Pteris lidgatei</i> . <i>Schiedea laui</i> . <i>Stenogyne bifida</i> . <i>Zanthoxylum hawaiiense</i> .  <i>Asplenium dielerectum</i> .  <i>Cyanea dunbariae</i> .
Molokai—Montane Wet—Unit 2 .....		
Molokai—Montane Wet—Unit 3 .....		
Molokai—Montane Mesic—Unit 1 .....	<i>Alectryon macrococcus</i> .  <i>Bidens wiebkei</i> .	

(12) OCCUPANCY OF SPECIES BY DESIGNATED CRITICAL HABITAT UNITS FOR MOLOKAI—Continued

Unit	Species occupied	Species unoccupied
Molokai—Wet Cliff—Unit 1 .....	<i>Santalum haleakalae</i> var. <i>lanaiense</i> . <i>Spermolepis hawaiiensis</i> .  <i>Brighamia rockii</i> . <i>Canavalia molokaiensis</i> . <i>Clermontia oblongifolia</i> ssp. <i>brevipes</i> .  <i>Cyanea munroi</i> .  <i>Hibiscus arnottianus</i> ssp. <i>immaculatus</i> .	<i>Cyanea mannii</i> . <i>Cyanea procera</i> . <i>Cyanea solanacea</i> . <i>Cyperus fauriei</i> . <i>Kadua laxiflora</i> . <i>Melicope mucronulata</i> . <i>Neraudia sericea</i> . <i>Plantago princeps</i> .  <i>Stenogyne bifida</i> .  <i>Cyanea grimesiana</i> ssp. <i>grimesiana</i> .  <i>Hesperomannia arborescens</i> .  <i>Phyllostegia hispida</i> . <i>Pteris lidgatei</i> . <i>Stenogyne bifida</i> . <i>Brighamia rockii</i> . <i>Canavalia molokaiensis</i> .  <i>Cyanea grimesiana</i> ssp. <i>grimesiana</i> . <i>Cyanea munroi</i> . <i>Hesperomannia arborescens</i> . <i>Hibiscus arnottianus</i> ssp. <i>immaculatus</i> .  <i>Pteris lidgatei</i> . <i>Stenogyne bifida</i> . <i>Brighamia rockii</i> . <i>Canavalia molokaiensis</i> . <i>Clermontia oblongifolia</i> ssp. <i>brevipes</i> . <i>Cyanea grimesiana</i> ssp. <i>grimesiana</i> . <i>Cyanea munroi</i> . <i>Hesperomannia arborescens</i> . <i>Hibiscus arnottianus</i> ssp. <i>immaculatus</i> . <i>Phyllostegia hispida</i> . <i>Pteris lidgatei</i> . <i>Stenogyne bifida</i> .
Molokai—Wet Cliff—Unit 2 .....	   <i>Clermontia oblongifolia</i> ssp. <i>brevipes</i> .     <i>Phyllostegia hispida</i> .	
Molokai—Wet Cliff—Unit 3 .....		

(d) *Plants on Molokai; Constituent elements.*

(1) *Flowering plants.*

## Family Apiaceae

*Peucedanum sandwicense* (MAKOU)

Molokai—Coastal—Unit 1, Molokai—Coastal—Unit 2, Molokai—Coastal—Unit 3, Molokai—Coastal—Unit 4, Molokai—Coastal—Unit 5, Molokai—Coastal—Unit 6, Molokai—Coastal—Unit 7, Molokai—Lowland Wet—Unit 1, Molokai—Lowland Wet—Unit 2, and Molokai—Lowland Wet—Unit 3, identified in the legal descriptions in paragraph (c) of this section, constitute critical habitat for *Peucedanum sandwicense* on Molokai.

(i) In units Molokai—Coastal—Unit 1, Molokai—Coastal—Unit 2, Molokai—Coastal—Unit 3, Molokai—Coastal—Unit 4, Molokai—Coastal—Unit 5, Molokai—Coastal—Unit 6, and Molokai—Coastal—Unit 7, the physical

and biological features of critical habitat are:

(A) Elevation: Less than 980 ft (300 m).

(B) Annual precipitation: Less than 20 in (50 cm).

(C) Substrate: Well-drained, calcareous, talus slopes; dunes; weathered clay soils; ephemeral pools; mudflats.

(D) Canopy: *Hibiscus*, *Myoporum*, *Santalum*, *Scaevola*.

(E) Subcanopy: *Gossypium*, *Sida*, *Vitex*.

(F) Understory: *Eragrostis*, *Jacquemontia*, *Lyceum*, *Nama*, *Sesuvium*, *Sporobolus*, *Vigna*.

(ii) In units Molokai—Lowland Wet—Unit 1, Molokai—Lowland Wet—Unit 2, and Molokai—Lowland Wet—Unit 3, the physical and biological features of critical habitat are:

(A) Elevation: Less than 3,300 ft (1,000 m).

(B) Annual precipitation: Greater than 75 in (190 cm).

(C) Substrate: Clays; ashbeds; deep, well-drained soils; lowland bogs.

(D) Canopy: *Antidesma*, *Metrosideros*, *Myrsine*, *Pisonia*, *Psychotria*.

(E) Subcanopy: *Cibotium*, *Claoxylon*, *Kadua*, *Melicope*.

(F) Understory: *Alyxia*, *Cyrtandra*, *Dicranopteris*, *Diplazium*, *Machaerina*, *Microlepia*.

*Spermolepis hawaiiensis* (NCN)

Molokai—Lowland Mesic—Unit 1 and Molokai—Montane Mesic—Unit 1, identified in the legal descriptions in paragraph (c) of this section, constitute critical habitat for *Spermolepis hawaiiensis* on Molokai.

(i) In unit Molokai—Lowland Mesic—Unit 1, the physical and biological features of critical habitat are:

(A) Elevation: Less than 3,300 ft (1,000 m).

(B) Annual precipitation: 50 to 75 in (130 to 190 cm).

(C) Substrate: Shallow soils, little to no herbaceous layer.

(D) Canopy: *Acacia*, *Diospyros*, *Metrosideros*, *Myrsine*, *Pouteria*, *Santalum*.

(E) Subcanopy: *Dodonaea*, *Freycinetia*, *Leptecophylla*, *Melanthera*, *Osteomeles*, *Pleomele*, *Psydrax*.

(F) Understory: *Carex*, *Dicranopteris*, *Diplazium*, *Elaphoglossum*, *Peperomia*.

(ii) In unit Molokai—Montane Mesic—Unit 1, the physical and biological features of critical habitat are:

(A) Elevation: 3,300 to 6,500 ft (1,000 to 2,000 m).

(B) Annual precipitation: 50 to 75 in (130 to 190 cm).

(C) Substrate: Deep ash deposits, thin silty loams.

(D) Canopy: *Acacia*, *Ilex*, *Metrosideros*, *Myrsine*, *Nestegis*, *Nothoecstrum*, *Pisonia*, *Pittosporum*, *Psychotria*, *Sophora*, *Zanthoxylum*.

(E) Subcanopy: *Alyxia*, *Charpentiera*, *Coprosma*, *Dodonaea*, *Kadua*, *Labordia*, *Leptecophylla*, *Phyllostegia*, *Vaccinium*.

(F) Understory: Ferns, *Carex*, *Peperomia*.

#### Family Asteraceae

*Bidens wiebkei* (KOOKOOLAU)

Molokai—Coastal—Unit 1, Molokai—Coastal—Unit 2, Molokai—Coastal—Unit 3, Molokai—Coastal—Unit 4, Molokai—Coastal—Unit 5, Molokai—Coastal—Unit 6, Molokai—Coastal—Unit 7, Molokai—Lowland Wet—Unit 1, Molokai—Lowland Wet—Unit 2, Molokai—Lowland Wet—Unit 3, Molokai—Montane Wet—Unit 1, Molokai—Montane Wet—Unit 2, Molokai—Montane Wet—Unit 3, and Molokai—Montane Mesic—Unit 1, identified in the legal descriptions in paragraph (c) of this section, constitute critical habitat for *Bidens wiebkei* on Molokai.

(i) In units Molokai—Coastal—Unit 1, Molokai—Coastal—Unit 2, Molokai—Coastal—Unit 3, Molokai—Coastal—Unit 4, Molokai—Coastal—Unit 5, Molokai—Coastal—Unit 6, and Molokai—Coastal—Unit 7, the physical and biological features of critical habitat are:

(A) Elevation: Less than 980 ft (300 m).

(B) Annual precipitation: Less than 20 in (50 cm).

(C) Substrate: Well-drained, calcareous, talus slopes; dunes; weathered clay soils; ephemeral pools; mudflats.

(D) Canopy: *Hibiscus*, *Myoporum*, *Santalum*, *Scaevola*.

(E) Subcanopy: *Gossypium*, *Sida*, *Vitex*.

(F) Understory: *Eragrostis*, *Jacquemontia*, *Lyceum*, *Nama*, *Sesuvium*, *Sporobolus*, *Vigna*.

(ii) In units Molokai—Lowland Wet—Unit 1, Molokai—Lowland Wet—Unit 2, and Molokai—Lowland Wet—Unit 3, the physical and biological features of critical habitat are:

(A) Elevation: Less than 3,300 ft (1,000 m).

(B) Annual precipitation: Greater than 75 in (190 cm).

(C) Substrate: Clays; ashbeds; deep, well-drained soils; lowland bogs.

(D) Canopy: *Antidesma*, *Metrosideros*, *Myrsine*, *Pisonia*, *Psychotria*.

(E) Subcanopy: *Cibotium*, *Claoxylon*, *Kadua*, *Melicope*.

(F) Understory: *Alyxia*, *Cyrtandra*, *Dicranopteris*, *Diplazium*, *Machaerina*, *Microlepia*.

(iii) In units Molokai—Montane Wet—Unit 1, Molokai—Montane Wet—Unit 2, and Molokai—Montane Wet—Unit 3, the physical and biological features of critical habitat are:

(A) Elevation: 3,300 to 6,500 ft (1,000 to 2,000 m).

(B) Annual precipitation: Greater than 75 in (190 cm).

(C) Substrate: Well-developed soils, montane bogs.

(D) Canopy: *Acacia*, *Charpentiera*, *Cheirodendron*, *Metrosideros*.

(E) Subcanopy: *Broussaia*, *Cibotium*, *Eurya*, *Ilex*, *Myrsine*.

(F) Understory: Ferns, *Carex*, *Coprosma*, *Leptecophylla*, *Oreobolus*, *Rhynchospora*, *Vaccinium*.

(iv) In unit Molokai—Montane Mesic—Unit 1, the physical and biological features of critical habitat are:

(A) Elevation: 3,300 to 6,500 ft (1,000 to 2,000 m).

(B) Annual precipitation: 50 to 75 in (130 to 190 cm).

(C) Substrate: Deep ash deposits, thin silty loams.

(D) Canopy: *Acacia*, *Ilex*, *Metrosideros*, *Myrsine*, *Nestegis*, *Nothoecstrum*, *Pisonia*, *Pittosporum*, *Psychotria*, *Sophora*, *Zanthoxylum*.

(E) Subcanopy: *Alyxia*, *Charpentiera*, *Coprosma*, *Dodonaea*, *Kadua*, *Labordia*, *Leptecophylla*, *Phyllostegia*, *Vaccinium*.

(F) Understory: Ferns, *Carex*, *Peperomia*.

*Hesperomannia arborescens* (NCN)

Molokai—Montane Wet—Unit 1, Molokai—Montane Wet—Unit 2, Molokai—Montane Wet—Unit 3, Molokai—Wet Cliff—Unit 1, Molokai—Wet Cliff—Unit 2, and Molokai—Wet Cliff—Unit 3, identified in the legal descriptions in paragraph (c) of this section, constitute critical habitat for *Hesperomannia arborescens* on Molokai.

(i) In units Molokai—Montane Wet—Unit 1, Molokai—Montane Wet—Unit 2, and Molokai—Montane Wet—Unit 3,

the physical and biological features of critical habitat are:

(A) Elevation: 3,300 to 6,500 ft (1,000 to 2,000 m).

(B) Annual precipitation: Greater than 75 in (190 cm).

(C) Substrate: Well-developed soils, montane bogs.

(D) Canopy: *Acacia*, *Charpentiera*, *Cheirodendron*, *Metrosideros*.

(E) Subcanopy: *Broussaia*, *Cibotium*, *Eurya*, *Ilex*, *Myrsine*.

(F) Understory: Ferns, *Carex*, *Coprosma*, *Leptecophylla*, *Oreobolus*, *Rhynchospora*, *Vaccinium*.

(ii) In units Molokai—Wet Cliff—Unit 1, Molokai—Wet Cliff—Unit 2, and Molokai—Wet Cliff—Unit 3, the physical and biological features of critical habitat are:

(A) Elevation: Unrestricted.

(B) Annual precipitation: Greater than 75 in (190 cm).

(C) Substrate: Greater than 65 degree slope, shallow soils, weathered lava.

(D) Canopy: None.

(E) Subcanopy: *Broussaia*, *Cheirodendron*, *Leptecophylla*, *Metrosideros*.

(F) Understory: Bryophytes, ferns, *Coprosma*, *Dubautia*, *Kadua*, *Peperomia*.

*Tetramolopium rockii* (NCN)

Molokai—Coastal—Unit 1, Molokai—Coastal—Unit 2, Molokai—Coastal—Unit 3, Molokai—Coastal—Unit 4, Molokai—Coastal—Unit 5, Molokai—Coastal—Unit 6, and Molokai—Coastal—Unit 7, identified in the legal descriptions in paragraph (c) of this section, constitute critical habitat for *Tetramolopium rockii* on Molokai. In units Molokai—Coastal—Unit 1, Molokai—Coastal—Unit 2, Molokai—Coastal—Unit 3, Molokai—Coastal—Unit 4, Molokai—Coastal—Unit 5, Molokai—Coastal—Unit 6, and Molokai—Coastal—Unit 7, the physical and biological features of critical habitat are:

(i) Elevation: Less than 980 ft (300 m).

(ii) Annual precipitation: Less than 20 in (50 cm).

(iii) Substrate: Well-drained, calcareous, talus slopes; dunes; weathered clay soils; ephemeral pools; mudflats.

(iv) Canopy: *Hibiscus*, *Myoporum*, *Santalum*, *Scaevola*.

(v) Subcanopy: *Gossypium*, *Sida*, *Vitex*.

(vi) Understory: *Eragrostis*, *Jacquemontia*, *Lyceum*, *Nama*, *Sesuvium*, *Sporobolus*, *Vigna*.

#### Family Campanulaceae

*Brighamia rockii* (PUA ALA)

Molokai—Coastal—Unit 1, Molokai—Coastal—Unit 2, Molokai—Coastal—

Unit 3, Molokai—Coastal—Unit 4, Molokai—Coastal—Unit 5, Molokai—Coastal—Unit 6, Molokai—Coastal—Unit 7, Molokai—Wet Cliff—Unit 1, Molokai—Wet Cliff—Unit 2, and Molokai—Wet Cliff—Unit 3, identified in the legal descriptions in paragraph (c) of this section, constitute critical habitat for *Brighamia rockii* on Molokai.

(i) In units Molokai—Coastal—Unit 1, Molokai—Coastal—Unit 2, Molokai—Coastal—Unit 3, Molokai—Coastal—Unit 4, Molokai—Coastal—Unit 5, Molokai—Coastal—Unit 6, and Molokai—Coastal—Unit 7, the physical and biological features of critical habitat are:

(A) Elevation: Less than 980 ft (300 m).

(B) Annual precipitation: Less than 20 in (50 cm).

(C) Substrate: Well-drained, calcareous, talus slopes; dunes; weathered clay soils; ephemeral pools; mudflats.

(D) Canopy: *Hibiscus*, *Myoporum*, *Santalum*, *Scaevola*.

(E) Subcanopy: *Gossypium*, *Sida*, *Vitex*.

(F) Understory: *Eragrostis*, *Jacquemontia*, *Lyceum*, *Nama*, *Sesuvium*, *Sporobolus*, *Vigna*.

(ii) In units Molokai—Wet Cliff—Unit 1, Molokai—Wet Cliff—Unit 2, and Molokai—Wet Cliff—Unit 3, the physical and biological features of critical habitat are:

(A) Elevation: Unrestricted.

(B) Annual precipitation: Greater than 75 in (190 cm).

(C) Substrate: Greater than 65 degree slope, shallow soils, weathered lava.

(D) Canopy: None.

(E) Subcanopy: *Broussaisia*, *Cheirodendron*, *Leptecophylla*, *Metrosideros*.

(F) Understory: Bryophytes, ferns, *Coprosma*, *Dubautia*, *Kadua*, *Peperomia*.

*Clermontia oblongifolia* ssp. *brevipes* (OHA WAI)

Molokai—Lowland Mesic—Unit 1, Molokai—Lowland Wet—Unit 1, Molokai—Lowland Wet—Unit 2, Molokai—Lowland Wet—Unit 3, Molokai—Montane Wet—Unit 1, Molokai—Montane Wet—Unit 2, Molokai—Montane Wet—Unit 3, Molokai—Wet Cliff—Unit 1, Molokai—Wet Cliff—Unit 2, and Molokai—Wet Cliff—Unit 3, identified in the legal descriptions in paragraph (c) of this section, constitute critical habitat for *Clermontia oblongifolia* ssp. *brevipes* on Molokai.

(i) In unit Molokai—Lowland Mesic—Unit 1, the physical and biological features of critical habitat are:

(A) Elevation: Less than 3,300 ft (1,000 m).

(B) Annual precipitation: 50 to 75 in (130 to 190 cm).

(C) Substrate: Shallow soils, little to no herbaceous layer.

(D) Canopy: *Acacia*, *Diospyros*, *Metrosideros*, *Myrsine*, *Pouteria*, *Santalum*.

(E) Subcanopy: *Dodonaea*, *Freycinetia*, *Leptecophylla*, *Melanthera*, *Osteomeles*, *Pleomele*, *Psydrax*.

(F) Understory: *Carex*, *Dicranopteris*, *Diplazium*, *Elaphoglossum*, *Peperomia*.

(ii) In units Molokai—Lowland Wet—Unit 1, Molokai—Lowland Wet—Unit 2, and Molokai—Lowland Wet—Unit 3, the physical and biological features of critical habitat are:

(A) Elevation: Less than 3,300 ft (1,000 m).

(B) Annual precipitation: Greater than 75 in (190 cm).

(C) Substrate: Clays; ashbeds; deep, well-drained soils; lowland bogs.

(D) Canopy: *Antidesma*, *Metrosideros*, *Myrsine*, *Pisonia*, *Psychotria*.

(E) Subcanopy: *Cibotium*, *Claoxylon*, *Kadua*, *Melicope*.

(F) Understory: *Alyxia*, *Cyrtandra*, *Dicranopteris*, *Diplazium*, *Machaerina*, *Microlepia*.

(iii) In units Molokai—Montane Wet—Unit 1, Molokai—Montane Wet—Unit 2, and Molokai—Montane Wet—Unit 3, the physical and biological features of critical habitat are:

(A) Elevation: 3,300 to 6,500 ft (1,000 to 2,000 m).

(B) Annual precipitation: Greater than 75 in (190 cm).

(C) Substrate: Well-developed soils, montane bogs.

(D) Canopy: *Acacia*, *Charpentiera*, *Cheirodendron*, *Metrosideros*.

(E) Subcanopy: *Broussaisia*, *Cibotium*, *Eurya*, *Ilex*, *Myrsine*.

(F) Understory: Ferns, *Carex*, *Coprosma*, *Leptecophylla*, *Oreobolus*, *Rhynchospora*, *Vaccinium*.

(iv) In units Molokai—Wet Cliff—Unit 1, Molokai—Wet Cliff—Unit 2, and Molokai—Wet Cliff—Unit 3, the physical and biological features of critical habitat are:

(A) Elevation: Unrestricted.

(B) Annual precipitation: Greater than 75 in (190 cm).

(C) Substrate: Greater than 65 degree slope, shallow soils, weathered lava.

(D) Canopy: None.

(E) Subcanopy: *Broussaisia*, *Cheirodendron*, *Leptecophylla*, *Metrosideros*.

(F) Understory: Bryophytes, ferns, *Coprosma*, *Dubautia*, *Kadua*, *Peperomia*.

*Cyanea dunbariae* (HAHA)

Molokai—Lowland Mesic—Unit 1, Molokai—Lowland Wet—Unit 1, Molokai—Lowland Wet—Unit 2, Molokai—Lowland Wet—Unit 3, and Molokai—Montane Mesic—Unit 1, identified in the legal descriptions in paragraph (c) of this section, constitute critical habitat for *Cyanea dunbariae* on Molokai.

(i) In unit Molokai—Lowland Mesic—Unit 1, the physical and biological features of critical habitat are:

(A) Elevation: Less than 3,300 ft (1,000 m).

(B) Annual precipitation: 50 to 75 in (130 to 190 cm).

(C) Substrate: Shallow soils, little to no herbaceous layer.

(D) Canopy: *Acacia*, *Diospyros*, *Metrosideros*, *Myrsine*, *Pouteria*, *Santalum*.

(E) Subcanopy: *Dodonaea*, *Freycinetia*, *Leptecophylla*, *Melanthera*, *Osteomeles*, *Pleomele*, *Psydrax*.

(F) Understory: *Carex*, *Dicranopteris*, *Diplazium*, *Elaphoglossum*, *Peperomia*.

(ii) In units Molokai—Lowland Wet—Unit 1, Molokai—Lowland Wet—Unit 2, and Molokai—Lowland Wet—Unit 3, the physical and biological features of critical habitat are:

(A) Elevation: Less than 3,300 ft (1,000 m).

(B) Annual precipitation: Greater than 75 in (190 cm).

(C) Substrate: Clays; ashbeds; deep, well-drained soils; lowland bogs.

(D) Canopy: *Antidesma*, *Metrosideros*, *Myrsine*, *Pisonia*, *Psychotria*.

(E) Subcanopy: *Cibotium*, *Claoxylon*, *Kadua*, *Melicope*.

(F) Understory: *Alyxia*, *Cyrtandra*, *Dicranopteris*, *Diplazium*, *Machaerina*, *Microlepia*.

(iii) In unit Molokai—Montane Mesic—Unit 1, the physical and biological features of critical habitat are:

(A) Elevation: 3,300 to 6,500 ft (1,000 to 2,000 m).

(B) Annual precipitation: 50 to 75 in (130 to 190 cm).

(C) Substrate: Deep ash deposits, thin silty loams.

(D) Canopy: *Acacia*, *Ilex*, *Metrosideros*, *Myrsine*, *Nestegis*, *Nothocestrum*, *Pisonia*, *Pittosporum*, *Psychotria*, *Sophora*, *Zanthoxylum*.

(E) Subcanopy: *Alyxia*, *Charpentiera*, *Coprosma*, *Dodonaea*, *Kadua*, *Labordia*, *Leptecophylla*, *Phyllostegia*, *Vaccinium*.

(F) Understory: Ferns, *Carex*, *Peperomia*.

*Cyanea grimesiana* ssp. *grimesiana* (HAHA)

Molokai—Lowland Wet—Unit 1, Molokai—Lowland Wet—Unit 2,

Molokai—Lowland Wet—Unit 3, Molokai—Wet Cliff—Unit 1, Molokai—Wet Cliff—Unit 2, and Molokai—Wet Cliff—Unit 3, identified in the legal descriptions in paragraph (c) of this section, constitute critical habitat for *Cyanea grimesiana* ssp. *grimesiana* on Molokai.

(i) In units Molokai—Lowland Wet—Unit 1, Molokai—Lowland Wet—Unit 2, and Molokai—Lowland Wet—Unit 3, the physical and biological features of critical habitat are:

(A) Elevation: Less than 3,300 ft (1,000 m).

(B) Annual precipitation: Greater than 75 in (190 cm).

(C) Substrate: Clays; ashbeds; deep, well-drained soils; lowland bogs.

(D) Canopy: *Antidesma*, *Metrosideros*, *Myrsine*, *Pisonia*, *Psychotria*.

(E) Subcanopy: *Cibotium*, *Claoxylon*, *Kadua*, *Melicope*.

(F) Understory: *Alyxia*, *Cyrtandra*, *Dicranopteris*, *Diplazium*, *Machaerina*, *Microlepia*.

(ii) In units Molokai—Wet Cliff—Unit 1, Molokai—Wet Cliff—Unit 2, and Molokai—Wet Cliff—Unit 3, the physical and biological features of critical habitat are:

(A) Elevation: Unrestricted.

(B) Annual precipitation: Greater than 75 in (190 cm).

(C) Substrate: Greater than 65 degree slope, shallow soils, weathered lava.

(D) Canopy: None.

(E) Subcanopy: *Broussaisia*, *Cheirodendron*, *Leptecophylla*, *Metrosideros*.

(F) Understory: Bryophytes, ferns, *Coprosma*, *Dubautia*, *Kadua*, *Peperomia*.

#### *Cyanea mannii* (HAHA)

Molokai—Lowland Mesic—Unit 1, Molokai—Montane Wet—Unit 1, Molokai—Montane Wet—Unit 2, Molokai—Montane Wet—Unit 3, and Molokai—Montane Mesic—Unit 1, identified in the legal descriptions in paragraph (c) of this section, constitute critical habitat for *Cyanea mannii* on Molokai.

(i) In unit Molokai—Lowland Mesic—Unit 1, the physical and biological features of critical habitat are:

(A) Elevation: Less than 3,300 ft (1,000 m).

(B) Annual precipitation: 50 to 75 in (130 to 190 cm).

(C) Substrate: Shallow soils, little to no herbaceous layer.

(D) Canopy: *Acacia*, *Diospyros*, *Metrosideros*, *Myrsine*, *Pouteria*, *Santalum*.

(E) Subcanopy: *Dodonaea*, *Freycinetia*, *Leptecophylla*, *Melanthera*, *Osteomeles*, *Pleomele*, *Psydrax*.

(F) Understory: *Carex*, *Dicranopteris*, *Diplazium*, *Elaphoglossum*, *Peperomia*.

(ii) In units Molokai—Montane Wet—Unit 1, Molokai—Montane Wet—Unit 2, and Molokai—Montane Wet—Unit 3, the physical and biological features of critical habitat are:

(A) Elevation: 3,300 to 6,500 ft (1,000 to 2,000 m).

(B) Annual precipitation: Greater than 75 in (190 cm).

(C) Substrate: Well-developed soils, montane bogs.

(D) Canopy: *Acacia*, *Charpentiera*, *Cheirodendron*, *Metrosideros*.

(E) Subcanopy: *Broussaisia*, *Cibotium*, *Eurya*, *Ilex*, *Myrsine*.

(F) Understory: Ferns, *Carex*, *Coprosma*, *Leptecophylla*, *Oreobolus*, *Rhynchospora*, *Vaccinium*.

(iii) In unit Molokai—Montane Mesic—Unit 1, the physical and biological features of critical habitat are:

(A) Elevation: 3,300 to 6,500 ft (1,000 to 2,000 m).

(B) Annual precipitation: 50 to 75 in (130 to 190 cm).

(C) Substrate: Deep ash deposits, thin silty loams.

(D) Canopy: *Acacia*, *Ilex*, *Metrosideros*, *Myrsine*, *Nestegis*, *Nothocestrum*, *Pisonia*, *Pittosporum*, *Psychotria*, *Sophora*, *Zanthoxylum*.

(E) Subcanopy: *Alyxia*, *Charpentiera*, *Coprosma*, *Dodonaea*, *Kadua*, *Labordia*, *Leptecophylla*, *Phyllostegia*, *Vaccinium*.

(F) Understory: Ferns, *Carex*, *Peperomia*.

#### *Cyanea munroi* (HAHA)

Molokai—Wet Cliff—Unit 1, Molokai—Wet Cliff—Unit 2, and Molokai—Wet Cliff—Unit 3, identified in the legal descriptions in paragraph (c) of this section, constitute critical habitat for *Cyanea munroi* on Molokai. In units Molokai—Wet Cliff—Unit 1, Molokai—Wet Cliff—Unit 2, and Molokai—Wet Cliff—Unit 3, the physical and biological features of critical habitat are:

(i) Elevation: Unrestricted.

(ii) Annual precipitation: Greater than 75 in (190 cm).

(iii) Substrate: Greater than 65 degree slope, shallow soils, weathered lava.

(iv) Canopy: None.

(v) Subcanopy: *Broussaisia*, *Cheirodendron*, *Leptecophylla*, *Metrosideros*.

(vi) Understory: Bryophytes, ferns, *Coprosma*, *Dubautia*, *Kadua*, *Peperomia*.

#### *Cyanea procera* (HAHA)

Molokai—Lowland Mesic—Unit 1, Molokai—Montane Wet—Unit 1, Molokai—Montane Wet—Unit 2, Molokai—Montane Wet—Unit 3, and Molokai—Montane Mesic—Unit 1,

identified in the legal descriptions in paragraph (c) of this section, constitute critical habitat for *Cyanea procera* on Molokai.

(i) In unit Molokai—Lowland Mesic—Unit 1, the physical and biological features of critical habitat are:

(A) Elevation: Less than 3,300 ft (1,000 m).

(B) Annual precipitation: 50 to 75 in (130 to 190 cm).

(C) Substrate: Shallow soils, little to no herbaceous layer.

(D) Canopy: *Acacia*, *Diospyros*, *Metrosideros*, *Myrsine*, *Pouteria*, *Santalum*.

(E) Subcanopy: *Dodonaea*, *Freycinetia*, *Leptecophylla*, *Melanthera*, *Osteomeles*, *Pleomele*, *Psydrax*.

(F) Understory: *Carex*, *Dicranopteris*, *Diplazium*, *Elaphoglossum*, *Peperomia*.

(ii) In units Molokai—Montane Wet—Unit 1, Molokai—Montane Wet—Unit 2, and Molokai—Montane Wet—Unit 3, the physical and biological features of critical habitat are:

(A) Elevation: 3,300 to 6,500 ft (1,000 to 2,000 m).

(B) Annual precipitation: Greater than 75 in (190 cm).

(C) Substrate: Well-developed soils, montane bogs.

(D) Canopy: *Acacia*, *Charpentiera*, *Cheirodendron*, *Metrosideros*.

(E) Subcanopy: *Broussaisia*, *Cibotium*, *Eurya*, *Ilex*, *Myrsine*.

(F) Understory: Ferns, *Carex*, *Coprosma*, *Leptecophylla*, *Oreobolus*, *Rhynchospora*, *Vaccinium*.

(iii) In unit Molokai—Montane Mesic—Unit 1, the physical and biological features of critical habitat are:

(A) Elevation: 3,300 to 6,500 ft (1,000 to 2,000 m).

(B) Annual precipitation: 50 to 75 in (130 to 190 cm).

(C) Substrate: Deep ash deposits, thin silty loams.

(D) Canopy: *Acacia*, *Ilex*, *Metrosideros*, *Myrsine*, *Nestegis*, *Nothocestrum*, *Pisonia*, *Pittosporum*, *Psychotria*, *Sophora*, *Zanthoxylum*.

(E) Subcanopy: *Alyxia*, *Charpentiera*, *Coprosma*, *Dodonaea*, *Kadua*, *Labordia*, *Leptecophylla*, *Phyllostegia*, *Vaccinium*.

(F) Understory: Fern, *Carex*, *Peperomia*.

#### *Cyanea profuga* (HAHA)

Molokai—Lowland Mesic—Unit 1, Molokai—Montane Wet—Unit 1, Molokai—Montane Wet—Unit 2, and Molokai—Montane Wet—Unit 3, identified in the legal descriptions in paragraph (c) of this section, constitute critical habitat for *Cyanea profuga* on Molokai.

(i) In unit Molokai—Lowland Mesic—Unit 1, the physical and biological features of critical habitat are:

(A) Elevation: Less than 3,300 ft (1,000 m).

(B) Annual precipitation: 50 to 75 in (130 to 190 cm).

(C) Substrate: Shallow soils, little to no herbaceous layer.

(D) Canopy: *Acacia*, *Diospyros*, *Metrosideros*, *Myrsine*, *Pouteria*, *Santalum*.

(E) Subcanopy: *Dodonaea*, *Freycinetia*, *Leptecophylla*, *Melanthera*, *Osteomeles*, *Pleomele*, *Psydrax*.

(F) Understory: *Carex*, *Dicranopteris*, *Diplazium*, *Elaphoglossum*, *Peperomia*.

(ii) In units Molokai—Montane Wet—Unit 1, Molokai—Montane Wet—Unit 2, and Molokai—Montane Wet—Unit 3, the physical and biological features of critical habitat are:

(A) Elevation: 3,300 to 6,500 ft (1,000 to 2,000 m).

(B) Annual precipitation: Greater than 75 in (190 cm).

(C) Substrate: Well-developed soils, montane bogs.

(D) Canopy: *Acacia*, *Charpentiera*, *Cheirodendron*, *Metrosideros*.

(E) Subcanopy: *Broussaisia*, *Cibotium*, *Eurya*, *Ilex*, *Myrsine*.

(F) Understory: Ferns, *Carex*, *Coprosma*, *Leptecophylla*, *Oreobolus*, *Rhynchospora*, *Vaccinium*.

*Cyanea solanacea* (POPOLO, HAHN NUI)

Molokai—Lowland Mesic—Unit 1, Molokai—Lowland Wet—Unit 1, Molokai—Lowland Wet—Unit 2, Molokai—Lowland Wet—Unit 3, Molokai—Montane Wet—Unit 1, Molokai—Montane Wet—Unit 2, Molokai—Montane Wet—Unit 3, and Molokai—Montane Mesic—Unit 1, identified in the legal descriptions in paragraph (c) of this section, constitute critical habitat for *Cyanea solanacea* on Molokai.

(i) In unit Molokai—Lowland Mesic—Unit 1, the physical and biological features of critical habitat are:

(A) Elevation: Less than 3,300 ft (1,000 m).

(B) Annual precipitation: 50 to 75 in (130 to 190 cm).

(C) Substrate: Shallow soils, little to no herbaceous layer.

(D) Canopy: *Acacia*, *Diospyros*, *Metrosideros*, *Myrsine*, *Pouteria*, *Santalum*.

(E) Subcanopy: *Dodonaea*, *Freycinetia*, *Leptecophylla*, *Melanthera*, *Osteomeles*, *Pleomele*, *Psydrax*.

(F) Understory: *Carex*, *Dicranopteris*, *Diplazium*, *Elaphoglossum*, *Peperomia*.

(ii) In units Molokai—Lowland Wet—Unit 1, Molokai—Lowland Wet—Unit 2, and Molokai—Lowland Wet—Unit 3, the physical and biological features of critical habitat are:

(A) Elevation: Less than 3,300 ft (1,000 m).

(B) Annual precipitation: Greater than 75 in (190 cm).

(C) Substrate: Clays; ashbeds; deep, well-drained soils; lowland bogs.

(D) Canopy: *Antidesma*, *Metrosideros*, *Myrsine*, *Pisonia*, *Psychotria*.

(E) Subcanopy: *Cibotium*, *Claoxylon*, *Kadua*, *Melicope*.

(F) Understory: *Alyxia*, *Cyrtandra*, *Dicranopteris*, *Diplazium*, *Machaerina*, *Microlepia*.

(iii) In units Molokai—Montane Wet—Unit 1, Molokai—Montane Wet—Unit 2, and Molokai—Montane Wet—Unit 3, the physical and biological features of critical habitat are:

(A) Elevation: 3,300 to 6,500 ft (1,000 to 2,000 m).

(B) Annual precipitation: Greater than 75 in (190 cm).

(C) Substrate: Well-developed soils, montane bogs.

(D) Canopy: *Acacia*, *Charpentiera*, *Cheirodendron*, *Metrosideros*.

(E) Subcanopy: *Broussaisia*, *Cibotium*, *Eurya*, *Ilex*, *Myrsine*.

(F) Understory: Ferns, *Carex*, *Coprosma*, *Leptecophylla*, *Oreobolus*, *Rhynchospora*, *Vaccinium*.

(iv) In unit Molokai—Montane Mesic—Unit 1, the physical and biological features of critical habitat are:

(A) Elevation: 3,300 to 6,500 ft (1,000 to 2,000 m).

(B) Annual precipitation: 50 to 75 in (130 to 190 cm).

(C) Substrate: Deep ash deposits, thin silty loams.

(D) Canopy: *Acacia*, *Ilex*, *Metrosideros*, *Myrsine*, *Nestegis*, *Nothocestrum*, *Pisonia*, *Pittosporum*, *Psychotria*, *Sophora*, *Zanthoxylum*.

(E) Subcanopy: *Alyxia*, *Charpentiera*, *Coprosma*, *Dodonaea*, *Kadua*, *Labordia*, *Leptecophylla*, *Phyllostegia*, *Vaccinium*.

(F) Understory: Ferns, *Carex*, *Peperomia*.

#### Family Caryophyllaceae

##### *Schiedea laui* (NCN)

Molokai—Montane Wet—Unit 1, Molokai—Montane Wet—Unit 2, and Molokai—Montane Wet—Unit 3, identified in the legal descriptions in paragraph (c) of this section, constitute critical habitat for *Schiedea laui* on Molokai. In units Molokai—Montane Wet—Unit 1, Molokai—Montane Wet—Unit 2, and Molokai—Montane Wet—Unit 3, the physical and biological features of critical habitat are:

(i) Elevation: 3,300 to 6,500 ft (1,000 to 2,000 m).

(ii) Annual precipitation: Greater than 75 in (190 cm).

(iii) Substrate: Well-developed soils, montane bogs.

(iv) Canopy: *Acacia*, *Charpentiera*, *Cheirodendron*, *Metrosideros*.

(v) Subcanopy: *Broussaisia*, *Cibotium*, *Eurya*, *Ilex*, *Myrsine*.

(vi) Understory: Ferns, *Carex*, *Coprosma*, *Leptecophylla*, *Oreobolus*, *Rhynchospora*, *Vaccinium*.

##### *Schiedea lydgatei* (NCN)

Molokai—Lowland Mesic—Unit 1, identified in the legal descriptions in paragraph (c) of this section, constitutes critical habitat for *Schiedea lydgatei* on Molokai. In unit Molokai—Lowland Mesic—Unit 1, the physical and biological features of critical habitat are:

(i) Elevation: Less than 3,300 ft (1,000 m).

(ii) Annual precipitation: 50 to 75 in (130 to 190 cm).

(iii) Substrate: Shallow soils, little to no herbaceous layer.

(iv) Canopy: *Acacia*, *Diospyros*, *Metrosideros*, *Myrsine*, *Pouteria*, *Santalum*.

(v) Subcanopy: *Dodonaea*, *Freycinetia*, *Leptecophylla*, *Melanthera*, *Osteomeles*, *Pleomele*, *Psydrax*.

(vi) Understory: *Carex*, *Dicranopteris*, *Diplazium*, *Elaphoglossum*, *Peperomia*.

##### *Schiedea sarmentosa* (NCN)

Molokai—Lowland Mesic—Unit 1, identified in the legal descriptions in paragraph (c) of this section, constitutes critical habitat for *Schiedea sarmentosa* on Molokai. In unit Molokai—Lowland Mesic—Unit 1, the physical and biological features of critical habitat are:

(i) Elevation: Less than 3,300 ft (1,000 m).

(ii) Annual precipitation: 50 to 75 in (130 to 190 cm).

(iii) Substrate: Shallow soils, little to no herbaceous layer.

(iv) Canopy: *Acacia*, *Diospyros*, *Metrosideros*, *Myrsine*, *Pouteria*, *Santalum*.

(v) Subcanopy: *Dodonaea*, *Freycinetia*, *Leptecophylla*, *Melanthera*, *Osteomeles*, *Pleomele*, *Psydrax*.

(vi) Understory: *Carex*, *Dicranopteris*, *Diplazium*, *Elaphoglossum*, *Peperomia*.

##### *Silene alexandri* (NCN)

Molokai—Lowland Mesic—Unit 1, identified in the legal descriptions in paragraph (c) of this section, constitutes critical habitat for *Silene alexandri* on Molokai. In unit Molokai—Lowland Mesic—Unit 1, the physical and biological features of critical habitat are:

(i) Elevation: Less than 3,300 ft (1,000 m).

(ii) Annual precipitation: 50 to 75 in (130 to 190 cm).

(iii) Substrate: Shallow soils, little to no herbaceous layer.

(iv) Canopy: *Acacia*, *Diospyros*, *Metrosideros*, *Myrsine*, *Pouteria*, *Santalum*.

(v) Subcanopy: *Dodonaea*, *Freycinetia*, *Leptecophylla*, *Melanthera*, *Osteomeles*, *Pleomele*, *Psydrax*.

(vi) Understory: *Carex*, *Dicranopteris*, *Diplazium*, *Elaphoglossum*, *Peperomia*.

*Silene lanceolata* (NCN)

Molokai—Lowland Mesic—Unit 1, identified in the legal descriptions in paragraph (c) of this section, constitutes critical habitat for *Silene lanceolata* on Molokai. In unit Molokai—Lowland Mesic—Unit 1, the physical and biological features of critical habitat are:

(i) Elevation: Less than 3,300 ft (1,000 m).

(ii) Annual precipitation: 50 to 75 in (130 to 190 cm).

(iii) Substrate: Shallow soils, little to no herbaceous layer.

(iv) Canopy: *Acacia*, *Diospyros*, *Metrosideros*, *Myrsine*, *Pouteria*, *Santalum*.

(v) Subcanopy: *Dodonaea*, *Freycinetia*, *Leptecophylla*, *Melanthera*, *Osteomeles*, *Pleomele*, *Psydrax*.

(vi) Understory: *Carex*, *Dicranopteris*, *Diplazium*, *Elaphoglossum*, *Peperomia*.

#### Family Convolvulaceae

*Bonamia menziesii* (NCN)

Molokai—Lowland Dry—Unit 1, Molokai—Lowland Dry—Unit 2, and Molokai—Lowland Mesic—Unit 1, identified in the legal descriptions in paragraph (c) of this section, constitute critical habitat for *Bonamia menziesii* on Molokai.

(i) In units Molokai—Lowland Dry—Unit 1 and Molokai—Lowland Dry—Unit 2, the physical and biological features of critical habitat are:

(A) Elevation: Less than 3,300 ft (1,000 m).

(B) Annual precipitation: Less than 50 in (130 cm).

(C) Substrate: Weathered silty loams to stony clay, rocky ledges, little-weathered lava.

(D) Canopy: *Diospyros*, *Myoporum*, *Pleomele*, *Santalum*.

(E) Subcanopy: *Chamaesyce*, *Dodonaea*, *Leptecophylla*, *Osteomeles*, *Psydrax*, *Scaevola*, *Wikstroemia*.

(F) Understory: *Alyxia*, *Artemisia*, *Bidens*, *Chenopodium*, *Nephrolepis*, *Peperomia*, *Sicyos*.

(ii) In unit Molokai—Lowland Mesic—Unit 1, the physical and biological features of critical habitat are:

(A) Elevation: Less than 3,300 ft (1,000 m).

(B) Annual precipitation: 50 to 75 in (130 to 190 cm).

(C) Substrate: Shallow soils, little to no herbaceous layer.

(D) Canopy: *Acacia*, *Diospyros*, *Metrosideros*, *Myrsine*, *Pouteria*, *Santalum*.

(E) Subcanopy: *Dodonaea*, *Freycinetia*, *Leptecophylla*, *Melanthera*, *Osteomeles*, *Pleomele*, *Psydrax*.

(F) Understory: *Carex*, *Dicranopteris*, *Diplazium*, *Elaphoglossum*, *Peperomia*.

#### Family Cyperaceae

*Cyperus fauriei* (NCN)

Molokai—Lowland Mesic—Unit 1 and Molokai—Montane Mesic—Unit 1, identified in the legal descriptions in paragraph (c) of this section, constitute critical habitat for *Cyperus fauriei* on Molokai.

(i) In unit Molokai—Lowland Mesic—Unit 1, the physical and biological features of critical habitat are:

(A) Elevation: Less than 3,300 ft (1,000 m).

(B) Annual precipitation: 50 to 75 in (130 to 190 cm).

(C) Substrate: Shallow soils, little to no herbaceous layer.

(D) Canopy: *Acacia*, *Diospyros*, *Metrosideros*, *Myrsine*, *Pouteria*, *Santalum*.

(E) Subcanopy: *Dodonaea*, *Freycinetia*, *Leptecophylla*, *Melanthera*, *Osteomeles*, *Pleomele*, *Psydrax*.

(F) Understory: *Carex*, *Dicranopteris*, *Diplazium*, *Elaphoglossum*, *Peperomia*.

(ii) In unit Molokai—Montane Mesic—Unit 1, the physical and biological features of critical habitat are:

(A) Elevation: 3,300 to 6,500 ft (1,000 to 2,000 m).

(B) Annual precipitation: 50 to 75 in (130 to 190 cm).

(C) Substrate: Deep ash deposits, thin silty loams.

(D) Canopy: *Acacia*, *Ilex*, *Metrosideros*, *Myrsine*, *Nestegis*, *Nothocestrum*, *Pisonia*, *Pittosporum*, *Psychotria*, *Sophora*, *Zanthoxylum*.

(E) Subcanopy: *Alyxia*, *Charpentiera*, *Coprosma*, *Dodonaea*, *Kadua*, *Labordia*, *Leptecophylla*, *Phyllostegia*, *Vaccinium*.

(F) Understory: Ferns, *Carex*, *Peperomia*.

*Cyperus trachysanthos* (PUUKAA)

Molokai—Lowland Dry—Unit 1 and Molokai—Lowland Dry—Unit 2, identified in the legal descriptions in paragraph (c) of this section, constitute critical habitat for *Cyperus trachysanthos* on Molokai. In units Molokai—Lowland Dry—Unit 1 and Molokai—Lowland Dry—Unit 2, the physical and biological features of critical habitat are:

(i) Elevation: Less than 3,300 ft (1,000 m).

(ii) Annual precipitation: Less than 50 in (130 cm).

(iii) Substrate: Weathered silty loams to stony clay, rocky ledges, little-weathered lava.

(iv) Canopy: *Diospyros*, *Myoporum*, *Pleomele*, *Santalum*.

(v) Subcanopy: *Chamaesyce*, *Dodonaea*, *Leptecophylla*, *Osteomeles*, *Psydrax*, *Scaevola*, *Wikstroemia*.

(vi) Understory: *Alyxia*, *Artemisia*, *Bidens*, *Chenopodium*, *Nephrolepis*, *Peperomia*, *Sicyos*.

#### Family Euphorbiaceae

*Flueggea neowawraea* (MEHAMEHAME)

Molokai—Lowland Mesic—Unit 1, identified in the legal descriptions in paragraph (c) of this section, constitutes critical habitat for *Flueggea neowawraea* on Molokai. In unit Molokai—Lowland Mesic—Unit 1, the physical and biological features of critical habitat are:

(i) Elevation: Less than 3,300 ft (1,000 m).

(ii) Annual precipitation: 50 to 75 in (130 to 190 cm).

(iii) Substrate: Shallow soils, little to no herbaceous layer.

(iv) Canopy: *Acacia*, *Diospyros*, *Metrosideros*, *Myrsine*, *Pouteria*, *Santalum*.

(v) Subcanopy: *Dodonaea*, *Freycinetia*, *Leptecophylla*, *Melanthera*, *Osteomeles*, *Pleomele*, *Psydrax*.

(vi) Understory: *Carex*, *Dicranopteris*, *Diplazium*, *Elaphoglossum*, *Peperomia*.

#### Family Fabaceae

*Canavalia molokaiensis* (AWIKIWIKI)

Molokai—Coastal—Unit 1, Molokai—Coastal—Unit 2, Molokai—Coastal—Unit 3, Molokai—Coastal—Unit 4, Molokai—Coastal—Unit 5, Molokai—Coastal—Unit 6, Molokai—Coastal—Unit 7, Molokai—Lowland Mesic—Unit 1, Molokai—Lowland Wet—Unit 1, Molokai—Lowland Wet—Unit 2, Molokai—Lowland Wet—Unit 3, Molokai—Wet Cliff—Unit 1, Molokai—Wet Cliff—Unit 2, and Molokai—Wet Cliff—Unit 3, identified in the legal descriptions in paragraph (c) of this section, constitute critical habitat for *Canavalia molokaiensis* on Molokai.

(i) In units Molokai—Coastal—Unit 1, Molokai—Coastal—Unit 2, Molokai—Coastal—Unit 3, Molokai—Coastal—Unit 4, Molokai—Coastal—Unit 5, Molokai—Coastal—Unit 6, and Molokai—Coastal—Unit 7, the physical and biological features of critical habitat are:

(A) Elevation: Less than 980 ft (300 m).

(B) Annual precipitation: Less than 20 in (50 cm).

(C) Substrate: Well-drained, calcareous, talus slopes; dunes;

weathered clay soils; ephemeral pools; mudflats.

(D) Canopy: *Hibiscus*, *Myoporum*, *Santalum*, *Scaevola*.

(E) Subcanopy: *Gossypium*, *Sida*, *Vitex*.

(F) Understory: *Eragrostis*, *Jacquemontia*, *Lyceum*, *Nama*, *Sesuvium*, *Sporobolus*, *Vigna*.

(ii) In unit Molokai—Lowland Mesic—Unit 1, the physical and biological features of critical habitat are:

(A) Elevation: Less than 3,300 ft (1,000 m).

(B) Annual precipitation: 50 to 75 in (130 to 190 cm).

(C) Substrate: Shallow soils, little to no herbaceous layer.

(D) Canopy: *Acacia*, *Diospyros*, *Metrosideros*, *Myrsine*, *Pouteria*, *Santalum*.

(E) Subcanopy: *Dodonaea*, *Freycinetia*, *Leptecophylla*, *Melanthera*, *Osteomeles*, *Pleomele*, *Psydrax*.

(F) Understory: *Carex*, *Dicranopteris*, *Diplazium*, *Elaphoglossum*, *Peperomia*.

(iii) In units Molokai—Lowland Wet—Unit 1, Molokai—Lowland Wet—Unit 2, and Molokai—Lowland Wet—Unit 3, the physical and biological features of critical habitat are:

(A) Elevation: Less than 3,300 ft (1,000 m).

(B) Annual precipitation: Greater than 75 in (190 cm).

(C) Substrate: Clays; ashbeds; deep, well-drained soils; lowland bogs.

(D) Canopy: *Antidesma*, *Metrosideros*, *Myrsine*, *Pisonia*, *Psychotria*.

(E) Subcanopy: *Cibotium*, *Claoxylon*, *Kadua*, *Melicope*.

(F) Understory: *Alyxia*, *Cyrtandra*, *Dicranopteris*, *Diplazium*, *Machaerina*, *Microlepia*.

(iv) In units Molokai—Wet Cliff—Unit 1, Molokai—Wet Cliff—Unit 2, and Molokai—Wet Cliff—Unit 3, the physical and biological features of critical habitat are:

(A) Elevation: Unrestricted.

(B) Annual precipitation: Greater than 75 in (190 cm).

(C) Substrate: Greater than 65 degree slope, shallow soils, weathered lava.

(D) Canopy: None.

(E) Subcanopy: *Broussaisia*, *Cheirodendron*, *Leptecophylla*, *Metrosideros*.

(F) Understory: Bryophytes, ferns, *Coprosma*, *Dubautia*, *Kadua*, *Peperomia*.

*Sesbania tomentosa* (OHAI)

Molokai—Coastal—Unit 1, Molokai—Coastal—Unit 2, Molokai—Coastal—Unit 3, Molokai—Coastal—Unit 4, Molokai—Coastal—Unit 5, Molokai—Coastal—Unit 6, Molokai—Coastal—Unit 7, Molokai—Lowland Dry—Unit 1,

Molokai—Lowland Dry—Unit 2, and Molokai—Lowland Mesic—Unit 1, identified in the legal descriptions in paragraph (c) of this section, constitute critical habitat for *Sesbania tomentosa* on Molokai.

(i) In units Molokai—Coastal—Unit 1, Molokai—Coastal—Unit 2, Molokai—Coastal—Unit 3, Molokai—Coastal—Unit 4, Molokai—Coastal—Unit 5, Molokai—Coastal—Unit 6, and Molokai—Coastal—Unit 7, the physical and biological features of critical habitat are:

(A) Elevation: Less than 980 ft (300 m).

(B) Annual precipitation: Less than 20 in (50 cm).

(C) Substrate: Well-drained, calcareous, talus slopes; dunes; weathered clay soils; ephemeral pools; mudflats.

(D) Canopy: *Hibiscus*, *Myoporum*, *Santalum*, *Scaevola*.

(E) Subcanopy: *Gossypium*, *Sida*, *Vitex*.

(F) Understory: *Eragrostis*, *Jacquemontia*, *Lyceum*, *Nama*, *Sesuvium*, *Sporobolus*, *Vigna*.

(ii) In units Molokai—Lowland Dry—Unit 1 and Molokai—Lowland Dry—Unit 2, the physical and biological features of critical habitat are:

(A) Elevation: Less than 3,300 ft (1,000 m).

(B) Annual precipitation: Less than 50 in (130 cm).

(C) Substrate: Weathered silty loams to stony clay, rocky ledges, little-weathered lava.

(D) Canopy: *Diospyros*, *Myoporum*, *Pleomele*, *Santalum*.

(E) Subcanopy: *Chamaesyce*, *Dodonaea*, *Leptecophylla*, *Osteomeles*, *Psydrax*, *Scaevola*, *Wikstroemia*.

(F) Understory: *Alyxia*, *Artemisia*, *Bidens*, *Chenopodium*, *Nephrolepis*, *Peperomia*, *Sicyos*.

(iii) In unit Molokai—Lowland Mesic—Unit 1, the physical and biological features of critical habitat are:

(A) Elevation: Less than 3,300 ft (1,000 m).

(B) Annual precipitation: 50 to 75 in (130 to 190 cm).

(C) Substrate: Shallow soils, little to no herbaceous layer.

(D) Canopy: *Acacia*, *Diospyros*, *Metrosideros*, *Myrsine*, *Pouteria*, *Santalum*.

(E) Subcanopy: *Dodonaea*, *Freycinetia*, *Leptecophylla*, *Melanthera*, *Osteomeles*, *Pleomele*, *Psydrax*.

(F) Understory: *Carex*, *Dicranopteris*, *Diplazium*, *Elaphoglossum*, *Peperomia*.

*Vigna o-wahuensis* (NCN)

Molokai—Lowland Mesic—Unit 1, identified in the legal descriptions in

paragraph (c) of this section, constitutes critical habitat for *Vigna o-wahuensis* on Molokai. In unit Molokai—Lowland Mesic—Unit 1, the physical and biological features of critical habitat are:

(i) Elevation: Less than 3,300 ft (1,000 m).

(ii) Annual precipitation: 50 to 75 in (130 to 190 cm).

(iii) Substrate: Shallow soils, little to no herbaceous layer.

(iv) Canopy: *Acacia*, *Diospyros*, *Metrosideros*, *Myrsine*, *Pouteria*, *Santalum*.

(v) Subcanopy: *Dodonaea*, *Freycinetia*, *Leptecophylla*, *Melanthera*, *Osteomeles*, *Pleomele*, *Psydrax*.

(vi) Understory: *Carex*, *Dicranopteris*, *Diplazium*, *Elaphoglossum*, *Peperomia*.

#### Family Gentianaceae

*Schenkia sebaeoides* (AWIWI)

Molokai—Coastal—Unit 1, Molokai—Coastal—Unit 2, Molokai—Coastal—Unit 3, Molokai—Coastal—Unit 4, Molokai—Coastal—Unit 5, Molokai—Coastal—Unit 6, and Molokai—Coastal—Unit 7, identified in the legal descriptions in paragraph (c) of this section, constitute critical habitat for *Schenkia sebaeoides* on Molokai. In units Molokai—Coastal—Unit 1, Molokai—Coastal—Unit 2, Molokai—Coastal—Unit 3, Molokai—Coastal—Unit 4, Molokai—Coastal—Unit 5, Molokai—Coastal—Unit 6, and Molokai—Coastal—Unit 7, the physical and biological features of critical habitat are:

(i) Elevation: Less than 980 ft (300 m).

(ii) Annual precipitation: Less than 20 in (50 cm).

(iii) Substrate: Well-drained, calcareous, talus slopes; dunes; weathered clay soils; ephemeral pools; mudflats.

(iv) Canopy: *Hibiscus*, *Myoporum*, *Santalum*, *Scaevola*.

(v) Subcanopy: *Gossypium*, *Sida*, *Vitex*.

(vi) Understory: *Eragrostis*, *Jacquemontia*, *Lyceum*, *Nama*, *Sesuvium*, *Sporobolus*, *Vigna*.

#### Family Gesneriaceae

*Cyrtandra filipes* (HAIWALE)

Molokai—Lowland Mesic—Unit 1, Molokai—Lowland Wet—Unit 1, Molokai—Lowland Wet—Unit 2, and Molokai—Lowland Wet—Unit 3, identified in the legal descriptions in paragraph (c) of this section, constitute critical habitat for *Cyrtandra filipes* on Molokai.

(i) In unit Molokai—Lowland Mesic—Unit 1, the physical and biological features of critical habitat are:

(A) Elevation: Less than 3,300 ft (1,000 m).



(B) Annual precipitation: 50 to 75 in (130 to 190 cm).

(C) Substrate: Shallow soils, little to no herbaceous layer.

(D) Canopy: *Acacia*, *Diospyros*, *Metrosideros*, *Myrsine*, *Pouteria*, *Santalum*.

(E) Subcanopy: *Dodonaea*, *Freycinetia*, *Leptecophylla*, *Melanthera*, *Osteomeles*, *Pleomele*, *Psydrax*.

(F) Understory: *Carex*, *Dicranopteris*, *Diplazium*, *Elaphoglossum*, *Peperomia*.

(ii) In units Molokai—Lowland Wet—Unit 1, Molokai—Lowland Wet—Unit 2, and Molokai—Lowland Wet—Unit 3, the physical and biological features of critical habitat are:

(A) Elevation: Less than 3,300 ft (1,000 m).

(B) Annual precipitation: Greater than 75 in (190 cm).

(C) Substrate: Clays; ashbeds; deep, well-drained soils; lowland bogs.

(D) Canopy: *Antidesma*, *Metrosideros*, *Myrsine*, *Pisonia*, *Psychotria*.

(E) Subcanopy: *Cibotium*, *Claoxylon*, *Kadua*, *Melicope*.

(F) Understory: *Alyxia*, *Cyrtandra*, *Dicranopteris*, *Diplazium*, *Machaerina*, *Microlepia*.

#### Family Lamiaceae

##### *Phyllostegia haliakalae* (NCN)

Molokai—Lowland Mesic—Unit 1, identified in the legal descriptions in paragraph (c) of this section, constitutes critical habitat for *Phyllostegia haliakalae* on Molokai. In unit Molokai—Lowland Mesic—Unit 1, the physical and biological features of critical habitat are:

(i) Elevation: Less than 3,300 ft (1,000 m).

(ii) Annual precipitation: 50 to 75 in (130 to 190 cm).

(iii) Substrate: Shallow soils, little to no herbaceous layer.

(iv) Canopy: *Acacia*, *Diospyros*, *Metrosideros*, *Myrsine*, *Pouteria*, *Santalum*.

(v) Subcanopy: *Dodonaea*, *Freycinetia*, *Leptecophylla*, *Melanthera*, *Osteomeles*, *Pleomele*, *Psydrax*.

(vi) Understory: *Carex*, *Dicranopteris*, *Diplazium*, *Elaphoglossum*, *Peperomia*.

##### *Phyllostegia hispida* (NCN)

Molokai—Lowland Wet—Unit 1, Molokai—Lowland Wet—Unit 2, Molokai—Lowland Wet—Unit 3, Molokai—Montane Wet—Unit 1, Molokai—Montane Wet—Unit 2, Molokai—Montane Wet—Unit 3, Molokai—Wet Cliff—Unit 1, Molokai—Wet Cliff—Unit 2, and Molokai—Wet Cliff—Unit 3, identified in the legal descriptions in paragraph (c) of this section, constitute critical habitat for *Phyllostegia hispida* on Molokai.

(i) In units Molokai—Lowland Wet—Unit 1, Molokai—Lowland Wet—Unit 2, and Molokai—Lowland Wet—Unit 3, the physical and biological features of critical habitat are:

(A) Elevation: Less than 3,300 ft (1,000 m).

(B) Annual precipitation: Greater than 75 in (190 cm).

(C) Substrate: Clays; ashbeds; deep, well-drained soils; lowland bogs.

(D) Canopy: *Antidesma*, *Metrosideros*, *Myrsine*, *Pisonia*, *Psychotria*.

(E) Subcanopy: *Cibotium*, *Claoxylon*, *Kadua*, *Melicope*.

(F) Understory: *Alyxia*, *Cyrtandra*, *Dicranopteris*, *Diplazium*, *Machaerina*, *Microlepia*.

(ii) In units Molokai—Montane Wet—Unit 1, Molokai—Montane Wet—Unit 2, and Molokai—Montane Wet—Unit 3, the physical and biological features of critical habitat are:

(A) Elevation: 3,300 to 6,500 ft (1,000 to 2,000 m).

(B) Annual precipitation: Greater than 75 in (190 cm).

(C) Substrate: Well-developed soils, montane bogs.

(D) Canopy: *Acacia*, *Charpentiera*, *Cheirodendron*, *Metrosideros*.

(E) Subcanopy: *Broussaisia*, *Cibotium*, *Eurya*, *Ilex*, *Myrsine*.

(F) Understory: Ferns, *Carex*, *Coprosma*, *Leptecophylla*, *Oreobolus*, *Rhynchospora*, *Vaccinium*.

(iii) In units Molokai—Wet Cliff—Unit 1, Molokai—Wet Cliff—Unit 2, and Molokai—Wet Cliff—Unit 3, the physical and biological features of critical habitat are:

(A) Elevation: Unrestricted.

(B) Annual precipitation: Greater than 75 in (190 cm).

(C) Substrate: Greater than 65 degree slope, shallow soils, weathered lava.

(D) Canopy: None.

(E) Subcanopy: *Broussaisia*, *Cheirodendron*, *Leptecophylla*, *Metrosideros*.

(F) Understory: Bryophytes, ferns, *Coprosma*, *Dubautia*, *Kadua*, *Peperomia*.

##### *Phyllostegia mannii* (NCN)

Molokai—Lowland Mesic—Unit 1, Molokai—Lowland Wet—Unit 1, Molokai—Lowland Wet—Unit 2, Molokai—Lowland Wet—Unit 3, Molokai—Montane Wet—Unit 1, Molokai—Montane Wet—Unit 2, and Molokai—Montane Wet—Unit 3, identified in the legal descriptions in paragraph (c) of this section, constitute critical habitat for *Phyllostegia mannii* on Molokai.

(i) In unit Molokai—Lowland Mesic—Unit 1, the physical and biological features of critical habitat are:

(A) Elevation: Less than 3,300 ft (1,000 m).

(B) Annual precipitation: 50 to 75 in (130 to 190 cm).

(C) Substrate: Shallow soils, little to no herbaceous layer.

(D) Canopy: *Acacia*, *Diospyros*, *Metrosideros*, *Myrsine*, *Pouteria*, *Santalum*.

(E) Subcanopy: *Dodonaea*, *Freycinetia*, *Leptecophylla*, *Melanthera*, *Osteomeles*, *Pleomele*, *Psydrax*.

(F) Understory: *Carex*, *Dicranopteris*, *Diplazium*, *Elaphoglossum*, *Peperomia*.

(ii) In units Molokai—Lowland Wet—Unit 1, Molokai—Lowland Wet—Unit 2, and Molokai—Lowland Wet—Unit 3, the physical and biological features of critical habitat are:

(A) Elevation: Less than 3,300 ft (1,000 m).

(B) Annual precipitation: Greater than 75 in (190 cm).

(C) Substrate: Clays; ashbeds; deep, well-drained soils; lowland bogs.

(D) Canopy: *Antidesma*, *Metrosideros*, *Myrsine*, *Pisonia*, *Psychotria*.

(E) Subcanopy: *Cibotium*, *Claoxylon*, *Kadua*, *Melicope*.

(F) Understory: *Alyxia*, *Cyrtandra*, *Dicranopteris*, *Diplazium*, *Machaerina*, *Microlepia*.

(iii) In units Molokai—Montane Wet—Unit 1, Molokai—Montane Wet—Unit 2, Molokai—Montane Wet—Unit 3, the physical and biological features of critical habitat are:

(A) Elevation: 3,300 to 6,500 ft (1,000 to 2,000 m).

(B) Annual precipitation: Greater than 75 in (190 cm).

(C) Substrate: Well-developed soils, montane bogs.

(D) Canopy: *Acacia*, *Charpentiera*, *Cheirodendron*, *Metrosideros*.

(E) Subcanopy: *Broussaisia*, *Cibotium*, *Eurya*, *Ilex*, *Myrsine*.

(F) Understory: Ferns, *Carex*, *Coprosma*, *Leptecophylla*, *Oreobolus*, *Rhynchospora*, *Vaccinium*.

##### *Phyllostegia pilosa* (NCN)

Molokai—Lowland Mesic—Unit 1, Molokai—Montane Wet—Unit 1, Molokai—Montane Wet—Unit 2, and Molokai—Montane Wet—Unit 3, identified in the legal descriptions in paragraph (c) of this section, constitute critical habitat for *Phyllostegia pilosa* on Molokai.

(i) In unit Molokai—Lowland Mesic—Unit 1, the physical and biological features of critical habitat are:

(A) Elevation: Less than 3,300 ft (1,000 m).

(B) Annual precipitation: 50 to 75 in (130 to 190 cm).

(C) Substrate: Shallow soils, little to no herbaceous layer.

(D) Canopy: *Acacia*, *Diospyros*, *Metrosideros*, *Myrsine*, *Pouteria*, *Santalum*.

(E) Subcanopy: *Dodonaea*, *Freycinetia*, *Leptecophylla*, *Melanthera*, *Osteomeles*, *Pleomele*, *Psydrax*.

(F) Understory: *Carex*, *Dicranopteris*, *Diplazium*, *Elaphoglossum*, *Peperomia*.  
(ii) In units Molokai—Montane Wet—Unit 1, Molokai—Montane Wet—Unit 2, and Molokai—Montane Wet—Unit 3, the physical and biological features of critical habitat are:

(A) Elevation: 3,300 to 6,500 ft (1,000 to 2,000 m).

(B) Annual precipitation: Greater than 75 in (190 cm).

(C) Substrate: Well-developed soils, montane bogs.

(D) Canopy: *Acacia*, *Charpentiera*, *Cheirodendron*, *Metrosideros*.

(E) Subcanopy: *Broussaisia*, *Cibotium*, *Eurya*, *Ilex*, *Myrsine*.

(F) Understory: Ferns, *Carex*, *Coprosma*, *Leptecophylla*, *Oreobolus*, *Rhynchospora*, *Vaccinium*.

#### *Stenogyne bifida* (NCN)

Molokai—Lowland Mesic—Unit 1, Molokai—Lowland Wet—Unit 1, Molokai—Lowland Wet—Unit 2, Molokai—Lowland Wet—Unit 3, Molokai—Montane Wet—Unit 1, Molokai—Montane Wet—Unit 2, Molokai—Montane Wet—Unit 3, Molokai—Montane Mesic—Unit 1, Molokai—Wet Cliff—Unit 1, Molokai—Wet Cliff—Unit 2, and Molokai—Wet Cliff—Unit 3, identified in the legal descriptions in paragraph (c) of this section, constitute critical habitat for *Stenogyne bifida* on Molokai.

(i) In unit Molokai—Lowland Mesic—Unit 1, the physical and biological features of critical habitat are:

(A) Elevation: Less than 3,300 ft (1,000 m).

(B) Annual precipitation: 50 to 75 in (130 to 190 cm).

(C) Substrate: Shallow soils, little to no herbaceous layer.

(D) Canopy: *Acacia*, *Diospyros*, *Metrosideros*, *Myrsine*, *Pouteria*, *Santalum*.

(E) Subcanopy: *Dodonaea*, *Freycinetia*, *Leptecophylla*, *Melanthera*, *Osteomeles*, *Pleomele*, *Psydrax*.

(F) Understory: *Carex*, *Dicranopteris*, *Diplazium*, *Elaphoglossum*, *Peperomia*.

(ii) In units Molokai—Lowland Wet—Unit 1, Molokai—Lowland Wet—Unit 2, and Molokai—Lowland Wet—Unit 3, the physical and biological features of critical habitat are:

(A) Elevation: Less than 3,300 ft (1,000 m).

(B) Annual precipitation: Greater than 75 in (190 cm).

(C) Substrate: Clays; ashbeds; deep, well-drained soils; lowland bogs.

(D) Canopy: *Antidesma*, *Metrosideros*, *Myrsine*, *Pisonia*, *Psychotria*.

(E) Subcanopy: *Cibotium*, *Claoxylon*, *Kadua*, *Melicope*.

(F) Understory: *Alyxia*, *Cyrtandra*, *Dicranopteris*, *Diplazium*, *Machaerina*, *Microlepia*.

(iii) In units Molokai—Montane Wet—Unit 1, Molokai—Montane Wet—Unit 2, and Molokai—Montane Wet—Unit 3, the physical and biological features of critical habitat are:

(A) Elevation: 3,300 to 6,500 ft (1,000 to 2,000 m).

(B) Annual precipitation: Greater than 75 in (190 cm).

(C) Substrate: Well-developed soils, montane bogs.

(D) Canopy: *Acacia*, *Charpentiera*, *Cheirodendron*, *Metrosideros*.

(E) Subcanopy: *Broussaisia*, *Cibotium*, *Eurya*, *Ilex*, *Myrsine*.

(F) Understory: Ferns, *Carex*, *Coprosma*, *Leptecophylla*, *Oreobolus*, *Rhynchospora*, *Vaccinium*.

(iv) In unit Molokai—Montane Mesic—Unit 1, the physical and biological features of critical habitat are:

(A) Elevation: 3,300 to 6,500 ft (1,000 to 2,000 m).

(B) Annual precipitation: 50 to 75 in (130 to 190 cm).

(C) Substrate: Deep ash deposits, thin silty loams.

(D) Canopy: *Acacia*, *Ilex*, *Metrosideros*, *Myrsine*, *Nestegis*, *Nothocestrum*, *Pisonia*, *Pittosporum*, *Psychotria*, *Sophora*, *Zanthoxylum*.

(E) Subcanopy: *Alyxia*, *Charpentiera*, *Coprosma*, *Dodonaea*, *Kadua*, *Labordia*, *Leptecophylla*, *Phyllostegia*, *Vaccinium*.

(F) Understory: Ferns, *Carex*, *Peperomia*.

(v) In units Molokai—Wet Cliff—Unit 1, Molokai—Wet Cliff—Unit 2, and Molokai—Wet Cliff—Unit 3, the physical and biological features of critical habitat are:

(A) Elevation: Unrestricted.

(B) Annual precipitation: Greater than 75 in (190 cm).

(C) Substrate: Greater than 65 degree slope, shallow soils, weathered lava.

(D) Canopy: None.

(E) Subcanopy: *Broussaisia*, *Cheirodendron*, *Leptecophylla*, *Metrosideros*.

(F) Understory: Bryophytes, ferns, *Coprosma*, *Dubautia*, *Kadua*, *Peperomia*.

#### Family Loganiaceae

##### *Labordia triflora* (KAMAKAHALA)

Molokai—Lowland Mesic—Unit 1, identified in the legal descriptions in paragraph (c) of this section, constitutes critical habitat for *Labordia triflora* on Molokai. In unit Molokai—Lowland

Mesic—Unit 1, the physical and biological features of critical habitat are:

(i) Elevation: Less than 3,300 ft (1,000 m).

(ii) Annual precipitation: 50 to 75 in (130 to 190 cm).

(iii) Substrate: Shallow soils, little to no herbaceous layer.

(iv) Canopy: *Acacia*, *Diospyros*, *Metrosideros*, *Myrsine*, *Pouteria*, *Santalum*.

(v) Subcanopy: *Dodonaea*, *Freycinetia*, *Leptecophylla*, *Melanthera*, *Osteomeles*, *Pleomele*, *Psydrax*.

(vi) Understory: *Carex*, *Dicranopteris*, *Diplazium*, *Elaphoglossum*, *Peperomia*.

#### Family Malvaceae

##### *Hibiscus arnottianus* ssp. *immaculatus* (KOKIO KEOKEO)

Molokai—Coastal—Unit 1, Molokai—Coastal—Unit 2, Molokai—Coastal—Unit 3, Molokai—Coastal—Unit 4, Molokai—Coastal—Unit 5, Molokai—Coastal—Unit 6, Molokai—Coastal—Unit 7, Molokai—Wet Cliff—Unit 1, Molokai—Wet Cliff—Unit 2, and Molokai—Wet Cliff—Unit 3, identified in the legal descriptions in paragraph (c) of this section, constitute critical habitat for *Hibiscus arnottianus* ssp. *immaculatus* on Molokai.

(i) In units Molokai—Coastal—Unit 1, Molokai—Coastal—Unit 2, Molokai—Coastal—Unit 3, Molokai—Coastal—Unit 4, Molokai—Coastal—Unit 5, Molokai—Coastal—Unit 6, and Molokai—Coastal—Unit 7, the physical and biological features of critical habitat are:

(A) Elevation: Less than 980 ft (300 m).

(B) Annual precipitation: Less than 20 in (50 cm).

(C) Substrate: Well-drained, calcareous, talus slopes; dunes; weathered clay soils; ephemeral pools; mudflats.

(D) Canopy: *Hibiscus*, *Myoporum*, *Santalum*, *Scaevola*.

(E) Subcanopy: *Gossypium*, *Sida*, *Vitex*.

(F) Understory: *Eragrostis*, *Jacquemontia*, *Lyceum*, *Nama*, *Sesuvium*, *Sporobolus*, *Vigna*.

(ii) In units Molokai—Wet Cliff—Unit 1, Molokai—Wet Cliff—Unit 2, and Molokai—Wet Cliff—Unit 3, the physical and biological features of critical habitat are:

(A) Elevation: Unrestricted.

(B) Annual precipitation: Greater than 75 in (190 cm).

(C) Substrate: Greater than 65 degree slope, shallow soils, weathered lava.

(D) Canopy: None.

(E) Subcanopy: *Broussaisia*, *Cheirodendron*, *Leptecophylla*, *Metrosideros*.

(F) Understory: Bryophytes, ferns, *Coprosma*, *Dubautia*, *Kadua*, *Peperomia*.

*Hibiscus brackenridgei* (MAO HAU HELE)

Molokai—Coastal—Unit 1, Molokai—Coastal—Unit 2, Molokai—Coastal—Unit 3, Molokai—Coastal—Unit 4, Molokai—Coastal—Unit 5, Molokai—Coastal—Unit 6, Molokai—Coastal—Unit 7, Molokai—Lowland Dry—Unit 1, and Molokai—Lowland Dry—Unit 2, identified in the legal descriptions in paragraph (c) of this section, constitute critical habitat for *Hibiscus brackenridgei* on Molokai.

(i) In units Molokai—Coastal—Unit 1, Molokai—Coastal—Unit 2, Molokai—Coastal—Unit 3, Molokai—Coastal—Unit 4, Molokai—Coastal—Unit 5, Molokai—Coastal—Unit 6, and Molokai—Coastal—Unit 7, the physical and biological features of critical habitat are:

(A) Elevation: Less than 980 ft (300 m).

(B) Annual precipitation: Less than 20 in (50 cm).

(C) Substrate: Well-drained, calcareous, talus slopes; dunes; weathered clay soils; ephemeral pools; mudflats.

(D) Canopy: *Hibiscus*, *Myoporum*, *Santalum*, *Scaevola*.

(E) Subcanopy: *Gossypium*, *Sida*, *Vitex*.

(F) Understory: *Eragrostis*, *Jacquemontia*, *Lyceum*, *Nama*, *Sesuvium*, *Sporobolus*, *Vigna*.

(ii) In units Molokai—Lowland Dry—Unit 1 and Molokai—Lowland Dry—Unit 2, the physical and biological features of critical habitat are:

(A) Elevation: Less than 3,300 ft (1,000 m).

(B) Annual precipitation: Less than 50 in (130 cm).

(C) Substrate: Weathered silty loams to stony clay, rocky ledges, little-weathered lava.

(D) Canopy: *Diospyros*, *Myoporum*, *Pleomele*, *Santalum*.

(E) Subcanopy: *Chamaesyce*, *Dodonaea*, *Leptecophylla*, *Osteomeles*, *Psydrax*, *Scaevola*, *Wikstroemia*.

(F) Understory: *Alyxia*, *Artemisia*, *Bidens*, *Chenopodium*, *Nephrolepis*, *Peperomia*, *Sicyos*.

*Kokia cookei* (COOKE'S KOKIO)

Molokai—Lowland Dry—Unit 1 and Molokai—Lowland Dry—Unit 2, identified in the legal descriptions in paragraph (c) of this section, constitute critical habitat for *Kokia cookei* on Molokai. In units Molokai—Lowland Dry—Unit 1 and Molokai—Lowland Dry—Unit 2, the physical and biological features of critical habitat are:

(i) Elevation: Less than 3,300 ft (1,000 m).

(ii) Annual precipitation: Less than 50 in (130 cm).

(iii) Substrate: Weathered silty loams to stony clay, rocky ledges, little-weathered lava.

(iv) Canopy: *Diospyros*, *Myoporum*, *Pleomele*, *Santalum*.

(v) Subcanopy: *Chamaesyce*, *Dodonaea*, *Leptecophylla*, *Osteomeles*, *Psydrax*, *Scaevola*, *Wikstroemia*.

(vi) Understory: *Alyxia*, *Artemisia*, *Bidens*, *Chenopodium*, *Nephrolepis*, *Peperomia*, *Sicyos*.

#### Family Myrtaceae

*Eugenia koolauensis* (NIOI)

Molokai—Lowland Dry—Unit 1 and Molokai—Lowland Dry—Unit 2, identified in the legal descriptions in paragraph (c) of this section, constitute critical habitat for *Eugenia koolauensis* on Molokai. In units Molokai—Lowland Dry—Unit 1 and Molokai—Lowland Dry—Unit 2, the physical and biological features of critical habitat are:

(i) Elevation: Less than 3,300 ft (1,000 m).

(ii) Annual precipitation: Less than 50 in (130 cm).

(iii) Substrate: Weathered silty loams to stony clay, rocky ledges, little-weathered lava.

(iv) Canopy: *Diospyros*, *Myoporum*, *Pleomele*, *Santalum*.

(v) Subcanopy: *Chamaesyce*, *Dodonaea*, *Leptecophylla*, *Osteomeles*, *Psydrax*, *Scaevola*, *Wikstroemia*.

(vi) Understory: *Alyxia*, *Artemisia*, *Bidens*, *Chenopodium*, *Nephrolepis*, *Peperomia*, *Sicyos*.

#### Family Orchidaceae

*Platanthera holochila* (NCN)

Molokai—Montane Wet—Unit 1, Molokai—Montane Wet—Unit 2, and Molokai—Montane Wet—Unit 3, identified in the legal descriptions in paragraph (c) of this section, constitute critical habitat for *Platanthera holochila* on Molokai. In units Molokai—Montane Wet—Unit 1, Molokai—Montane Wet—Unit 2, and Molokai—Montane Wet—Unit 3, the physical and biological features of critical habitat are:

(i) Elevation: 3,300 to 6,500 ft (1,000 to 2,000 m).

(ii) Annual precipitation: Greater than 75 in (190 cm).

(iii) Substrate: Well-developed soils, montane bogs.

(iv) Canopy: *Acacia*, *Charpentiera*, *Cheirodendron*, *Metrosideros*.

(v) Subcanopy: *Broussaisia*, *Cibotium*, *Eurya*, *Ilex*, *Myrsine*.

(vi) Understory: Ferns, *Carex*, *Coprosma*, *Leptecophylla*, *Oreobolus*, *Rhynchospora*, *Vaccinium*.

#### Family Pittosporaceae

*Pittosporum halophilum* (HOAWA)

Molokai—Coastal—Unit 1, Molokai—Coastal—Unit 2, Molokai—Coastal—Unit 3, Molokai—Coastal—Unit 4, Molokai—Coastal—Unit 5, Molokai—Coastal—Unit 6, and Molokai—Coastal—Unit 7, identified in the legal descriptions in paragraph (c) of this section, constitute critical habitat for *Pittosporum halophilum* on Molokai. In units Molokai—Coastal—Unit 1, Molokai—Coastal—Unit 2, Molokai—Coastal—Unit 3, Molokai—Coastal—Unit 4, Molokai—Coastal—Unit 5, Molokai—Coastal—Unit 6, and Molokai—Coastal—Unit 7, the physical and biological features of critical habitat are:

(i) Elevation: Less than 980 ft (300 m).

(ii) Annual precipitation: Less than 20 in (50 cm).

(iii) Substrate: Well-drained, calcareous, talus slopes; dunes; weathered clay soils; ephemeral pools; mudflats.

(iv) Canopy: *Hibiscus*, *Myoporum*, *Santalum*, *Scaevola*.

(v) Subcanopy: *Gossypium*, *Sida*, *Vitex*.

(vi) Understory: *Eragrostis*, *Jacquemontia*, *Lyceum*, *Nama*, *Sesuvium*, *Sporobolus*, *Vigna*.

#### Family Plantaginaceae

*Plantago princeps* (LAUKAHI KUAHIWI)

Molokai—Lowland Wet—Unit 1, Molokai—Lowland Wet—Unit 2, Molokai—Lowland Wet—Unit 3, and Molokai—Montane Mesic—Unit 1, identified in the legal descriptions in paragraph (c) of this section, constitute critical habitat for *Plantago princeps* on Molokai.

(i) In units Molokai—Lowland Wet—Unit 1, Molokai—Lowland Wet—Unit 2, and Molokai—Lowland Wet—Unit 3, the physical and biological features of critical habitat are:

(A) Elevation: Less than 3,300 ft (1,000 m).

(B) Annual precipitation: Greater than 75 in (190 cm).

(C) Substrate: Clays; ashbeds; deep, well-drained soils; lowland bogs.

(D) Canopy: *Antidesma*, *Metrosideros*, *Myrsine*, *Pisonia*, *Psychotria*.

(E) Subcanopy: *Cibotium*, *Claoxylon*, *Kadua*, *Melicope*.

(F) Understory: *Alyxia*, *Cyrtandra*, *Dicranopteris*, *Diplazium*, *Machaerina*, *Microlepia*.

(ii) In unit Molokai—Montane Mesic—Unit 1, the physical and biological features of critical habitat are:

(A) Elevation: 3,300 to 6,500 ft (1,000 to 2,000 m).

(B) Annual precipitation: 50 to 75 in (130 to 190 cm).

(C) Substrate: Deep ash deposits, thin silty loams.

(D) Canopy: *Acacia*, *Ilex*, *Metrosideros*, *Myrsine*, *Nestegis*, *Nothocestrum*, *Pisonia*, *Pittosporum*, *Psychotria*, *Sophora*, *Zanthoxylum*.

(E) Subcanopy: *Alyxia*, *Charpentiera*, *Coprosma*, *Dodonaea*, *Kadua*, *Labordia*, *Leptecophylla*, *Phyllostegia*, *Vaccinium*.

(F) Understory: Ferns, *Carex*, *Peperomia*.

#### Family Poaceae

*Festuca molokaiensis* (NCN)

Molokai—Lowland Mesic—Unit 1, identified in the legal descriptions in paragraph (c) of this section, constitutes critical habitat for *Festuca molokaiensis* on Molokai. In unit Molokai—Lowland Mesic—Unit 1, the physical and biological features of critical habitat are:

(i) Elevation: Less than 3,300 ft (1,000 m).

(ii) Annual precipitation: 50 to 75 in (130 to 190 cm).

(iii) Substrate: Shallow soils, little to no herbaceous layer.

(iv) Canopy: *Acacia*, *Diospyros*, *Metrosideros*, *Myrsine*, *Pouteria*, *Santalum*.

(v) Subcanopy: *Dodonaea*, *Freycinetia*, *Leptecophylla*, *Melanthera*, *Osteomeles*, *Pleomele*, *Psydrax*.

(vi) Understory: *Carex*, *Dicranopteris*, *Diplazium*, *Elaphoglossum*, *Peperomia*.

*Ischaemum byrone* (HILO ISCHAEMUM)

Molokai—Coastal—Unit 1, Molokai—Coastal—Unit 2, Molokai—Coastal—Unit 3, Molokai—Coastal—Unit 4, Molokai—Coastal—Unit 5, Molokai—Coastal—Unit 6, and Molokai—Coastal—Unit 7, identified in the legal descriptions in paragraph (c) of this section, constitute critical habitat for *Ischaemum byrone* on Molokai. In units Molokai—Coastal—Unit 1, Molokai—Coastal—Unit 2, Molokai—Coastal—Unit 3, Molokai—Coastal—Unit 4, Molokai—Coastal—Unit 5, Molokai—Coastal—Unit 6, and Molokai—Coastal—Unit 7, the physical and biological features of critical habitat are:

(i) Elevation: Less than 980 ft (300 m).

(ii) Annual precipitation: Less than 20 in (50 cm).

(iii) Substrate: Well-drained, calcareous, talus slopes; dunes; weathered clay soils; ephemeral pools; mudflats.

(iv) Canopy: *Hibiscus*, *Myoporum*, *Santalum*, *Scaevola*.

(v) Subcanopy: *Gossypium*, *Sida*, *Vitex*.

(vi) Understory: *Eragrostis*, *Jacquemontia*, *Lyceum*, *Nama*, *Sesuvium*, *Sporobolus*, *Vigna*.

#### Family Primulaceae

*Lysimachia maxima* (NCN)

Molokai—Lowland Wet—Unit 1, Molokai—Lowland Wet—Unit 2, Molokai—Lowland Wet—Unit 3, Molokai—Montane Wet—Unit 1, Molokai—Montane Wet—Unit 2, and Molokai—Montane Wet—Unit 3, identified in the legal descriptions in paragraph (c) of this section, constitute critical habitat for *Lysimachia maxima* on Molokai.

(i) In units Molokai—Lowland Wet—Unit 1, Molokai—Lowland Wet—Unit 2, and Molokai—Lowland Wet—Unit 3, the physical and biological features of critical habitat are:

(A) Elevation: Less than 3,300 ft (1,000 m).

(B) Annual precipitation: Greater than 75 in (190 cm).

(C) Substrate: Clays; ashbeds; deep, well-drained soils; lowland bogs.

(D) Canopy: *Antidesma*, *Metrosideros*, *Myrsine*, *Pisonia*, *Psychotria*.

(E) Subcanopy: *Cibotium*, *Claoxylon*, *Kadua*, *Melicope*.

(F) Understory: *Alyxia*, *Cyrtandra*, *Dicranopteris*, *Diplazium*, *Machaerina*, *Microlepia*.

(ii) In units Molokai—Montane Wet—Unit 1, Molokai—Montane Wet—Unit 2, and Molokai—Montane Wet—Unit 3, the physical and biological features of critical habitat are:

(A) Elevation: 3,300 to 6,500 ft (1,000 to 2,000 m).

(B) Annual precipitation: Greater than 75 in (190 cm).

(C) Substrate: Well-developed soils, montane bogs.

(D) Canopy: *Acacia*, *Charpentiera*, *Cheirodendron*, *Metrosideros*.

(E) Subcanopy: *Broussaisia*, *Cibotium*, *Eurya*, *Ilex*, *Myrsine*.

(F) Understory: Ferns, *Carex*, *Coprosma*, *Leptecophylla*, *Oreobolus*, *Rhynchospora*, *Vaccinium*.

#### Family Rhamnaceae

*Gouania hillebrandii* (NCN)

Molokai—Lowland Mesic—Unit 1, identified in the legal descriptions in paragraph (c) of this section, constitutes critical habitat for *Gouania hillebrandii* on Molokai. In unit Molokai—Lowland Mesic—Unit 1, the physical and biological features of critical habitat are:

(i) Elevation: Less than 3,300 ft (1,000 m).

(ii) Annual precipitation: 50 to 75 in (130 to 190 cm).

(iii) Substrate: Shallow soils, little to no herbaceous layer.

(iv) Canopy: *Acacia*, *Diospyros*, *Metrosideros*, *Myrsine*, *Pouteria*, *Santalum*.

(v) Subcanopy: *Dodonaea*, *Freycinetia*, *Leptecophylla*, *Melanthera*, *Osteomeles*, *Pleomele*, *Psydrax*.

(vi) Understory: *Carex*, *Dicranopteris*, *Diplazium*, *Elaphoglossum*, *Peperomia*.

#### Family Rubiaceae

*Kadua laxiflora* (PILO)

Molokai—Lowland Mesic—Unit 1 and Molokai—Montane Mesic—Unit 1, identified in the legal descriptions in paragraph (c) of this section, constitute critical habitat for *Kadua laxiflora* on Molokai.

(i) In unit Molokai—Lowland Mesic—Unit 1, the physical and biological features of critical habitat are:

(A) Elevation: Less than 3,300 ft (1,000 m).

(B) Annual precipitation: 50 to 75 in (130 to 190 cm).

(C) Substrate: Shallow soils, little to no herbaceous layer.

(D) Canopy: *Acacia*, *Diospyros*, *Metrosideros*, *Myrsine*, *Pouteria*, *Santalum*.

(E) Subcanopy: *Dodonaea*, *Freycinetia*, *Leptecophylla*, *Melanthera*, *Osteomeles*, *Pleomele*, *Psydrax*.

(F) Understory: *Carex*, *Dicranopteris*, *Diplazium*, *Elaphoglossum*, *Peperomia*.

(ii) In unit Molokai—Montane Mesic—Unit 1, the physical and biological features of critical habitat are:

(A) Elevation: 3,300 to 6,500 ft (1,000 to 2,000 m).

(B) Annual precipitation: 50 to 75 in (130 to 190 cm).

(C) Substrate: Deep ash deposits, thin silty loams.

(D) Canopy: *Acacia*, *Ilex*, *Metrosideros*, *Myrsine*, *Nestegis*, *Nothocestrum*, *Pisonia*, *Pittosporum*, *Psychotria*, *Sophora*, *Zanthoxylum*.

(E) Subcanopy: *Alyxia*, *Charpentiera*, *Coprosma*, *Dodonaea*, *Kadua*, *Labordia*, *Leptecophylla*, *Phyllostegia*, *Vaccinium*.

(F) Understory: Ferns, *Carex*, *Peperomia*.

#### Family Rutaceae

*Melicope mucronulata* (ALANI)

Molokai—Lowland Mesic—Unit 1 and Molokai—Montane Mesic—Unit 1, identified in the legal descriptions in paragraph (c) of this section, constitute critical habitat for *Melicope mucronulata* on Molokai.

(i) In unit Molokai—Lowland Mesic—Unit 1, the physical and biological features of critical habitat are:

(A) Elevation: Less than 3,300 ft (1,000 m).

(B) Annual precipitation: 50 to 75 in (130 to 190 cm).

(C) Substrate: Shallow soils, little to no herbaceous layer.

(D) Canopy: *Acacia*, *Diospyros*, *Metrosideros*, *Myrsine*, *Pouteria*, *Santalum*.

(E) Subcanopy: *Dodonaea*, *Freycinetia*, *Leptecophylla*, *Melanthera*, *Osteomeles*, *Pleomele*, *Psydrax*.

(F) Understory: *Carex*, *Dicranopteris*, *Diplazium*, *Elaphoglossum*, *Peperomia*.

(ii) In unit Molokai—Montane Mesic—Unit 1, the physical and biological features of critical habitat are:

(A) Elevation: 3,300 to 6,500 ft (1,000 to 2,000 m).

(B) Annual precipitation: 50 to 75 in (130 to 190 cm).

(C) Substrate: Deep ash deposits, thin silty loams.

(D) Canopy: *Acacia*, *Ilex*, *Metrosideros*, *Myrsine*, *Nestegis*, *Nothocestrum*, *Pisonia*, *Pittosporum*, *Psychotria*, *Sophora*, *Zanthoxylum*.

(E) Subcanopy: *Alyxia*, *Charpentiera*, *Coprosma*, *Dodonaea*, *Kadua*, *Labordia*, *Leptecophylla*, *Phyllostegia*, *Vaccinium*.

(F) Understory: Ferns, *Carex*, *Peperomia*.

#### *Melicope munroi* (ALANI)

Molokai—Lowland Mesic—Unit 1, identified in the legal descriptions in paragraph (c) of this section, constitutes critical habitat for *Melicope munroi* on Molokai. In unit Molokai—Lowland Mesic—Unit 1, the physical and biological features of critical habitat are:

(i) Elevation: Less than 3,300 ft (1,000 m).

(ii) Annual precipitation: 50 to 75 in (130 to 190 cm).

(iii) Substrate: Shallow soils, little to no herbaceous layer.

(iv) Canopy: *Acacia*, *Diospyros*, *Metrosideros*, *Myrsine*, *Pouteria*, *Santalum*.

(v) Subcanopy: *Dodonaea*, *Freycinetia*, *Leptecophylla*, *Melanthera*, *Osteomeles*, *Pleomele*, *Psydrax*.

(vi) Understory: *Carex*, *Dicranopteris*, *Diplazium*, *Elaphoglossum*, *Peperomia*.

#### *Melicope reflexa* (ALANI)

Molokai—Lowland Mesic—Unit 1, Molokai—Lowland Wet—Unit 1, Molokai—Lowland Wet—Unit 2, Molokai—Lowland Wet—Unit 3, Molokai—Montane Wet—Unit 1, Molokai—Montane Wet—Unit 2, and Molokai—Montane Wet—Unit 3, identified in the legal descriptions in paragraph (c) of this section, constitute critical habitat for *Melicope reflexa* on Molokai.

(i) In unit Molokai—Lowland Mesic—Unit 1, the physical and biological features of critical habitat are:

(A) Elevation: Less than 3,300 ft (1,000 m).

(B) Annual precipitation: 50 to 75 in (130 to 190 cm).

(C) Substrate: Shallow soils, little to no herbaceous layer.

(D) Canopy: *Acacia*, *Diospyros*, *Metrosideros*, *Myrsine*, *Pouteria*, *Santalum*.

(E) Subcanopy: *Dodonaea*, *Freycinetia*, *Leptecophylla*, *Melanthera*, *Osteomeles*, *Pleomele*, *Psydrax*.

(F) Understory: *Carex*, *Dicranopteris*, *Diplazium*, *Elaphoglossum*, *Peperomia*.

(ii) In units Molokai—Lowland Wet—Unit 1, Molokai—Lowland Wet—Unit 2, and Molokai—Lowland Wet—Unit 3, the physical and biological features of critical habitat are:

(A) Elevation: Less than 3,300 ft (1,000 m).

(B) Annual precipitation: Greater than 75 in (190 cm).

(C) Substrate: Clays; ashbeds; deep, well-drained soils; lowland bogs.

(D) Canopy: *Antidesma*, *Metrosideros*, *Myrsine*, *Pisonia*, *Psychotria*.

(E) Subcanopy: *Cibotium*, *Claoxylon*, *Kadua*, *Melicope*.

(F) Understory: *Alyxia*, *Cyrtandra*, *Dicranopteris*, *Diplazium*, *Machaerina*, *Microlepia*.

(iii) In units Molokai—Montane Wet—Unit 1, Molokai—Montane Wet—Unit 2, and Molokai—Montane Wet—Unit 3, the physical and biological features of critical habitat are:

(A) Elevation: 3,300 to 6,500 ft (1,000 to 2,000 m).

(B) Annual precipitation: Greater than 75 in (190 cm).

(C) Substrate: Well-developed soils, montane bogs.

(D) Canopy: *Acacia*, *Charpentiera*, *Cheirodendron*, *Metrosideros*.

(E) Subcanopy: *Broussaisia*, *Cibotium*, *Eurya*, *Ilex*, *Myrsine*.

(F) Understory: Ferns, *Carex*, *Coprosma*, *Leptecophylla*, *Oreobolus*, *Rhynchospora*, *Vaccinium*.

#### *Zanthoxylum hawaiiense* (AE)

Molokai—Lowland Mesic—Unit 1, Molokai—Lowland Wet—Unit 1, Molokai—Lowland Wet—Unit 2, Molokai—Lowland Wet—Unit 3, Molokai—Montane Wet—Unit 1, Molokai—Montane Wet—Unit 2, and Molokai—Montane Wet—Unit 3, identified in the legal descriptions in paragraph (c) of this section, constitute critical habitat for *Zanthoxylum hawaiiense* on Molokai.

(i) In unit Molokai—Lowland Mesic—Unit 1, the physical and biological features of critical habitat are:

(A) Elevation: Less than 3,300 ft (1,000 m).

(B) Annual precipitation: 50 to 75 in (130 to 190 cm).

(C) Substrate: Shallow soils, little to no herbaceous layer.

(D) Canopy: *Acacia*, *Diospyros*, *Metrosideros*, *Myrsine*, *Pouteria*, *Santalum*.

(E) Subcanopy: *Dodonaea*, *Freycinetia*, *Leptecophylla*, *Melanthera*, *Osteomeles*, *Pleomele*, *Psydrax*.

(F) Understory: *Carex*, *Dicranopteris*, *Diplazium*, *Elaphoglossum*, *Peperomia*.

(ii) In units Molokai—Lowland Wet—Unit 1, Molokai—Lowland Wet—Unit 2, and Molokai—Lowland Wet—Unit 3, the physical and biological features of critical habitat are:

(A) Elevation: Less than 3,300 ft (1,000 m).

(B) Annual precipitation: Greater than 75 in (190 cm).

(C) Substrate: Clays; ashbeds; deep, well-drained soils; lowland bogs.

(D) Canopy: *Antidesma*, *Metrosideros*, *Myrsine*, *Pisonia*, *Psychotria*.

(E) Subcanopy: *Cibotium*, *Claoxylon*, *Kadua*, *Melicope*.

(F) Understory: *Alyxia*, *Cyrtandra*, *Dicranopteris*, *Diplazium*, *Machaerina*, *Microlepia*.

(iii) In units Molokai—Montane Wet—Unit 1, Molokai—Montane Wet—Unit 2, and Molokai—Montane Wet—Unit 3, the physical and biological features of critical habitat are:

(A) Elevation: 3,300 to 6,500 ft (1,000 to 2,000 m).

(B) Annual precipitation: Greater than 75 in (190 cm).

(C) Substrate: Well-developed soils, montane bogs.

(D) Canopy: *Acacia*, *Charpentiera*, *Cheirodendron*, *Metrosideros*.

(E) Subcanopy: *Broussaisia*, *Cibotium*, *Eurya*, *Ilex*, *Myrsine*.

(F) Understory: Ferns, *Carex*, *Coprosma*, *Leptecophylla*, *Oreobolus*, *Rhynchospora*, *Vaccinium*.

#### Family Santalaceae

##### *Santalum haleakalae* var. *lanaiense* (LANAI SANDALWOOD, ILIAHI)

Molokai—Lowland Mesic—Unit 1 and Molokai—Montane Mesic—Unit 1, identified in the legal descriptions in paragraph (c) of this section, constitute critical habitat for *Santalum haleakalae* var. *lanaiense* on Molokai.

(i) In unit Molokai—Lowland Mesic—Unit 1, the physical and biological features of critical habitat are:

(A) Elevation: Less than 3,300 ft (1,000 m).

(B) Annual precipitation: 50 to 75 in (130 to 190 cm).

(C) Substrate: Shallow soils, little to no herbaceous layer.

(D) Canopy: *Acacia*, *Diospyros*, *Metrosideros*, *Myrsine*, *Pouteria*, *Santalum*.

(E) Subcanopy: *Dodonaea*, *Freycinetia*, *Leptecophylla*, *Melanthera*, *Osteomeles*, *Pleomele*, *Psydrax*.

(F) Understory: *Carex*, *Dicranopteris*, *Diplazium*, *Elaphoglossum*, *Peperomia*.

(ii) In unit Molokai—Montane Mesic—Unit 1, the physical and biological features of critical habitat are:

(A) Elevation: 3,300 to 6,500 ft (1,000 to 2,000 m).

(B) Annual precipitation: 50 to 75 in (130 to 190 cm).

(C) Substrate: Deep ash deposits, thin silty loams.

(D) Canopy: *Acacia*, *Ilex*, *Metrosideros*, *Myrsine*, *Nestegis*, *Nothocestrum*, *Pisonia*, *Pittosporum*, *Psychotria*, *Sophora*, *Zanthoxylum*.

(E) Subcanopy: *Alyxia*, *Charpentiera*, *Coprosma*, *Dodonaea*, *Kadua*, *Labordia*, *Leptecophylla*, *Phyllostegia*, *Vaccinium*.

(F) Understory: Ferns, *Carex*, *Peperomia*.

### Family Sapindaceae

*Alectryon macrococcus* (MAHOE)

Molokai—Lowland Mesic—Unit 1 and Molokai—Montane Mesic—Unit 1, identified in the legal descriptions in paragraph (c) of this section, constitute critical habitat for *Alectryon macrococcus* on Molokai.

(i) In unit Molokai—Lowland Mesic—Unit 1, the physical and biological features of critical habitat are:

(A) Elevation: Less than 3,300 ft (1,000 m).

(B) Annual precipitation: 50 to 75 in (130 to 190 cm).

(C) Substrate: Shallow soils, little to no herbaceous layer.

(D) Canopy: *Acacia*, *Diospyros*, *Metrosideros*, *Myrsine*, *Pouteria*, *Santalum*.

(E) Subcanopy: *Dodonaea*, *Freycinetia*, *Leptecophylla*, *Melanthera*, *Osteomeles*, *Pleomele*, *Psydrax*.

(F) Understory: *Carex*, *Dicranopteris*, *Diplazium*, *Elaphoglossum*, *Peperomia*.

(ii) In unit Molokai—Montane Mesic—Unit 1, the physical and biological features of critical habitat are:

(A) Elevation: 3,300 to 6,500 ft (1,000 to 2,000 m).

(B) Annual precipitation: 50 to 75 in (130 to 190 cm).

(C) Substrate: Deep ash deposits, thin silty loams.

(D) Canopy: *Acacia*, *Ilex*, *Metrosideros*, *Myrsine*, *Nestegis*, *Nothocestrum*, *Pisonia*, *Pittosporum*, *Psychotria*, *Sophora*, *Zanthoxylum*.

(E) Subcanopy: *Alyxia*, *Charpentiera*, *Coprosma*, *Dodonaea*, *Kadua*, *Labordia*, *Leptecophylla*, *Phyllostegia*, *Vaccinium*.

(F) Understory: Ferns, *Carex*, *Peperomia*.

### Family Urticaceae

*Neraudia sericea* (NCN)

Molokai—Lowland Mesic—Unit 1 and Molokai—Montane Mesic—Unit 1,

identified in the legal descriptions in paragraph (c) of this section, constitute critical habitat for *Neraudia sericea* on Molokai.

(i) In unit Molokai—Lowland Mesic—Unit 1, the physical and biological features of critical habitat are:

(A) Elevation: Less than 3,300 (1,000 m).

(B) Annual precipitation: 50 to 75 in (130 to 190 cm).

(C) Substrate: Shallow soils, little to no herbaceous layer.

(D) Canopy: *Acacia*, *Diospyros*, *Metrosideros*, *Myrsine*, *Pouteria*, *Santalum*.

(E) Subcanopy: *Dodonaea*, *Freycinetia*, *Leptecophylla*, *Melanthera*, *Osteomeles*, *Pleomele*, *Psydrax*.

(F) Understory: *Carex*, *Dicranopteris*, *Diplazium*, *Elaphoglossum*, *Peperomia*.

(ii) In unit Molokai—Montane Mesic—Unit 1, the physical and biological features of critical habitat are:

(A) Elevation: 3,300 to 6,500 ft (1,000 to 2,000 m).

(B) Annual precipitation: 50 to 75 in (130 to 190 cm).

(C) Substrate: Deep ash deposits, thin silty loams.

(D) Canopy: *Acacia*, *Ilex*, *Metrosideros*, *Myrsine*, *Nestegis*, *Nothocestrum*, *Pisonia*, *Pittosporum*, *Psychotria*, *Sophora*, *Zanthoxylum*.

(E) Subcanopy: *Alyxia*, *Charpentiera*, *Coprosma*, *Dodonaea*, *Kadua*, *Labordia*, *Leptecophylla*, *Phyllostegia*, *Vaccinium*.

(F) Understory: Ferns, *Carex*, *Peperomia*.

### Family Violaceae

*Isodendron pyrifolium* (WAHINE NOHO KULA)

Molokai—Lowland Mesic—Unit 1, identified in the legal descriptions in paragraph (c) of this section, constitutes critical habitat for *Isodendron pyrifolium* on Molokai. In unit Molokai—Lowland Mesic—Unit 1, the physical and biological features of critical habitat are:

(i) Elevation: Less than 3,300 ft (1,000 m).

(ii) Annual precipitation: 50 to 75 in (130 to 190 cm).

(iii) Substrate: Shallow soils, little to no herbaceous layer.

(iv) Canopy: *Acacia*, *Diospyros*, *Metrosideros*, *Myrsine*, *Pouteria*, *Santalum*.

(v) Subcanopy: *Dodonaea*, *Freycinetia*, *Leptecophylla*, *Melanthera*, *Osteomeles*, *Pleomele*, *Psydrax*.

(vi) Understory: *Carex*, *Dicranopteris*, *Diplazium*, *Elaphoglossum*, *Peperomia*.

(2) *Ferns and fern allies*.

### Family Adiantaceae

*Pteris lidgatei* (NCN)

Molokai—Montane Wet—Unit 1, Molokai—Montane Wet—Unit 2, Molokai—Montane Wet—Unit 3, Molokai—Wet Cliff—Unit 1, Molokai—Wet Cliff—Unit 2, and Molokai—Wet Cliff—Unit 3, identified in the legal descriptions in paragraph (c) of this section, constitute critical habitat for *Pteris lidgatei* on Molokai.

(i) In units Molokai—Montane Wet—Unit 1, Molokai—Montane Wet—Unit 2, and Molokai—Montane Wet—Unit 3, the physical and biological features of critical habitat are:

(A) Elevation: 3,300 to 6,500 ft (1,000 to 2,000 m).

(B) Annual precipitation: Greater than 75 in (190 cm).

(C) Substrate: Well-developed soils, montane bogs.

(D) Canopy: *Acacia*, *Charpentiera*, *Cheirodendron*, *Metrosideros*.

(E) Subcanopy: *Broussaia*, *Cibotium*, *Eurya*, *Ilex*, *Myrsine*.

(F) Understory: Ferns, *Carex*, *Coprosma*, *Leptecophylla*, *Oreobolus*, *Rhynchospora*, *Vaccinium*.

(ii) In units Molokai—Wet Cliff—Unit 1, Molokai—Wet Cliff—Unit 2, and Molokai—Wet Cliff—Unit 3, the physical and biological features of critical habitat are:

(A) Elevation: Unrestricted.

(B) Annual precipitation: Greater than 75 in (190 cm).

(C) Substrate: Greater than 65 degree slope, shallow soils, weathered lava.

(D) Canopy: None.

(E) Subcanopy: *Broussaia*, *Cheirodendron*, *Leptecophylla*, *Metrosideros*.

(F) Understory: Bryophytes, ferns, *Coprosma*, *Dubautia*, *Kadua*, *Peperomia*.

### Family Aspleniaceae

*Asplenium dielirectum* (ASPENIUM-LEAVED DIELLIA)

Molokai—Lowland Mesic—Unit 1, Molokai—Lowland Wet—Unit 1, Molokai—Lowland Wet—Unit 2, Molokai—Lowland Wet—Unit 3, and Molokai—Montane Mesic—Unit 1, identified in the legal descriptions in paragraph (c) of this section, constitute critical habitat for *Asplenium dielirectum* on Molokai.

(i) In unit Molokai—Lowland Mesic—Unit 1, the physical and biological features of critical habitat are:

(A) Elevation: Less than 3,300 ft (1,000 m).

(B) Annual precipitation: 50 to 75 in (130 to 190 cm).

(C) Substrate: Shallow soils, little to no herbaceous layer.

(D) Canopy: *Acacia*, *Diospyros*, *Metrosideros*, *Myrsine*, *Pouteria*, *Santalum*.

(E) Subcanopy: *Dodonaea*, *Freycinetia*, *Leptecophylla*, *Melanthera*, *Osteomeles*, *Pleomele*, *Psydrax*.

(F) Understory: *Carex*, *Dicranopteris*, *Diplazium*, *Elaphoglossum*, *Peperomia*.

(ii) In units Molokai—Lowland Wet—Unit 1, Molokai—Lowland Wet—Unit 2, and Molokai—Lowland Wet—Unit 3, the physical and biological features of critical habitat are:

(A) Elevation: Less than 3,300 ft (1,000 m).

(B) Annual precipitation: Greater than 75 in (190 cm).

(C) Substrate: Clays; ashbeds; deep, well-drained soils; lowland bogs.

(D) Canopy: *Antidesma*, *Metrosideros*, *Myrsine*, *Pisonia*, *Psychotria*.

(E) Subcanopy: *Cibotium*, *Claoxylon*, *Kadua*, *Melicope*.

(F) Understory: *Alyxia*, *Cyrtandra*, *Dicranopteris*, *Diplazium*, *Machaerina*, *Microlepia*.

(iii) In unit Molokai—Montane Mesic—Unit 1, the physical and biological features of critical habitat are:

(A) Elevation: 3,300 to 6,500 ft (1,000 to 2,000 m).

(B) Annual precipitation: 50 to 75 in (130 to 190 cm).

(C) Substrate: Deep ash deposits, thin silty loams.

(D) Canopy: *Acacia*, *Ilex*, *Metrosideros*, *Myrsine*, *Nestegis*, *Nothoecstrum*, *Pisonia*, *Pittosporum*, *Psychotria*, *Sophora*, *Zanthoxylum*.

(E) Subcanopy: *Alyxia*, *Charpentiera*, *Coprosma*, *Dodonaea*, *Kadua*, *Labordia*, *Leptecophylla*, *Phyllostegia*, *Vaccinium*.

(F) Understory: Ferns, *Carex*, *Peperomia*.

#### *Ctenitis squamigera* (PAUOA)

Molokai—Lowland Mesic—Unit 1, identified in the legal descriptions in paragraph (c) of this section, constitutes critical habitat for *Ctenitis squamigera* on Molokai. In unit Molokai—Lowland Mesic—Unit 1, the physical and biological features of critical habitat are:

(i) Elevation: Less than 3,300 ft (1,000 m).

(ii) Annual precipitation: 50 to 75 in (130 to 190 cm).

(iii) Substrate: Shallow soils, little to no herbaceous layer.

(iv) Canopy: *Acacia*, *Diospyros*, *Metrosideros*, *Myrsine*, *Pouteria*, *Santalum*.

(v) Subcanopy: *Dodonaea*, *Freycinetia*, *Leptecophylla*, *Melanthera*, *Osteomeles*, *Pleomele*, *Psydrax*.

(vi) Understory: *Carex*, *Dicranopteris*, *Diplazium*, *Elaphoglossum*, *Peperomia*.

#### *Diplazium molokaiense* (NCN)

Molokai—Lowland Mesic—Unit 1, identified in the legal descriptions in paragraph (c) of this section, constitutes critical habitat for *Diplazium molokaiense* on Molokai. In unit Molokai—Lowland Mesic—Unit 1, the physical and biological features of critical habitat are:

(i) Elevation: Less than 3,300 ft (1,000 m).

(ii) Annual precipitation: 50 to 75 in (130 to 190 cm).

(iii) Substrate: Shallow soils, little to no herbaceous layer.

(iv) Canopy: *Acacia*, *Diospyros*, *Metrosideros*, *Myrsine*, *Pouteria*, *Santalum*.

(v) Subcanopy: *Dodonaea*, *Freycinetia*, *Leptecophylla*, *Melanthera*, *Osteomeles*, *Pleomele*, *Psydrax*.

(vi) Understory: *Carex*, *Dicranopteris*, *Diplazium*, *Elaphoglossum*, *Peperomia*.

#### Family Grammitidaceae

##### *Adenophorus periens* (PENDANT KIH FERN)

Molokai—Montane Wet—Unit 1, Molokai—Montane Wet—Unit 2, and Molokai—Montane Wet—Unit 3, identified in the legal descriptions in paragraph (c) of this section, constitute critical habitat for *Adenophorus periens* on Molokai. In units Molokai—Montane Wet—Unit 1, Molokai—Montane Wet—Unit 2, and Molokai—Montane Wet—Unit 3, the physical and biological features of critical habitat are:

(i) Elevation: 3,300 to 6,500 ft (1,000 to 2,000 m).

(ii) Annual precipitation: Greater than 75 in (190 cm).

(iii) Substrate: Well-developed soils, montane bogs.

(iv) Canopy: *Acacia*, *Charpentiera*, *Cheirodendron*, *Metrosideros*.

(v) Subcanopy: *Broussaisia*, *Cibotium*, *Eurya*, *Ilex*, *Myrsine*.

(vi) Understory: Ferns, *Carex*, *Coprosma*, *Leptecophylla*, *Oreobolus*, *Rhynchospora*, *Vaccinium*.

#### Family Marsileaceae

##### *Marsilea villosa* (IHI IHI)

Molokai—Coastal—Unit 1, Molokai—Coastal—Unit 2, Molokai—Coastal—Unit 3, Molokai—Coastal—Unit 4, Molokai—Coastal—Unit 5, Molokai—Coastal—Unit 6, and Molokai—Coastal—Unit 7, identified in the legal descriptions in paragraph (c) of this section, constitute critical habitat for *Marsilea villosa* on Molokai. In units Molokai—Coastal—Unit 1, Molokai—Coastal—Unit 2, Molokai—Coastal—Unit 3, Molokai—Coastal—Unit 4, Molokai—Coastal—Unit 5, Molokai—Coastal—Unit 6, and Molokai—Coastal—Unit 7, the physical and biological features of critical habitat are:

(i) Elevation: Less than 980 ft (300 m).

(ii) Annual precipitation: Less than 20 in (50 cm).

(iii) Substrate: Well-drained, calcareous, talus slopes; dunes; weathered clay soils; ephemeral pools; mudflats.

(iv) Canopy: *Hibiscus*, *Myoporum*, *Santalum*, *Scaevola*.

(v) Subcanopy: *Gossypium*, *Sida*, *Vitex*.

(vi) Understory: *Eragrostis*, *Jacquemontia*, *Lyceum*, *Nama*, *Sesuvium*, *Sporobolus*, *Vigna*.

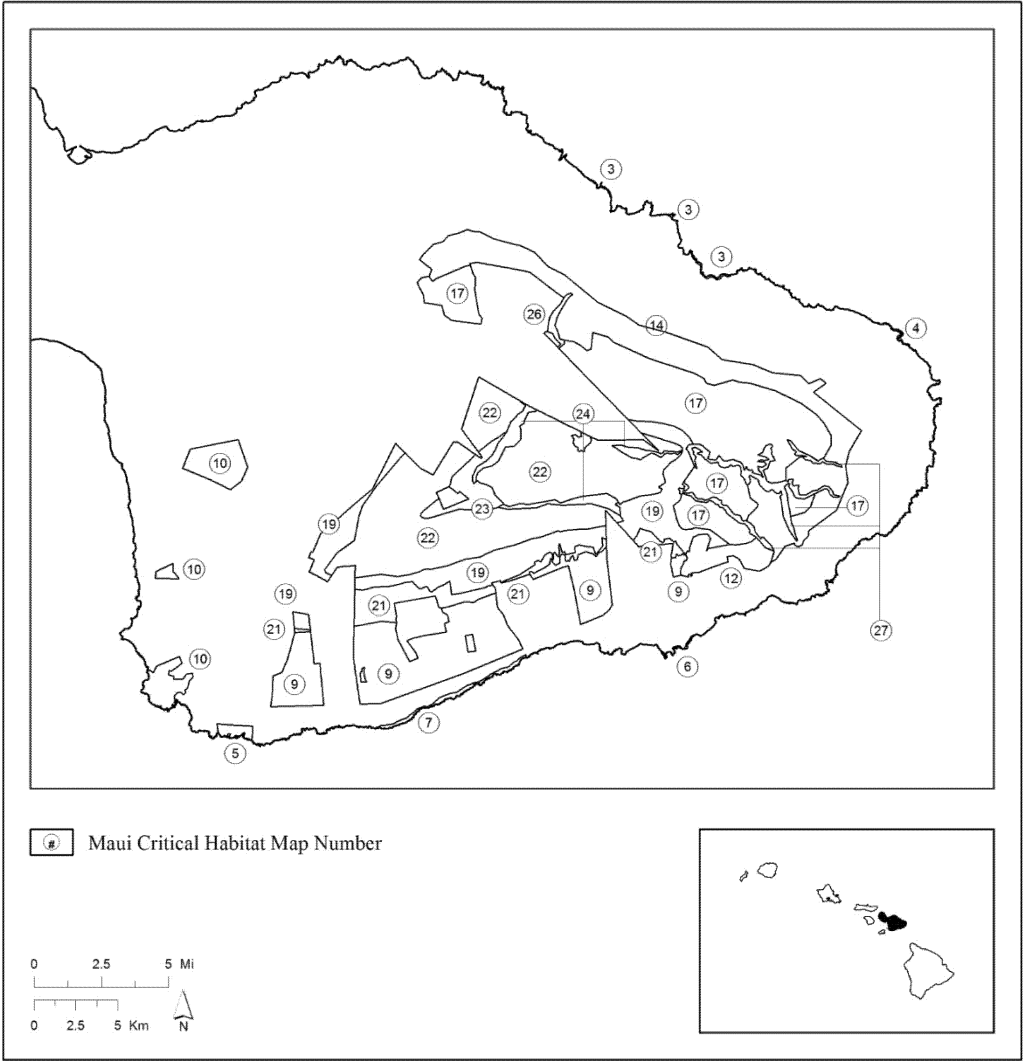
(e) Maps and critical habitat unit descriptions for the islands of Maui and Kahoolawe, HI.

(1) Maui. Critical habitat units are described below. Coordinates are in UTM Zone 4 with units in meters using North American Datum of 1983 (NAD83). The following maps show the locations of the critical habitat units designated on the island of Maui. Existing manmade features and structures, such as buildings, roads, railroads, airports, runways, other paved areas, lawns, and other urban landscaped areas, do not contain one or more of the physical and biological features. Federal actions limited to those areas, therefore, would not trigger a consultation under section 7 of the Act unless they may affect the species or physical or biological features in adjacent critical habitat.

(i) NOTE: Map 1—East Maui Index map follows:

Map 1

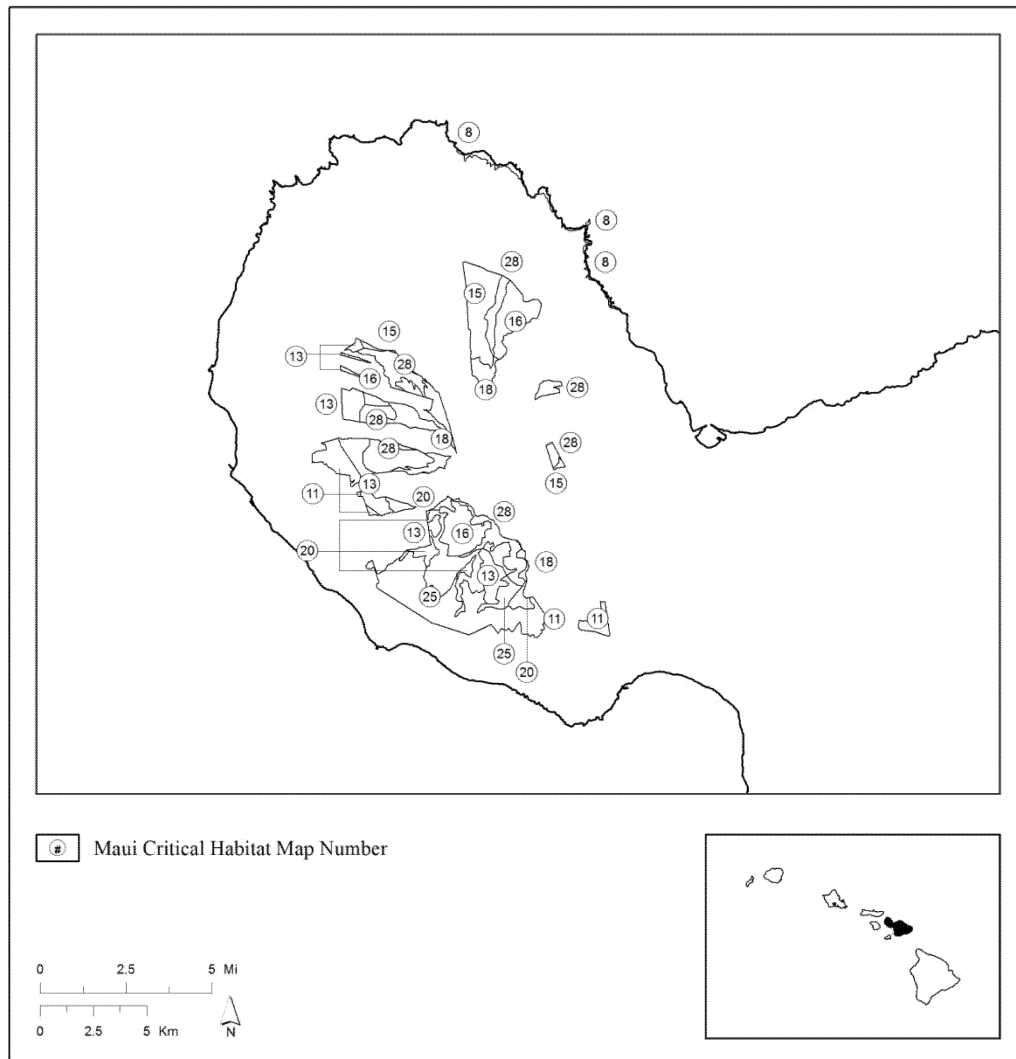
Maui Critical Habitat—East Maui Index Map





## Map 2

## Maui Critical Habitat—West Maui Index Map



(ii) NOTE: Map 2—West Maui Index map follow:

(iii) Maui—Coastal—Unit 1 (2 ac, 1 ha), Maui—Coastal—Unit 2 (25 ac, 10 ha), Maui—Coastal—Unit 3 (10 ac, 4

ha), and Maui—Coastal—Unit 4 (74 ac, 30 ha).

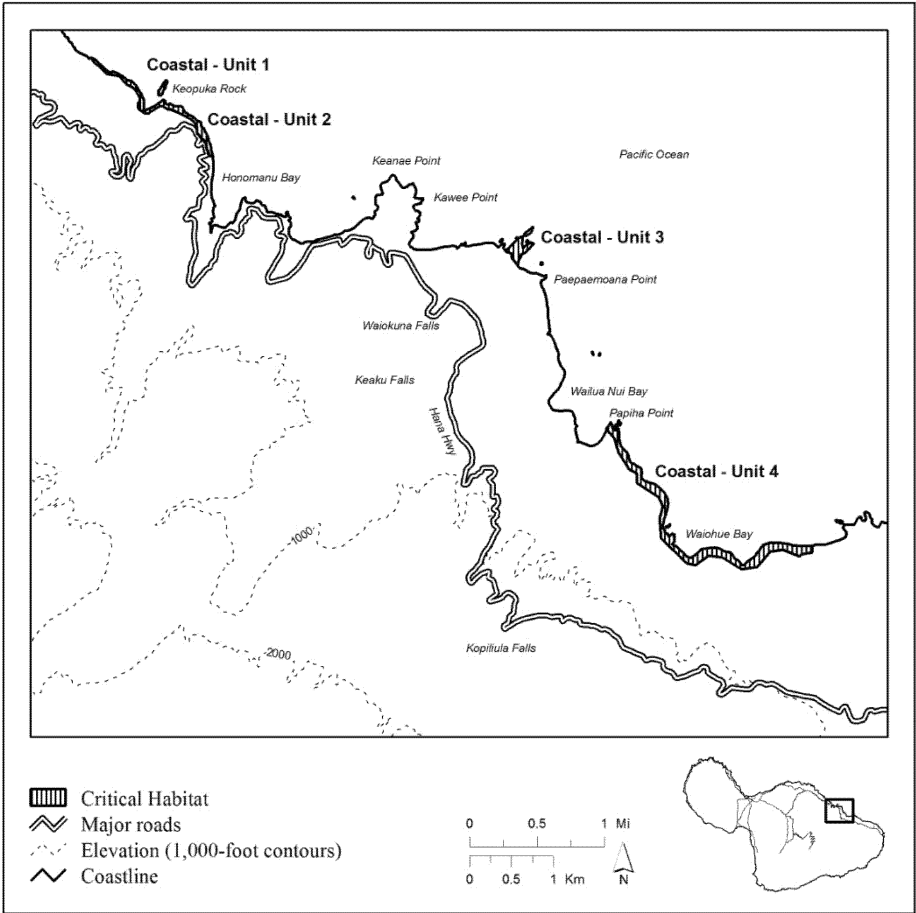
(A) These units are critical habitat for *Brighamia rockii*, *Cyperus pennatifolius*, *Ischaemum byrone*,

*Peucedanum sandwicense*, and *Vigna owahuensis*.

(B) Map of Maui—Coastal—Unit 1, Maui—Coastal—Unit 2, Maui—Coastal—Unit 3, and Maui—Coastal—Unit 4 (Map 3) follows:

Map 3

Maui—Coastal Unit 1, Unit 2, Unit 3, and Unit 4



(iv) Maui—Coastal—Unit 5 (26 ac, 11 ha).

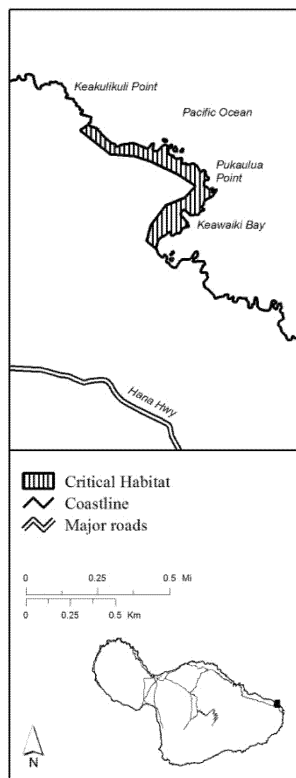
(A) This unit is critical habitat for *Brighamia rockii*, *Cyperus pennatiformis*, *Ischaemum byrone*, *Peucedanum sandwicense*, and *Vigna o-wahuensis*.

(B) Map of Maui—Coastal—Unit 5 (Map 4) follows:

#### Map 4

#### Maui—Coastal

#### Unit 5



(v) Maui—Coastal—Unit 6 (356 ac, 144 ha).

(A) This unit is critical habitat for *Brighamia rockii*, *Cyperus*

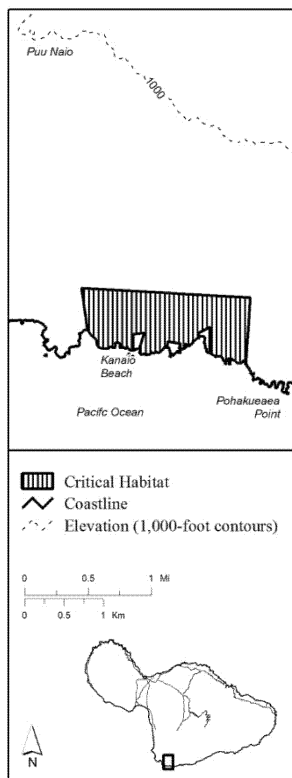
*pennatiformis*, *Ischaemum byrone*, *Peucedanum sandwicense*, and *Vigna o-wahuensis*.

(B) Map of Maui—Coastal—Unit 6 (Map 5) follows:

#### Map 5

#### Maui—Coastal

#### Unit 6



(vi) Maui—Coastal—Unit 7 (46 ac, 19 ha).

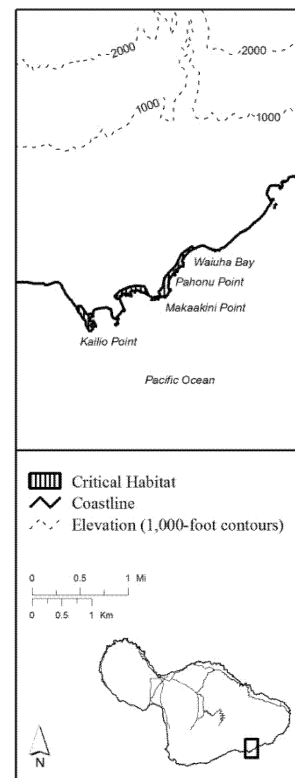
(A) This unit is critical habitat for *Brighamia rockii*, *Cyperus pennatiformis*, *Ischaemum byrone*, *Peucedanum sandwicense*, and *Vigna o-wahuensis*.

(B) Map of Maui—Coastal—Unit 7 (Map 6) follows:

#### Map 6

#### Maui—Coastal

#### Unit 7



(vii) Maui—Coastal—Unit 8 (493 ac, 200 ha).

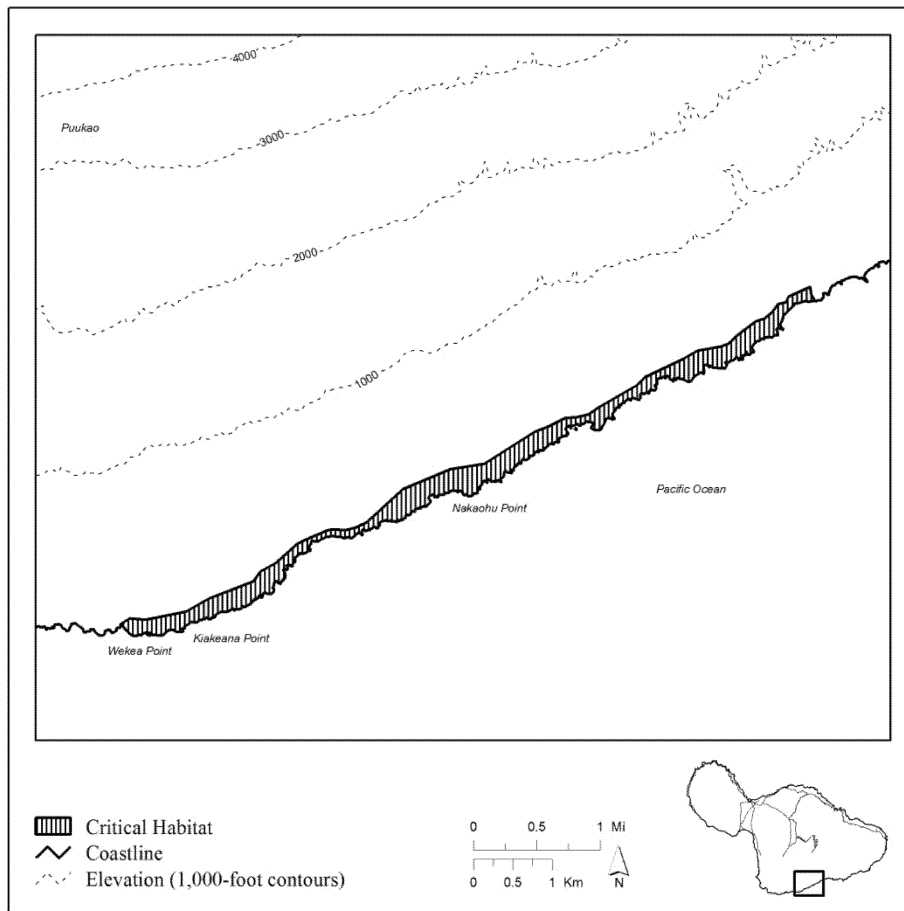
(A) This unit is critical habitat for *Brighamia rockii*, *Cyperus pennatiformis*, *Ischaemum byrone*, *Peucedanum sandwicense*, and *Vigna o-wahuensis*.

(B) Map of Maui—Coastal—Unit 8 (Map 7) follows:

## Map 7

## Maui—Coastal

## Unit 8



(viii) Maui—Coastal—Unit 9 (170 ac, 69 ha), Maui—Coastal—Unit 10 (173 ac, 70 ha), and Maui—Coastal—Unit 11 (6 ac, 3 ha).

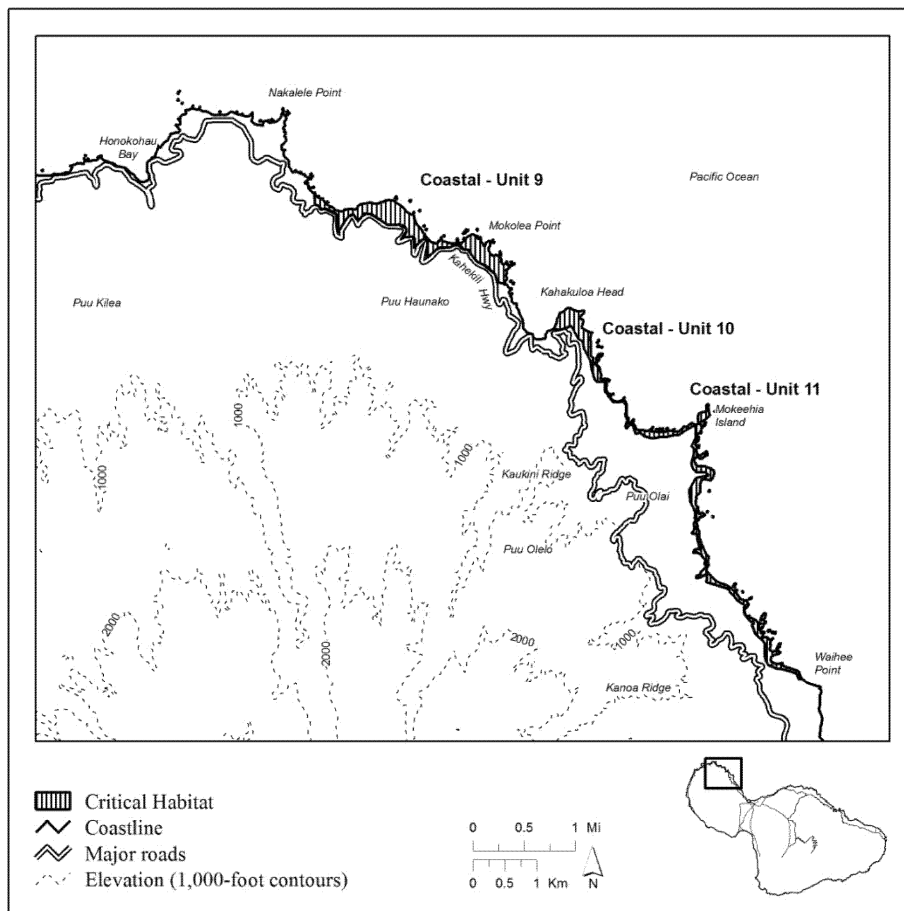
(A) These units are critical habitat for *Brighamia rockii*, *Schenkia sebaeoides*, and *Sesbania tomentosa*.

(B) Map of Maui—Coastal—Unit 9, Maui—Coastal—Unit 10, and Maui—Coastal—Unit 11 (Map 8) follows:

## Map 8

## Maui—Coastal

## Unit 9, Unit 10, and Unit 11



(ix) Maui—Lowland Dry—Unit 1 (13,537 ac, 5,478 ha).

(A) This unit is critical habitat for *Alectryon macrococcus*, *Bidens micrantha* ssp. *kalealaha*, *Bonamia menziesii*, *Canavalia pubescens*, *Cenchrus agrimonoides*, *Colubrina*

*oppositifolia*, *Ctenitis squamigera*, *Flueggea neowawraea*, *Hibiscus brackenridgei*, *Melanthera kamolensis*, *Melicope adscendens*, *Melicope mucronulata*, *Neraudia sericea*, *Nototrichium humile*, *Santalum*

*haleakalae* var. *lanaiense*, *Sesbania tomentosa*, *Solanum incompletum*, *Spermolepis hawaiiensis*, and *Zanthoxylum hawaiiense*.

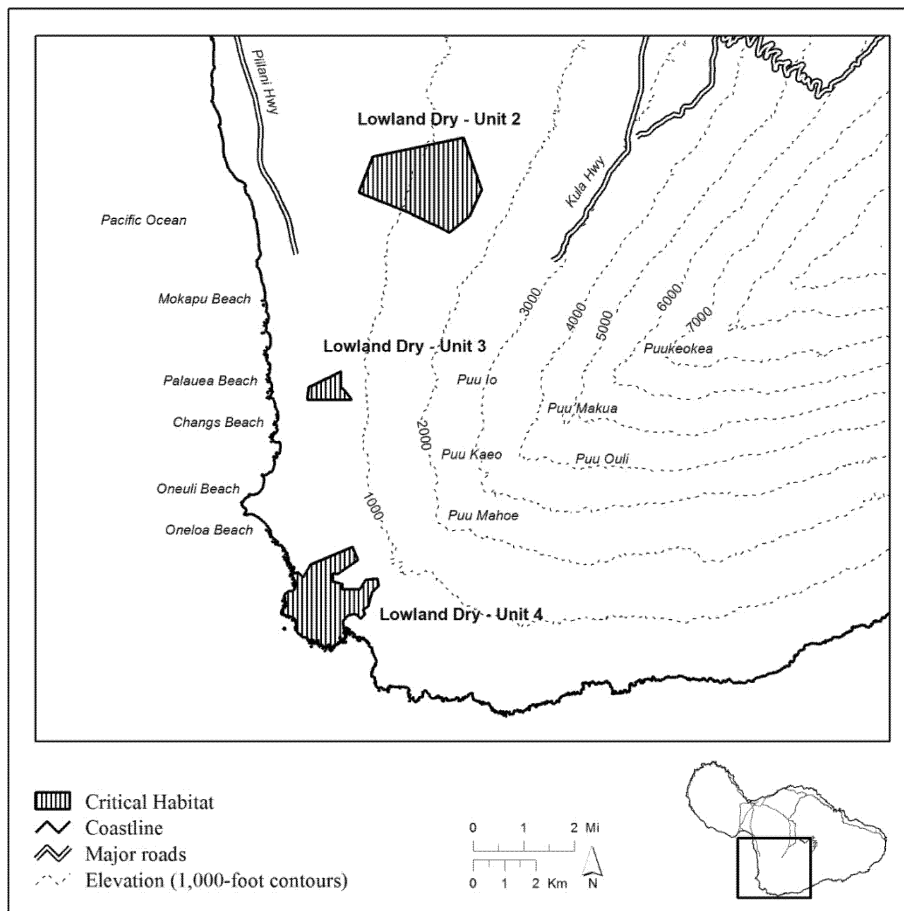
(B) Map of Maui—Lowland Dry—Unit 1 (Map 9) follows:

(C) Map of Maui—Lowland Dry—Unit 2, Maui—Lowland Dry—Unit 3, and Maui—Lowland Dry—Unit 4 (Map 10) follows:

## Map 10

## Maui—Lowland Dry

## Unit 2, Unit 3, and Unit 4



(xi) Maui—Lowland Dry—Unit 5 (3,658 ac, 1,480 ha) and Maui—Lowland Dry—Unit 6 (240 ac, 97 ha).

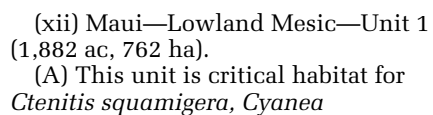
(A) These units are critical habitat for *Asplenium dielirectum*, *Bidens campylotheca* ssp. *pentamera*, *Cenchrus agrimonoides*, *Ctenitis squamigera*,

*Cyanea obtusa*, *Gouania hillebrandii*, *Hesperomannia arbuscula*, *Hibiscus brackenridgei*, *Kadua coriacea*, *Lysimachia lydgatei*, *Neraudia sericea*, *Remya muiensis*, *Santalum haleakalae* var. *lanaiense*, *Schiedea salicaria*,

*Sesbania tomentosa*, *Spermolepis hawaiiensis*, *Tetramolopium capillare*, and *Tetramolopium remyi*.

(B) Map of Maui—Lowland Dry—Unit 5 and Maui—Lowland Dry—Unit 6 (Map 11) follows:

## Unit 5 and Unit 6



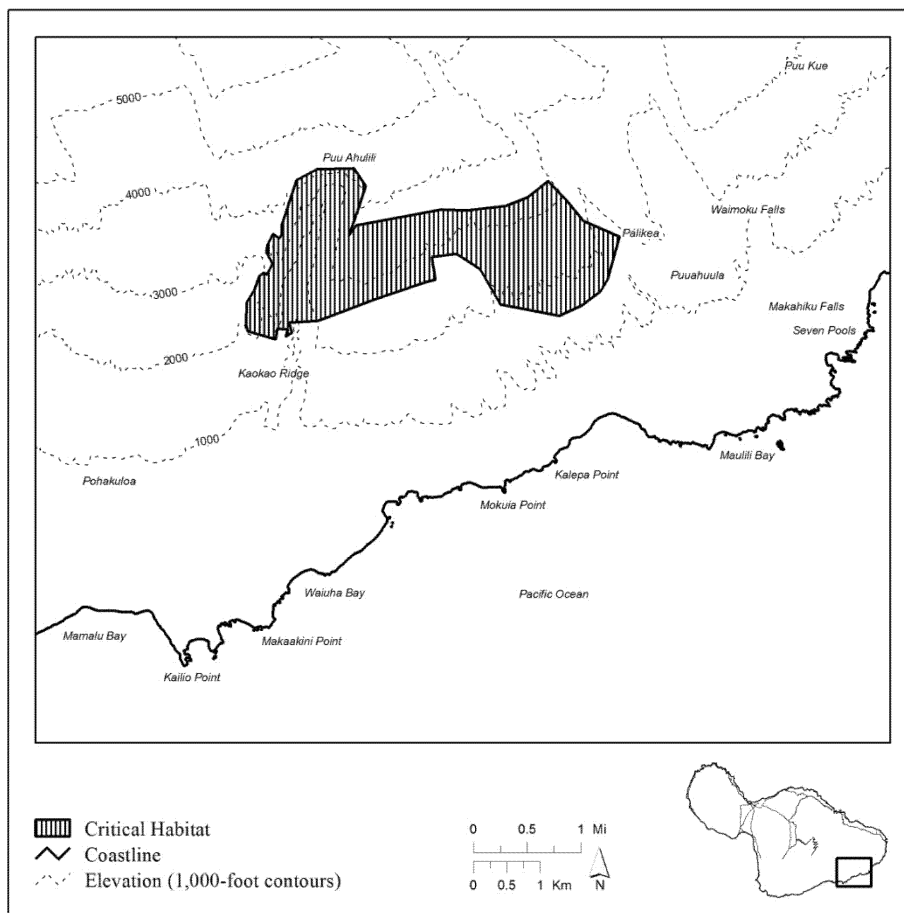
(B) Map of Maui—Lowland Mesic—Unit 1 (Map 12) follows:



## Map 12

## Maui—Lowland Mesic

## Unit 1



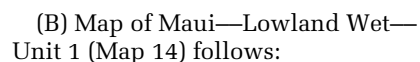
(xiii) Maui—Lowland Mesic—Unit 2 (1,147 ac, 464 ha) and Maui—Lowland Mesic—Unit 3 (477 ac, 193 ha).

(A) These units are critical habitat for *Asplenium dielectum*, *Bidens*

*campylothea* ssp. *pentamera*, *Colubrina oppositifolia*, *Ctenitis squamigera*, *Remya mauiensis*, *Santalum haleakalae* var. *lanaiense*, and *Zanthoxylum hawaiiense*.

(B) Map of Maui—Lowland Mesic—Unit 2 and Maui—Lowland Mesic—Unit 3 (Map 13) follows:

## Unit 2 and Unit 3

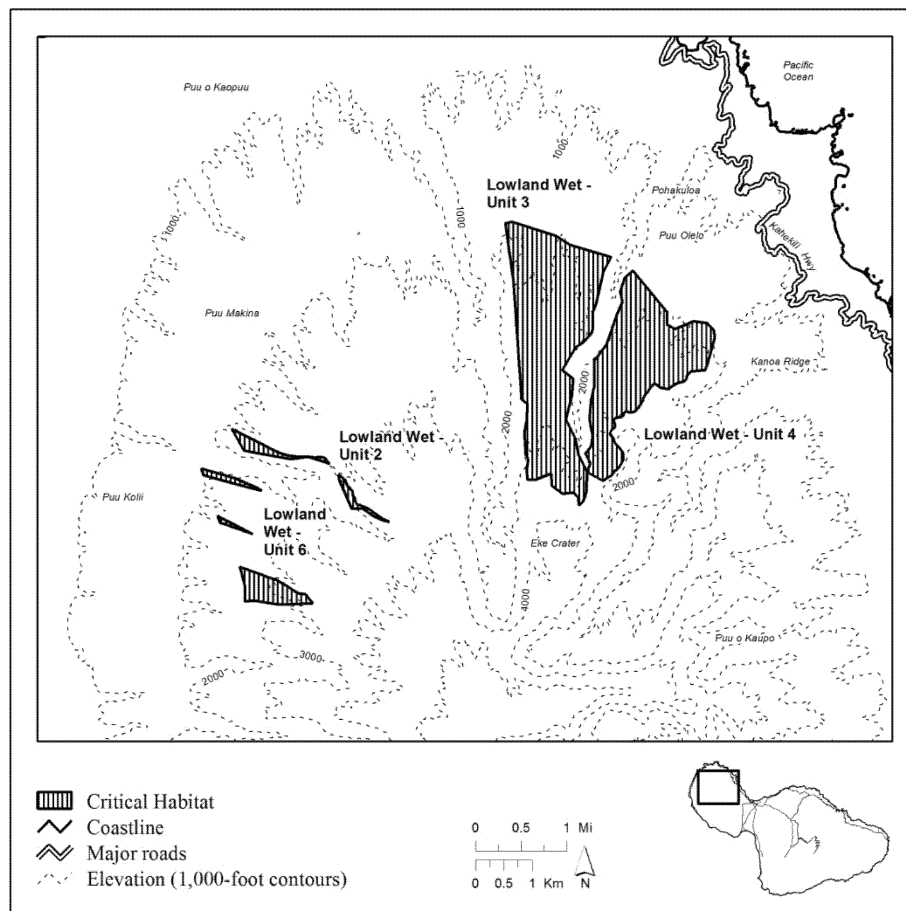


(B) Map of Maui—Lowland Wet—Unit 2, Maui—Lowland Wet—Unit 3, Maui—Lowland Wet—Unit 4, and Maui—Lowland Wet—Unit 6 (Map 15) follows:

## Map 15

## Maui—Lowland Wet

## Unit 2, Unit 3, Unit 4, and Unit 6



(xvi) Maui—Lowland Wet—Unit 5 (30 ac, 12 ha), Maui—Lowland Wet—Unit 7 (898 ac, 364 ha), and Maui—Lowland Wet—Unit 8 (230 ac, 93 ha).

(A) These units are critical habitat for *Alectryon macrococcus*, *Asplenium dielerectionum*, *Bidens conjuncta*, *Bidens micrantha* ssp. *kalealaha*, *Clermontia oblongifolia* ssp. *mauiensis*, *Ctenitis*

*squamigera*, *Cyanea asplenifolia*, *Cyanea glabra*, *Cyanea kunthiana*, *Cyanea lobata*, *Cyanea magnicalyx*, *Cyrtandra filipes*, *Cyrtandra munroi*, *Diplazium molokaiense*, *Hesperomannia arborescens*, *Hesperomannia arbuscula*, *Huperzia mannii*, *Isodendron pyriforme*, *Kadua*

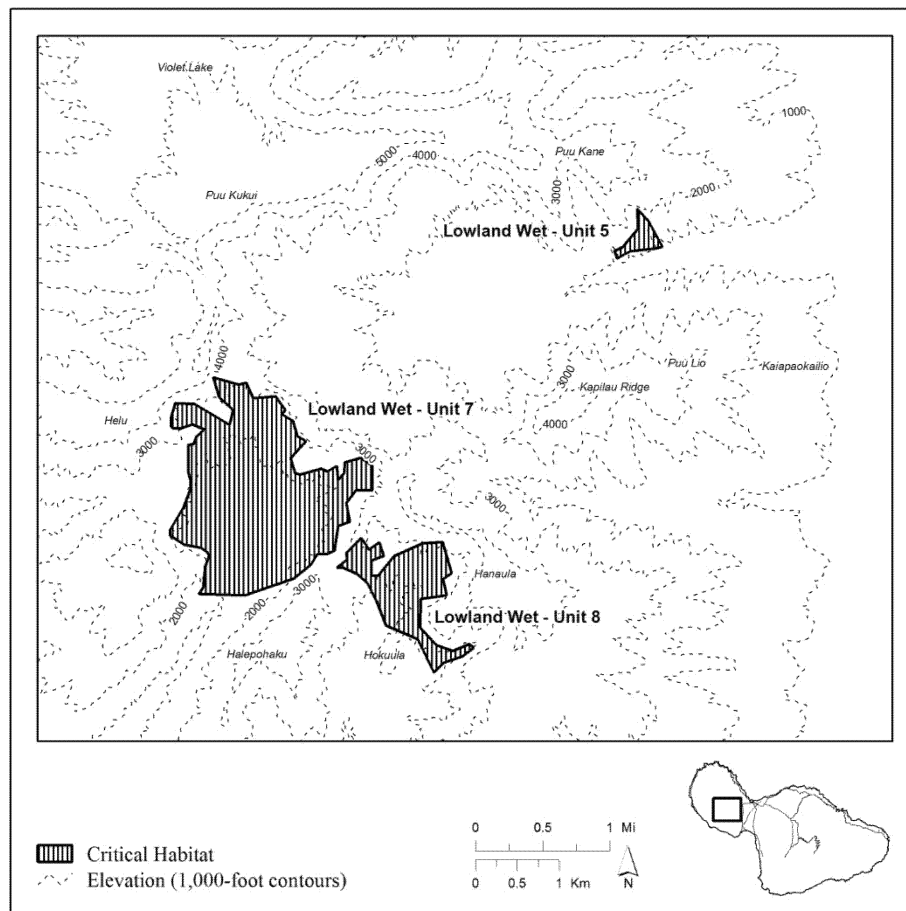
*laxiflora*, *Peucedanum sandwicense*, *Phyllostegia bracteata*, *Pteris lidgatei*, *Remya mauiensis*, *Santalum haleakalae* var. *lanaiense*, and *Wikstroemia villosa*.

(B) Map of Maui—Lowland Wet—Unit 5, Maui—Lowland Wet—Unit 7, and Maui—Lowland Wet—Unit 8 (Map 16) follows:

## Map 16

## Maui—Lowland Wet

## Unit 5, Unit 7, and Unit 8



(A) This unit is critical habitat for *Adenophorus periens*, *Asplenium peruvianum* var. *insulare*, *Bidens campylotheca* ssp. *pentamera*, *Bidens campylotheca* ssp. *waihoiensis*, *Clermontia oblongifolia* ssp. *mauiensis*, *Clermontia samuelii*, *Cyanea copelandii* ssp. *haleakalaensis*, *Cyanea duvalliorum*, *Cyanea glabra*, *Cyanea*

*hamatiflora* ssp. *hamatiflora*, *Cyanea horrida*, *Cyanea kunthiana*, *Cyanea maritae*, *Cyanea mceldowneyi*, *Cyrtandra ferripilosa*, *Diplazium molokaiense*, *Geranium hanaense*, *Geranium multiflorum*, *Huperzia mannii*, *Melicope balloui*, *Melicope ovalis*, *Peperomia subpetiolata*, *Phyllostegia bracteata*, *Phyllostegia*

*haliakalae*, *Phyllostegia mannii*, *Phyllostegia pilosa*, *Platanthera holochila*, *Schiedea jacobii*, and *Wikstroemia villosa*.

(B) Map of Maui—Montane Wet—Unit 1, Maui—Montane Wet—Unit 2, Maui—Montane Wet—Unit 3, Maui—Montane Wet—Unit 4, and Maui—Montane Wet—Unit 5 (Map 17) follows:

## Maui—Montane Wet

[illegible]

(A) These units are critical habitat for *Acaena exigua*, *Bidens conjuncta*,

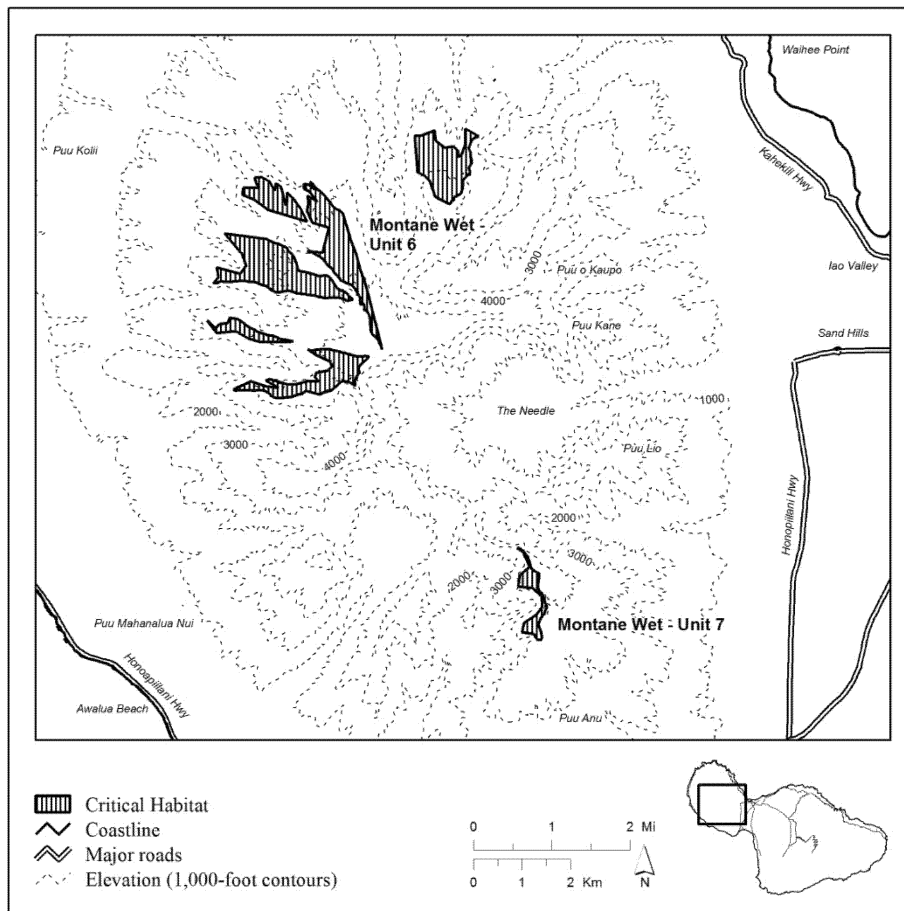
*Phyllostegia bracteata*, *Platanthera holochila*, and *Sanicula purpurea*.

(B) Map of Maui—Montane Wet—Unit 6 and Maui—Montane Wet—Unit 7 (Map 18) follows:

## Map 18

## Maui—Montane Wet

## Unit 6 and Unit 7



(xix) Maui—Montane Mesic—Unit 1 (10,972 ac, 4,440 ha).

(A) This unit is critical habitat for *Alectryon macrococcus*, *Argyroxiphium sandwicense* ssp. *macrocephalum*, *Asplenium dielirectum*, *Asplenium peruvianum* var. *insulare*, *Bidens campylothea* ssp. *pentamera*, *Bidens*

*micrantha* ssp. *kalealaha*, *Clermontia lindseyana*, *Cyanea glabra*, *Cyanea hamatiflora* ssp. *hamatiflora*, *Cyanea horrida*, *Cyanea kunthiana*, *Cyanea mceldowneyi*, *Cyanea obtusa*, *Cyrtandra ferripilosa*, *Cyrtandra oxybapha*, *Diplazium molokaiense*, *Geranium arboreum*, *Geranium multiflorum*,

*Huperzia mannii*, *Melicope adscendens*, *Neraudia sericea*, *Phyllostegia bracteata*, *Phyllostegia mannii*, *Santalum haleakalae* var. *lanaiense*, *Wikstroemia villosa*, and *Zanthoxylum hawaiiense*.

(B) Map of Maui—Montane Mesic—Unit 1 (Map 19) follows:

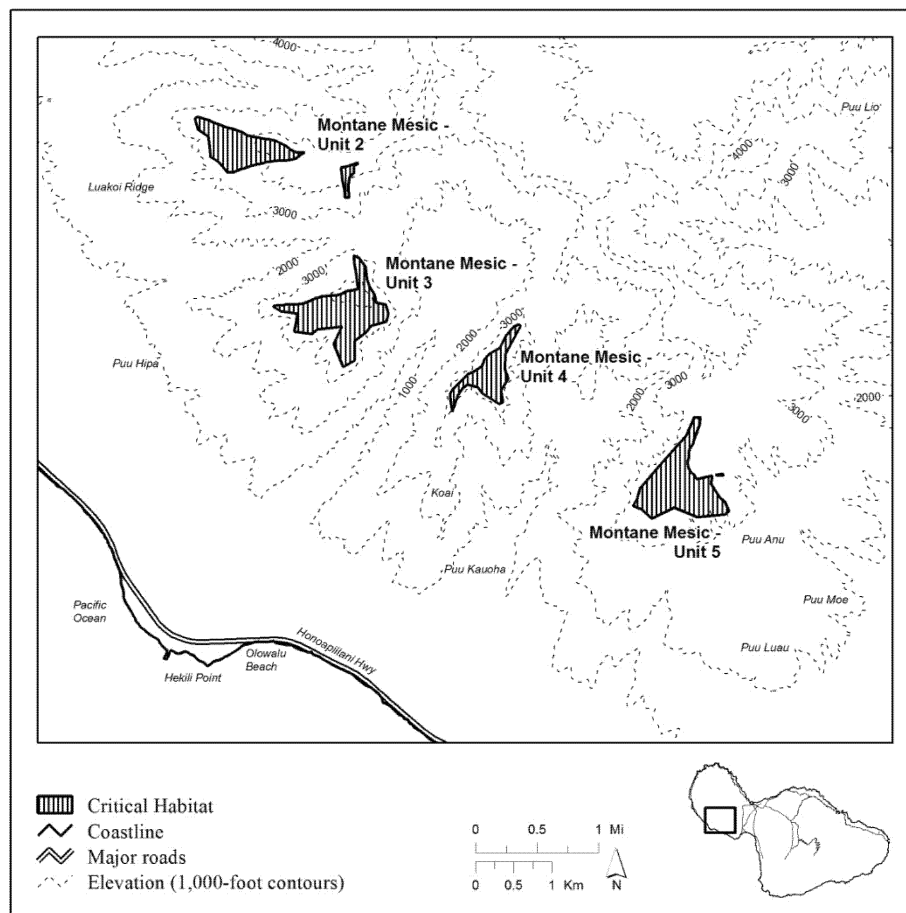
(B) Map of Maui—Montane Mesic—Unit 2, Maui—Montane Mesic—Unit 3, Maui—Montane Mesic—Unit 4, and Maui—Montane Mesic—Unit 5 (Map 20) follows:



## Map 20

## Maui—Montane Mesic

## Unit 2, Unit 3, Unit 4, and Unit 5



(xxi) Maui—Montane Dry—Unit 1 (3,524 ac, 1,426 ha).

(A) This unit is critical habitat for *Alectryon macrococcus*, *Geranium*

*arboreum*, *Melicope knudsenii*, *Melicope mucronulata*, *Santalum haleakalae* var. *lanaiense*, and *Zanthoxylum hawaiiense*.

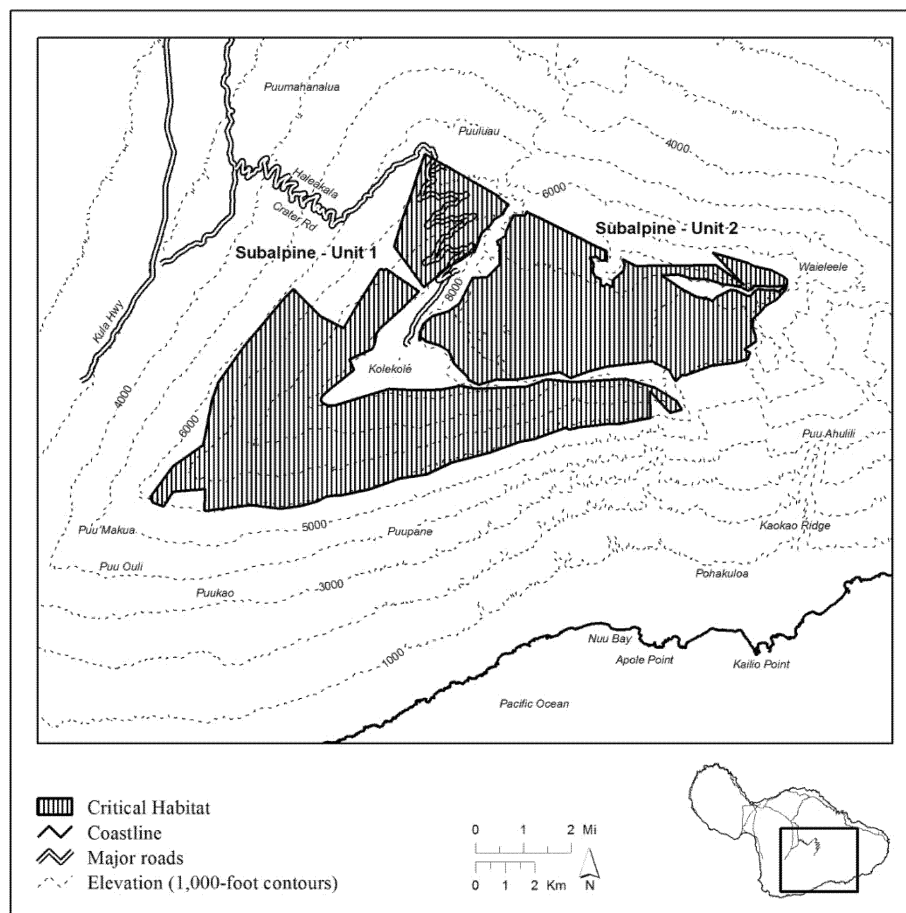
(B) Map of Maui—Montane Dry—Unit 1 (Map 21) follows:

(B) Map of Maui—Subalpine—Unit 1 and Maui—Subalpine—Unit 2 (Map 22) follows:

## Map 22

## Maui—Subalpine

## Unit 1 and Unit 2



(xxiii) Maui—Alpine—Unit 1 (1,797 ac, 727 ha).

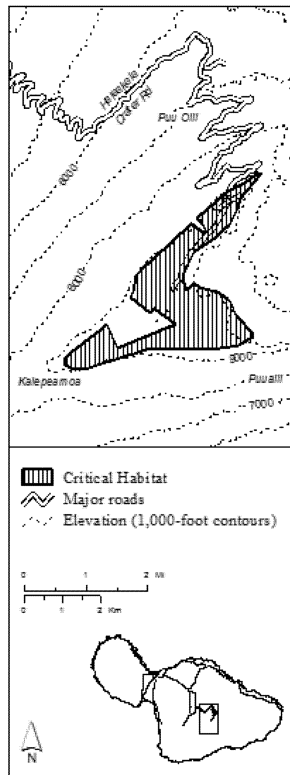
(A) This unit is critical habitat for *Argyroxiphium sandwicense* ssp. *macrocephalum*.

(B) Map of Maui—Alpine—Unit 1 (Map 23) follows:

## Map 23

### Maui-Alpine

#### Unit 1



(xxiv) Maui—Dry Cliff—Unit 1 (755 ac, 305 ha), Maui—Dry Cliff—Unit 2 (688 ac, 279 ha), Maui—Dry Cliff—Unit 3 (200 ac, 81 ha), and Maui—Dry Cliff—Unit 4 (315 ac, 127 ha).

(A) These units are critical habitat for *Argyroxiphium sandwicense* ssp. *macrocephalum*, *Bidens campylothea* ssp. *pentamera*, *Bidens micrantha* ssp. *kalealaha*, *Diplazium molokaiense*,

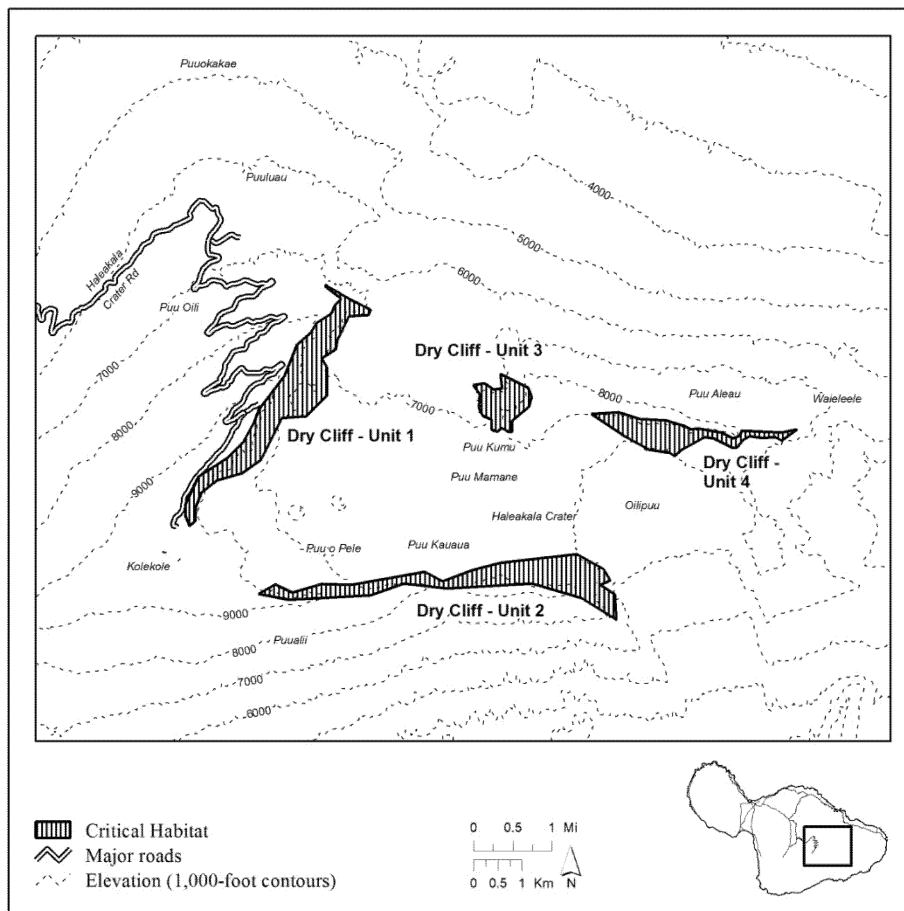
*Geranium multiflorum*, *Plantago princeps*, and *Schiedea haleakalensis*.

(B) Map of Maui—Dry Cliff—Unit 1, Maui—Dry Cliff—Unit 2, Maui—Dry Cliff—Unit 3, and Maui—Dry Cliff—Unit 4 (Map 24) follows:

## Map 24

## Maui—Dry Cliff

## Unit 1, Unit 2, Unit 3, and Unit 4



(xxv) Maui—Dry Cliff—Unit 5 (1,298 ac, 525 ha) and Maui—Dry Cliff—Unit 6 (279 ac, 113 ha).

(A) These units are critical habitat for *Bonamia menziesii*, *Diplazium*

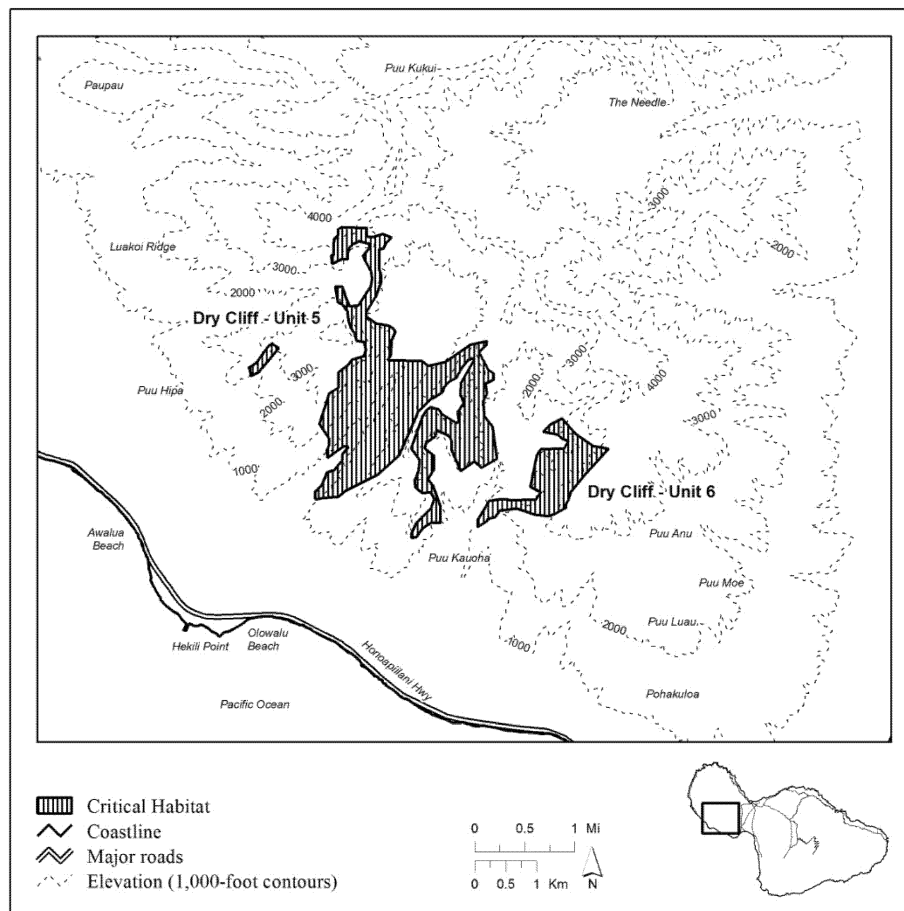
*molokaiense*, *Hesperomannia arbuscula*, *Isodendron pyrifolium*, *Kadua laxiflora*, *Neraudia sericea*, and *Tetramolopium capillare*.

(B) Map of Maui—Dry Cliff—Unit 5 and Maui—Dry Cliff—Unit 6 (Map 25) follows:

## Map 25

## Maui—Dry Cliff

## Unit 5 and Unit 6



(xxvi) Maui—Wet Cliff—Unit 1 (290 ac, 117 ha).

(A) This unit is critical habitat for *Bidens campylothea* ssp. *pentamera*,

*Bidens campylothea* ssp. *waihoiensis*,  
*Cyanea copelandii* ssp. *haleakalaensis*,  
*Cyanea horrida*, *Melicope ovalis*,

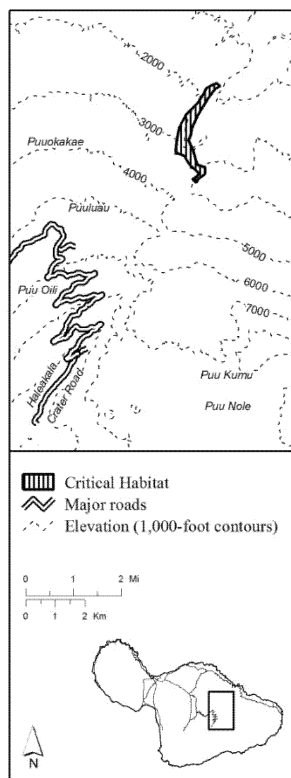
*Phyllostegia bracteata*, *Phyllostegia haliakalae*, and *Plantago princeps*.

(B) Map of Maui—Wet Cliff—Unit 1 (Map 26) follows:

## Map 26

## Maui—Wet Cliff

## Unit 1



(xxvii) Maui—Wet Cliff—Unit 2 (1,407 ac, 569 ha), Maui—Wet Cliff—Unit 3 (438 ac, 177 ha), and Maui—Wet Cliff—Unit 4 (184 ac, 75 ha).

(A) These units are critical habitat for *Bidens campylotheca* ssp. *pentamera*, *Bidens campylotheca* ssp. *waihoiensis*, *Cyanea copelandii* ssp. *haleakalaensis*, *Cyanea horrida*, *Melicope ovalis*,

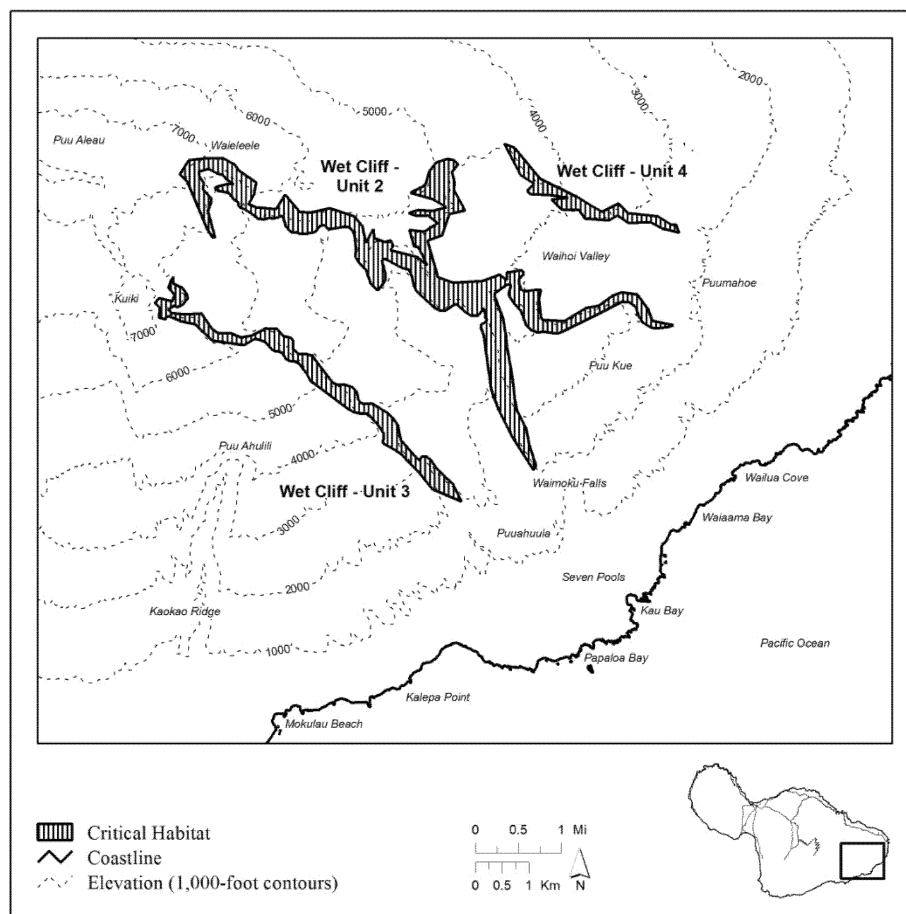
*Phyllostegia bracteata*, *Phyllostegia haliakalae*, and *Plantago princeps*.

(D) Map of Maui—Wet Cliff—Unit 2, Maui—Wet Cliff—Unit 3, and Maui—Wet Cliff—Unit 4 (Map 27) follows:

## Map 27

## Maui—Wet Cliff

## Unit 2, Unit 3, and Unit 4



(xxviii) Maui—Wet Cliff—Unit 6 (2,111 ac, 854 ha), Maui—Wet Cliff—Unit 7 (557 ac, 225 ha), and Maui—Wet Cliff—Unit 8 (337 ac, 137 ha).

(A) These units are critical habitat for *Alectryon macrococcus*, *Bidens campylothea* ssp. *pentamera*, *Bidens conjuncta*, *Bonamia menziesii*, *Ctenitis*

*squamigera*, *Cyanea glabra*, *Cyanea lobata*, *Cyanea magnicalyx*, *Cyrtandra filipes*, *Cyrtandra munroi*, *Dubautia plantaginea* ssp. *humilis*, *Gouania vitifolia*, *Hesperomannia arborescens*, *Hesperomannia arbuscula*, *Isodendrion pyrifolium*, *Kadua laxiflora*, *Lysimachia lydgatei*, *Plantago princeps*, *Platanthera*

*holochila*, *Pteris lidgatei*, *Remya mauiensis*, *Santalum haleakalae* var. *lanaiense*, and *Tetramolopium capillare*.

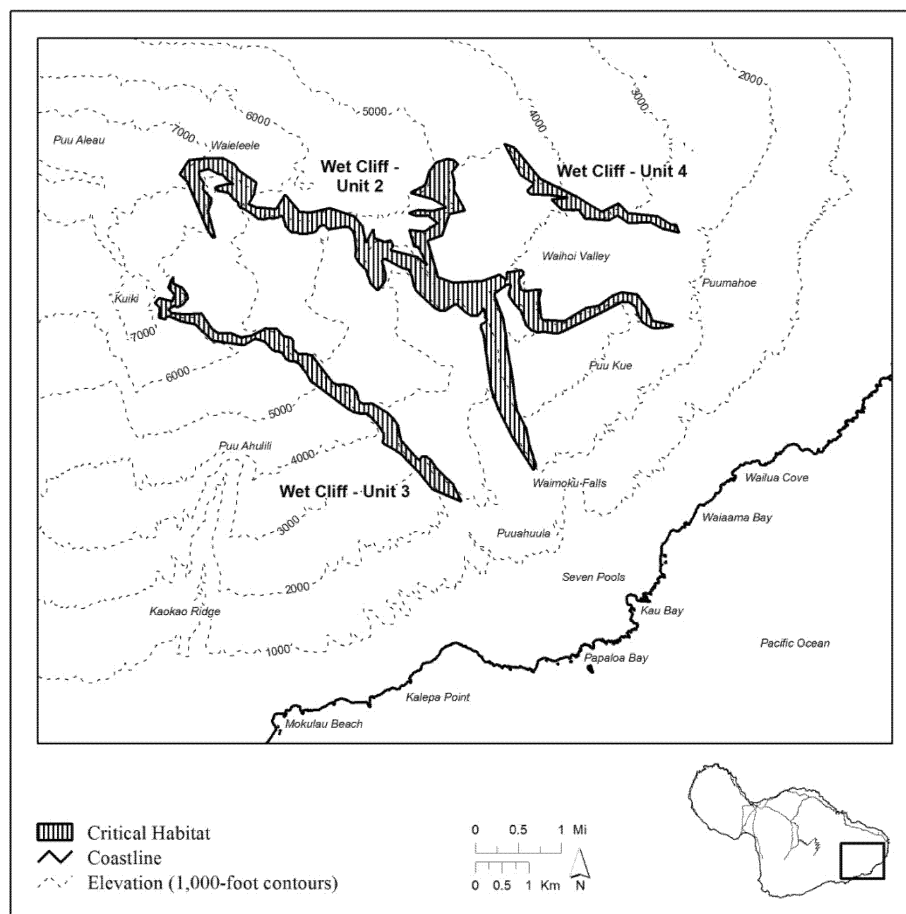
(B) Maui—Wet Cliff—Unit 6, Maui—Wet Cliff—Unit 7, and Maui—Wet Cliff—Unit 8 (Map 28) follows:



## Map 27

## Maui—Wet Cliff

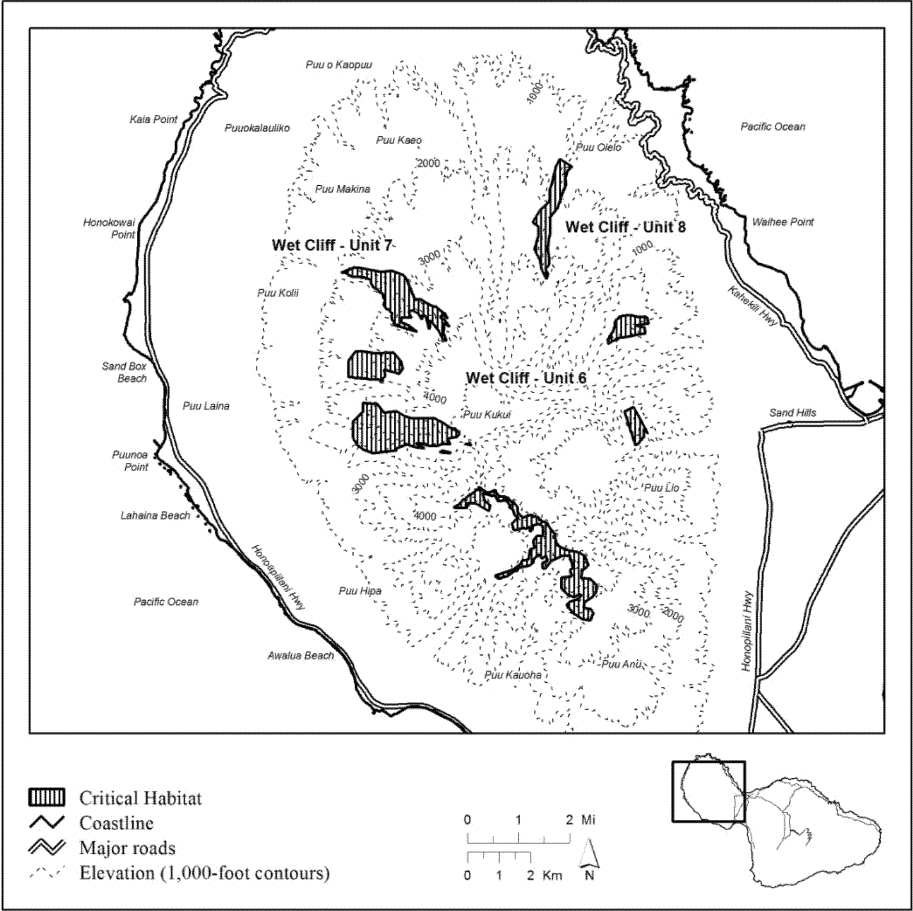
## Unit 2, Unit 3, and Unit 4



Map 28

Maui—Wet Cliff

Unit 6, Unit 7, and Unit 8



(xxix) OCCUPANCY OF SPECIES BY  
DESIGNATED CRITICAL HABITAT  
UNITS FOR MAUI

Unit name	Species occupied	Species unoccupied
Maui—Coastal—Unit 1 .....	.....  <i>Peucedanum sandwicense.</i>	<i>Brighamia rockii.</i> <i>Cyperus pennatiformis.</i> <i>Ischaemum byrone.</i>
Maui—Coastal—Unit 2 .....	.....	<i>Vigna o-wahuensis.</i> <i>Brighamia rockii.</i> <i>Cyperus pennatiformis.</i> <i>Ischaemum byrone.</i> <i>Peucedanum sandwicense.</i>
Maui—Coastal—Unit 3 .....	.....  <i>Ischaemum byrone.</i>	<i>Vigna o-wahuensis.</i> <i>Brighamia rockii.</i> <i>Cyperus pennatiformis.</i>
Maui—Coastal—Unit 4 .....	.....  <i>Cyperus pennatiformis.</i>	<i>Peucedanum sandwicense.</i> <i>Vigna o-wahuensis.</i> <i>Brighamia rockii.</i>  <i>Ischaemum byrone.</i> <i>Peucedanum sandwicense.</i> <i>Vigna o-wahuensis.</i>

Unit name	Species occupied	Species unoccupied
Maui—Coastal—Unit 5 .....	..... <i>Ischaemum byrone.</i>	<i>Brighamia rockii.</i> <i>Cyperus pennatiformis.</i> <i>Peucedanum sandwicense.</i> <i>Vigna o-wahuensis.</i>
Maui—Coastal—Unit 6 .....	..... <i>Vigna o-wahuensis.</i>	<i>Brighamia rockii.</i> <i>Cyperus pennatiformis.</i> <i>Ischaemum byrone.</i> <i>Peucedanum sandwicense.</i>
Maui—Coastal—Unit 7 .....	.....	<i>Brighamia rockii.</i> <i>Cyperus pennatiformis.</i> <i>Ischaemum byrone.</i> <i>Peucedanum sandwicense.</i> <i>Vigna o-wahuensis.</i>
Maui—Coastal—Unit 8 .....	.....	<i>Brighamia rockii.</i> <i>Cyperus pennatiformis.</i> <i>Ischaemum byrone.</i> <i>Peucedanum sandwicense.</i> <i>Vigna o-wahuensis.</i>
Maui—Coastal—Unit 9 .....	..... <i>Schenkia sebaeoides.</i> <i>Sesbania tomentosa.</i>	<i>Brighamia rockii.</i>
Maui—Coastal—Unit 10 .....	..... <i>Schenkia sebaeoides.</i>	<i>Sesbania tomentosa.</i> <i>Brighamia rockii.</i> <i>Schenkia sebaeoides.</i> <i>Sesbania tomentosa.</i>
Maui—Coastal—Unit 11 .....	.....	<i>Alectryon macrococcus.</i> <i>Bidens micrantha</i> ssp. <i>kalealaha.</i>
Maui—Lowland Dry—Unit 1 .....	..... <i>Bonamia menziesii.</i> <i>Cenchrus agrimonioides.</i> <i>Flueggea neowawraea.</i> <i>Melicope adscendens.</i> <i>Santalum haleakalae</i> var. <i>lanaiense</i> <i>Spermolepis hawaiiensis.</i>	<i>Canavalia pubescens.</i> <i>Colubrina oppositifolia.</i> <i>Ctenitis squamigera.</i> <i>Hibiscus brackenridgei.</i> <i>Melanthera kamolensis.</i> <i>Melicope mucronulata.</i> <i>Neraudia sericea.</i> <i>Nototrichium humile.</i> <i>Sesbania tomentosa.</i> <i>Solanum incompletum.</i>
Maui—Lowland Dry—Unit 2 .....	..... <i>Bonamia menziesii.</i> <i>Canavalia pubescens.</i>  <i>Hibiscus brackenridgei.</i>	<i>Zanthoxylum hawaiiense.</i> <i>Alectryon macrococcus.</i> <i>Bidens micrantha</i> ssp. <i>kalealaha.</i>  <i>Cenchrus agrimonioides.</i> <i>Colubrina oppositifolia.</i> <i>Ctenitis squamigera.</i> <i>Flueggea neowawraea.</i>  <i>Melanthera kamolensis.</i> <i>Melicope mucronulata.</i> <i>Neraudia sericea.</i> <i>Nototrichium humile.</i> <i>Santalum haleakalae</i> var. <i>lanaiense.</i> <i>Sesbania tomentosa.</i> <i>Solanum incompletum.</i> <i>Spermolepis hawaiiensis.</i> <i>Zanthoxylum hawaiiense.</i>
Maui—Lowland Dry—Unit 3 .....	..... <i>Canavalia pubescens.</i>	<i>Bidens micrantha</i> ssp. <i>kalealaha.</i> <i>Bonamia menziesii.</i>  <i>Cenchrus agrimonioides.</i> <i>Colubrina oppositifolia.</i> <i>Ctenitis squamigera.</i> <i>Flueggea neowawraea.</i> <i>Hibiscus brackenridgei.</i>

Unit name	Species occupied	Species unoccupied
Maui—Lowland Dry—Unit 4 .....		<i>Melanthera kamolensis</i> . <i>Melicope mucronulata</i> . <i>Neraudia sericea</i> . <i>Nototrichium humile</i> . <i>Santalum haleakalae</i> var. <i>lanaiense</i> . <i>Sesbania tomentosa</i> . <i>Solanum incompletum</i> . <i>Spermolepis hawaiiensis</i> . <i>Zanthoxylum hawaiiense</i> . <i>Bidens micrantha</i> ssp. <i>kalealaha</i> . <i>Bonamia menziesii</i> . <i>Canavalia pubescens</i> . <i>Cenchrus agrimonioides</i> . <i>Colubrina oppositifolia</i> . <i>Ctenitis squamigera</i> . <i>Flueggea neowawraea</i> . <i>Hibiscus brackenridgei</i> . <i>Melanthera kamolensis</i> . <i>Melicope mucronulata</i> . <i>Neraudia sericea</i> . <i>Nototrichium humile</i> . <i>Santalum haleakalae</i> var. <i>lanaiense</i> . <i>Sesbania tomentosa</i> . <i>Solanum incompletum</i> . <i>Spermolepis hawaiiensis</i> . <i>Zanthoxylum hawaiiense</i> .
Maui—Lowland Dry—Unit 5 .....	<i>Asplenium dielereum</i> . <i>Bidens campylothea</i> ssp. <i>pentamera</i> . <i>Cenchrus agrimonioides</i> .  <i>Gouania hillebrandii</i> .  <i>Kadua coriacea</i> .  <i>Remya mauiensis</i> . <i>Santalum haleakalae</i> var. <i>lanaiense</i> .  <i>Spermolepis hawaiiensis</i> . <i>Tetramolopium capillare</i> .	<i>Ctenitis squamigera</i> . <i>Cyanea obtusa</i> .  <i>Hesperomannia arbuscula</i> . <i>Hibiscus brackenridgei</i> .  <i>Lysimachia lydgatei</i> . <i>Neraudia sericea</i> .  <i>Schiedea salicaria</i> . <i>Sesbania tomentosa</i> .
Maui—Lowland Dry—Unit 6 .....		<i>Tetramolopium remyi</i> . <i>Asplenium dielereum</i> . <i>Bidens campylothea</i> ssp. <i>pentamera</i> . <i>Cenchrus agrimonioides</i> . <i>Ctenitis squamigera</i> . <i>Cyanea obtusa</i> . <i>Gouania hillebrandii</i> . <i>Hesperomannia arbuscula</i> .  <i>Kadua coriacea</i> . <i>Lysimachia lydgatei</i> . <i>Neraudia sericea</i> . <i>Remya mauiensis</i> . <i>Santalum haleakalae</i> var. <i>lanaiense</i> .  <i>Sesbania tomentosa</i> . <i>Spermolepis hawaiiensis</i> . <i>Tetramolopium capillare</i> . <i>Tetramolopium remyi</i> . <i>Ctenitis squamigera</i> .
Maui—Lowland Mesic—Unit 1 .....	<i>Cyanea asplenifolia</i> . <i>Cyanea copelandii</i> ssp. <i>haleakalaensis</i> . <i>Huperzia mannii</i> .	
Maui—Lowland Mesic—Unit 2 .....		<i>Solanum incompletum</i> . <i>Asplenium dielereum</i> . <i>Bidens campylothea</i> ssp. <i>pentamera</i> . <i>Colubrina oppositifolia</i> .
	<i>Ctenitis squamigera</i> . <i>Remya mauiensis</i> . <i>Santalum haleakalae</i> var. <i>lanaiense</i> . <i>Zanthoxylum hawaiiense</i> .	

Unit name	Species occupied	Species unoccupied
Maui—Lowland Mesic—Unit 3 .....	.....	<i>Asplenium dielerectum</i> . <i>Bidens campylothea</i> ssp. <i>pentamera</i> . <i>Colubrina oppositifolia</i> . <i>Ctenitis squamigera</i> . <i>Remya mauiensis</i> . <i>Santalum haleakalae</i> var. <i>lanaiense</i> . <i>Zanthoxylum hawaiiense</i> .
Maui—Lowland Wet—Unit 1 .....	<i>Bidens campylothea</i> ssp. <i>waihoiensis</i> .  <i>Clermontia samuelii</i> . <i>Cyanea asplenifolia</i> . <i>Cyanea copelandii</i> ssp. <i>haleakalaensis</i> . <i>Cyanea duvalliorum</i> . <i>Cyanea hamatiflora</i> ssp. <i>hamatiflora</i> . <i>Cyanea kunthiana</i> . <i>Cyanea maritae</i> . <i>Cyanea mceldowneyi</i> . <i>Huperzia mannii</i> . <i>Melicope balloui</i> . <i>Melicope ovalis</i> .	<i>Clermontia oblongifolia</i> ssp. <i>mauiensis</i> . <i>Clermontia peleana</i> .  <i>Mucuna sloanei</i> var. <i>persericea</i> . <i>Phyllostegia haliakalae</i> . <i>Wikstroemia villosa</i> . <i>Alectryon macrococcus</i> .
Maui—Lowland Wet—Unit 2 .....	.....	<i>Asplenium dielerectum</i> . <i>Bidens conjuncta</i> . <i>Bidens micrantha</i> ssp. <i>kalealaha</i> . <i>Clermontia oblongifolia</i> ssp. <i>mauiensis</i> . <i>Ctenitis squamigera</i> . <i>Cyanea asplenifolia</i> . <i>Cyanea glabra</i> . <i>Cyanea kunthiana</i> . <i>Cyanea lobata</i> . <i>Cyanea magnicalyx</i> . <i>Cyrtandra filipes</i> . <i>Cyrtandra munroi</i> . <i>Diplazium molokaiense</i> . <i>Hesperomannia arborescens</i> . <i>Hesperomannia arbuscula</i> . <i>Huperzia mannii</i> . <i>Isodendrion pyriformis</i> . <i>Kadua laxiflora</i> . <i>Peucedanum sandwicense</i> . <i>Phyllostegia bracteata</i> . <i>Pteris lidgatei</i> . <i>Remya mauiensis</i> .
Maui—Lowland Wet—Unit 3 .....	<i>Santalum haleakalae</i> var. <i>lanaiense</i> .  <i>Bidens conjuncta</i> .  <i>Cyanea asplenifolia</i> .   <i>Pteris lidgatei</i> .	<i>Wikstroemia villosa</i> . <i>Alectryon macrococcus</i> . <i>Asplenium dielerectum</i> .  <i>Bidens micrantha</i> ssp. <i>kalealaha</i> . <i>Clermontia oblongifolia</i> ssp. <i>mauiensis</i> . <i>Ctenitis squamigera</i> .  <i>Cyanea glabra</i> . <i>Cyanea kunthiana</i> . <i>Cyanea lobata</i> . <i>Cyanea magnicalyx</i> . <i>Cyrtandra filipes</i> . <i>Cyrtandra munroi</i> . <i>Diplazium molokaiense</i> . <i>Hesperomannia arborescens</i> . <i>Hesperomannia arbuscula</i> . <i>Huperzia mannii</i> . <i>Isodendrion pyriformis</i> . <i>Kadua laxiflora</i> . <i>Peucedanum sandwicense</i> . <i>Phyllostegia bracteata</i> .  <i>Remya mauiensis</i> . <i>Santalum haleakalae</i> var. <i>lanaiense</i> . <i>Wikstroemia villosa</i> .

Unit name	Species occupied	Species unoccupied
Maui—Lowland Wet—Unit 4 .....	<i>Cyanea asplenifolia.</i>	<i>Alectryon macrococcus.</i> <i>Asplenium dielerectum.</i> <i>Bidens conjuncta.</i> <i>Bidens micrantha</i> ssp. <i>kalealaha.</i> <i>Clermontia oblongifolia</i> ssp. <i>mauiensis.</i> <i>Ctenitis squamigera.</i>  <i>Cyanea glabra.</i> <i>Cyanea kunthiana.</i> <i>Cyanea lobata.</i> <i>Cyanea magnicalyx.</i> <i>Cyrtandra filipes.</i> <i>Cyrtandra munroi.</i> <i>Diplazium molokaiense.</i> <i>Hesperomannia arborescens.</i> <i>Hesperomannia arbuscula.</i> <i>Huperzia mannii.</i> <i>Isodendrion pyriform.</i> <i>Kadua laxiflora.</i> <i>Peucedanum sandwicense.</i> <i>Phyllostegia bracteata.</i> <i>Pteris lidgatei.</i> <i>Remya mauiensis.</i> <i>Santalum haleakalae</i> var. <i>lanaiense.</i> <i>Wikstroemia villosa.</i>
Maui—Lowland Wet—Unit 5 .....		<i>Alectryon macrococcus.</i> <i>Asplenium dielerectum.</i> <i>Bidens conjuncta.</i> <i>Bidens micrantha</i> ssp. <i>kalealaha.</i> <i>Clermontia oblongifolia</i> ssp. <i>mauiensis.</i> <i>Ctenitis squamigera.</i> <i>Cyanea asplenifolia.</i> <i>Cyanea glabra.</i> <i>Cyanea kunthiana.</i> <i>Cyanea lobata.</i> <i>Cyanea magnicalyx.</i> <i>Cyrtandra filipes.</i> <i>Cyrtandra munroi.</i> <i>Diplazium molokaiense.</i> <i>Hesperomannia arborescens.</i> <i>Hesperomannia arbuscula.</i> <i>Huperzia mannii.</i> <i>Isodendrion pyriform.</i> <i>Kadua laxiflora.</i> <i>Peucedanum sandwicense.</i> <i>Phyllostegia bracteata.</i> <i>Pteris lidgatei.</i> <i>Remya mauiensis.</i> <i>Santalum haleakalae</i> var. <i>lanaiense.</i> <i>Wikstroemia villosa.</i>
Maui—Lowland Wet—Unit 6 .....	<i>Santalum haleakalae</i> var. <i>lanaiense.</i>	<i>Alectryon macrococcus.</i> <i>Asplenium dielerectum.</i> <i>Bidens conjuncta.</i> <i>Bidens micrantha</i> ssp. <i>kalealaha.</i> <i>Clermontia oblongifolia</i> ssp. <i>mauiensis.</i> <i>Ctenitis squamigera.</i> <i>Cyanea asplenifolia.</i> <i>Cyanea glabra.</i> <i>Cyanea kunthiana.</i> <i>Cyanea lobata.</i> <i>Cyanea magnicalyx.</i> <i>Cyrtandra filipes.</i> <i>Cyrtandra munroi.</i> <i>Diplazium molokaiense.</i> <i>Hesperomannia arborescens.</i> <i>Hesperomannia arbuscula.</i> <i>Huperzia mannii.</i> <i>Isodendrion pyriform.</i> <i>Kadua laxiflora.</i> <i>Peucedanum sandwicense.</i> <i>Phyllostegia bracteata.</i> <i>Pteris lidgatei.</i> <i>Remya mauiensis.</i>

Unit name	Species occupied	Species unoccupied
Maui—Lowland Wet—Unit 7 .....	<i>Alectryon macrococcus</i>	<i>Wikstroemia villosa</i> . <i>Asplenium dielerectum</i> . <i>Bidens conjuncta</i> . <i>Bidens micrantha</i> ssp. <i>kalealaha</i> . <i>Clermontia oblongifolia</i> ssp. <i>mauiensis</i> . <i>Ctenitis squamigera</i> . <i>Cyanea asplenifolia</i> . <i>Cyanea glabra</i> . <i>Cyanea kunthiana</i> . <i>Cyanea lobata</i> . <i>Cyanea magnicalyx</i> . <i>Cyrtandra filipes</i> . <i>Cyrtandra munroi</i> . <i>Diplazium molokaiense</i> . <i>Hesperomannia arborescens</i> . <i>Hesperomannia arbuscula</i> . <i>Huperzia mannii</i> . <i>Isodendrion pyriformis</i> . <i>Kadua laxiflora</i> . <i>Peucedanum sandwicense</i> . <i>Phyllostegia bracteata</i> . <i>Pteris lidgatei</i> . <i>Remya mauiensis</i> . <i>Santalum haleakalae</i> var. <i>lanaiense</i> . <i>Wikstroemia villosa</i> .
Maui—Lowland Wet—Unit 8 .....	.....	<i>Alectryon macrococcus</i> . <i>Asplenium dielerectum</i> . <i>Bidens conjuncta</i> . <i>Bidens micrantha</i> ssp. <i>kalealaha</i> . <i>Clermontia oblongifolia</i> ssp. <i>mauiensis</i> . <i>Ctenitis squamigera</i> . <i>Cyanea asplenifolia</i> . <i>Cyanea glabra</i> . <i>Cyanea kunthiana</i> . <i>Cyanea lobata</i> . <i>Cyanea magnicalyx</i> . <i>Cyrtandra filipes</i> . <i>Cyrtandra munroi</i> . <i>Diplazium molokaiense</i> . <i>Hesperomannia arborescens</i> . <i>Hesperomannia arbuscula</i> . <i>Huperzia mannii</i> . <i>Isodendrion pyriformis</i> . <i>Kadua laxiflora</i> . <i>Peucedanum sandwicense</i> . <i>Phyllostegia bracteata</i> . <i>Pteris lidgatei</i> . <i>Remya mauiensis</i> . <i>Santalum haleakalae</i> var. <i>lanaiense</i> . <i>Wikstroemia villosa</i> .
Maui—Montane Wet—Unit 1 .....	.....	<i>Adenophorus periens</i> . <i>Asplenium peruvianum</i> var. <i>insulare</i> . <i>Bidens campylothea</i> ssp. <i>pentamera</i> . <i>Bidens campylothea</i> ssp. <i>waihoiensis</i> . <i>Clermontia oblongifolia</i> ssp. <i>mauiensis</i> . <i>Clermontia samuelii</i> . <i>Cyanea copelandii</i> ssp. <i>haleakalaensis</i> .
	<i>Cyanea duvalliorum</i> .	<i>Cyanea glabra</i> . <i>Cyanea hamatiflora</i> ssp. <i>hamatiflora</i> . <i>Cyanea horrida</i> . <i>Cyanea kunthiana</i> .
	<i>Cyanea maritae</i> . <i>Cyanea mceldowneyi</i> .	<i>Cyrtandra ferrispilosa</i> . <i>Diplazium molokaiense</i> . <i>Geranium hanaense</i> . <i>Geranium multiflorum</i> .
	<i>Huperzia mannii</i> . <i>Melicope balloui</i> .	<i>Melicope ovalis</i> . <i>Peperomia subpetiolata</i> . <i>Phyllostegia bracteata</i> .

Unit name	Species occupied	Species unoccupied
Maui—Montane Wet—Unit 2 .....	<i>Phyllostegia pilosa.</i>  <i>Bidens campylotheca</i> ssp. <i>pentamera.</i>  <i>Clermontia samuelii.</i> <i>Cyanea copelandii</i> ssp. <i>haleakalaensis.</i> <i>Cyanea duvalliorum.</i>  <i>Cyanea hamatiflora</i> ssp. <i>hamatiflora.</i> <i>Cyanea horrida.</i> <i>Cyanea kunthiana.</i>  <i>Cyanea mceldowneyi.</i>  <i>Geranium hanaense.</i> <i>Geranium multiflorum.</i>	<i>Phyllostegia haliakalae.</i> <i>Phyllostegia mannii.</i>  <i>Platanthera holochila.</i> <i>Schiedea jacobii.</i> <i>Wikstroemia villosa.</i> <i>Adenophorus periens.</i> <i>Asplenium peruvianum</i> var. <i>insulare.</i>  <i>Bidens campylotheca</i> ssp. <i>waihoiensis.</i> <i>Clermontia oblongifolia</i> ssp. <i>mauiensis.</i>  <i>Cyanea glabra.</i>  <i>Cyanea maritae.</i>  <i>Cyrtandra ferripilosa.</i> <i>Diplazium molokaiense.</i>  <i>Huperzia mannii.</i> <i>Melicope balloui.</i> <i>Melicope ovalis.</i> <i>Peperomia subpetiolata.</i> <i>Phyllostegia bracteata.</i> <i>Phyllostegia haliakalae.</i> <i>Phyllostegia mannii.</i> <i>Phyllostegia pilosa.</i> <i>Platanthera holochila.</i> <i>Schiedea jacobii.</i>
Maui—Montane Wet—Unit 3 .....	<i>Wikstroemia villosa.</i>  <i>Bidens campylotheca</i> ssp. <i>pentamera.</i> <i>Bidens campylotheca</i> ssp. <i>waihoiensis.</i>  <i>Cyanea copelandii</i> ssp. <i>haleakalaensis.</i>  <i>Cyanea hamatiflora</i> ssp. <i>hamatiflora.</i>  <i>Cyanea maritae.</i>  <i>Melicope ovalis.</i>	<i>Adenophorus periens.</i> <i>Asplenium peruvianum</i> var. <i>insulare.</i>  <i>Clermontia oblongifolia</i> ssp. <i>mauiensis.</i> <i>Clermontia samuelii.</i>  <i>Cyanea duvalliorum.</i> <i>Cyanea glabra.</i>  <i>Cyanea horrida.</i> <i>Cyanea kunthiana.</i>  <i>Cyanea mceldowneyi.</i> <i>Cyrtandra ferripilosa.</i> <i>Diplazium molokaiense.</i> <i>Geranium hanaense.</i> <i>Geranium multiflorum.</i> <i>Huperzia mannii.</i> <i>Melicope balloui.</i>  <i>Peperomia subpetiolata.</i> <i>Phyllostegia bracteata.</i> <i>Phyllostegia haliakalae.</i> <i>Phyllostegia mannii.</i> <i>Phyllostegia pilosa.</i> <i>Platanthera holochila.</i> <i>Schiedea jacobii.</i> <i>Wikstroemia villosa.</i>
Maui—Montane Wet—Unit 4 .....	<i>Clermontia samuelii.</i> <i>Cyanea copelandii</i> ssp. <i>haleakalaensis.</i>  <i>Cyanea hamatiflora</i> ssp. <i>hamatiflora.</i>	<i>Adenophorus periens.</i> <i>Asplenium peruvianum</i> var. <i>insulare.</i> <i>Bidens campylotheca</i> ssp. <i>pentamera.</i> <i>Bidens campylotheca</i> ssp. <i>waihoiensis.</i> <i>Clermontia oblongifolia</i> ssp. <i>mauiensis.</i>  <i>Cyanea duvalliorum.</i> <i>Cyanea glabra.</i>



Unit name	Species occupied	Species unoccupied
Maui—Montane Wet—Unit 5 .....	<i>Cyanea horrida.</i> <i>Cyanea kunthiana.</i> <i>Cyanea maritae.</i>  <i>Cyrtandra ferripilosa.</i>   <i>Huperzia mannii.</i>       <i>Bidens campylotheca</i> ssp. <i>pentamera.</i>	<i>Cyanea mceldowneyi.</i>  <i>Diplazium molokaiense.</i> <i>Geranium hanaense.</i> <i>Geranium multiflorum.</i>  <i>Melicope balloui.</i> <i>Melicope ovalis.</i> <i>Peperomia subpetiolata.</i> <i>Phyllostegia bracteata.</i> <i>Phyllostegia haliakalae.</i> <i>Phyllostegia mannii.</i> <i>Phyllostegia pilosa.</i> <i>Platanthera holochila.</i> <i>Schiedea jacobii.</i> <i>Wikstroemia villosa.</i> <i>Adenophorus periens.</i> <i>Asplenium peruvianum</i> var. <i>insulare.</i>  <i>Bidens campylotheca</i> ssp. <i>waihoiensis.</i> <i>Clermontia oblongifolia</i> ssp. <i>mauiensis.</i> <i>Clermontia samuelii.</i> <i>Cyanea copelandii</i> ssp. <i>haleakalaensis.</i> <i>Cyanea duvalliorum.</i> <i>Cyanea glabra.</i> <i>Cyanea hamatiflora</i> ssp. <i>hamatiflora.</i> <i>Cyanea horrida.</i> <i>Cyanea kunthiana.</i> <i>Cyanea maritae.</i> <i>Cyanea mceldowneyi.</i> <i>Cyrtandra ferripilosa.</i> <i>Diplazium molokaiense.</i> <i>Geranium hanaense.</i> <i>Geranium multiflorum.</i> <i>Huperzia mannii.</i> <i>Melicope balloui.</i> <i>Melicope ovalis.</i> <i>Peperomia subpetiolata.</i> <i>Phyllostegia bracteata.</i> <i>Phyllostegia haliakalae.</i> <i>Phyllostegia mannii.</i> <i>Phyllostegia pilosa.</i> <i>Platanthera holochila.</i> <i>Schiedea jacobii.</i> <i>Wikstroemia villosa.</i> <i>Acaena exigua.</i>
Maui—Montane Wet—Unit 6 .....	<i>Bidens conjuncta.</i> <i>Calamagrostis hillebrandii.</i> <i>Cyanea kunthiana.</i>  <i>Geranium hillebrandii.</i>  <i>Myrsine vaccinioides.</i>   <i>Sanicula purpurea.</i>	<i>Cyrtandra oxybapha.</i>  <i>Huperzia mannii.</i>  <i>Phyllostegia bracteata.</i> <i>Platanthera holochila.</i>
Maui—Montane Wet—Unit 7 .....	<i>Cyrtandra oxybapha.</i>      <i>Platanthera holochila.</i>	<i>Acaena exigua.</i> <i>Bidens conjuncta.</i> <i>Calamagrostis hillebrandii.</i> <i>Cyanea kunthiana.</i>  <i>Geranium hillebrandii.</i> <i>Huperzia mannii.</i> <i>Myrsine vaccinioides.</i> <i>Phyllostegia bracteata.</i>
Maui—Montane Mesic—Unit 1 .....	<i>Argyroxiphium sandwicense</i> ssp. <i>macrocephalum.</i> <i>Asplenium dielerectum.</i>	<i>Sanicula purpurea.</i> <i>Alectryon macrococcus.</i>

Unit name	Species occupied	Species unoccupied
	<i>Asplenium peruvianum</i> var. <i>insulare</i> .  <i>Clermontia lindseyana</i> .  <i>Cyanea horrida</i> .  <i>Cyanea obtusa</i> . <i>Cyrtandra ferripilosa</i> . <i>Cyrtandra oxybapha</i> . <i>Diplazium molokaiense</i> . <i>Geranium arboreum</i> . <i>Geranium multiflorum</i> . <i>Huperzia mannii</i> . <i>Melicope adscendens</i> . <i>Neraudia sericea</i> .	<i>Bidens campylotheca</i> ssp. <i>pentamera</i> . <i>Bidens micrantha</i> ssp. <i>kalealaha</i> .  <i>Cyanea glabra</i> . <i>Cyanea hamatiflora</i> ssp. <i>hamatiflora</i> .  <i>Cyanea kunthiana</i> . <i>Cyanea mceldowneyi</i> .   <i>Phyllostegia bracteata</i> . <i>Phyllostegia mannii</i> . <i>Santalum haleakalae</i> var. <i>lanaiense</i> . <i>Wikstroemia villosa</i> . <i>Zanthoxylum hawaiiense</i> .
Maui—Montane Mesic—Unit 2 .....	<i>Ctenitis squamigera</i> . <i>Cyanea magnicalyx</i> . <i>Diplazium molokaiense</i> .  <i>Lysimachia lydgatei</i> . <i>Remya mauensis</i> . <i>Santalum haleakalae</i> var. <i>lanaiense</i> .	<i>Geranium hillebrandii</i> . <i>Huperzia mannii</i> .   <i>Stenogyne kauaulaensis</i> . <i>Zanthoxylum hawaiiense</i> . <i>Ctenitis squamigera</i> . <i>Cyanea magnicalyx</i> . <i>Diplazium molokaiense</i> .
Maui—Montane Mesic—Unit 3 .....	<i>Geranium hillebrandii</i> .	<i>Huperzia mannii</i> . <i>Lysimachia lydgatei</i> . <i>Remya mauensis</i> . <i>Santalum haleakalae</i> var. <i>lanaiense</i> . <i>Stenogyne kauaulaensis</i> . <i>Zanthoxylum hawaiiense</i> .
Maui—Montane Mesic—Unit 4 .....		<i>Ctenitis squamigera</i> . <i>Cyanea magnicalyx</i> . <i>Diplazium molokaiense</i> . <i>Geranium hillebrandii</i> . <i>Huperzia mannii</i> . <i>Lysimachia lydgatei</i> . <i>Remya mauensis</i> . <i>Santalum haleakalae</i> var. <i>lanaiense</i> . <i>Stenogyne kauaulaensis</i> . <i>Zanthoxylum hawaiiense</i> .
Maui—Montane Mesic—Unit 5 .....	<i>Remya mauensis</i> . <i>Santalum haleakalae</i> var. <i>lanaiense</i> .	<i>Ctenitis squamigera</i> . <i>Cyanea magnicalyx</i> . <i>Diplazium molokaiense</i> . <i>Geranium hillebrandii</i> . <i>Huperzia mannii</i> . <i>Lysimachia lydgatei</i> .
Maui—Montane Dry—Unit 1 .....		<i>Stenogyne kauaulaensis</i> . <i>Zanthoxylum hawaiiense</i> . <i>Alectryon macrococcus</i> . <i>Geranium arboreum</i> . <i>Melicope knudsenii</i> . <i>Melicope mucronulata</i> . <i>Santalum haleakalae</i> var. <i>lanaiense</i> . <i>Zanthoxylum hawaiiense</i> .
Maui—Subalpine—Unit 1 .....	<i>Bidens micrantha</i> ssp. <i>kalealaha</i> . <i>Geranium arboreum</i> .	<i>Argyroxiphium sandwicense</i> ssp. <i>macrocephalum</i> . <i>Asplenium peruvianum</i> var. <i>insulare</i> .

Unit name	Species occupied	Species unoccupied
Maui—Subalpine—Unit 2 .....	<i>Argyroxiphium sandwicense</i> ssp. <i>macrocephalum</i> .	<i>Geranium multiflorum</i> . <i>Phyllostegia bracteata</i> . <i>Schiedea haleakalensis</i> . <i>Zanthoxylum hawaiiense</i> .  <i>Asplenium peruvianum</i> var. <i>insulare</i> . <i>Bidens micrantha</i> ssp. <i>kalealaha</i> . <i>Geranium arboreum</i> .  <i>Phyllostegia bracteata</i> .  <i>Zanthoxylum hawaiiense</i> .
Maui—Alpine—Unit 1 .....	<i>Argyroxiphium sandwicense</i> ssp. <i>macrocephalum</i> .	
Maui—Dry Cliff—Unit 1 .....		<i>Argyroxiphium sandwicense</i> ssp. <i>macrocephalum</i> . <i>Bidens campylotheca</i> ssp. <i>pentamera</i> . <i>Bidens micrantha</i> ssp. <i>kalealaha</i> . <i>Diplazium molokaiense</i> . <i>Geranium multiflorum</i> . <i>Plantago princeps</i> . <i>Schiedea haleakalensis</i> .
Maui—Dry Cliff—Unit 2 .....	<i>Argyroxiphium sandwicense</i> ssp. <i>macrocephalum</i> .	<i>Bidens campylotheca</i> ssp. <i>pentamera</i> . <i>Bidens micrantha</i> ssp. <i>kalealaha</i> . <i>Diplazium molokaiense</i> .
Maui—Dry Cliff—Unit 3 .....		<i>Argyroxiphium sandwicense</i> ssp. <i>macrocephalum</i> . <i>Bidens campylotheca</i> ssp. <i>pentamera</i> . <i>Bidens micrantha</i> ssp. <i>kalealaha</i> . <i>Diplazium molokaiense</i> . <i>Geranium multiflorum</i> . <i>Plantago princeps</i> . <i>Schiedea haleakalensis</i> .
Maui—Dry Cliff—Unit 4 .....		<i>Argyroxiphium sandwicense</i> ssp. <i>macrocephalum</i> . <i>Bidens campylotheca</i> ssp. <i>pentamera</i> . <i>Bidens micrantha</i> ssp. <i>kalealaha</i> . <i>Diplazium molokaiense</i> . <i>Geranium multiflorum</i> . <i>Plantago princeps</i> . <i>Schiedea haleakalensis</i> .
Maui—Dry Cliff—Unit 5 .....		<i>Bonamia menziesii</i> . <i>Diplazium molokaiense</i> . <i>Hesperomannia arbuscula</i> . <i>Isodendrion pyrifolium</i> . <i>Kadua laxiflora</i> . <i>Neraudia sericea</i> .
Maui—Dry Cliff—Unit 6 .....	<i>Tetramolopium capillare</i> .	<i>Bonamia menziesii</i> . <i>Diplazium molokaiense</i> . <i>Hesperomannia arbuscula</i> . <i>Isodendrion pyrifolium</i> . <i>Kadua laxiflora</i> . <i>Neraudia sericea</i> . <i>Tetramolopium capillare</i> .
Maui—Wet Cliff—Unit 1 .....		<i>Bidens campylotheca</i> ssp. <i>pentamera</i> . <i>Bidens campylotheca</i> ssp. <i>waihoiensis</i> . <i>Cyanea copelandii</i> ssp. <i>haleakalaensis</i> . <i>Cyanea horrida</i> . <i>Melicope ovalis</i> . <i>Phyllostegia bracteata</i> . <i>Phyllostegia haliakalae</i> . <i>Plantago princeps</i> .
Maui—Wet Cliff—Unit 2 .....	<i>Bidens campylotheca</i> ssp. <i>waihoiensis</i> . <i>Cyanea copelandii</i> ssp. <i>haleakalaensis</i> .  <i>Melicope ovalis</i> .	<i>Bidens campylotheca</i> ssp. <i>pentamera</i> .  <i>Cyanea horrida</i> .

Unit name	Species occupied	Species unoccupied
Maui—Wet Cliff—Unit 3 .....	<i>Phyllostegia bracteata</i> . <i>Plantago princeps</i> .	<i>Phyllostegia haliakalae</i> . <i>Bidens campylotheca</i> ssp. <i>pentamera</i> . <i>Bidens campylotheca</i> ssp. <i>waihoiensis</i> . <i>Cyanea copelandii</i> ssp. <i>haleakalaensis</i> . <i>Cyanea horrida</i> . <i>Melicope ovalis</i> . <i>Phyllostegia bracteata</i> . <i>Phyllostegia haliakalae</i> . <i>Plantago princeps</i> .
Maui—Wet Cliff—Unit 4 .....	<i>Bidens campylotheca</i> ssp. <i>pentamera</i> . <i>Bidens campylotheca</i> ssp. <i>waihoiensis</i> .	<i>Cyanea copelandii</i> ssp. <i>haleakalaensis</i> . <i>Cyanea horrida</i> . <i>Melicope ovalis</i> . <i>Phyllostegia bracteata</i> . <i>Phyllostegia haliakalae</i> . <i>Plantago princeps</i> .
Maui—Wet Cliff—Unit 6 .....	<i>Alectryon macrococcus</i> .  <i>Ctenitis squamigera</i> .  <i>Cyrtandra munroi</i> .	<i>Bidens campylotheca</i> ssp. <i>pentamera</i> . <i>Bidens conjuncta</i> . <i>Bonamia menziesii</i> .  <i>Cyanea glabra</i> . <i>Cyanea lobata</i> . <i>Cyanea magnicalyx</i> . <i>Cyrtandra filipes</i> .  <i>Dubautia plantaginea</i> ssp. <i>humilis</i> . <i>Gouania vitifolia</i> . <i>Hesperomannia arborescens</i> . <i>Hesperomannia arbuscula</i> . <i>Isodendron pyrifolium</i> . <i>Kadua laxiflora</i> . <i>Lysimachia lydgatei</i> . <i>Plantago princeps</i> . <i>Platanthera holochila</i> . <i>Pteris lidgatei</i> .
Maui—Wet Cliff—Unit 7 .....	<i>Remya mauiensis</i> . <i>Santalum haleakalae</i> var. <i>lanaiense</i> .	<i>Tetramolopium capillare</i> . <i>Alectryon macrococcus</i> . <i>Bidens campylotheca</i> ssp. <i>pentamera</i> . <i>Bidens conjuncta</i> . <i>Bonamia menziesii</i> . <i>Ctenitis squamigera</i> . <i>Cyanea glabra</i> . <i>Cyanea lobata</i> . <i>Cyanea magnicalyx</i> .
Maui—Wet Cliff—Unit 8 .....	<i>Cyrtandra filipes</i> . <i>Cyrtandra munroi</i> .	<i>Dubautia plantaginea</i> ssp. <i>humilis</i> . <i>Gouania vitifolia</i> . <i>Hesperomannia arborescens</i> . <i>Hesperomannia arbuscula</i> . <i>Isodendron pyrifolium</i> . <i>Kadua laxiflora</i> . <i>Lysimachia lydgatei</i> . <i>Plantago princeps</i> . <i>Platanthera holochila</i> . <i>Pteris lidgatei</i> . <i>Remya mauiensis</i> . <i>Santalum haleakalae</i> var. <i>lanaiense</i> . <i>Tetramolopium capillare</i> . <i>Alectryon macrococcus</i> . <i>Bidens campylotheca</i> ssp. <i>pentamera</i> . <i>Bidens conjuncta</i> . <i>Bonamia menziesii</i> . <i>Ctenitis squamigera</i> . <i>Cyanea glabra</i> . <i>Cyanea lobata</i> . <i>Cyanea magnicalyx</i> . <i>Cyrtandra filipes</i> .

Unit name	Species occupied	Species unoccupied
		<i>Cyrtandra munroi</i> . <i>Dubautia plantaginea</i> ssp. <i>humilis</i> . <i>Gouania vitifolia</i> . <i>Hesperomannia arborescens</i> . <i>Hesperomannia arbuscula</i> . <i>Isodendron pyrifolium</i> . <i>Kadua laxiflora</i> . <i>Lysimachia lydgatei</i> . <i>Plantago princeps</i> . <i>Platanthera holochila</i> . <i>Pteris lidgatei</i> . <i>Remya mauiensis</i> . <i>Santalum haleakalae</i> var. <i>lanaiense</i> . <i>Tetramolopium capillare</i> .

(2) *Kahoolawe*. Critical habitat units are described below. Coordinates are in UTM Zone 4 with units in meters using North American Datum of 1983 (NAD83). The following maps shows the locations of the critical habitat units designated on the island of Kahoolawe.

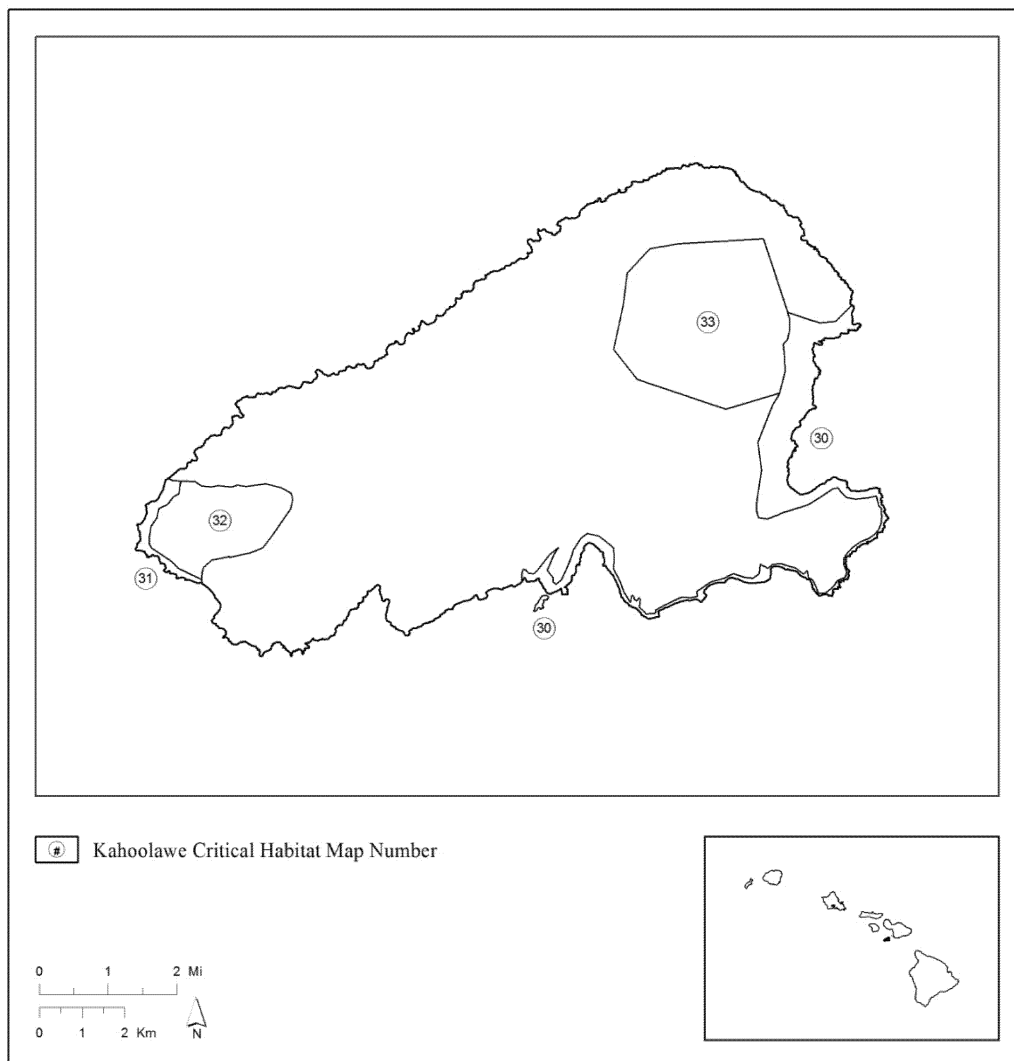
Existing manmade features and structures, such as buildings, roads, railroads, airports, runways, other paved areas, lawns, and other urban landscaped areas, do not contain one or more of the physical and biological features. Federal actions limited to those

areas, therefore, would not trigger a consultation under section 7 of the Act unless they may affect the species or physical or biological features in adjacent critical habitat.

(i) NOTE: Map 29, Kahoolawe Index Map, follows:

## Map 29

## Kahoolawe Critical Habitat—Island Index Map



(ii) Kahoolawe—Coastal—Unit 1 (1,516 ac, 613 ha) and Kahoolawe—Coastal—Unit 2 (12 ac, 5 ha).

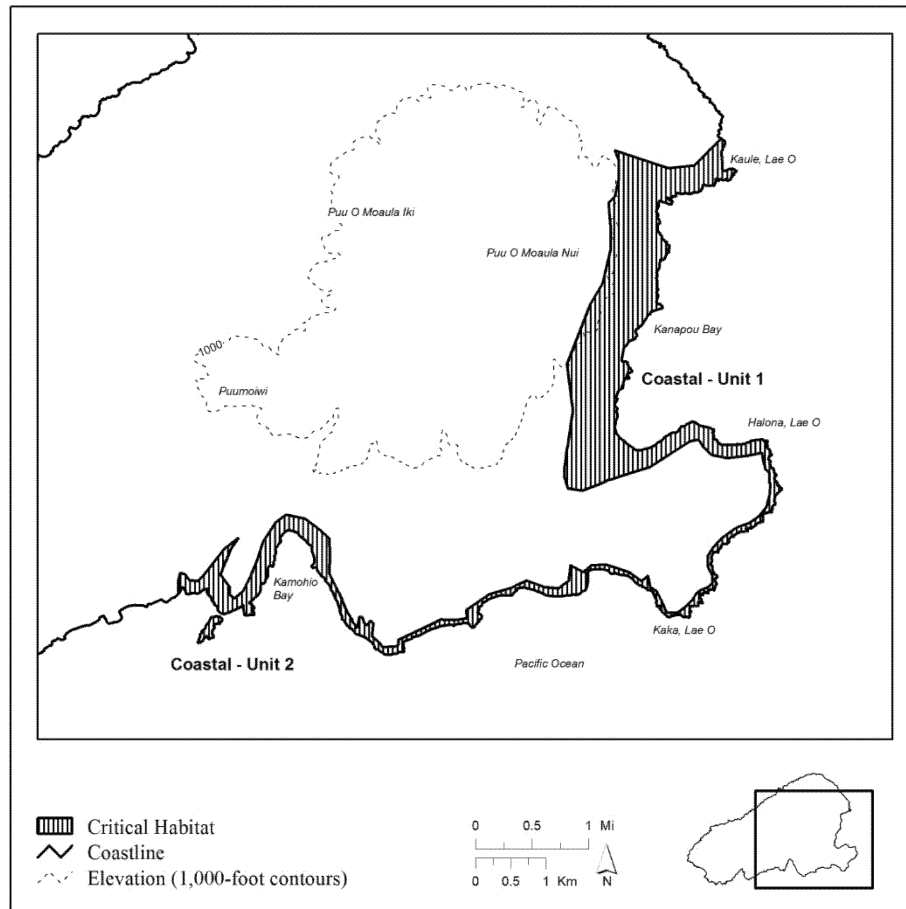
(A) These units are critical habitat for *Kanaloa kahoolawensis*, *Sesbania tomentosa*, and *Vigna o-wahuensis*.

(B) Map of Kahoolawe—Coastal—Unit 1 and Kahoolawe—Coastal—Unit 2 (Map 30) follows:

## Map 30

## Kahoolawe—Coastal

## Unit 1 and Unit 2



(iii) Kahoolawe—Coastal—Unit 3 (189 ac, 76 ha).

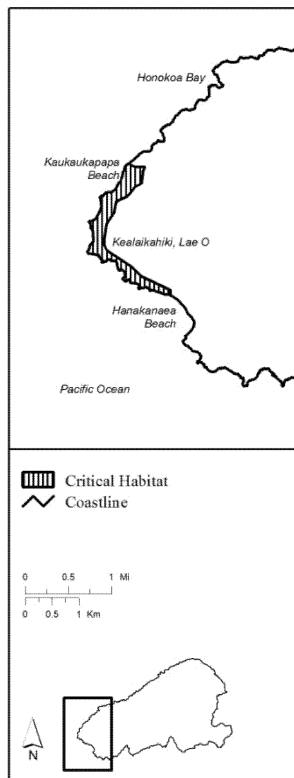
(A) This unit is critical habitat for *Kanaloa kahoolawensis*, *Sesbania tomentosa*, and *Vigna o-wahuensis*.

(B) Map of Kahoolawe—Coastal—Unit 3 (Map 31) follows:

### Map 31

#### Kahoolawe—Coastal

##### Unit 3



(iv) Kahoolawe—Lowland Dry—Unit 1 (1,220 ac, 494 ha).

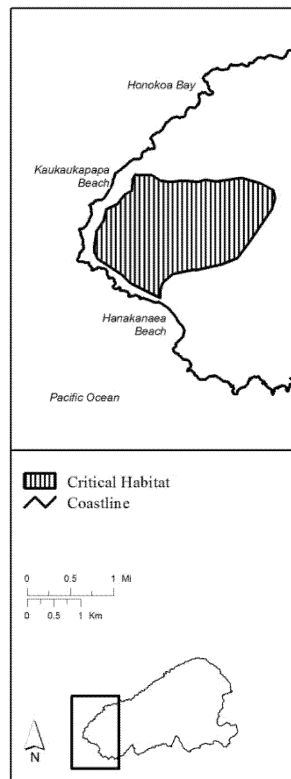
(A) This unit is critical habitat for *Gouania hillebrandii*, *Hibiscus brackenridgei*, *Kanaloa kahoolawensis*, *Neraudia sericea*, *Sesbania tomentosa*, and *Vigna o-wahuensis*.

(B) Map of Kahoolawe—Lowland Dry—Unit 1 (Map 32) follows:

### Map 32

#### Kahoolawe—Lowland Dry

##### Unit 1



(v) Kahoolawe—Lowland Dry—Unit 2 (3,205 ac, 1,297 ha).

(A) This unit is critical habitat for *Gouania hillebrandii*, *Hibiscus brackenridgei*, *Kanaloa kahoolawensis*, *Neraudia sericea*, *Sesbania tomentosa*, and *Vigna o-wahuensis*.

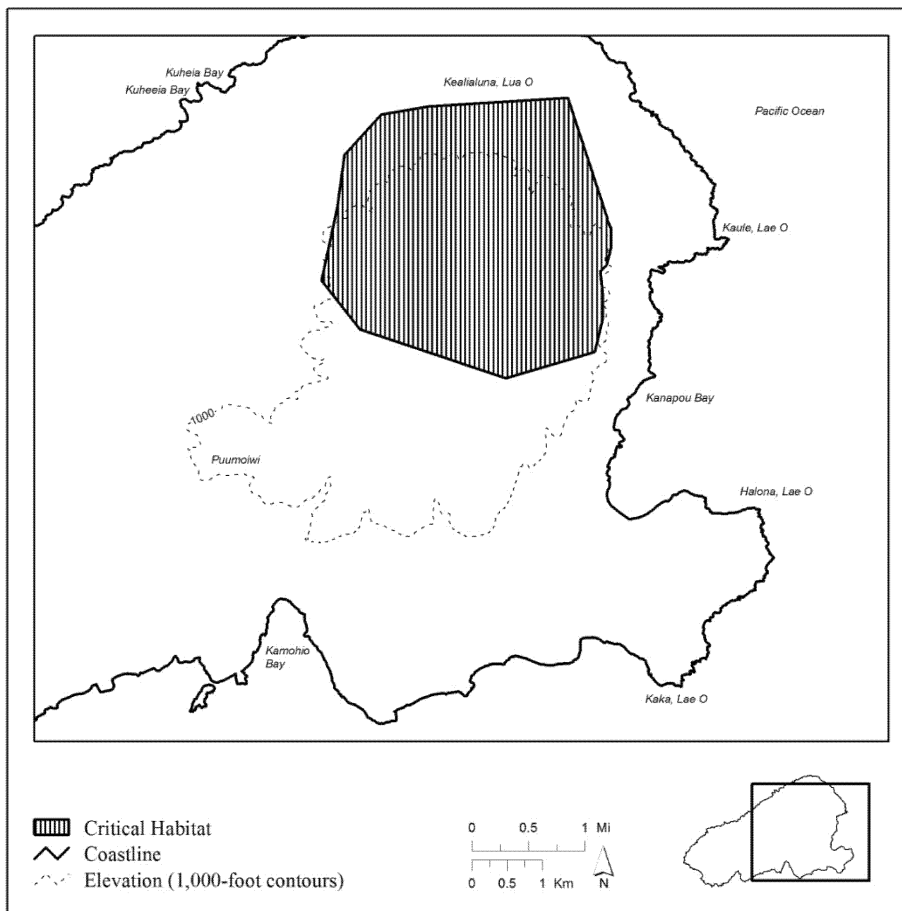
(B) Map of Kahoolawe—Lowland Dry—Unit 2 (Map 33) follows:



## Map 33

## Kahoolawe—Lowland Dry

## Unit 2



## (VI) OCCUPANCY OF SPECIES BY DESIGNATED CRITICAL HABITAT UNITS FOR KAHOO LAWE

Unit name	Species occupied	Species unoccupied
Kahoolawe—Coastal—Unit 1 .....	<i>Kanaloa kahoolawensis.</i>	<i>Sesbania tomentosa.</i> <i>Vigna o-wahuensis.</i> <i>Kanaloa kahoolawensis.</i>
Kahoolawe—Coastal—Unit 2 .....	<i>Sesbania tomentosa.</i>	<i>Vigna o-wahuensis.</i> <i>Kanaloa kahoolawensis.</i> <i>Sesbania tomentosa.</i> <i>Vigna o-wahuensis.</i> <i>Gouania hillebrandii.</i> <i>Hibiscus brackenridgei.</i> <i>Kanaloa kahoolawensis.</i> <i>Neraudia sericea.</i> <i>Sesbania tomentosa.</i> <i>Vigna o-wahuensis.</i> <i>Gouania hillebrandii.</i> <i>Hibiscus brackenridgei.</i> <i>Kanaloa kahoolawensis.</i> <i>Neraudia sericea.</i> <i>Sesbania tomentosa.</i> <i>Vigna o-wahuensis.</i>
Kahoolawe—Coastal—Unit 3 .....		
Kahoolawe—Lowland Dry—Unit 1 .....		
Kahoolawe—Lowland Dry—Unit 2 .....		

(f) *Plants on Maui and Kahoolawe; Constituent elements*—(1) *Flowering plants.*

#### Family Amaranthaceae

##### *Nototrichium humile* (KULUI)

Maui—Lowland Dry—Unit 1, Maui—Lowland Dry—Unit 2, Maui—Lowland Dry—Unit 3, and Maui—Lowland Dry—Unit 4, identified in the legal descriptions in paragraph (e)(1) of this section, constitute critical habitat for *Nototrichium humile* on Maui. In units Maui—Lowland Dry—Unit 1, Maui—Lowland Dry—Unit 2, Maui—Lowland Dry—Unit 3, and Maui—Lowland Dry—Unit 4, the physical and biological features of critical habitat are:

(i) Elevation: Less than 3,300 ft (1,000 m).

(ii) Annual precipitation: Less than 50 in (130 cm).

(iii) Substrate: Weathered silty loams to stony clay, rocky ledges, little-weathered lava.

(iv) Canopy: *Diospyros*, *Myoporum*, *Pleomele*, *Santalum*.

(v) Subcanopy: *Chamaesyce*, *Dodonaea*, *Leptecophylla*, *Osteomeles*, *Psydrax*, *Scaevola*, *Wikstroemia*.

(vi) Understory: *Alyxia*, *Artemisia*, *Bidens*, *Chenopodium*, *Nephrolepis*, *Peperomia*, *Sicyos*.

#### Family Apiaceae

##### *Peucedanum sandwicense* (MAKOU)

Maui—Coastal—Unit 1, Maui—Coastal—Unit 2, Maui—Coastal—Unit 3, Maui—Coastal—Unit 4, Maui—Coastal—Unit 5, Maui—Coastal—Unit 6, Maui—Coastal—Unit 7, Maui—Coastal—Unit 8, Maui—Lowland Wet—Unit 2, Maui—Lowland Wet—Unit 3, Maui—Lowland Wet—Unit 4, Maui—Lowland Wet—Unit 5, Maui—Lowland Wet—Unit 6, Maui—Lowland Wet—Unit 7, and Maui—Lowland Wet—Unit 8, identified in the legal descriptions in paragraph (e)(1) of this section, constitute critical habitat for *Peucedanum sandwicense* on Maui.

(i) In units Maui—Coastal—Unit 1, Maui—Coastal—Unit 2, Maui—Coastal—Unit 3, Maui—Coastal—Unit 4, Maui—Coastal—Unit 5, Maui—Coastal—Unit 6, Maui—Coastal—Unit 7, and Maui—Coastal—Unit 8, the physical and biological features of critical habitat are:

(A) Elevation: Less than 980 ft (300 m).

(B) Annual precipitation: Less than 20 in (50 cm).

(C) Substrate: Well-drained, calcareous, talus slopes; dunes; weathered clay soils; ephemeral pools; mudflats.

(D) Canopy: *Hibiscus*, *Myoporum*, *Santalum*, *Scaevola*.

(E) Subcanopy: *Gossypium*, *Sida*, *Vitex*.

(F) Understory: *Eragrostis*, *Jacquemontia*, *Lyceum*, *Nama*, *Sesuvium*, *Sporobolus*, *Vigna*.

(ii) In units Maui—Lowland Wet—Unit 2, Maui—Lowland Wet—Unit 3, Maui—Lowland Wet—Unit 4, Maui—Lowland Wet—Unit 5, Maui—Lowland Wet—Unit 6, Maui—Lowland Wet—Unit 7, and Maui—Lowland Wet—Unit 8, the physical and biological features of critical habitat are:

(A) Elevation: Less than 3,300 ft (1,000 m).

(B) Annual precipitation: Greater than 75 in (190 cm).

(C) Substrate: Clays; ashbeds; deep, well-drained soils; lowland bogs.

(D) Canopy: *Antidesma*, *Metrosideros*, *Myrsine*, *Pisonia*, *Psychotria*.

(E) Subcanopy: *Cibotium*, *Claoxylon*, *Kadua*, *Melicope*.

(F) Understory: *Alyxia*, *Cyrtandra*, *Dicranopteris*, *Diplazium*, *Machaerina*, *Microlepia*.

##### *Sanicula purpurea* (NCN)

Maui—Montane Wet—Unit 6 and Maui—Montane Wet—Unit 7, identified in the legal descriptions in paragraph (e)(1) of this section, constitute critical habitat for *Sanicula purpurea* on Maui. In units Maui—Montane Wet—Unit 6 and Maui—Montane Wet—Unit 7, the physical and biological features of critical habitat are:

(i) Elevation: 3,300 to 6,500 ft (1,000 to 2,000 m).

(ii) Annual precipitation: Greater than 75 in (190 cm).

(iii) Substrate: Well-developed soils, montane bogs.

(iv) Canopy: *Acacia*, *Charpentiera*, *Cheirodendron*, *Metrosideros*.

(v) Subcanopy: *Broussaisia*, *Cibotium*, *Eurya*, *Ilex*, *Myrsine*.

(vi) Understory: Ferns, *Carex*, *Coprosma*, *Leptecophylla*, *Oreobolus*, *Rhynchospora*, *Vaccinium*.

##### *Spermolepis hawaiiensis* (NCN)

Maui—Lowland Dry—Unit 1, Maui—Lowland Dry—Unit 2, Maui—Lowland Dry—Unit 3, Maui—Lowland Dry—Unit 4, Maui—Lowland Dry—Unit 5, and Maui—Lowland Dry—Unit 6, identified in the legal descriptions in paragraph (e)(1) of this section, constitute critical habitat for *Spermolepis hawaiiensis* on Maui. In units Maui—Lowland Dry—Unit 1, Maui—Lowland Dry—Unit 2, Maui—Lowland Dry—Unit 3, Maui—Lowland Dry—Unit 4, Maui—Lowland Dry—Unit 5, and Maui—Lowland Dry—Unit 6, the physical and biological features of critical habitat are:

(i) Elevation: Less than 3,300 ft (1,000 m).

(ii) Annual precipitation: Less than 50 in (130 cm).

(iii) Substrate: Weathered silty loams to stony clay, rocky ledges, little-weathered lava.

(iv) Canopy: *Diospyros*, *Myoporum*, *Pleomele*, *Santalum*.

(v) Subcanopy: *Chamaesyce*, *Dodonaea*, *Leptecophylla*, *Osteomeles*, *Psydrax*, *Scaevola*, *Wikstroemia*.

(vi) Understory: *Alyxia*, *Artemisia*, *Bidens*, *Chenopodium*, *Nephrolepis*, *Peperomia*, *Sicyos*.

#### Family Asteraceae

##### *Argyroxiphium sandwicense* ssp. *macrocephalum* (AHINAHINA)

Maui—Montane Mesic—Unit 1, Maui—Subalpine—Unit 1, Maui—Subalpine—Unit 2, Maui—Alpine—Unit 1, Maui—Dry Cliff—Unit 1, Maui—Dry Cliff—Unit 2, Maui—Dry Cliff—Unit 3, and Maui—Dry Cliff—Unit 4, identified in the legal descriptions in paragraph (e)(1) of this section, constitute critical habitat for *Argyroxiphium sandwicense* ssp. *macrocephalum* on Maui.

(i) In unit Maui—Montane Mesic—Unit 1, the physical and biological features of critical habitat are:

(A) Elevation: 3,300 to 6,500 ft (1,000 to 2,000 m).

(B) Annual precipitation: 50 to 75 in (130 to 190 cm).

(C) Substrate: Deep ash deposits, thin silty loams.

(D) Canopy: *Acacia*, *Ilex*, *Metrosideros*, *Myrsine*, *Nestegis*, *Nothocestrum*, *Pisonia*, *Pittosporum*, *Psychotria*, *Sophora*, *Zanthoxylum*.

(E) Subcanopy: *Alyxia*, *Charpentiera*, *Coprosma*, *Dodonaea*, *Kadua*, *Labordia*, *Leptecophylla*, *Phyllostegia*, *Vaccinium*.

(F) Understory: Ferns, *Carex*, *Peperomia*.

(ii) In units Maui—Subalpine—Unit 1 and Maui—Subalpine—Unit 2, the physical and biological features of critical habitat are:

(A) Elevation: 6,500 to 9,800 ft (2,000 to 3,000 m).

(B) Annual precipitation: 15 to 40 in (38 to 100 cm).

(C) Substrate: Dry ash; sandy loam; rocky, undeveloped soils; weathered lava.

(D) Canopy: *Chamaesyce*, *Chenopodium*, *Metrosideros*, *Myoporum*, *Santalum*, *Sophora*.

(E) Subcanopy: *Coprosma*, *Dodonaea*, *Dubautia*, *Geranium*, *Leptecophylla*, *Vaccinium*, *Wikstroemia*.

(F) Understory: Ferns, *Bidens*, *Carex*, *Deschampsia*, *Eragrostis*, *Gahnia*, *Luzula*, *Panicum*, *Pseudognaphalium*, *Sicyos*, *Tetramolopium*.

(iii) In unit Maui—Alpine—Unit 1, the physical and biological features of critical habitat are:

(A) Elevation: Greater than 9,800 ft (3,000 m).

(B) Annual precipitation: 30 to 50 in (75 to 125 cm).

(C) Substrate: Barren gravel, debris, cinders.

(D) Canopy: None.

(E) Subcanopy: *Argyroxiphium*, *Dubautia*, *Silene*, *Tetramolopium*.

(F) Understory: None.

(iv) In units Maui—Dry Cliff—Unit 1, Maui—Dry Cliff—Unit 2, Maui—Dry Cliff—Unit 3, and Maui—Dry Cliff—Unit 4, the physical and biological features of critical habitat are:

(A) Elevation: Unrestricted.

(B) Annual precipitation: Less than 75 in (190 cm).

(C) Substrate: Greater than 65 degree slope, rocky talus.

(D) Canopy: None.

(E) Subcanopy: *Antidesma*, *Chamaesyce*, *Diospyros*, *Dodonaea*.

(F) Understory: *Bidens*, *Eragrostis*, *Melanthera*, *Schiedea*.

*Bidens campylotheca* ssp. *pentamera* (KOOKOOLAU)

Maui—Lowland Dry—Unit 5, Maui—Lowland Dry—Unit 6, Maui—Lowland Mesic—Unit 2, Maui—Lowland Mesic—Unit 3, Maui—Montane Wet—Unit 1, Maui—Montane Wet—Unit 2, Maui—Montane Wet—Unit 3, Maui—Montane Wet—Unit 4, Maui—Montane Wet—Unit 5, Maui—Montane Mesic—Unit 1, Maui—Dry Cliff—Unit 1, Maui—Dry Cliff—Unit 2, Maui—Dry Cliff—Unit 3, Maui—Dry Cliff—Unit 4, Maui—Wet Cliff—Unit 1, Maui—Wet Cliff—Unit 2, Maui—Wet Cliff—Unit 3, Maui—Wet Cliff—Unit 4, Maui—Wet Cliff—Unit 6, Maui—Wet Cliff—Unit 7, and Maui—Wet Cliff—Unit 8, identified in the legal descriptions in paragraph (e)(1) of this section, constitute critical habitat for *Bidens campylotheca* ssp. *pentamera* on Maui.

(i) In units Maui—Lowland Dry—Unit 5 and Maui—Lowland Dry—Unit 6, the physical and biological features of critical habitat are:

(A) Elevation: Less than 3,300 ft (1,000 m).

(B) Annual precipitation: Less than 50 in (130 cm).

(C) Substrate: Weathered silty loams to stony clay, rocky ledges, little-weathered lava.

(D) Canopy: *Diospyros*, *Myoporum*, *Pleomele*, *Santalum*.

(E) Subcanopy: *Chamaesyce*, *Dodonaea*, *Leptecophylla*, *Osteomeles*, *Psydrax*, *Scaevola*, *Wikstroemia*.

(F) Understory: *Alyxia*, *Artemisia*, *Bidens*, *Chenopodium*, *Nephrolepis*, *Peperomia*, *Sicyos*.

(ii) In units Maui—Lowland Mesic—Unit 2 and Maui—Lowland Mesic—Unit 3, the physical and biological features of critical habitat are:

(A) Elevation: Less than 3,300 ft (1,000 m).

(B) Annual precipitation: 50 to 75 in (130 to 190 cm).

(C) Substrate: Shallow soils, little to no herbaceous layer.

(D) Canopy: *Acacia*, *Diospyros*, *Metrosideros*, *Myrsine*, *Pouteria*, *Santalum*.

(E) Subcanopy: *Dodonaea*, *Freycinetia*, *Leptecophylla*, *Melanthera*, *Osteomeles*, *Pleomele*, *Psydrax*.

(F) Understory: *Carex*, *Dicranopteris*, *Diplazium*, *Elaphoglossum*, *Peperomia*.

(iii) In units Maui—Montane Wet—Unit 1, Maui—Montane Wet—Unit 2, Maui—Montane Wet—Unit 3, Maui—Montane Wet—Unit 4, and Maui—Montane Wet—Unit 5, the physical and biological features of critical habitat are:

(A) Elevation: 3,300 to 6,500 ft (1,000 to 2,000 m).

(B) Annual precipitation: Greater than 75 in (190 cm).

(C) Substrate: Well-developed soils, montane bogs.

(D) Canopy: *Acacia*, *Charpentiera*, *Cheirodendron*, *Metrosideros*.

(E) Subcanopy: *Broussaisia*, *Cibotium*, *Eurya*, *Ilex*, *Myrsine*.

(F) Understory: Ferns, *Carex*, *Coprosma*, *Leptecophylla*, *Oreobolus*, *Rhynchospora*, *Vaccinium*.

(iv) In unit Maui—Montane Mesic—Unit 1, the physical and biological features of critical habitat are:

(A) Elevation: 3,300 to 6,500 ft (1,000 to 2,000 m).

(B) Annual precipitation: 50 to 75 in (130 to 190 cm).

(C) Substrate: Deep ash deposits, thin silty loams.

(D) Canopy: *Acacia*, *Ilex*, *Metrosideros*, *Myrsine*, *Nestegis*, *Nothocestrum*, *Pisonia*, *Pittosporum*, *Psychotria*, *Sophora*, *Zanthoxylum*.

(E) Subcanopy: *Alyxia*, *Charpentiera*, *Coprosma*, *Dodonaea*, *Kadua*, *Labordia*, *Leptecophylla*, *Phyllostegia*, *Vaccinium*.

(F) Understory: Ferns, *Carex*, *Peperomia*.

(v) In units Maui—Dry Cliff—Unit 1, Maui—Dry Cliff—Unit 2, Maui—Dry Cliff—Unit 3, and Maui—Dry Cliff—Unit 4, the physical and biological features of critical habitat are:

(A) Elevation: Unrestricted.

(B) Annual precipitation: Less than 75 in (190 cm).

(C) Substrate: Greater than 65 degree slope, rocky talus.

(D) Canopy: None.

(E) Subcanopy: *Antidesma*, *Chamaesyce*, *Diospyros*, *Dodonaea*.

(F) Understory: *Bidens*, *Eragrostis*, *Melanthera*, *Schiedea*.

(vi) In units Maui—Wet Cliff—Unit 1, Maui—Wet Cliff—Unit 2, Maui—Wet Cliff—Unit 3, Maui—Wet Cliff—Unit 4, Maui—Wet Cliff—Unit 6, Maui—Wet Cliff—Unit 7, and Maui—Wet Cliff—Unit 8, the physical and biological features of critical habitat are:

(A) Elevation: Unrestricted.

(B) Annual precipitation: Greater than 75 in (190 cm).

(C) Substrate: Greater than 65 degree slope, shallow soils, weathered lava.

(D) Canopy: None.

(E) Subcanopy: *Broussaisia*, *Cheirodendron*, *Leptecophylla*, *Metrosideros*.

(F) Understory: Bryophytes, ferns, *Coprosma*, *Dubautia*, *Kadua*, *Peperomia*.

*Bidens campylotheca* ssp. *waihoiensis* (KOOKOOLAU)

Maui—Lowland Wet—Unit 1, Maui—Montane Wet—Unit 1, Maui—Montane Wet—Unit 2, Maui—Montane Wet—Unit 3, Maui—Montane Wet—Unit 4, Maui—Montane Wet—Unit 5, Maui—Wet Cliff—Unit 1, Maui—Wet Cliff—Unit 2, Maui—Wet Cliff—Unit 3, and Maui—Wet Cliff—Unit 4, identified in the legal descriptions in paragraph (e)(1) of this section, constitute critical habitat for *Bidens campylotheca* ssp. *waihoiensis* on Maui.

(i) In unit Maui—Lowland Wet—Unit 1, the physical and biological features of critical habitat are:

(A) Elevation: Less than 3,300 ft (1,000 m).

(B) Annual precipitation: Greater than 75 in (190 cm).

(C) Substrate: Clays; ashbeds; deep, well-drained soils; lowland bogs.

(D) Canopy: *Antidesma*, *Metrosideros*, *Myrsine*, *Pisonia*, *Psychotria*.

(E) Subcanopy: *Cibotium*, *Claoxylon*, *Kadua*, *Melicope*.

(F) Understory: *Alyxia*, *Cyrtandra*, *Dicranopteris*, *Diplazium*, *Machaerina*, *Microlepia*.

(ii) In units Maui—Montane Wet—Unit 1, Maui—Montane Wet—Unit 2, Maui—Montane Wet—Unit 3, Maui—Montane Wet—Unit 4, and Maui—Montane Wet—Unit 5, and the physical and biological features of critical habitat are:

(A) Elevation: 3,300 to 6,500 ft (1,000 to 2,000 m).

(B) Annual precipitation: Greater than 75 in (190 cm).

(C) Substrate: Well-developed soils, montane bogs.

(D) Canopy: *Acacia*, *Charpentiera*, *Cheirodendron*, *Metrosideros*.

(E) Subcanopy: *Broussaisia*, *Cibotium*, *Eurya*, *Ilex*, *Myrsine*.

(F) Understory: Ferns, *Carex*, *Coprosma*, *Leptecophylla*, *Oreobolus*, *Rhynchospora*, *Vaccinium*.

(iii) In units Maui—Wet Cliff—Unit 1, Maui—Wet Cliff—Unit 2, Maui—Wet Cliff—Unit 3, and Maui—Wet Cliff—Unit 4, the physical and biological features of critical habitat are:

(A) Elevation: Unrestricted.

(B) Annual precipitation: Greater than 75 in (190 cm).

(C) Substrate: Greater than 65 degree slope, shallow soils, weathered lava.

(D) Canopy: None.

(E) Subcanopy: *Broussaisia*, *Cheirodendron*, *Leptecophylla*, *Metrosideros*.

(F) Understory: Bryophytes, ferns, *Coprosma*, *Dubautia*, *Kadua*, *Peperomia*.

#### *Bidens conjuncta* (KOOKOOLAU)

Maui—Lowland Wet—Unit 2, Maui—Lowland Wet—Unit 3, Maui—Lowland Wet—Unit 4, Maui—Lowland Wet—Unit 5, Maui—Lowland Wet—Unit 6, Maui—Lowland Wet—Unit 7, Maui—Lowland Wet—Unit 8, Maui—Montane Wet—Unit 6, Maui—Montane Wet—Unit 7, Maui—Wet Cliff—Unit 6, Maui—Wet Cliff—Unit 7, and Maui—Wet Cliff—Unit 8, identified in the legal descriptions in paragraph (e)(1) of this section, constitute critical habitat for *Bidens conjuncta* on Maui.

(i) In units Maui—Lowland Wet—Unit 2, Maui—Lowland Wet—Unit 3, Maui—Lowland Wet—Unit 4, Maui—Lowland Wet—Unit 5, Maui—Lowland Wet—Unit 6, Maui—Lowland Wet—Unit 7, and Maui—Lowland Wet—Unit 8, the physical and biological features of critical habitat are:

(A) Elevation: Less than 3,300 ft (1,000 m).

(B) Annual precipitation: Greater than 75 in (190 cm).

(C) Substrate: Clays; ashbeds; deep, well-drained soils; lowland bogs.

(D) Canopy: *Antidesma*, *Metrosideros*, *Myrsine*, *Pisonia*, *Psychotria*.

(E) Subcanopy: *Cibotium*, *Claoxylon*, *Kadua*, *Melicope*.

(F) Understory: *Alyxia*, *Cyrtandra*, *Dicranopteris*, *Diplazium*, *Machaerina*, *Microlepia*.

(ii) In units Maui—Montane Wet—Unit 6 and Maui—Montane Wet—Unit 7, the physical and biological features of critical habitat are:

(A) Elevation: 3,300 to 6,500 ft (1,000 to 2,000 m).

(B) Annual precipitation: Greater than 75 in (190 cm).

(C) Substrate: Well-developed soils, montane bogs.

(D) Canopy: *Acacia*, *Charpentiera*, *Cheirodendron*, *Metrosideros*.

(E) Subcanopy: *Broussaisia*, *Cibotium*, *Eurya*, *Ilex*, *Myrsine*.

(F) Understory: Ferns, *Carex*, *Coprosma*, *Leptecophylla*, *Oreobolus*, *Rhynchospora*, *Vaccinium*.

(iii) In units Maui—Wet Cliff—Unit 6, Maui—Wet Cliff—Unit 7, and Maui—Wet Cliff—Unit 8, the physical and biological features of critical habitat are:

(A) Elevation: Unrestricted.

(B) Annual precipitation: Greater than 75 in (190 cm).

(C) Substrate: Greater than 65 degree slope, shallow soils, weathered lava.

(D) Canopy: None.

(E) Subcanopy: *Broussaisia*, *Cheirodendron*, *Leptecophylla*, *Metrosideros*.

(F) Understory: Bryophytes, ferns, *Coprosma*, *Dubautia*, *Kadua*, *Peperomia*.

#### *Bidens micrantha* ssp. *kalealaha* (KOOKOOLAU)

Maui—Lowland Dry—Unit 1, Maui—Lowland Dry—Unit 2, Maui—Lowland Dry—Unit 3, Maui—Lowland Dry—Unit 4, Maui—Lowland Wet—Unit 2, Maui—Lowland Wet—Unit 3, Maui—Lowland Wet—Unit 4, Maui—Lowland Wet—Unit 5, Maui—Lowland Wet—Unit 6, Maui—Lowland Wet—Unit 7, Maui—Lowland Wet—Unit 8, Maui—Montane Mesic—Unit 1, Maui—Subalpine—Unit 1, Maui—Subalpine—Unit 2, Maui—Dry Cliff—Unit 1, Maui—Dry Cliff—Unit 2, Maui—Dry Cliff—Unit 3, and Maui—Dry Cliff—Unit 4, identified in the legal descriptions in paragraph (e)(1) of this section, constitute critical habitat for *Bidens micrantha* ssp. *kalealaha* on Maui.

(i) In units Maui—Lowland Dry—Unit 1, Maui—Lowland Dry—Unit 2, Maui—Lowland Dry—Unit 3, and Maui—Lowland Dry—Unit 4, the physical and biological features of critical habitat are:

(A) Elevation: Less than 3,300 ft (1,000 m).

(B) Annual precipitation: Less than 50 in (130 cm).

(C) Substrate: Weathered silty loams to stony clay, rocky ledges, little-weathered lava.

(D) Canopy: *Diospyros*, *Myoporum*, *Pleomele*, *Santalum*.

(E) Subcanopy: *Chamaesyce*, *Dodonaea*, *Leptecophylla*, *Osteomeles*, *Psydrax*, *Scaevola*, *Wikstroemia*.

(F) Understory: *Alyxia*, *Artemisia*, *Bidens*, *Chenopodium*, *Nephrolepis*, *Peperomia*, *Sicyos*.

(ii) In units Maui—Lowland Wet—Unit 2, Maui—Lowland Wet—Unit 3, Maui—Lowland Wet—Unit 4, Maui—Lowland Wet—Unit 5, Maui—Lowland Wet—Unit 6, Maui—Lowland Wet—Unit 7, and Maui—Lowland Wet—Unit 8, the physical and biological features of critical habitat are:

(A) Elevation: Less than 3,300 ft (1,000 m).

(B) Annual precipitation: Greater than 75 in (190 cm).

(C) Substrate: Clays; ashbeds; deep, well-drained soils; lowland bogs.

(D) Canopy: *Antidesma*, *Metrosideros*, *Myrsine*, *Pisonia*, *Psychotria*.

(E) Subcanopy: *Cibotium*, *Claoxylon*, *Kadua*, *Melicope*.

(F) Understory: *Alyxia*, *Cyrtandra*, *Dicranopteris*, *Diplazium*, *Machaerina*, *Microlepia*.

(iii) In unit Maui—Montane Mesic—Unit 1, the physical and biological features of critical habitat are:

(A) Elevation: 3,300 to 6,500 ft (1,000 to 2,000 m).

(B) Annual precipitation: 50 to 75 in (130 to 190 cm).

(C) Substrate: Deep ash deposits, thin silty loams.

(D) Canopy: *Acacia*, *Ilex*, *Metrosideros*, *Myrsine*, *Nestegis*, *Nothocestrum*, *Pisonia*, *Pittosporum*, *Psychotria*, *Sophora*, *Zanthoxylum*.

(E) Subcanopy: *Alyxia*, *Charpentiera*, *Coprosma*, *Dodonaea*, *Kadua*, *Labordia*, *Leptecophylla*, *Phyllostegia*, *Vaccinium*.

(F) Understory: Ferns, *Carex*, *Peperomia*.

(iv) In units Maui—Subalpine—Unit 1 and Maui—Subalpine—Unit 2, the physical and biological features of critical habitat are:

(A) Elevation: 6,500 to 9,800 ft (2,000 to 3,000 m).

(B) Annual precipitation: 15 to 40 in (38 to 100 cm).

(C) Substrate: Dry ash; sandy loam; rocky, undeveloped soils; weathered lava.

(D) Canopy: *Chamaesyce*, *Chenopodium*, *Metrosideros*, *Myoporum*, *Santalum*, *Sophora*.

(E) Subcanopy: *Coprosma*, *Dodonaea*, *Dubautia*, *Geranium*, *Leptecophylla*, *Vaccinium*, *Wikstroemia*.

(F) Understory: Ferns, *Bidens*, *Carex*, *Deschampsia*, *Eragrostis*, *Gahnia*, *Luzula*, *Panicum*, *Pseudognaphalium*, *Sicyos*, *Tetramolopium*.

(v) In units Maui—Dry Cliff—Unit 1, Maui—Dry Cliff—Unit 2, Maui—Dry Cliff—Unit 3, and Maui—Dry Cliff—Unit 4, the physical and biological features of critical habitat are:

(A) Elevation: Unrestricted.

(B) Annual precipitation: Less than 75 in (190 cm).

(C) Substrate: Greater than 65 degree slope, rocky talus.

(D) Canopy: None.

(E) Subcanopy: *Antidesma*, *Chamaesyce*, *Diospyros*, *Dodonaea*.

(F) Understory: *Bidens*, *Eragrostis*, *Melanthera*, *Schiedea*.

#### *Dubautia plantaginea* ssp. *humilis* (NAENAE)

Maui—Wet Cliff—Unit 6, Maui—Wet Cliff—Unit 7, and Maui—Wet Cliff—Unit 8, identified in the legal

descriptions in paragraph (e)(1) of this section, constitute critical habitat for *Dubautia plantaginea* ssp. *humilis* on Maui. In units Maui—Wet Cliff—Unit 6, Maui—Wet Cliff—Unit 7, and Maui—Wet Cliff—Unit 8, the physical and biological features of critical habitat are:

- (i) Elevation: Unrestricted.
- (ii) Annual precipitation: Greater than 75 in (190 cm).
- (iii) Substrate: Greater than 65 degree slope, shallow soils, weathered lava.
- (iv) Canopy: None.
- (v) Subcanopy: *Broussaisia*, *Cheirodendron*, *Leptecophylla*, *Metrosideros*.
- (vi) Understory: Bryophytes, ferns, *Coprosma*, *Dubautia*, *Kadua*, *Peperomia*.

*Hesperomannia arborescens* (NCN)

Maui—Lowland Wet—Unit 2, Maui—Lowland Wet—Unit 3, Maui—Lowland Wet—Unit 4, Maui—Lowland Wet—Unit 5, Maui—Lowland Wet—Unit 6, Maui—Lowland Wet—Unit 7, Maui—Lowland Wet—Unit 8, Maui—Wet Cliff—Unit 6, Maui—Wet Cliff—Unit 7, and Maui—Wet Cliff—Unit 8, identified in the legal descriptions in paragraph (e)(1) of this section, constitute critical habitat for *Hesperomannia arborescens* on Maui.

(i) In units Maui—Lowland Wet—Unit 2, Maui—Lowland Wet—Unit 3, Maui—Lowland Wet—Unit 4, Maui—Lowland Wet—Unit 5, Maui—Lowland Wet—Unit 6, Maui—Lowland Wet—Unit 7, and Maui—Lowland Wet—Unit 8, the physical and biological features of critical habitat are:

- (A) Elevation: Less than 3,300 ft (1,000 m).
- (B) Annual precipitation: Greater than 75 in (190 cm).
- (C) Substrate: Clays; ashbeds; deep, well-drained soils; lowland bogs.
- (D) Canopy: *Antidesma*, *Metrosideros*, *Myrsine*, *Pisonia*, *Psychotria*.
- (E) Subcanopy: *Cibotium*, *Claoxylon*, *Kadua*, *Melicope*.
- (F) Understory: *Alyxia*, *Cyrtandra*, *Dicranopteris*, *Diplazium*, *Machaerina*, *Microlepia*.
- (ii) In units Maui—Wet Cliff—Unit 6, Maui—Wet Cliff—Unit 7, and Maui—Wet Cliff—Unit 8, the physical and biological features of critical habitat are:
  - (A) Elevation: Unrestricted.
  - (B) Annual precipitation: Greater than 75 in (190 cm).
  - (C) Substrate: Greater than 65 degree slope, shallow soils, weathered lava.
  - (D) Canopy: None.
  - (E) Subcanopy: *Broussaisia*, *Cheirodendron*, *Leptecophylla*, *Metrosideros*.
  - (F) Understory: Bryophytes, ferns, *Coprosma*, *Dubautia*, *Kadua*, *Peperomia*.

*Hesperomannia arbuscula* (NCN)

Maui—Lowland Dry—Unit 5, Maui—Lowland Dry—Unit 6, Maui—Lowland Wet—Unit 2, Maui—Lowland Wet—Unit 3, Maui—Lowland Wet—Unit 4, Maui—Lowland Wet—Unit 5, Maui—Lowland Wet—Unit 6, Maui—Lowland Wet—Unit 7, Maui—Lowland Wet—Unit 8, Maui—Dry Cliff—Unit 5, Maui—Dry Cliff—Unit 6, Maui—Wet Cliff—Unit 6, Maui—Wet Cliff—Unit 7, and Maui—Wet Cliff—Unit 8, identified in the legal descriptions in paragraph (e)(1) of this section, constitute critical habitat for *Hesperomannia arbuscula* on Maui.

(i) In units Maui—Lowland Dry—Unit 5 and Maui—Lowland Dry—Unit 6, the physical and biological features of critical habitat are:

- (A) Elevation: Less than 3,300 ft (1,000 m).
- (B) Annual precipitation: Less than 50 in (130 cm).
- (C) Substrate: Weathered silty loams to stony clay, rocky ledges, little-weathered lava.
- (D) Canopy: *Diospyros*, *Myoporum*, *Pleomele*, *Santalum*.
- (E) Subcanopy: *Chamaesyce*, *Dodonaea*, *Leptecophylla*, *Osteomeles*, *Psydrax*, *Scaevola*, *Wikstroemia*.
- (F) Understory: *Alyxia*, *Artemisia*, *Bidens*, *Chenopodium*, *Nephrolepis*, *Peperomia*, *Sicyos*.
- (ii) In units Maui—Lowland Wet—Unit 2, Maui—Lowland Wet—Unit 3, Maui—Lowland Wet—Unit 4, Maui—Lowland Wet—Unit 5, Maui—Lowland Wet—Unit 6, Maui—Lowland Wet—Unit 7, and Maui—Lowland Wet—Unit 8, the physical and biological features of critical habitat are:

- (A) Elevation: Less than 3,300 ft (1,000 m).
- (B) Annual precipitation: Greater than 75 in (190 cm).
- (C) Substrate: Clays; ashbeds; deep, well-drained soils; lowland bogs.
- (D) Canopy: *Antidesma*, *Metrosideros*, *Myrsine*, *Pisonia*, *Psychotria*.
- (E) Subcanopy: *Cibotium*, *Claoxylon*, *Kadua*, *Melicope*.
- (F) Understory: *Alyxia*, *Cyrtandra*, *Dicranopteris*, *Diplazium*, *Machaerina*, *Microlepia*.
- (iii) In units Maui—Dry Cliff—Unit 5 and Maui—Dry Cliff—Unit 6, the physical and biological features of critical habitat are:
  - (A) Elevation: Unrestricted.
  - (B) Annual precipitation: Less than 75 in (190 cm).
  - (C) Substrate: Greater than 65 degree slope, rocky talus.
  - (D) Canopy: None.
  - (E) Subcanopy: *Antidesma*, *Chamaesyce*, *Diospyros*, *Dodonaea*.
  - (F) Understory: *Bidens*, *Eragrostis*, *Melanthera*, *Schiedea*.

(iv) In units Maui—Wet Cliff—Unit 6, Maui—Wet Cliff—Unit 7, and Maui—Wet Cliff—Unit 8, the physical and biological features of critical habitat are:

- (A) Elevation: Unrestricted.
- (B) Annual precipitation: Greater than 75 in (190 cm).
- (C) Substrate: Greater than 65 degree slope, shallow soils, weathered lava.
- (D) Canopy: None.
- (E) Subcanopy: *Broussaisia*, *Cheirodendron*, *Leptecophylla*, *Metrosideros*.
- (F) Understory: Bryophytes, ferns, *Coprosma*, *Dubautia*, *Kadua*, *Peperomia*.

*Melanthera kamolensis* (NEHE)

Maui—Lowland Dry—Unit 1, Maui—Lowland Dry—Unit 2, Maui—Lowland Dry—Unit 3, and Maui—Lowland Dry—Unit 4, identified in the legal descriptions in paragraph (e)(1) of this section, constitute critical habitat for *Melanthera kamolensis* on Maui. In units Maui—Lowland Dry—Unit 1, Maui—Lowland Dry—Unit 2, Maui—Lowland Dry—Unit 3, and Maui—Lowland Dry—Unit 4, the physical and biological features of critical habitat are:

- (i) Elevation: Less than 3,300 ft (1,000 m).
- (ii) Annual precipitation: Less than 50 in (130 cm).
- (iii) Substrate: Weathered silty loams to stony clay, rocky ledges, little-weathered lava.
- (iv) Canopy: *Diospyros*, *Myoporum*, *Pleomele*, *Santalum*.
- (v) Subcanopy: *Chamaesyce*, *Dodonaea*, *Leptecophylla*, *Osteomeles*, *Psydrax*, *Scaevola*, *Wikstroemia*.
- (vi) Understory: *Alyxia*, *Artemisia*, *Bidens*, *Chenopodium*, *Nephrolepis*, *Peperomia*, *Sicyos*.

*Remya mauiensis* (MAUI REMYA)

Maui—Lowland Dry—Unit 5, Maui—Lowland Dry—Unit 6, Maui—Lowland Mesic—Unit 2, Maui—Lowland Mesic—Unit 3, Maui—Lowland Wet—Unit 2, Maui—Lowland Wet—Unit 3, Maui—Lowland Wet—Unit 4, Maui—Lowland Wet—Unit 5, Maui—Lowland Wet—Unit 6, Maui—Lowland Wet—Unit 7, Maui—Lowland Wet—Unit 8, Maui—Montane Mesic—Unit 2, Maui—Montane Mesic—Unit 3, Maui—Montane Mesic—Unit 4, Maui—Montane Mesic—Unit 5, Maui—Wet Cliff—Unit 6, Maui—Wet Cliff—Unit 7, and Maui—Wet Cliff—Unit 8, identified in the legal descriptions in paragraph (e)(1) of this section, constitute critical habitat for *Remya mauiensis* on Maui.

(i) In units Maui—Lowland Dry—Unit 5 and Maui—Lowland Dry—Unit 6, the physical and biological features of critical habitat are:

(A) Elevation: Less than 3,300 ft (1,000 m).

(B) Annual precipitation: Less than 50 in (130 cm).

(C) Substrate: Weathered silty loams to stony clay, rocky ledges, little-weathered lava.

(D) Canopy: *Diospyros*, *Myoporum*, *Pleomele*, *Santalum*.

(E) Subcanopy: *Chamaesyce*, *Dodonaea*, *Leptecophylla*, *Osteomeles*, *Psydrax*, *Scaevola*, *Wikstroemia*.

(F) Understory: *Alyxia*, *Artemisia*, *Bidens*, *Chenopodium*, *Nephrolepis*, *Peperomia*, *Sicyos*.

(ii) In units Maui—Lowland Mesic—Unit 2 and Maui—Lowland Mesic—Unit 3, the physical and biological features of critical habitat are:

(A) Elevation: Less than 3,300 ft (1,000 m).

(B) Annual precipitation: 50 to 75 in (130 to 190 cm).

(C) Substrate: Shallow soils, little to no herbaceous layer.

(D) Canopy: *Acacia*, *Diospyros*, *Metrosideros*, *Myrsine*, *Pouteria*, *Santalum*.

(E) Subcanopy: *Dodonaea*, *Freycinetia*, *Leptecophylla*, *Melanthera*, *Osteomeles*, *Pleomele*, *Psydrax*.

(F) Understory: *Carex*, *Dicranopteris*, *Diplazium*, *Elaphoglossum*, *Peperomia*.

(iii) In units Maui—Lowland Wet—Unit 2, Maui—Lowland Wet—Unit 3, Maui—Lowland Wet—Unit 4, Maui—Lowland Wet—Unit 5, Maui—Lowland Wet—Unit 6, Maui—Lowland Wet—Unit 7, and Maui—Lowland Wet—Unit 8, the physical and biological features of critical habitat are:

(A) Elevation: Less than 3,300 ft (1,000 m).

(B) Annual precipitation: Greater than 75 in (190 cm).

(C) Substrate: Clays; ashbeds; deep, well-drained soils; lowland bogs.

(D) Canopy: *Antidesma*, *Metrosideros*, *Myrsine*, *Pisonia*, *Psychotria*.

(E) Subcanopy: *Cibotium*, *Claoxylon*, *Kadua*, *Melicope*.

(F) Understory: *Alyxia*, *Cyrtandra*, *Dicranopteris*, *Diplazium*, *Machaerina*, *Microlepia*.

(iv) In units Maui—Montane Mesic—Unit 2, Maui—Montane Mesic—Unit 3, Maui—Montane Mesic—Unit 4, and Maui—Montane Mesic—Unit 5, the physical and biological features of critical habitat are:

(A) Elevation: 3,300 to 6,500 ft (1,000 to 2,000 m).

(B) Annual precipitation: 50 to 75 in (130 to 190 cm).

(C) Substrate: Deep ash deposits, thin silty loams.

(D) Canopy: *Acacia*, *Ilex*, *Metrosideros*, *Myrsine*, *Nestegis*, *Nothocestrum*, *Pisonia*, *Pittosporum*, *Psychotria*, *Sophora*, *Zanthoxylum*.

(E) Subcanopy: *Alyxia*, *Charpentiera*, *Coprosma*, *Dodonaea*, *Kadua*, *Labordia*, *Leptecophylla*, *Phyllostegia*, *Vaccinium*.

(F) Understory: Ferns, *Carex*, *Peperomia*.

(v) In units Maui—Wet Cliff—Unit 6, Maui—Wet Cliff—Unit 7, and Maui—Wet Cliff—Unit 8, the physical and biological features of critical habitat are:

(A) Elevation: Unrestricted.

(B) Annual precipitation: Greater than 75 in (190 cm).

(C) Substrate: Greater than 65 degree slope, shallow soils, weathered lava.

(D) Canopy: None.

(E) Subcanopy: *Broussaisia*, *Cheirodendron*, *Leptecophylla*, *Metrosideros*.

(F) Understory: Bryophytes, ferns, *Coprosma*, *Dubautia*, *Kadua*, *Peperomia*.

#### *Tetramolopium capillare* (PAMAKANI)

Maui—Lowland Dry—Unit 5, Maui—Lowland Dry—Unit 6, Maui—Dry Cliff—Unit 5, Maui—Dry Cliff—Unit 6, Maui—Wet Cliff—Unit 6, Maui—Wet Cliff—Unit 7, and Maui—Wet Cliff—Unit 8, identified in the legal descriptions in paragraph (e)(1) of this section, constitute critical habitat for *Tetramolopium capillare* on Maui.

(i) In units Maui—Lowland Dry—Unit 5 and Maui—Lowland Dry—Unit 6, the physical and biological features of critical habitat are:

(A) Elevation: Less than 3,300 ft (1,000 m).

(B) Annual precipitation: Less than 50 in (130 cm).

(C) Substrate: Weathered silty loams to stony clay, rocky ledges, little-weathered lava.

(D) Canopy: *Diospyros*, *Myoporum*, *Pleomele*, *Santalum*.

(E) Subcanopy: *Chamaesyce*, *Dodonaea*, *Leptecophylla*, *Osteomeles*, *Psydrax*, *Scaevola*, *Wikstroemia*.

(F) Understory: *Alyxia*, *Artemisia*, *Bidens*, *Chenopodium*, *Nephrolepis*, *Peperomia*, *Sicyos*.

(ii) In units Maui—Dry Cliff—Unit 5 and Maui—Dry Cliff—Unit 6, the physical and biological features of critical habitat are:

(A) Elevation: Unrestricted.

(B) Annual precipitation: Less than 75 in (190 cm).

(C) Substrate: Greater than 65 degree slope, rocky talus.

(D) Canopy: None.

(E) Subcanopy: *Antidesma*, *Chamaesyce*, *Diospyros*, *Dodonaea*.

(F) Understory: *Bidens*, *Eragrostis*, *Melanthera*, *Schiedea*.

(iii) In units Maui—Wet Cliff—Unit 6, Maui—Wet Cliff—Unit 7, and Maui—Wet Cliff—Unit 8, the physical and biological features of critical habitat are:

(A) Elevation: Unrestricted.

(B) Annual precipitation: Greater than 75 in (190 cm).

(C) Substrate: Greater than 65 degree slope, shallow soils, weathered lava.

(D) Canopy: None.

(E) Subcanopy: *Broussaisia*, *Cheirodendron*, *Leptecophylla*, *Metrosideros*.

(F) Understory: Bryophytes, ferns, *Coprosma*, *Dubautia*, *Kadua*, *Peperomia*.

#### *Tetramolopium remyi* (NCN)

Maui—Lowland Dry—Unit 5 and Maui—Lowland Dry—Unit 6, identified in the legal descriptions in paragraph (e)(1) of this section, constitute critical habitat for *Tetramolopium remyi* on Maui. In units Maui—Lowland Dry—Unit 5 and Maui—Lowland Dry—Unit 6, the physical and biological features of critical habitat are:

(i) Elevation: Less than 3,300 ft (1,000 m).

(ii) Annual precipitation: Less than 50 in (130 cm).

(iii) Substrate: Weathered silty loams to stony clay, rocky ledges, little-weathered lava.

(iv) Canopy: *Diospyros*, *Myoporum*, *Pleomele*, *Santalum*.

(v) Subcanopy: *Chamaesyce*, *Dodonaea*, *Leptecophylla*, *Osteomeles*, *Psydrax*, *Scaevola*, *Wikstroemia*.

(vi) Understory: *Alyxia*, *Artemisia*, *Bidens*, *Chenopodium*, *Nephrolepis*, *Peperomia*, *Sicyos*.

#### Family Campanulaceae:

##### *Brighamia rockii* (PUA ALA)

Maui—Coastal—Unit 1, Maui—Coastal—Unit 2, Maui—Coastal—Unit 3, Maui—Coastal—Unit 4, Maui—Coastal—Unit 5, Maui—Coastal—Unit 6, Maui—Coastal—Unit 7, Maui—Coastal—Unit 8, Maui—Coastal—Unit 9, Maui—Coastal—Unit 10, and Maui—Coastal—Unit 11, identified in the legal descriptions in paragraph (e)(1) of this section, constitute critical habitat for *Brighamia rockii* on Maui. In units Maui—Coastal—Unit 1, Maui—Coastal—Unit 2, Maui—Coastal—Unit 3, Maui—Coastal—Unit 4, Maui—Coastal—Unit 5, Maui—Coastal—Unit 6, Maui—Coastal—Unit 7, Maui—Coastal—Unit 8, Maui—Coastal—Unit 9, Maui—Coastal—Unit 10, and Maui—Coastal—Unit 11, the physical and biological features of critical habitat are:

(i) Elevation: Less than 980 ft (300 m).

(ii) Annual precipitation: Less than 20 in (50 cm).

(iii) Substrate: Well-drained, calcareous, talus slopes; dunes; weathered clay soils; ephemeral pools; mudflats.

(iv) Canopy: *Hibiscus*, *Myoporum*, *Santalum*, *Scaevola*.  
 (v) Subcanopy: *Gossypium*, *Sida*, *Vitex*.

(vi) Understory: *Eragrostis*, *Jacquemontia*, *Lyceum*, *Nama*, *Sesuvium*, *Sporobolus*, *Vigna*.

*Clermontia lindseyana* (OHA WAI)

Maui—Montane Mesic—Unit 1, identified in the legal descriptions in paragraph (e)(1) of this section, constitutes critical habitat for *Clermontia lindseyana* on Maui. In unit Maui—Montane Mesic—Unit 1, the physical and biological features of critical habitat are:

(i) Elevation: 3,300 to 6,500 ft (1,000 to 2,000 m).

(ii) Annual precipitation: 50 to 75 in (130 to 190 cm).

(iii) Substrate: Deep ash deposits, thin silty loams.

(iv) Canopy: *Acacia*, *Ilex*, *Metrosideros*, *Myrsine*, *Nestegis*, *Nothocestrum*, *Pisonia*, *Pittosporum*, *Psychotria*, *Sophora*, *Zanthoxylum*.

(v) Subcanopy: *Alyxia*, *Charpentiera*, *Coprosma*, *Dodonaea*, *Kadua*, *Labordia*, *Leptecophylla*, *Phyllostegia*, *Vaccinium*.

(vi) Understory: Ferns, *Carex*, *Peperomia*.

*Clermontia oblongifolia* ssp. *mauiensis* (OHA WAI)

Maui—Lowland Wet—Unit 1, Maui—Lowland Wet—Unit 2, Maui—Lowland Wet—Unit 3, Maui—Lowland Wet—Unit 4, Maui—Lowland Wet—Unit 5, Maui—Lowland Wet—Unit 6, Maui—Lowland Wet—Unit 7, Maui—Lowland Wet—Unit 8, Maui—Montane Wet—Unit 1, Maui—Montane Wet—Unit 2, Maui—Montane Wet—Unit 3, Maui—Montane Wet—Unit 4, and Maui—Montane Wet—Unit 5, identified in the legal descriptions in paragraph (e)(1) of this section, constitute critical habitat for *Clermontia oblongifolia* ssp. *mauiensis* on Maui.

(i) In units Maui—Lowland Wet—Unit 1, Maui—Lowland Wet—Unit 2, Maui—Lowland Wet—Unit 3, Maui—Lowland Wet—Unit 4, Maui—Lowland Wet—Unit 5, Maui—Lowland Wet—Unit 6, Maui—Lowland Wet—Unit 7, and Maui—Lowland Wet—Unit 8, the physical and biological features of critical habitat are:

(A) Elevation: Less than 3,300 ft (1,000 m).

(B) Annual precipitation: Greater than 75 in (190 cm).

(C) Substrate: Clays; ashbeds; deep, well-drained soils; lowland bogs.

(D) Canopy: *Antidesma*, *Metrosideros*, *Myrsine*, *Pisonia*, *Psychotria*.

(E) Subcanopy: *Cibotium*, *Claoxylon*, *Kadua*, *Melicope*.

(F) Understory: *Alyxia*, *Cyrtandra*, *Dicranopteris*, *Diplazium*, *Machaerina*, *Microlepia*.

(ii) In units Maui—Montane Wet—Unit 1, Maui—Montane Wet—Unit 2, Maui—Montane Wet—Unit 3, Maui—Montane Wet—Unit 4, and Maui—Montane Wet—Unit 5, the physical and biological features of critical habitat are:

(A) Elevation: 3,300 to 6,500 ft (1,000 to 2,000 m).

(B) Annual precipitation: Greater than 75 in (190 cm).

(C) Substrate: Well-developed soils, montane bogs.

(D) Canopy: *Acacia*, *Charpentiera*, *Cheirodendron*, *Metrosideros*.

(E) Subcanopy: *Broussaisia*, *Cibotium*, *Eurya*, *Ilex*, *Myrsine*.

(F) Understory: Ferns, *Carex*, *Coprosma*, *Leptecophylla*, *Oreobolus*, *Rhynchospora*, *Vaccinium*.

*Clermontia peleana* (OHA WAI)

Maui—Lowland Wet—Unit 1, identified in the legal descriptions in paragraph (e)(1) of this section, constitutes critical habitat for *Clermontia peleana* on Maui. In unit Maui—Lowland Wet—Unit 1, the physical and biological features of critical habitat are:

(i) Elevation: Less than 3,300 ft (1,000 m).

(ii) Annual precipitation: Greater than 75 in (190 cm).

(iii) Substrate: Clays; ashbeds; deep, well-drained soils; lowland bogs.

(iv) Canopy: *Antidesma*, *Metrosideros*, *Myrsine*, *Pisonia*, *Psychotria*.

(v) Subcanopy: *Cibotium*, *Claoxylon*, *Kadua*, *Melicope*.

(vi) Understory: *Alyxia*, *Cyrtandra*, *Dicranopteris*, *Diplazium*, *Machaerina*, *Microlepia*.

*Clermontia samuelii* (OHA WAI)

Maui—Lowland Wet—Unit 1, Maui—Montane Wet—Unit 1, Maui—Montane Wet—Unit 2, Maui—Montane Wet—Unit 3, Maui—Montane Wet—Unit 4, and Maui—Montane Wet—Unit 5, identified in the legal descriptions in paragraph (e)(1) of this section, constitute critical habitat for *Clermontia samuelii* on Maui.

(i) In unit Maui—Lowland Wet—Unit 1, the physical and biological features of critical habitat are:

(A) Elevation: Less than 3,300 ft (1,000 m).

(B) Annual precipitation: Greater than 75 in (190 cm).

(C) Substrate: Clays; ashbeds; deep, well-drained soils; lowland bogs.

(D) Canopy: *Antidesma*, *Metrosideros*, *Myrsine*, *Pisonia*, *Psychotria*.

(E) Subcanopy: *Cibotium*, *Claoxylon*, *Kadua*, *Melicope*.

(F) Understory: *Alyxia*, *Cyrtandra*, *Dicranopteris*, *Diplazium*, *Machaerina*, *Microlepia*.

(ii) In units Maui—Montane Wet—Unit 1, Maui—Montane Wet—Unit 2, Maui—Montane Wet—Unit 3, Maui—Montane Wet—Unit 4, and Maui—Montane Wet—Unit 5, the physical and biological features of critical habitat are:

(A) Elevation: 3,300 to 6,500 ft (1,000 to 2,000 m).

(B) Annual precipitation: Greater than 75 in (190 cm).

(C) Substrate: Well-developed soils, montane bogs.

(D) Canopy: *Acacia*, *Charpentiera*, *Cheirodendron*, *Metrosideros*.

(E) Subcanopy: *Broussaisia*, *Cibotium*, *Eurya*, *Ilex*, *Myrsine*.

(F) Understory: Ferns, *Carex*, *Coprosma*, *Leptecophylla*, *Oreobolus*, *Rhynchospora*, *Vaccinium*.

*Cyanea asplenifolia* (HAHA)

Maui—Lowland Mesic—Unit 1, Maui—Lowland Wet—Unit 1, Maui—Lowland Wet—Unit 2, Maui—Lowland Wet—Unit 3, Maui—Lowland Wet—Unit 4, Maui—Lowland Wet—Unit 5, Maui—Lowland Wet—Unit 6, Maui—Lowland Wet—Unit 7, and Maui—Lowland Wet—Unit 8, identified in the legal descriptions in paragraph (e)(1) of this section, constitute critical habitat for *Cyanea asplenifolia* on Maui.

(i) In unit Maui—Lowland Mesic—Unit 1, the physical and biological features of critical habitat are:

(A) Elevation: Less than 3,300 ft (1,000 m).

(B) Annual precipitation: 50 to 75 in (130 to 190 cm).

(C) Substrate: Shallow soils, little to no herbaceous layer.

(D) Canopy: *Acacia*, *Diospyros*, *Metrosideros*, *Myrsine*, *Pouteria*, *Santalum*.

(E) Subcanopy: *Dodonaea*, *Freycinetia*, *Leptecophylla*, *Melanthera*, *Osteomeles*, *Pleomele*, *Psydrax*.

(F) Understory: *Carex*, *Dicranopteris*, *Diplazium*, *Elaphoglossum*, *Peperomia*.

(ii) In units Maui—Lowland Wet—Unit 1, Maui—Lowland Wet—Unit 2, Maui—Lowland Wet—Unit 3, Maui—Lowland Wet—Unit 4, Maui—Lowland Wet—Unit 5, Maui—Lowland Wet—Unit 6, Maui—Lowland Wet—Unit 7, and Maui—Lowland Wet—Unit 8, the physical and biological features of critical habitat are:

(A) Elevation: Less than 3,300 ft (1,000 m).

(B) Annual precipitation: Greater than 75 in (190 cm).

(C) Substrate: Clays; ashbeds; deep, well-drained soils; lowland bogs.

(D) Canopy: *Antidesma*, *Metrosideros*, *Myrsine*, *Pisonia*, *Psychotria*.



(E) Subcanopy: *Cibotium*, *Claoxylon*, *Kadua*, *Melicope*.

(F) Understory: *Alyxia*, *Cyrtandra*, *Dicranopteris*, *Diplazium*, *Machaerina*, *Microlepia*.

*Cyanea copelandii* ssp. *haleakalaensis* (HAHA)

Maui—Lowland Mesic—Unit 1, Maui—Lowland Wet—Unit 1, Maui—Montane Wet—Unit 1, Maui—Montane Wet—Unit 2, Maui—Montane Wet—Unit 3, Maui—Montane Wet—Unit 4, Maui—Montane Wet—Unit 5, Maui—Wet Cliff—Unit 1, Maui—Wet Cliff—Unit 2, Maui—Wet Cliff—Unit 3, and Maui—Wet Cliff—Unit 4, identified in the legal descriptions in paragraph (e)(1) of this section, constitute critical habitat for *Cyanea copelandii* ssp. *haleakalaensis* on Maui.

(i) In unit Maui—Lowland Mesic—Unit 1, the physical and biological features of critical habitat are:

(A) Elevation: Less than 3,300 ft (1,000 m).

(B) Annual precipitation: 50 to 75 in (130 to 190 cm).

(C) Substrate: Shallow soils, little to no herbaceous layer.

(D) Canopy: *Acacia*, *Diospyros*, *Metrosideros*, *Myrsine*, *Pouteria*, *Santalum*.

(E) Subcanopy: *Dodonaea*, *Freycinetia*, *Leptecophylla*, *Melanthera*, *Osteomeles*, *Pleomele*, *Psychrad*.

(F) Understory: *Carex*, *Dicranopteris*, *Diplazium*, *Elaphoglossum*, *Peperomia*.

(ii) In unit Maui—Lowland Wet—Unit 1, the physical and biological features of critical habitat are:

(A) Elevation: Less than 3,300 ft (1,000 m).

(B) Annual precipitation: Greater than 75 in (190 cm).

(C) Substrate: Clays; ashbeds; deep, well-drained soils; lowland bogs.

(D) Canopy: *Antidesma*, *Metrosideros*, *Myrsine*, *Pisonia*, *Psychotria*.

(E) Subcanopy: *Cibotium*, *Claoxylon*, *Kadua*, *Melicope*.

(F) Understory: *Alyxia*, *Cyrtandra*, *Dicranopteris*, *Diplazium*, *Machaerina*, *Microlepia*.

(iii) In units Maui—Montane Wet—Unit 1, Maui—Montane Wet—Unit 2, Maui—Montane Wet—Unit 3, Maui—Montane Wet—Unit 4, and Maui—Montane Wet—Unit 5, the physical and biological features of critical habitat are:

(A) Elevation: 3,300 to 6,500 ft (1,000 to 2,000 m).

(B) Annual precipitation: Greater than 75 in (190 cm).

(C) Substrate: Well-developed soils, montane bogs.

(D) Canopy: *Acacia*, *Charpentiera*, *Cheirodendron*, *Metrosideros*.

(E) Subcanopy: *Broussaisia*, *Cibotium*, *Eurya*, *Ilex*, *Myrsine*.

(F) Understory: Ferns, *Carex*, *Coprosma*, *Leptecophylla*, *Oreobolus*, *Rhynchospora*, *Vaccinium*.

(iv) In units Maui—Wet Cliff—Unit 1, Maui—Wet Cliff—Unit 2, Maui—Wet Cliff—Unit 3, and Maui—Wet Cliff—Unit 4, the physical and biological features of critical habitat are:

(A) Elevation: Unrestricted.

(B) Annual precipitation: Greater than 75 in (190 cm).

(C) Substrate: Greater than 65 degree slope, shallow soils, weathered lava.

(D) Canopy: None.

(E) Subcanopy: *Broussaisia*, *Cheirodendron*, *Leptecophylla*, *Metrosideros*.

(F) Understory: Bryophytes, ferns, *Coprosma*, *Dubautia*, *Kadua*, *Peperomia*.

*Cyanea duvalliorum* (HAHA)

Maui—Lowland Wet—Unit 1, Maui—Montane Wet—Unit 1, Maui—Montane Wet—Unit 2, Maui—Montane Wet—Unit 3, Maui—Montane Wet—Unit 4, and Maui—Montane Wet—Unit 5, identified in the legal descriptions in paragraph (e)(1) of this section, constitute critical habitat for *Cyanea duvalliorum* on Maui.

(i) In unit Maui—Lowland Wet—Unit 1, the physical and biological features of critical habitat are:

(A) Elevation: Less than 3,300 ft (1,000 m).

(B) Annual precipitation: Greater than 75 in (190 cm).

(C) Substrate: Clays; ashbeds; deep, well-drained soils; lowland bogs.

(D) Canopy: *Antidesma*, *Metrosideros*, *Myrsine*, *Pisonia*, *Psychotria*.

(E) Subcanopy: *Cibotium*, *Claoxylon*, *Kadua*, *Melicope*.

(F) Understory: *Alyxia*, *Cyrtandra*, *Dicranopteris*, *Diplazium*, *Machaerina*, *Microlepia*.

(ii) In units Maui—Montane Wet—Unit 1, Maui—Montane Wet—Unit 2, Maui—Montane Wet—Unit 3, Maui—Montane Wet—Unit 4, and Maui—Montane Wet—Unit 5, the physical and biological features of critical habitat are:

(A) Elevation: 3,300 to 6,500 ft (1,000 to 2,000 m).

(B) Annual precipitation: Greater than 75 in (190 cm).

(C) Substrate: Well-developed soils, montane bogs.

(D) Canopy: *Acacia*, *Charpentiera*, *Cheirodendron*, *Metrosideros*.

(E) Subcanopy: *Broussaisia*, *Cibotium*, *Eurya*, *Ilex*, *Myrsine*.

(F) Understory: Ferns, *Carex*, *Coprosma*, *Leptecophylla*, *Oreobolus*, *Rhynchospora*, *Vaccinium*.

*Cyanea glabra* (HAHA)

Maui—Lowland Wet—Unit 2, Maui—Lowland Wet—Unit 3, Maui—Lowland

Wet—Unit 4, Maui—Lowland Wet—Unit 5, Maui—Lowland Wet—Unit 6, Maui—Lowland Wet—Unit 7, Maui—Lowland Wet—Unit 8, Maui—Montane Wet—Unit 1, Maui—Montane Wet—Unit 2, Maui—Montane Wet—Unit 3, Maui—Montane Wet—Unit 4, Maui—Montane Wet—Unit 5, Maui—Montane Mesic—Unit 1, Maui—Wet Cliff—Unit 6, Maui—Wet Cliff—Unit 7, and Maui—Wet Cliff—Unit 8, identified in the legal descriptions in paragraph (e)(1) of this section, constitute critical habitat for *Cyanea glabra* on Maui.

(i) In units Maui—Lowland Wet—Unit 2, Maui—Lowland Wet—Unit 3, Maui—Lowland Wet—Unit 4, Maui—Lowland Wet—Unit 5, Maui—Lowland Wet—Unit 6, Maui—Lowland Wet—Unit 7, and Maui—Lowland Wet—Unit 8, the physical and biological features of critical habitat are:

(A) Elevation: Less than 3,300 ft (1,000 m).

(B) Annual precipitation: Greater than 75 in (190 cm).

(C) Substrate: Clays; ashbeds; deep, well-drained soils; lowland bogs.

(D) Canopy: *Antidesma*, *Metrosideros*, *Myrsine*, *Pisonia*, *Psychotria*.

(E) Subcanopy: *Cibotium*, *Claoxylon*, *Kadua*, *Melicope*.

(F) Understory: *Alyxia*, *Cyrtandra*, *Dicranopteris*, *Diplazium*, *Machaerina*, *Microlepia*.

(ii) In units Maui—Montane Wet—Unit 1, Maui—Montane Wet—Unit 2, Maui—Montane Wet—Unit 3, Maui—Montane Wet—Unit 4, and Maui—Montane Wet—Unit 5, the physical and biological features of critical habitat are:

(A) Elevation: 3,300 to 6,500 ft (1,000 to 2,000 m).

(B) Annual precipitation: Greater than 75 in (190 cm).

(C) Substrate: Well-developed soils, montane bogs.

(D) Canopy: *Acacia*, *Charpentiera*, *Cheirodendron*, *Metrosideros*.

(E) Subcanopy: *Broussaisia*, *Cibotium*, *Eurya*, *Ilex*, *Myrsine*.

(F) Understory: Ferns, *Carex*, *Coprosma*, *Leptecophylla*, *Oreobolus*, *Rhynchospora*, *Vaccinium*.

(iii) In unit Maui—Montane Mesic—Unit 1, the physical and biological features of critical habitat are:

(A) Elevation: 3,300 to 6,500 ft (1,000 to 2,000 m).

(B) Annual precipitation: 50 to 75 in (130 to 190 cm).

(C) Substrate: Deep ash deposits, thin silty loams.

(D) Canopy: *Acacia*, *Ilex*,

*Metrosideros*, *Myrsine*, *Nestegis*, *Nothocestrum*, *Pisonia*, *Pittosporum*, *Psychotria*, *Sophora*, *Zanthoxylum*.

(E) Subcanopy: *Alyxia*, *Charpentiera*, *Coprosma*, *Dodonaea*, *Kadua*, *Labordia*, *Leptecophylla*, *Phyllostegia*, *Vaccinium*.



(F) Understory: Ferns, *Carex*, *Peperomia*.

(iv) In units Maui—Wet Cliff—Unit 6, Maui—Wet Cliff—Unit 7, and Maui—Wet Cliff—Unit 8, the physical and biological features of critical habitat are:

(A) Elevation: Unrestricted.

(B) Annual precipitation: Greater than 75 in (190 cm).

(C) Substrate: Greater than 65 degree slope, shallow soils, weathered lava.

(D) Canopy: None.

(E) Subcanopy: *Broussaisia*, *Cheirodendron*, *Leptecophylla*, *Metrosideros*.

(F) Understory: Bryophytes, ferns, *Coprosma*, *Dubautia*, *Kadua*, *Peperomia*.

*Cyanea hamatiflora* ssp. *hamatiflora* (HAHA)

Maui—Lowland Wet—Unit 1, Maui—Montane Wet—Unit 1, Maui—Montane Wet—Unit 2, Maui—Montane Wet—Unit 3, Maui—Montane Wet—Unit 4, Maui—Montane Wet—Unit 5, and Maui—Montane Mesic—Unit 1, identified in the legal descriptions in paragraph (e)(1) of this section, constitute critical habitat for *Cyanea hamatiflora* ssp. *hamatiflora* on Maui.

(i) In unit Maui—Lowland Wet—Unit 1, the physical and biological features of critical habitat are:

(A) Elevation: Less than 3,300 ft (1,000 m).

(B) Annual precipitation: Greater than 75 in (190 cm).

(C) Substrate: Clays; ashbeds; deep, well-drained soils; lowland bogs.

(D) Canopy: *Antidesma*, *Metrosideros*, *Myrsine*, *Pisonia*, *Psychotria*.

(E) Subcanopy: *Cibotium*, *Claoxylon*, *Kadua*, *Melicope*.

(F) Understory: *Alyxia*, *Cyrtandra*, *Dicranopteris*, *Diplazium*, *Machaerina*, *Microlepia*.

(ii) In units Maui—Montane Wet—Unit 1, Maui—Montane Wet—Unit 2, Maui—Montane Wet—Unit 3, Maui—Montane Wet—Unit 4, and Maui—Montane Wet—Unit 5, the physical and biological features of critical habitat are:

(A) Elevation: 3,300 to 6,500 ft (1,000 to 2,000 m).

(B) Annual precipitation: Greater than 75 in (190 cm).

(C) Substrate: Well-developed soils, montane bogs.

(D) Canopy: *Acacia*, *Charpentiera*, *Cheirodendron*, *Metrosideros*.

(E) Subcanopy: *Broussaisia*, *Cibotium*, *Eurya*, *Ilex*, *Myrsine*.

(F) Understory: Ferns, *Carex*, *Coprosma*, *Leptecophylla*, *Oreobolus*, *Rhynchospora*, *Vaccinium*.

(iii) In unit Maui—Montane Mesic—Unit 1, the physical and biological features of critical habitat are:

(A) Elevation: 3,300 to 6,500 ft (1,000 to 2,000 m).

(B) Annual precipitation: 50 to 75 in (130 to 190 cm).

(C) Substrate: Deep ash deposits, thin silty loams.

(D) Canopy: *Acacia*, *Ilex*, *Metrosideros*, *Myrsine*, *Nestegis*, *Nothocestrum*, *Pisonia*, *Pittosporum*, *Psychotria*, *Sophora*, *Zanthoxylum*.

(E) Subcanopy: *Alyxia*, *Charpentiera*, *Coprosma*, *Dodonaea*, *Kadua*, *Labordia*, *Leptecophylla*, *Phyllostegia*, *Vaccinium*.

(F) Understory: Ferns, *Carex*, *Peperomia*.

*Cyanea horrida* (HAHA NUI)

Maui—Montane Wet—Unit 1, Maui—Montane Wet—Unit 2, Maui—Montane Wet—Unit 3, Maui—Montane Wet—Unit 4, Maui—Montane Wet—Unit 5, Maui—Montane Mesic—Unit 1, Maui—Wet Cliff—Unit 1, Maui—Wet Cliff—Unit 2, Maui—Wet Cliff—Unit 3, and Maui—Wet Cliff—Unit 4, identified in the legal descriptions in paragraph (e)(1) of this section, constitute critical habitat for *Cyanea horrida* on Maui.

(i) In units Maui—Montane Wet—Unit 1, Maui—Montane Wet—Unit 2, Maui—Montane Wet—Unit 3, Maui—Montane Wet—Unit 4, and Maui—Montane Wet—Unit 5, the physical and biological features of critical habitat are:

(A) Elevation: 3,300 to 6,500 ft (1,000 to 2,000 m).

(B) Annual precipitation: Greater than 75 in (190 cm).

(C) Substrate: Well-developed soils, montane bogs.

(D) Canopy: *Acacia*, *Charpentiera*, *Cheirodendron*, *Metrosideros*.

(E) Subcanopy: *Broussaisia*, *Cibotium*, *Eurya*, *Ilex*, *Myrsine*.

(F) Understory: Ferns, *Carex*, *Coprosma*, *Leptecophylla*, *Oreobolus*, *Rhynchospora*, *Vaccinium*.

(ii) In unit Maui—Montane Mesic—Unit 1, the physical and biological features of critical habitat are:

(A) Elevation: 3,300 to 6,500 ft (1,000 to 2,000 m).

(B) Annual precipitation: 50 to 75 in (130 to 190 cm).

(C) Substrate: Deep ash deposits, thin silty loams.

(D) Canopy: *Acacia*, *Ilex*, *Metrosideros*, *Myrsine*, *Nestegis*, *Nothocestrum*, *Pisonia*, *Pittosporum*, *Psychotria*, *Sophora*, *Zanthoxylum*.

(E) Subcanopy: *Alyxia*, *Charpentiera*, *Coprosma*, *Dodonaea*, *Kadua*, *Labordia*, *Leptecophylla*, *Phyllostegia*, *Vaccinium*.

(F) Understory: Ferns, *Carex*, *Peperomia*.

(iii) In units Maui—Wet Cliff—Unit 1, Maui—Wet Cliff—Unit 2, Maui—Wet Cliff—Unit 3, and Maui—Wet Cliff—Unit 4, the physical and biological features of critical habitat are:

(A) Elevation: Unrestricted.

(B) Annual precipitation: Greater than 75 in (190 cm).

(C) Substrate: Greater than 65 degree slope, shallow soils, weathered lava.

(D) Canopy: None.

(E) Subcanopy: *Broussaisia*, *Cheirodendron*, *Leptecophylla*, *Metrosideros*.

(F) Understory: Bryophytes, ferns, *Coprosma*, *Dubautia*, *Kadua*, *Peperomia*.

*Cyanea kunthiana* (HAHA)

Maui—Lowland Wet—Unit 1, Maui—Lowland Wet—Unit 2, Maui—Lowland Wet—Unit 3, Maui—Lowland Wet—Unit 4, Maui—Lowland Wet—Unit 5, Maui—Lowland Wet—Unit 6, Maui—Lowland Wet—Unit 7, Maui—Lowland Wet—Unit 8, Maui—Montane Wet—Unit 1, Maui—Montane Wet—Unit 2, Maui—Montane Wet—Unit 3, Maui—Montane Wet—Unit 4, Maui—Montane Wet—Unit 5, Maui—Montane Wet—Unit 6, Maui—Montane Wet—Unit 7, and Maui—Montane Mesic—Unit 1, identified in the legal descriptions in paragraph (e)(1) of this section, constitute critical habitat for *Cyanea kunthiana* on Maui.

(i) In units Maui—Lowland Wet—Unit 1, Maui—Lowland Wet—Unit 2, Maui—Lowland Wet—Unit 3, Maui—Lowland Wet—Unit 4, Maui—Lowland Wet—Unit 5, Maui—Lowland Wet—Unit 6, Maui—Lowland Wet—Unit 7, and Maui—Lowland Wet—Unit 8, the physical and biological features of critical habitat are:

(A) Elevation: Less than 3,300 ft (1,000 m).

(B) Annual precipitation: Greater than 75 in (190 cm).

(C) Substrate: Clays; ashbeds; deep, well-drained soils; lowland bogs.

(D) Canopy: *Antidesma*, *Metrosideros*, *Myrsine*, *Pisonia*, *Psychotria*.

(E) Subcanopy: *Cibotium*, *Claoxylon*, *Kadua*, *Melicope*.

(F) Understory: *Alyxia*, *Cyrtandra*, *Dicranopteris*, *Diplazium*, *Machaerina*, *Microlepia*.

(ii) In units Maui—Montane Wet—Unit 1, Maui—Montane Wet—Unit 2, Maui—Montane Wet—Unit 3, Maui—Montane Wet—Unit 4, Maui—Montane Wet—Unit 5, Maui—Montane Wet—Unit 6, and Maui—Montane Wet—Unit 7, the physical and biological features of critical habitat are:

(A) Elevation: 3,300 to 6,500 ft (1,000 to 2,000 m).

(B) Annual precipitation: Greater than 75 in (190 cm).

(C) Substrate: Well-developed soils, montane bogs.

(D) Canopy: *Acacia*, *Charpentiera*, *Cheirodendron*, *Metrosideros*.

(E) Subcanopy: *Broussaisia*, *Cibotium*, *Eurya*, *Ilex*, *Myrsine*.

(F) Understory: Ferns, *Carex*, *Coprosma*, *Leptecophylla*, *Oreobolus*, *Rhynchospora*, *Vaccinium*.

(iii) In unit Maui—Montane Mesic—Unit 1, the physical and biological features of critical habitat are:

(A) Elevation: 3,300 to 6,500 ft (1,000 to 2,000 m).

(B) Annual precipitation: 50 to 75 in (130 to 190 cm).

(C) Substrate: Deep ash deposits, thin silty loams.

(D) Canopy: *Acacia*, *Ilex*, *Metrosideros*, *Myrsine*, *Nestegis*, *Nothocestrum*, *Pisonia*, *Pittosporum*, *Psychotria*, *Sophora*, *Zanthoxylum*.

(E) Subcanopy: *Alyxia*, *Charpentiera*, *Coprosma*, *Dodonaea*, *Kadua*, *Labordia*, *Leptecophylla*, *Phyllostegia*, *Vaccinium*.

(F) Understory: Ferns, *Carex*, *Peperomia*.

#### *Cyanea lobata* (HAHA)

Maui—Lowland Wet—Unit 2, Maui—Lowland Wet—Unit 3, Maui—Lowland Wet—Unit 4, Maui—Lowland Wet—Unit 5, Maui—Lowland Wet—Unit 6, Maui—Lowland Wet—Unit 7, Maui—Lowland Wet—Unit 8, Maui—Wet Cliff—Unit 6, Maui—Wet Cliff—Unit 7, and Maui—Wet Cliff—Unit 8, identified in the legal descriptions in paragraph (e)(1) of this section, constitute critical habitat for *Cyanea lobata* on Maui.

(i) In units Maui—Lowland Wet—Unit 2, Maui—Lowland Wet—Unit 3, Maui—Lowland Wet—Unit 4, Maui—Lowland Wet—Unit 5, Maui—Lowland Wet—Unit 6, Maui—Lowland Wet—Unit 7, and Maui—Lowland Wet—Unit 8, the physical and biological features of critical habitat are:

(A) Elevation: Less than 3,300 ft (1,000 m).

(B) Annual precipitation: Greater than 75 in (190 cm).

(C) Substrate: Clays; ashbeds; deep, well-drained soils; lowland bogs.

(D) Canopy: *Antidesma*, *Metrosideros*, *Myrsine*, *Pisonia*, *Psychotria*.

(E) Subcanopy: *Cibotium*, *Claoxylon*, *Kadua*, *Melicope*.

(F) Understory: *Alyxia*, *Cyrtandra*, *Dicranopteris*, *Diplazium*, *Machaerina*, *Microlepia*.

(ii) In units Maui—Wet Cliff—Unit 6, Maui—Wet Cliff—Unit 7, and Maui—Wet Cliff—Unit 8, the physical and biological features of critical habitat are:

(A) Elevation: Unrestricted.

(B) Annual precipitation: Greater than 75 in (190 cm).

(C) Substrate: Greater than 65 degree slope, shallow soils, weathered lava.

(D) Canopy: None.

(E) Subcanopy: *Broussaisia*, *Cheirodendron*, *Leptecophylla*, *Metrosideros*.

(F) Understory: Bryophytes, ferns, *Coprosma*, *Dubautia*, *Kadua*, *Peperomia*.

#### *Cyanea magnicalyx* (HAHA)

Maui—Lowland Wet—Unit 2, Maui—Lowland Wet—Unit 3, Maui—Lowland Wet—Unit 4, Maui—Lowland Wet—Unit 5, Maui—Lowland Wet—Unit 6, Maui—Lowland Wet—Unit 7, Maui—Lowland Wet—Unit 8, Maui—Montane Mesic—Unit 2, Maui—Montane Mesic—Unit 3, Maui—Montane Mesic—Unit 4, Maui—Montane Mesic—Unit 5, Maui—Wet Cliff—Unit 6, Maui—Wet Cliff—Unit 7, and Maui—Wet Cliff—Unit 8, identified in the legal descriptions in paragraph (e)(1) of this section, constitute critical habitat for *Cyanea magnicalyx* on Maui.

(i) In units Maui—Lowland Wet—Unit 2, Maui—Lowland Wet—Unit 3, Maui—Lowland Wet—Unit 4, Maui—Lowland Wet—Unit 5, Maui—Lowland Wet—Unit 6, Maui—Lowland Wet—Unit 7, and Maui—Lowland Wet—Unit 8, the physical and biological features of critical habitat are:

(A) Elevation: Less than 3,300 ft (1,000 m).

(B) Annual precipitation: Greater than 75 in (190 cm).

(C) Substrate: Clays; ashbeds; deep, well-drained soils; lowland bogs.

(D) Canopy: *Antidesma*, *Metrosideros*, *Myrsine*, *Pisonia*, *Psychotria*.

(E) Subcanopy: *Cibotium*, *Claoxylon*, *Kadua*, *Melicope*.

(F) Understory: *Alyxia*, *Cyrtandra*, *Dicranopteris*, *Diplazium*, *Machaerina*, *Microlepia*.

(ii) In units Maui—Montane Mesic—Unit 2, Maui—Montane Mesic—Unit 3, Maui—Montane Mesic—Unit 4, and Maui—Montane Mesic—Unit 5, the physical and biological features of critical habitat are:

(A) Elevation: 3,300 to 6,500 ft (1,000 to 2,000 m).

(B) Annual precipitation: 50 to 75 in (130 to 190 cm).

(C) Substrate: Deep ash deposits, thin silty loams.

(D) Canopy: *Acacia*, *Ilex*, *Metrosideros*, *Myrsine*, *Nestegis*, *Nothocestrum*, *Pisonia*, *Pittosporum*, *Psychotria*, *Sophora*, *Zanthoxylum*.

(E) Subcanopy: *Alyxia*, *Charpentiera*, *Coprosma*, *Dodonaea*, *Kadua*, *Labordia*, *Leptecophylla*, *Phyllostegia*, *Vaccinium*.

(F) Understory: Ferns, *Carex*, *Peperomia*.

(iii) In units Maui—Wet Cliff—Unit 6, Maui—Wet Cliff—Unit 7, and Maui—Wet Cliff—Unit 8, the physical and biological features of critical habitat are:

(A) Elevation: Unrestricted.

(B) Annual precipitation: Greater than 75 in (190 cm).

(C) Substrate: Greater than 65 degree slope, shallow soils, weathered lava.

(D) Canopy: None.

(E) Subcanopy: *Broussaisia*, *Cheirodendron*, *Leptecophylla*, *Metrosideros*.

(F) Understory: Bryophytes, ferns, *Coprosma*, *Dubautia*, *Kadua*, *Peperomia*.

#### *Cyanea maritae* (HAHA)

Maui—Lowland Wet—Unit 1, Maui—Montane Wet—Unit 1, Maui—Montane Wet—Unit 2, Maui—Montane Wet—Unit 3, Maui—Montane Wet—Unit 4, and Maui—Montane Wet—Unit 5, identified in the legal descriptions in paragraph (e)(1) of this section, constitute critical habitat for *Cyanea maritae* on Maui.

(i) In unit Maui—Lowland Wet—Unit 1, the physical and biological features of critical habitat are:

(A) Elevation: Less than 3,300 ft (1,000 m).

(B) Annual precipitation: Greater than 75 in (190 cm).

(C) Substrate: Clays; ashbeds; deep, well-drained soils; lowland bogs.

(D) Canopy: *Antidesma*, *Metrosideros*, *Myrsine*, *Pisonia*, *Psychotria*.

(E) Subcanopy: *Cibotium*, *Claoxylon*, *Kadua*, *Melicope*.

(F) Understory: *Alyxia*, *Cyrtandra*, *Dicranopteris*, *Diplazium*, *Machaerina*, *Microlepia*.

(ii) In units Maui—Montane Wet—Unit 1, Maui—Montane Wet—Unit 2, Maui—Montane Wet—Unit 3, Maui—Montane Wet—Unit 4, and Maui—Montane Wet—Unit 5, the physical and biological features of critical habitat are:

(A) Elevation: 3,300 to 6,500 ft (1,000 to 2,000 m).

(B) Annual precipitation: Greater than 75 in (190 cm).

(C) Substrate: Well-developed soils, montane bogs.

(D) Canopy: *Acacia*, *Charpentiera*, *Cheirodendron*, *Metrosideros*.

(E) Subcanopy: *Broussaisia*, *Cibotium*, *Eurya*, *Ilex*, *Myrsine*.

(F) Understory: Ferns, *Carex*, *Coprosma*, *Leptecophylla*, *Oreobolus*, *Rhynchospora*, *Vaccinium*.

#### *Cyanea mceldowneyi* (HAHA)

Maui—Lowland Wet—Unit 1, Maui—Montane Wet—Unit 1, Maui—Montane Wet—Unit 2, Maui—Montane Wet—Unit 3, Maui—Montane Wet—Unit 4, Maui—Montane Wet—Unit 5, and Maui—Montane Mesic—Unit 1, identified in the legal descriptions in paragraph (e)(1) of this section, constitute critical habitat for *Cyanea mceldowneyi* on Maui.

(i) In unit Maui—Lowland Wet—Unit 1, the physical and biological features of critical habitat are:

(A) Elevation: Less than 3,300 ft (1,000 m).

(B) Annual precipitation: Greater than 75 in (190 cm).

(C) Substrate: Clays; ashbeds; deep, well-drained soils; lowland bogs.

(D) Canopy: *Antidesma*, *Metrosideros*, *Myrsine*, *Pisonia*, *Psychotria*.

(E) Subcanopy: *Cibotium*, *Claoxylon*, *Kadua*, *Melicope*.

(F) Understory: *Alyxia*, *Cyrtandra*, *Dicranopteris*, *Diplazium*, *Machaerina*, *Microlepia*.

(ii) In units Maui—Montane Wet—Unit 1, Maui—Montane Wet—Unit 2, Maui—Montane Wet—Unit 3, Maui—Montane Wet—Unit 4, and Maui—Montane Wet—Unit 5, the physical and biological features of critical habitat are:

(A) Elevation: 3,300 to 6,500 ft (1,000 to 2,000 m).

(B) Annual precipitation: Greater than 75 in (190 cm).

(C) Substrate: Well-developed soils, montane bogs.

(D) Canopy: *Acacia*, *Charpentiera*, *Cheirodendron*, *Metrosideros*.

(E) Subcanopy: *Broussaisia*, *Cibotium*, *Eurya*, *Ilex*, *Myrsine*.

(F) Understory: Ferns, *Carex*, *Coprosma*, *Leptecophylla*, *Oreobolus*, *Rhynchospora*, *Vaccinium*.

(iii) In unit Maui—Montane Mesic—Unit 1, the physical and biological features of critical habitat are:

(A) Elevation: 3,300 to 6,500 ft (1,000 to 2,000 m).

(B) Annual precipitation: 50 to 75 in (130 to 190 cm).

(C) Substrate: Deep ash deposits, thin silty loams.

(D) Canopy: *Acacia*, *Ilex*, *Metrosideros*, *Myrsine*, *Nestegis*, *Nothoecstrum*, *Pisonia*, *Pittosporum*, *Psychotria*, *Sophora*, *Zanthoxylum*.

(E) Subcanopy: *Alyxia*, *Charpentiera*, *Coprosma*, *Dodonaea*, *Kadua*, *Labordia*, *Leptecophylla*, *Phyllostegia*, *Vaccinium*.

(F) Understory: Ferns, *Carex*, *Peperomia*.

#### *Cyanea obtusa* (HAHA)

Maui—Lowland Dry—Unit 5, Maui—Lowland Dry—Unit 6, and Maui—Montane Mesic—Unit 1, identified in the legal descriptions in paragraph (e)(1) of this section, constitute critical habitat for *Cyanea obtusa* on Maui.

(i) In units Maui—Lowland Dry—Unit 5 and Maui—Lowland Dry—Unit 6, the physical and biological features of critical habitat are:

(A) Elevation: Less than 3,300 ft (1,000 m).

(B) Annual precipitation: Less than 50 in (130 cm).

(C) Substrate: Weathered silty loams to stony clay, rocky ledges, little-weathered lava.

(D) Canopy: *Diospyros*, *Myoporum*, *Pleomele*, *Santalum*.

(E) Subcanopy: *Chamaesyce*, *Dodonaea*, *Leptecophylla*, *Osteomeles*, *Psydrax*, *Scaevola*, *Wikstroemia*.

(F) Understory: *Alyxia*, *Artemisia*, *Bidens*, *Chenopodium*, *Nephrolepis*, *Peperomia*, *Sicyos*.

(ii) In unit Maui—Montane Mesic—Unit 1, the physical and biological features of critical habitat are:

(A) Elevation: 3,300 to 6,500 ft (1,000 to 2,000 m).

(B) Annual precipitation: 50 to 75 in (130 to 190 cm).

(C) Substrate: Deep ash deposits, thin silty loams.

(D) Canopy: *Acacia*, *Ilex*, *Metrosideros*, *Myrsine*, *Nestegis*, *Nothoecstrum*, *Pisonia*, *Pittosporum*, *Psychotria*, *Sophora*, *Zanthoxylum*.

(E) Subcanopy: *Alyxia*, *Charpentiera*, *Coprosma*, *Dodonaea*, *Kadua*, *Labordia*, *Leptecophylla*, *Phyllostegia*, *Vaccinium*.

(F) Understory: Ferns, *Carex*, *Peperomia*.

#### Family Caryophyllaceae

##### *Schiedea haleakalensis* (NCN)

Maui—Subalpine—Unit 1, Maui—Subalpine—Unit 2, Maui—Dry Cliff—Unit 1, Maui—Dry Cliff—Unit 2, Maui—Dry Cliff—Unit 3, and Maui—Dry Cliff—Unit 4, identified in the legal descriptions in paragraph (e)(1) of this section, constitute critical habitat for *Schiedea haleakalensis* on Maui.

(i) In units Maui—Subalpine—Unit 1 and Maui—Subalpine—Unit 2, the physical and biological features of critical habitat are:

(A) Elevation: 6,500 to 9,800 ft (2,000 to 3,000 m).

(B) Annual precipitation: 15 to 40 in (38 to 100 cm).

(C) Substrate: Dry ash; sandy loam; rocky, undeveloped soils; weathered lava.

(D) Canopy: *Chamaesyce*, *Chenopodium*, *Metrosideros*, *Myoporum*, *Santalum*, *Sophora*.

(E) Subcanopy: *Coprosma*, *Dodonaea*, *Dubautia*, *Geranium*, *Leptecophylla*, *Vaccinium*, *Wikstroemia*.

(F) Understory: Ferns, *Bidens*, *Carex*, *Deschampsia*, *Eragrostis*, *Gahnia*, *Luzula*, *Panicum*, *Pseudognaphalium*, *Sicyos*, *Tetramolopium*.

(ii) In units Maui—Dry Cliff—Unit 1, Maui—Dry Cliff—Unit 2, Maui—Dry Cliff—Unit 3, and Maui—Dry Cliff—Unit 4, the physical and biological features of critical habitat are:

(A) Elevation: Unrestricted.

(B) Annual precipitation: Less than 75 in (190 cm).

(C) Substrate: Greater than 65 degree slope, rocky talus.

(D) Canopy: None.

(E) Subcanopy: *Antidesma*, *Chamaesyce*, *Diospyros*, *Dodonaea*.

(F) Understory: *Bidens*, *Eragrostis*, *Melanthera*, *Schiedea*.

##### *Schiedea jacobii* (NCN)

Maui—Montane Wet—Unit 1, Maui—Montane Wet—Unit 2, Maui—Montane Wet—Unit 3, Maui—Montane Wet—Unit 4, and Maui—Montane Wet—Unit 5, identified in the legal descriptions in paragraph (e)(1) of this section, constitute critical habitat for *Schiedea jacobii* on Maui. In units Maui—Montane Wet—Unit 1, Maui—Montane Wet—Unit 2, Maui—Montane Wet—Unit 3, Maui—Montane Wet—Unit 4, and Maui—Montane Wet—Unit 5, the physical and biological features of critical habitat are:

(i) Elevation: 3,300 to 6,500 ft (1,000 to 2,000 m).

(ii) Annual precipitation: Greater than 75 in (190 cm).

(iii) Substrate: Well-developed soils, montane bogs.

(iv) Canopy: *Acacia*, *Charpentiera*, *Cheirodendron*, *Metrosideros*.

(v) Subcanopy: *Broussaisia*, *Cibotium*, *Eurya*, *Ilex*, *Myrsine*.

(vi) Understory: Ferns, *Carex*, *Coprosma*, *Leptecophylla*, *Oreobolus*, *Rhynchospora*, *Vaccinium*.

##### *Schiedea salicaria* (NCN)

Maui—Lowland Dry—Unit 5 and Maui—Lowland Dry—Unit 6, identified in the legal descriptions in paragraph (e)(1) of this section, constitute critical habitat for *Schiedea salicaria* on Maui. In units Maui—Lowland Dry—Unit 5 and Maui—Lowland Dry—Unit 6, the physical and biological features of critical habitat are:

(i) Elevation: Less than 3,300 ft (1,000 m).

(ii) Annual precipitation: Less than 50 in (130 cm).

(iii) Substrate: Weathered silty loams to stony clay, rocky ledges, little-weathered lava.

(iv) Canopy: *Diospyros*, *Myoporum*, *Pleomele*, *Santalum*.

(v) Subcanopy: *Chamaesyce*, *Dodonaea*, *Leptecophylla*, *Osteomeles*, *Psydrax*, *Scaevola*, *Wikstroemia*.

(vi) Understory: *Alyxia*, *Artemisia*, *Bidens*, *Chenopodium*, *Nephrolepis*, *Peperomia*, *Sicyos*.

#### Family Convolvulaceae

##### *Bonamia menziesii* (NCN)

Maui—Lowland Dry—Unit 1, Maui—Lowland Dry—Unit 2, Maui—Lowland Dry—Unit 3, Maui—Lowland Dry—Unit 4, Maui—Dry Cliff—Unit 5, Maui—Dry Cliff—Unit 6, Maui—Wet Cliff—

Unit 6, Maui—Wet Cliff—Unit 7, and Maui—Wet Cliff—Unit 8, identified in the legal descriptions in paragraph (e)(1) of this section, constitute critical habitat for *Bonamia menziesii* on Maui.

(i) In units Maui—Lowland Dry—Unit 1, Maui—Lowland Dry—Unit 2, Maui—Lowland Dry—Unit 3, and Maui—Lowland Dry—Unit 4, the physical and biological features of critical habitat are:

(A) Elevation: Less than 3,300 ft (1,000 m).

(B) Annual precipitation: Less than 50 in (130 cm).

(C) Substrate: Weathered silty loams to stony clay, rocky ledges, little-weathered lava.

(D) Canopy: *Diospyros*, *Myoporum*, *Pleomele*, *Santalum*.

(E) Subcanopy: *Chamaesyce*, *Dodonaea*, *Leptecophylla*, *Osteomeles*, *Psydrax*, *Scaevola*, *Wikstroemia*.

(F) Understory: *Alyxia*, *Artemisia*, *Bidens*, *Chenopodium*, *Nephrolepis*, *Peperomia*, *Sicyos*.

(ii) In units Maui—Dry Cliff—Unit 5 and Maui—Dry Cliff—Unit 6, the physical and biological features of critical habitat are:

(A) Elevation: Unrestricted.

(B) Annual precipitation: Less than 75 in (190 cm).

(C) Substrate: Greater than 65 degree slope, rocky talus.

(D) Canopy: None.

(E) Subcanopy: *Antidesma*, *Chamaesyce*, *Diospyros*, *Dodonaea*.

(F) Understory: *Bidens*, *Eragrostis*, *Melanthra*, *Schiedea*.

(iii) In units Maui—Wet Cliff—Unit 6, Maui—Wet Cliff—Unit 7, and Maui—Wet Cliff—Unit 8, the physical and biological features of critical habitat are:

(A) Elevation: Unrestricted.

(B) Annual precipitation: Greater than 75 in (190 cm).

(C) Substrate: Greater than 65 degree slope, shallow soils, weathered lava.

(D) Canopy: None.

(E) Subcanopy: *Broussaisia*, *Cheirodendron*, *Leptecophylla*, *Metrosideros*.

(F) Understory: Bryophytes, ferns, *Coprosma*, *Dubautia*, *Kadua*, *Peperomia*.

#### Family Cyperaceae

*Cyperus pennatifolius* (NCN)

Maui—Coastal—Unit 1, Maui—Coastal—Unit 2, Maui—Coastal—Unit 3, Maui—Coastal—Unit 4, Maui—Coastal—Unit 5, Maui—Coastal—Unit 6, Maui—Coastal—Unit 7, and Maui—Coastal—Unit 8, identified in the legal descriptions in paragraph (e)(1) of this section, constitute critical habitat for *Cyperus pennatifolius* on Maui. In

units Maui—Coastal—Unit 1, Maui—Coastal—Unit 2, Maui—Coastal—Unit 3, Maui—Coastal—Unit 4, Maui—Coastal—Unit 5, Maui—Coastal—Unit 6, Maui—Coastal—Unit 7, and Maui—Coastal—Unit 8, the physical and biological features of critical habitat are:

(i) Elevation: Less than 980 ft (300 m).

(ii) Annual precipitation: Less than 20 in (50 cm).

(iii) Substrate: Well-drained, calcareous, talus slopes; dunes; weathered clay soils; ephemeral pools; mudflats.

(iv) Canopy: *Hibiscus*, *Myoporum*, *Santalum*, *Scaevola*.

(v) Subcanopy: *Gossypium*, *Sida*, *Vitex*.

(vi) Understory: *Eragrostis*, *Jacquemontia*, *Lyceum*, *Nama*, *Sesuvium*, *Sporobolus*, *Vigna*.

#### Family Euphorbiaceae

*Flueggea neowawraea* (MEHAMEHAME)

Maui—Lowland Dry—Unit 1, Maui—Lowland Dry—Unit 2, Maui—Lowland Dry—Unit 3, and Maui—Lowland Dry—Unit 4, identified in the legal descriptions in paragraph (e)(1) of this section, constitute critical habitat for *Flueggea neowawraea* on Maui. In units Maui—Lowland Dry—Unit 1, Maui—Lowland Dry—Unit 2, Maui—Lowland Dry—Unit 3, and Maui—Lowland Dry—Unit 4, the physical and biological features of critical habitat are:

(i) Elevation: Less than 3,300 ft (1,000 m).

(ii) Annual precipitation: Less than 50 in (130 cm).

(iii) Substrate: Weathered silty loams to stony clay, rocky ledges, little-weathered lava.

(iv) Canopy: *Diospyros*, *Myoporum*, *Pleomele*, *Santalum*.

(v) Subcanopy: *Chamaesyce*, *Dodonaea*, *Leptecophylla*, *Osteomeles*, *Psydrax*, *Scaevola*, *Wikstroemia*.

(vi) Understory: *Alyxia*, *Artemisia*, *Bidens*, *Chenopodium*, *Nephrolepis*, *Peperomia*, *Sicyos*.

#### Family Fabaceae

*Canavalia pubescens* (AWIKIWIKI)

Maui—Lowland Dry—Unit 1, Maui—Lowland Dry—Unit 2, Maui—Lowland Dry—Unit 3, and Maui—Lowland Dry—Unit 4, identified in the legal descriptions in paragraph (e)(1) of this section, constitute critical habitat for *Canavalia pubescens* on Maui. In units Maui—Lowland Dry—Unit 1, Maui—Lowland Dry—Unit 2, Maui—Lowland Dry—Unit 3, and Maui—Lowland Dry—Unit 4, the physical and biological features of critical habitat are:

(i) Elevation: Less than 3,300 ft (1,000 m).

(ii) Annual precipitation: Less than 50 in (130 cm).

(iii) Substrate: Weathered silty loams to stony clay, rocky ledges, little-weathered lava.

(iv) Canopy: *Diospyros*, *Myoporum*, *Pleomele*, *Santalum*.

(v) Subcanopy: *Chamaesyce*, *Dodonaea*, *Leptecophylla*, *Osteomeles*, *Psydrax*, *Scaevola*, *Wikstroemia*.

(vi) Understory: *Alyxia*, *Artemisia*, *Bidens*, *Chenopodium*, *Nephrolepis*, *Peperomia*, *Sicyos*.

*Kanaloa kahoolawensis* (KOHE MALAMA MALAMA O KANALOA)

Kahoolawe—Coastal—Unit 1, Kahoolawe—Coastal—Unit 2, Kahoolawe—Coastal—Unit 3, Kahoolawe—Lowland Dry—Unit 1, and Kahoolawe—Lowland Dry—Unit 2, identified in the legal descriptions in paragraph (e)(2) of this section, constitute critical habitat for *Kanaloa kahoolawensis* on Kahoolawe.

(i) In units Kahoolawe—Coastal—Unit 1, Kahoolawe—Coastal—Unit 2, and Kahoolawe—Coastal—Unit 3, the physical and biological features of critical habitat are:

(A) Elevation: Less than 980 ft (300 m).

(B) Annual precipitation: Less than 20 in (50 cm).

(C) Substrate: Well-drained, calcareous, talus slopes; dunes; weathered clay soils; ephemeral pools; mudflats.

(D) Canopy: *Hibiscus*, *Myoporum*, *Santalum*, *Scaevola*.

(E) Subcanopy: *Gossypium*, *Sida*, *Vitex*.

(F) Understory: *Eragrostis*, *Jacquemontia*, *Lyceum*, *Nama*, *Sesuvium*, *Sporobolus*, *Vigna*.

(ii) In units Kahoolawe—Lowland Dry—Unit 1 and Kahoolawe—Lowland Dry—Unit 2, the physical and biological features of critical habitat are:

(A) Elevation: Less than 3,300 ft (1,000 m).

(B) Annual precipitation: Less than 50 in (130 cm).

(C) Substrate: Weathered silty loams to stony clay, rocky ledges, little-weathered lava.

(D) Canopy: *Diospyros*, *Myoporum*, *Pleomele*, *Santalum*.

(E) Subcanopy: *Chamaesyce*, *Dodonaea*, *Leptecophylla*, *Osteomeles*, *Psydrax*, *Scaevola*, *Wikstroemia*.

(F) Understory: *Alyxia*, *Artemisia*, *Bidens*, *Chenopodium*, *Nephrolepis*, *Peperomia*, *Sicyos*.

*Mucuna sloanei* var. *persericea* (SEA BEAN)

Maui—Lowland Wet—Unit 1, identified in the legal descriptions in

paragraph (e)(1) of this section, constitutes critical habitat for *Mucuna sloanei* var. *persericea* on Maui. In unit Maui—Lowland Wet—Unit 1, the physical and biological features of critical habitat are:

(i) Elevation: Less than 3,300 ft (1,000 m).

(ii) Annual precipitation: Greater than 75 in (190 cm).

(iii) Substrate: Clays; ashbeds; deep, well-drained soils; lowland bogs.

(iv) Canopy: *Antidesma*, *Metrosideros*, *Myrsine*, *Pisonia*, *Psychotria*.

(v) Subcanopy: *Cibotium*, *Claoxylon*, *Kadua*, *Melicope*.

(vi) Understory: *Alyxia*, *Cyrtandra*, *Dicranopteris*, *Diplazium*, *Machaerina*, *Microlepia*.

#### *Sesbania tomentosa* (OHAI)

Maui—Coastal—Unit 9, Maui—Coastal—Unit 10, Maui—Coastal—Unit 11, Kahoolawe—Coastal—Unit 1, Kahoolawe—Coastal—Unit 2, Kahoolawe—Coastal—Unit 3, Maui—Lowland Dry—Unit 1, Maui—Lowland Dry—Unit 2, Maui—Lowland Dry—Unit 3, Maui—Lowland Dry—Unit 4, Maui—Lowland Dry—Unit 5, Maui—Lowland Dry—Unit 6, Kahoolawe—Lowland Dry—Unit 1, and Kahoolawe—Lowland Dry—Unit 2, identified in the legal descriptions in paragraphs (e)(1) and (e)(2) of this section, constitute critical habitat for *Sesbania tomentosa* on Maui and Kahoolawe.

(i) In units Maui—Coastal—Unit 9, Maui—Coastal—Unit 10, Maui—Coastal—Unit 11, Kahoolawe—Coastal—Unit 1, Kahoolawe—Coastal—Unit 2, and Kahoolawe—Coastal—Unit 3, the physical and biological features of critical habitat are:

(A) Elevation: Less than 980 ft (300 m).

(B) Annual precipitation: Less than 20 in (50 cm).

(C) Substrate: Well-drained, calcareous, talus slopes; dunes; weathered clay soils; ephemeral pools; mudflats.

(D) Canopy: *Hibiscus*, *Myoporum*, *Santalum*, *Scaevola*.

(E) Subcanopy: *Gossypium*, *Sida*, *Vitex*.

(F) Understory: *Eragrostis*, *Jacquemontia*, *Lyceum*, *Nama*, *Sesuvium*, *Sporobolus*, *Vigna*.

(ii) In units Maui—Lowland Dry—Unit 1, Maui—Lowland Dry—Unit 2, Maui—Lowland Dry—Unit 3, Maui—Lowland Dry—Unit 4, Maui—Lowland Dry—Unit 5, Maui—Lowland Dry—Unit 6, Kahoolawe—Lowland Dry—Unit 1, and Kahoolawe—Lowland Dry—Unit 2, the physical and biological features of critical habitat are:

(A) Elevation: Less than 3,300 ft (1,000 m).

(B) Annual precipitation: Less than 50 in (130 cm).

(C) Substrate: Weathered silty loams to stony clay, rocky ledges, little-weathered lava.

(D) Canopy: *Diospyros*, *Myoporum*, *Pleomele*, *Santalum*.

(E) Subcanopy: *Chamaesyce*, *Dodonaea*, *Leptecophylla*, *Osteomeles*, *Psydrax*, *Scaevola*, *Wikstroemia*.

(F) Understory: *Alyxia*, *Artemisia*, *Bidens*, *Chenopodium*, *Nephrolepis*, *Peperomia*, *Sicyos*.

#### *Vigna o-wahuensis* (NCN)

Maui—Coastal—Unit 1, Maui—Coastal—Unit 2, Maui—Coastal—Unit 3, Maui—Coastal—Unit 4, Maui—Coastal—Unit 5, Maui—Coastal—Unit 6, Maui—Coastal—Unit 7, Maui—Coastal—Unit 8, Kahoolawe—Coastal—Unit 1, Kahoolawe—Coastal—Unit 2, Kahoolawe—Coastal—Unit 3, Kahoolawe—Lowland Dry—Unit 1, and Kahoolawe—Lowland Dry—Unit 2, identified in the legal descriptions in paragraphs (e)(1) and (e)(2) of this section, constitute critical habitat for *Vigna o-wahuensis* on Maui and Kahoolawe.

(i) In units Maui—Coastal—Unit 1, Maui—Coastal—Unit 2, Maui—Coastal—Unit 3, Maui—Coastal—Unit 4, Maui—Coastal—Unit 5, Maui—Coastal—Unit 6, Maui—Coastal—Unit 7, Maui—Coastal—Unit 8, Kahoolawe—Coastal—Unit 1, Kahoolawe—Coastal—Unit 2, and Kahoolawe—Coastal—Unit 3, the physical and biological features of critical habitat are:

(A) Elevation: Less than 980 ft (300 m).

(B) Annual precipitation: Less than 20 in (50 cm).

(C) Substrate: Well-drained, calcareous, talus slopes; dunes; weathered clay soils; ephemeral pools; mudflats.

(D) Canopy: *Hibiscus*, *Myoporum*, *Santalum*, *Scaevola*.

(E) Subcanopy: *Gossypium*, *Sida*, *Vitex*.

(F) Understory: *Eragrostis*, *Jacquemontia*, *Lyceum*, *Nama*, *Sesuvium*, *Sporobolus*, *Vigna*.

(ii) In units Kahoolawe—Lowland Dry—Unit 1 and Kahoolawe—Lowland Dry—Unit 2, the physical and biological features of critical habitat are:

(A) Elevation: Less than 3,300 ft (1,000 m).

(B) Annual precipitation: Less than 50 in (130 cm).

(C) Substrate: Weathered silty loams to stony clay, rocky ledges, little-weathered lava.

(D) Canopy: *Diospyros*, *Myoporum*, *Pleomele*, *Santalum*.

(E) Subcanopy: *Chamaesyce*, *Dodonaea*, *Leptecophylla*, *Osteomeles*, *Psydrax*, *Scaevola*, *Wikstroemia*.

(F) Understory: *Alyxia*, *Artemisia*, *Bidens*, *Chenopodium*, *Nephrolepis*, *Peperomia*, *Sicyos*.

#### Family Gentianaceae

##### *Schenkia sebaeoides* (AWIWI)

Maui—Coastal—Unit 9, Maui—Coastal—Unit 10, and Maui—Coastal—Unit 11, identified in the legal descriptions in paragraph (e)(1) of this section, constitute critical habitat for *Schenkia sebaeoides* on Maui. In units Maui—Coastal—Unit 9, Maui—Coastal—Unit 10, and Maui—Coastal—Unit 11, the physical and biological features of critical habitat are:

(i) Elevation: Less than 980 ft (300 m).

(ii) Annual precipitation: Less than 20 in (50 cm).

(iii) Substrate: Well-drained, calcareous, talus slopes; dunes; weathered clay soils; ephemeral pools; mudflats.

(iv) Canopy: *Hibiscus*, *Myoporum*, *Santalum*, *Scaevola*.

(v) Subcanopy: *Gossypium*, *Sida*, *Vitex*.

(vi) Understory: *Eragrostis*, *Jacquemontia*, *Lyceum*, *Nama*, *Sesuvium*, *Sporobolus*, *Vigna*.

#### Family Geraniaceae

##### *Geranium arboreum* (HAWAIIAN RED-FLOWERED GERANIUM)

Maui—Montane Mesic—Unit 1, Maui—Montane Dry—Unit 1, Maui—Subalpine—Unit 1, and Maui—Subalpine—Unit 2, identified in the legal descriptions in paragraph (e)(1) of this section, constitute critical habitat for *Geranium arboreum* on Maui.

(i) In unit Maui—Montane Mesic—Unit 1, the physical and biological features of critical habitat are:

(A) Elevation: 3,300 to 6,500 ft (1,000 to 2,000 m).

(B) Annual precipitation: 50 to 75 in (130 to 190 cm).

(C) Substrate: Deep ash deposits, thin silty loams.

(D) Canopy: *Acacia*, *Ilex*, *Metrosideros*, *Myrsine*, *Nestegis*, *Nothocestrum*, *Pisonia*, *Pittosporum*, *Psychotria*, *Sophora*, *Zanthoxylum*.

(E) Subcanopy: *Alyxia*, *Charpentiera*, *Coprosma*, *Dodonaea*, *Kadua*, *Labordia*, *Leptecophylla*, *Phyllostegia*, *Vaccinium*.

(F) Understory: Ferns, *Carex*, *Peperomia*.

(ii) In unit Maui—Montane Dry—Unit 1, the physical and biological features of critical habitat are:

(A) Elevation: 3,300 to 6,500 ft (1,000 to 2,000 m).

(B) Annual precipitation: Less than 50 in (130 cm).

(C) Substrate: Dry cinder or ash soils, loamy volcanic sands, blocky lava, rock outcroppings.

(D) Canopy: *Acacia*, *Metrosideros*, *Myoporum*, *Santalum*, *Sophora*.

(E) Subcanopy: *Chamaesyce*, *Coprosma*, *Dodonaea*, *Dubautia*, *Leptecophylla*, *Osteomeles*, *Wikstroemia*.

(F) Understory: *Bidens*, *Eragrostis*, *Melanthera*, *Vaccinium*.

(iii) In units Maui—Subalpine—Unit 1 and Maui—Subalpine—Unit 2, the physical and biological features of critical habitat are:

(A) Elevation: 6,500 to 9,800 ft (2,000 to 3,000 m).

(B) Annual precipitation: 15 to 40 in (38 to 100 cm).

(C) Substrate: Dry ash; sandy loam; rocky, undeveloped soils; weathered lava.

(D) Canopy: *Chamaesyce*, *Chenopodium*, *Metrosideros*, *Myoporum*, *Santalum*, *Sophora*.

(E) Subcanopy: *Coprosma*, *Dodonaea*, *Dubautia*, *Geranium*, *Leptecophylla*, *Vaccinium*, *Wikstroemia*.

(F) Understory: Ferns, *Bidens*, *Carex*, *Deschampsia*, *Eragrostis*, *Gahnia*, *Luzula*, *Panicum*, *Pseudognaphalium*, *Sicyos*, *Tetramolopium*.

#### *Geranium hanaense* (NOHOANU)

Maui—Montane Wet—Unit 1, Maui—Montane Wet—Unit 2, Maui—Montane Wet—Unit 3, Maui—Montane Wet—Unit 4, and Maui—Montane Wet—Unit 5, identified in the legal descriptions in paragraph (e)(1) of this section, constitute critical habitat for *Geranium hanaense* on Maui. In units Maui—Montane Wet—Unit 1, Maui—Montane Wet—Unit 2, Maui—Montane Wet—Unit 3, Maui—Montane Wet—Unit 4, and Maui—Montane Wet—Unit 5, the physical and biological features of critical habitat are:

(i) Elevation: 3,300 to 6,500 ft (1,000 to 2,000 m).

(ii) Annual precipitation: Greater than 75 in (190 cm).

(iii) Substrate: Well-developed soils, montane bogs.

(iv) Canopy: *Acacia*, *Charpentiera*, *Cheirodendron*, *Metrosideros*.

(v) Subcanopy: *Broussaisia*, *Cibotium*, *Eurya*, *Ilex*, *Myrsine*.

(vi) Understory: Ferns, *Carex*, *Coprosma*, *Leptecophylla*, *Oreobolus*, *Rhynchospora*, *Vaccinium*.

#### *Geranium hillebrandii* (NOHOANU)

Maui—Montane Wet—Unit 6, Maui—Montane Wet—Unit 7, Maui—Montane Mesic—Unit 2, Maui—Montane Mesic—Unit 3, Maui—Montane Mesic—Unit 4, and Maui—Montane Mesic—Unit 5, identified in the legal descriptions in

paragraph (e)(1) of this section, constitute critical habitat for *Geranium hillebrandii* on Maui.

(i) In units Maui—Montane Wet—Unit 6 and Maui—Montane Wet—Unit 7, the physical and biological features of critical habitat are:

(A) Elevation: 3,300 to 6,500 ft (1,000 to 2,000 m).

(B) Annual precipitation: Greater than 75 in (190 cm).

(C) Substrate: Well-developed soils, montane bogs.

(D) Canopy: *Acacia*, *Charpentiera*, *Cheirodendron*, *Metrosideros*.

(E) Subcanopy: *Broussaisia*, *Cibotium*, *Eurya*, *Ilex*, *Myrsine*.

(F) Understory: Ferns, *Carex*, *Coprosma*, *Leptecophylla*, *Oreobolus*, *Rhynchospora*, *Vaccinium*.

(ii) In units Maui—Montane Mesic—Unit 2, Maui—Montane Mesic—Unit 3, Maui—Montane Mesic—Unit 4, and Maui—Montane Mesic—Unit 5, the physical and biological features of critical habitat are:

(A) Elevation: 3,300 to 6,500 ft (1,000 to 2,000 m).

(B) Annual precipitation: 50 to 75 in (130 to 190 cm).

(C) Substrate: Deep ash deposits, thin silty loams.

(D) Canopy: *Acacia*, *Ilex*, *Metrosideros*, *Myrsine*, *Nestegis*, *Nothocestrum*, *Pisonia*, *Pittosporum*, *Psychotria*, *Sophora*, *Zanthoxylum*.

(E) Subcanopy: *Alyxia*, *Charpentiera*, *Coprosma*, *Dodonaea*, *Kadua*, *Labordia*, *Leptecophylla*, *Phyllostegia*, *Vaccinium*.

(F) Understory: Ferns, *Carex*, *Peperomia*.

#### *Geranium multiflorum* (NOHOANU)

Maui—Montane Wet—Unit 1, Maui—Montane Wet—Unit 2, Maui—Montane Wet—Unit 3, Maui—Montane Wet—Unit 4, Maui—Montane Wet—Unit 5, Maui—Montane Mesic—Unit 1, Maui—Subalpine—Unit 1, Maui—Subalpine—Unit 2, Maui—Dry Cliff—Unit 1, Maui—Dry Cliff—Unit 2, Maui—Dry Cliff—Unit 3, and Maui—Dry Cliff—Unit 4, identified in the legal descriptions in paragraph (e)(1) of this section, constitute critical habitat for *Geranium multiflorum* on Maui.

(i) In units Maui—Montane Wet—Unit 1, Maui—Montane Wet—Unit 2, Maui—Montane Wet—Unit 3, Maui—Montane Wet—Unit 4, and Maui—Montane Wet—Unit 5, the physical and biological features of critical habitat are:

(A) Elevation: 3,300 to 6,500 ft (1,000 to 2,000 m).

(B) Annual precipitation: Greater than 75 in (190 cm).

(C) Substrate: Well-developed soils, montane bogs.

(D) Canopy: *Acacia*, *Charpentiera*, *Cheirodendron*, *Metrosideros*.

(E) Subcanopy: *Broussaisia*, *Cibotium*, *Eurya*, *Ilex*, *Myrsine*.

(F) Understory: Ferns, *Carex*, *Coprosma*, *Leptecophylla*, *Oreobolus*, *Rhynchospora*, *Vaccinium*.

(ii) In unit Maui—Montane Mesic—Unit 1, the physical and biological features of critical habitat are:

(A) Elevation: 3,300 to 6,500 ft (1,000 to 2,000 m).

(B) Annual precipitation: 50 to 75 in (130 to 190 cm).

(C) Substrate: Deep ash deposits, thin silty loams.

(D) Canopy: *Acacia*, *Ilex*, *Metrosideros*, *Myrsine*, *Nestegis*, *Nothocestrum*, *Pisonia*, *Pittosporum*, *Psychotria*, *Sophora*, *Zanthoxylum*.

(E) Subcanopy: *Alyxia*, *Charpentiera*, *Coprosma*, *Dodonaea*, *Kadua*, *Labordia*, *Leptecophylla*, *Phyllostegia*, *Vaccinium*.

(F) Understory: Ferns, *Carex*, *Peperomia*.

(iii) In units Maui—Subalpine—Unit 1 and Maui—Subalpine—Unit 2, the physical and biological features of critical habitat are:

(A) Elevation: 6,500 to 9,800 ft (2,000 to 3,000 m).

(B) Annual precipitation: 15 to 40 in (38 to 100 cm).

(C) Substrate: Dry ash; sandy loam; rocky, undeveloped soils; weathered lava.

(D) Canopy: *Chamaesyce*, *Chenopodium*, *Metrosideros*, *Myoporum*, *Santalum*, *Sophora*.

(E) Subcanopy: *Coprosma*, *Dodonaea*, *Dubautia*, *Geranium*, *Leptecophylla*, *Vaccinium*, *Wikstroemia*.

(F) Understory: Ferns, *Bidens*, *Carex*, *Deschampsia*, *Eragrostis*, *Gahnia*, *Luzula*, *Panicum*, *Pseudognaphalium*, *Sicyos*, *Tetramolopium*.

(iv) In units Maui—Dry Cliff—Unit 1, Maui—Dry Cliff—Unit 2, Maui—Dry Cliff—Unit 3, and Maui—Dry Cliff—Unit 4, the physical and biological features of critical habitat are:

(A) Elevation: Unrestricted.

(B) Annual precipitation: Less than 75 in (190 cm).

(C) Substrate: Greater than 65 degree slope, rocky talus.

(D) Canopy: None.

(E) Subcanopy: *Antidesma*, *Chamaesyce*, *Diospyros*, *Dodonaea*.

(F) Understory: *Bidens*, *Eragrostis*, *Melanthera*, *Schiedea*.

#### Family Gesneriaceae

##### *Cyrtandra ferripilosa* (HAIWALE)

Maui—Montane Wet—Unit 1, Maui—Montane Wet—Unit 2, Maui—Montane Wet—Unit 3, Maui—Montane Wet—Unit 4, Maui—Montane Wet—Unit 5, and Maui—Montane Mesic—Unit 1, identified in the legal descriptions in

paragraph (e)(1) of this section, constitute critical habitat for *Cyrtandra ferripilosa* on Maui.

(i) In units Maui—Montane Wet—Unit 1, Maui—Montane Wet—Unit 2, Maui—Montane Wet—Unit 3, Maui—Montane Wet—Unit 4, and Maui—Montane Wet—Unit 5, the physical and biological features of critical habitat are:

(A) Elevation: 3,300 to 6,500 ft (1,000 to 2,000 m).

(B) Annual precipitation: Greater than 75 in (190 cm).

(C) Substrate: Well-developed soils, montane bogs.

(D) Canopy: *Acacia*, *Charpentiera*, *Cheirodendron*, *Metrosideros*.

(E) Subcanopy: *Broussaisia*, *Cibotium*, *Eurya*, *Ilex*, *Myrsine*.

(F) Understory: Ferns, *Carex*, *Coprosma*, *Leptecophylla*, *Oreobolus*, *Rhynchospora*, *Vaccinium*.

(ii) In unit Maui—Montane Mesic—Unit 1, the physical and biological features of critical habitat are:

(A) Elevation: 3,300 to 6,500 ft (1,000 to 2,000 m).

(B) Annual precipitation: 50 to 75 in (130 to 190 cm).

(C) Substrate: Deep ash deposits, thin silty loams.

(D) Canopy: *Acacia*, *Ilex*, *Metrosideros*, *Myrsine*, *Nestegis*, *Nothocestrum*, *Pisonia*, *Pittosporum*, *Psychotria*, *Sophora*, *Zanthoxylum*.

(E) Subcanopy: *Alyxia*, *Charpentiera*, *Coprosma*, *Dodonaea*, *Kadua*, *Labordia*, *Leptecophylla*, *Vaccinium*.

(F) Understory: Ferns, *Carex*, *Peperomia*.

#### *Cyrtandra filipes* (HAIWALE)

Maui—Lowland Wet—Unit 2, Maui—Lowland Wet—Unit 3, Maui—Lowland Wet—Unit 4, Maui—Lowland Wet—Unit 5, Maui—Lowland Wet—Unit 6, Maui—Lowland Wet—Unit 7, Maui—Lowland Wet—Unit 8, Maui—Wet Cliff—Unit 6, Maui—Wet Cliff—Unit 7, and Maui—Wet Cliff—Unit 8, identified in the legal descriptions in paragraph (e)(1) of this section, constitute critical habitat for *Cyrtandra filipes* on Maui.

(i) In units Maui—Lowland Wet—Unit 2, Maui—Lowland Wet—Unit 3, Maui—Lowland Wet—Unit 4, Maui—Lowland Wet—Unit 5, Maui—Lowland Wet—Unit 6, Maui—Lowland Wet—Unit 7, and Maui—Lowland Wet—Unit 8, the physical and biological features of critical habitat are:

(A) Elevation: Less than 3,300 ft (1,000 m).

(B) Annual precipitation: Greater than 75 in (190 cm).

(C) Substrate: Clays; ashbeds; deep, well-drained soils; lowland bogs.

(D) Canopy: *Antidesma*, *Metrosideros*, *Myrsine*, *Pisonia*, *Psychotria*.

(E) Subcanopy: *Cibotium*, *Claoxylon*, *Kadua*, *Melicope*.

(F) Understory: *Alyxia*, *Cyrtandra*, *Dicranopteris*, *Diplazium*, *Machaerina*, *Microlepia*.

(ii) In units Maui—Wet Cliff—Unit 6, Maui—Wet Cliff—Unit 7, and Maui—Wet Cliff—Unit 8, the physical and biological features of critical habitat are:

(A) Elevation: Unrestricted.

(B) Annual precipitation: Greater than 75 in (190 cm).

(C) Substrate: Greater than 65 degree slope, shallow soils, weathered lava.

(D) Canopy: None.

(E) Subcanopy: *Broussaisia*, *Cheirodendron*, *Leptecophylla*, *Metrosideros*.

(F) Understory: Bryophytes, ferns, *Coprosma*, *Dubautia*, *Kadua*, *Peperomia*.

#### *Cyrtandra munroi* (HAIWALE)

Maui—Lowland Wet—Unit 2, Maui—Lowland Wet—Unit 3, Maui—Lowland Wet—Unit 4, Maui—Lowland Wet—Unit 5, Maui—Lowland Wet—Unit 6, Maui—Lowland Wet—Unit 7, Maui—Lowland Wet—Unit 8, Maui—Wet Cliff—Unit 6, Maui—Wet Cliff—Unit 7, and Maui—Wet Cliff—Unit 8, identified in the legal descriptions in paragraph (e)(1) of this section, constitute critical habitat for *Cyrtandra munroi* on Maui.

(i) In units Maui—Lowland Wet—Unit 2, Maui—Lowland Wet—Unit 3, Maui—Lowland Wet—Unit 4, Maui—Lowland Wet—Unit 5, Maui—Lowland Wet—Unit 6, Maui—Lowland Wet—Unit 7, and Maui—Lowland Wet—Unit 8, the physical and biological features of critical habitat are:

(A) Elevation: Less than 3,300 ft (1,000 m).

(B) Annual precipitation: Greater than 75 in (190 cm).

(C) Substrate: Clays; ashbeds; deep, well-drained soils; lowland bogs.

(D) Canopy: *Antidesma*, *Metrosideros*, *Myrsine*, *Pisonia*, *Psychotria*.

(E) Subcanopy: *Cibotium*, *Claoxylon*, *Kadua*, *Melicope*.

(F) Understory: *Alyxia*, *Cyrtandra*, *Dicranopteris*, *Diplazium*, *Machaerina*, *Microlepia*.

(ii) In units Maui—Wet Cliff—Unit 6, Maui—Wet Cliff—Unit 7, and Maui—Wet Cliff—Unit 8, the physical and biological features of critical habitat are:

(A) Elevation: Unrestricted.

(B) Annual precipitation: Greater than 75 in (190 cm).

(C) Substrate: Greater than 65 degree slope, shallow soils, weathered lava.

(D) Canopy: None.

(E) Subcanopy: *Broussaisia*, *Cheirodendron*, *Leptecophylla*, *Metrosideros*.

(F) Understory: Bryophytes, ferns, *Coprosma*, *Dubautia*, *Kadua*, *Peperomia*.

#### *Cyrtandra oxybapha* (HAIWALE)

Maui—Montane Wet—Unit 6, Maui—Montane Wet—Unit 7, and Maui—Montane Mesic—Unit 1, identified in the legal descriptions in paragraph (e)(1) of this section, constitute critical habitat for *Cyrtandra oxybapha* on Maui.

(i) In units Maui—Montane Wet—Unit 6 and Maui—Montane Wet—Unit 7, the physical and biological features of critical habitat are:

(A) Elevation: 3,300 to 6,500 ft (1,000 to 2,000 m).

(B) Annual precipitation: Greater than 75 in (190 cm).

(C) Substrate: Well-developed soils, montane bogs.

(D) Canopy: *Acacia*, *Charpentiera*, *Cheirodendron*, *Metrosideros*.

(E) Subcanopy: *Broussaisia*, *Cibotium*, *Eurya*, *Ilex*, *Myrsine*.

(F) Understory: Ferns, *Carex*, *Coprosma*, *Leptecophylla*, *Oreobolus*, *Rhynchospora*, *Vaccinium*.

(ii) In unit Maui—Montane Mesic—Unit 1, the physical and biological features of critical habitat are:

(A) Elevation: 3,300 to 6,500 ft (1,000 to 2,000 m).

(B) Annual precipitation: 50 to 75 in (130 to 190 cm).

(C) Substrate: Deep ash deposits, thin silty loams.

(D) Canopy: *Acacia*, *Ilex*, *Metrosideros*, *Myrsine*, *Nestegis*, *Nothocestrum*, *Pisonia*, *Pittosporum*, *Psychotria*, *Sophora*, *Zanthoxylum*.

(E) Subcanopy: *Alyxia*, *Charpentiera*, *Coprosma*, *Dodonaea*, *Kadua*, *Labordia*, *Leptecophylla*, *Phyllostegia*, *Vaccinium*.

(F) Understory: Ferns, *Carex*, *Peperomia*.

#### Family Lamiaceae

##### *Phyllostegia bracteata* (NCN)

Maui—Lowland Wet—Unit 2, Maui—Lowland Wet—Unit 3, Maui—Lowland Wet—Unit 4, Maui—Lowland Wet—Unit 5, Maui—Lowland Wet—Unit 6, Maui—Lowland Wet—Unit 7, Maui—Lowland Wet—Unit 8, Maui—Montane Wet—Unit 1, Maui—Montane Wet—Unit 2, Maui—Montane Wet—Unit 3, Maui—Montane Wet—Unit 4, Maui—Montane Wet—Unit 5, Maui—Montane Wet—Unit 6, Maui—Montane Wet—Unit 7, Maui—Montane Mesic—Unit 1, Maui—Subalpine—Unit 1, Maui—Subalpine—Unit 2, Maui—Wet Cliff—Unit 1, Maui—Wet Cliff—Unit 2, Maui—Wet Cliff—Unit 3, and Maui—Wet Cliff—Unit 4, identified in the legal descriptions in paragraph (e)(1) of this section, constitute critical habitat for *Phyllostegia bracteata* on Maui.



(i) In units Maui—Lowland Wet—Unit 2, Maui—Lowland Wet—Unit 3, Maui—Lowland Wet—Unit 4, Maui—Lowland Wet—Unit 5, Maui—Lowland Wet—Unit 6, Maui—Lowland Wet—Unit 7, and Maui—Lowland Wet—Unit 8, the physical and biological features of critical habitat are:

(A) Elevation: Less than 3,300 ft (1,000 m).

(B) Annual precipitation: Greater than 75 in (190 cm).

(C) Substrate: Clays; ashbeds; deep, well-drained soils; lowland bogs.

(D) Canopy: *Antidesma*, *Metrosideros*, *Myrsine*, *Pisonia*, *Psychotria*.

(E) Subcanopy: *Cibotium*, *Claoxylon*, *Kadua*, *Melicope*.

(F) Understory: *Alyxia*, *Cyrtandra*, *Dicranopteris*, *Diplazium*, *Machaerina*, *Microlepia*.

(ii) In units Maui—Montane Wet—Unit 1, Maui—Montane Wet—Unit 2, Maui—Montane Wet—Unit 3, Maui—Montane Wet—Unit 4, Maui—Montane Wet—Unit 5, Maui—Montane Wet—Unit 6, and Maui—Montane Wet—Unit 7, the physical and biological features of critical habitat are:

(A) Elevation: 3,300 to 6,500 ft (1,000 to 2,000 m).

(B) Annual precipitation: Greater than 75 in (190 cm).

(C) Substrate: Well-developed soils, montane bogs.

(D) Canopy: *Acacia*, *Charpentiera*, *Cheirodendron*, *Metrosideros*.

(E) Subcanopy: *Broussaisia*, *Cibotium*, *Eurya*, *Ilex*, *Myrsine*.

(F) Understory: Ferns, *Carex*, *Coprosma*, *Leptecophylla*, *Oreobolus*, *Rhynchospora*, *Vaccinium*.

(iii) In unit Maui—Montane Mesic—Unit 1, the physical and biological features of critical habitat are:

(A) Elevation: 3,300 to 6,500 ft (1,000 to 2,000 m).

(B) Annual precipitation: 50 to 75 in (130 to 190 cm).

(C) Substrate: Deep ash deposits, thin silty loams.

(D) Canopy: *Acacia*, *Ilex*, *Metrosideros*, *Myrsine*, *Nestegis*, *Nothocestrum*, *Pisonia*, *Pittosporum*, *Psychotria*, *Sophora*, *Zanthoxylum*.

(E) Subcanopy: *Alyxia*, *Charpentiera*, *Coprosma*, *Dodonaea*, *Kadua*, *Labordia*, *Leptecophylla*, *Phyllostegia*, *Vaccinium*.

(F) Understory: Ferns, *Carex*, *Peperomia*.

(iv) In units Maui—Subalpine—Unit 1 and Maui—Subalpine—Unit 2, the physical and biological features of critical habitat are:

(A) Elevation: 6,500 to 9,800 ft (2,000 to 3,000 m).

(B) Annual precipitation: 15 to 40 in (38 to 100 cm).

(C) Substrate: Dry ash; sandy loam; rocky, undeveloped soils; weathered lava.

(D) Canopy: *Chamaesyce*, *Chenopodium*, *Metrosideros*, *Myoporum*, *Santalum*, *Sophora*.

(E) Subcanopy: *Coprosma*, *Dodonaea*, *Dubautia*, *Geranium*, *Leptecophylla*, *Vaccinium*, *Wikstroemia*.

(F) Understory: Ferns, *Bidens*, *Carex*, *Deschampsia*, *Eragrostis*, *Gahnia*, *Luzula*, *Panicum*, *Pseudognaphalium*, *Sicyos*, *Tetramolopium*.

(v) In units Maui—Wet Cliff—Unit 1, Maui—Wet Cliff—Unit 2, Maui—Wet Cliff—Unit 3, and Maui—Wet Cliff—Unit 4, the physical and biological features of critical habitat are:

(A) Elevation: Unrestricted.

(B) Annual precipitation: Greater than 75 in (190 cm).

(C) Substrate: Greater than 65 degree slope, shallow soils, weathered lava.

(D) Canopy: None.

(E) Subcanopy: *Broussaisia*, *Cheirodendron*, *Leptecophylla*, *Metrosideros*.

(F) Understory: Bryophytes, ferns, *Coprosma*, *Dubautia*, *Kadua*, *Peperomia*.

#### *Phyllostegia haliakalae* (NCN)

Maui—Lowland Wet—Unit 1, Maui—Montane Wet—Unit 1, Maui—Montane Wet—Unit 2, Maui—Montane Wet—Unit 3, Maui—Montane Wet—Unit 4, Maui—Montane Wet—Unit 5, Maui—Wet Cliff—Unit 1, Maui—Wet Cliff—Unit 2, Maui—Wet Cliff—Unit 3, and Maui—Wet Cliff—Unit 4, identified in the legal descriptions in paragraph (e)(1) of this section, constitute critical habitat for *Phyllostegia haliakalae* on Maui.

(i) In unit Maui—Lowland Wet—Unit 1, the physical and biological features of critical habitat are:

(A) Elevation: Less than 3,300 ft (1,000 m).

(B) Annual precipitation: Greater than 75 in (190 cm).

(C) Substrate: Clays; ashbeds; deep, well-drained soils; lowland bogs.

(D) Canopy: *Antidesma*, *Metrosideros*, *Myrsine*, *Pisonia*, *Psychotria*.

(E) Subcanopy: *Cibotium*, *Claoxylon*, *Kadua*, *Melicope*.

(F) Understory: *Alyxia*, *Cyrtandra*, *Dicranopteris*, *Diplazium*, *Machaerina*, *Microlepia*.

(ii) In units Maui—Montane Wet—Unit 1, Maui—Montane Wet—Unit 2, Maui—Montane Wet—Unit 3, Maui—Montane Wet—Unit 4, and Maui—Montane Wet—Unit 5, the physical and biological features of critical habitat are:

(A) Elevation: 3,300 to 6,500 ft (1,000 to 2,000 m).

(B) Annual precipitation: Greater than 75 in (190 cm).

(C) Substrate: Well-developed soils, montane bogs.

(D) Canopy: *Acacia*, *Charpentiera*, *Cheirodendron*, *Metrosideros*.

(E) Subcanopy: *Broussaisia*, *Cibotium*, *Eurya*, *Ilex*, *Myrsine*.

(F) Understory: Ferns, *Carex*, *Coprosma*, *Leptecophylla*, *Oreobolus*, *Rhynchospora*, *Vaccinium*.

(iii) In units Maui—Wet Cliff—Unit 1, Maui—Wet Cliff—Unit 2, Maui—Wet Cliff—Unit 3, and Maui—Wet Cliff—Unit 4, the physical and biological features of critical habitat are:

(A) Elevation: Unrestricted.

(B) Annual precipitation: Greater than 75 in (190 cm).

(C) Substrate: Greater than 65 degree slope, shallow soils, weathered lava.

(D) Canopy: None.

(E) Subcanopy: *Broussaisia*, *Cheirodendron*, *Leptecophylla*, *Metrosideros*.

(F) Understory: Bryophytes, ferns, *Coprosma*, *Dubautia*, *Kadua*, *Peperomia*.

#### *Phyllostegia mannii* (NCN)

Maui—Montane Wet—Unit 1, Maui—Montane Wet—Unit 2, Maui—Montane Wet—Unit 3, Maui—Montane Wet—Unit 4, Maui—Montane Wet—Unit 5, and Maui—Montane Mesic—Unit 1, identified in the legal descriptions in paragraph (e)(1) of this section, constitute critical habitat for *Phyllostegia mannii* on Maui.

(i) In units Maui—Montane Wet—Unit 1, Maui—Montane Wet—Unit 2, Maui—Montane Wet—Unit 3, Maui—Montane Wet—Unit 4, and Maui—Montane Wet—Unit 5, the physical and biological features of critical habitat are:

(A) Elevation: 3,300 to 6,500 ft (1,000 to 2,000 m).

(B) Annual precipitation: Greater than 75 in (190 cm).

(C) Substrate: Well-developed soils, montane bogs.

(D) Canopy: *Acacia*, *Charpentiera*, *Cheirodendron*, *Metrosideros*.

(E) Subcanopy: *Broussaisia*, *Cibotium*, *Eurya*, *Ilex*, *Myrsine*.

(F) Understory: Ferns, *Carex*, *Coprosma*, *Leptecophylla*, *Oreobolus*, *Rhynchospora*, *Vaccinium*.

(ii) In unit Maui—Montane Mesic—Unit 1, the physical and biological features of critical habitat are:

(A) Elevation: 3,300 to 6,500 ft (1,000 to 2,000 m).

(B) Annual precipitation: 50 to 75 in (130 to 190 cm).

(C) Substrate: Deep ash deposits, thin silty loams.

(D) Canopy: *Acacia*, *Ilex*, *Metrosideros*, *Myrsine*, *Nestegis*, *Nothocestrum*, *Pisonia*, *Pittosporum*, *Psychotria*, *Sophora*, *Zanthoxylum*.



(E) Subcanopy: *Alyxia*, *Charpentiera*, *Coprosma*, *Dodonaea*, *Kadua*, *Labordia*, *Leptecophylla*, *Phyllostegia*, *Vaccinium*.

(F) Understory: Ferns, *Carex*, *Peperomia*.

*Phyllostegia pilosa* (NCN)

Maui—Montane Wet—Unit 1, Maui—Montane Wet—Unit 2, Maui—Montane Wet—Unit 3, Maui—Montane Wet—Unit 4, and Maui—Montane Wet—Unit 5, identified in the legal descriptions in paragraph (e)(1) of this section, constitute critical habitat for *Phyllostegia pilosa* on Maui. In units Maui—Montane Wet—Unit 1, Maui—Montane Wet—Unit 2, Maui—Montane Wet—Unit 3, Maui—Montane Wet—Unit 4, and Maui—Montane Wet—Unit 5, the physical and biological features of critical habitat are:

(i) Elevation: 3,300 to 6,500 ft (1,000 to 2,000 m).

(ii) Annual precipitation: Greater than 75 in (190 cm).

(iii) Substrate: Well-developed soils, montane bogs.

(iv) Canopy: *Acacia*, *Charpentiera*, *Cheirodendron*, *Metrosideros*.

(v) Subcanopy: *Broussaisia*, *Cibotium*, *Eurya*, *Ilex*, *Myrsine*.

(vi) Understory: Ferns, *Carex*, *Coprosma*, *Leptecophylla*, *Oreobolus*, *Rhynchospora*, *Vaccinium*.

*Stenogyne kauaulaensis* (NCN)

Maui—Montane Mesic—Unit 2, Maui—Montane Mesic—Unit 3, Maui—Montane Mesic—Unit 4, and Maui—Montane Mesic—Unit 5, identified in the legal descriptions in paragraph (e)(1) of this section, constitute critical habitat for *Stenogyne kauaulaensis* on Maui. In unit Maui—Montane Mesic—Unit 2, Maui—Montane Mesic—Unit 3, Maui—Montane Mesic—Unit 4, and Maui—Montane Mesic—Unit 5, the physical and biological features of critical habitat are:

(i) Elevation: 3,300 to 6,500 ft (1,000 to 2,000 m).

(ii) Annual precipitation: 50 to 75 in (130 to 190 cm).

(iii) Substrate: Deep ash deposits, thin silty loams.

(iv) Canopy: *Acacia*, *Ilex*, *Metrosideros*, *Myrsine*, *Nestegis*, *Nothocestrum*, *Pisonia*, *Pittosporum*, *Psychotria*, *Sophora*, *Zanthoxylum*.

(v) Subcanopy: *Alyxia*, *Charpentiera*, *Coprosma*, *Dodonaea*, *Kadua*, *Labordia*, *Leptecophylla*, *Phyllostegia*, *Vaccinium*.

(vi) Understory: Ferns, *Carex*, *Peperomia*.

## Family Malvaceae:

*Hibiscus brackenridgei* (MAO HAU HELE)

Maui—Lowland Dry—Unit 1, Maui—Lowland Dry—Unit 2, Maui—Lowland Dry—Unit 3, Maui—Lowland Dry—Unit 4, Maui—Lowland Dry—Unit 5, Maui—Lowland Dry—Unit 6, Kahoolawe—Lowland Dry—Unit 1, and Kahoolawe—Lowland Dry—Unit 2, identified in the legal descriptions in paragraphs (e)(1) and (e)(2) of this section, constitute critical habitat for *Hibiscus brackenridgei* on Maui and Kahoolawe. In units Maui—Lowland Dry—Unit 1, Maui—Lowland Dry—Unit 2, Maui—Lowland Dry—Unit 3, Maui—Lowland Dry—Unit 4, Maui—Lowland Dry—Unit 5, Maui—Lowland Dry—Unit 6, Kahoolawe—Lowland Dry—Unit 1, and Kahoolawe—Lowland Dry—Unit 2, the physical and biological features of critical habitat are:

(i) Elevation: Less than 3,300 ft (1,000 m).

(ii) Annual precipitation: Less than 50 in (130 cm).

(iii) Substrate: Weathered silty loams to stony clay, rocky ledges, little-weathered lava.

(iv) Canopy: *Diospyros*, *Myoporum*, *Pleomele*, *Santalum*.

(v) Subcanopy: *Chamaesyce*, *Dodonaea*, *Leptecophylla*, *Osteomeles*, *Psydrax*, *Scaevola*, *Wikstroemia*.

(vi) Understory: *Alyxia*, *Artemisia*, *Bidens*, *Chenopodium*, *Nephrolepis*, *Peperomia*, *Sicyos*.

## Family Myrsinaceae

*Myrsine vaccinioides* (KOLEA)

Maui—Montane Wet—Unit 6 and Maui—Montane Wet—Unit 7, identified in the legal descriptions in paragraph (e)(1) of this section, constitute critical habitat for *Myrsine vaccinioides* on Maui. In units Maui—Montane Wet—Unit 6 and Maui—Montane Wet—Unit 7, the physical and biological features of critical habitat are:

(i) Elevation: 3,300 to 6,500 ft (1,000 to 2,000 m).

(ii) Annual precipitation: Greater than 75 in (190 cm).

(iii) Substrate: Well-developed soils, montane bogs.

(iv) Canopy: *Acacia*, *Charpentiera*, *Cheirodendron*, *Metrosideros*.

(v) Subcanopy: *Broussaisia*, *Cibotium*, *Eurya*, *Ilex*, *Myrsine*.

(vi) Understory: Ferns, *Carex*, *Coprosma*, *Leptecophylla*, *Oreobolus*, *Rhynchospora*, *Vaccinium*.

## Family Orchidaceae

*Platanthera holochila* (NCN)

Maui—Montane Wet—Unit 1, Maui—Montane Wet—Unit 2, Maui—Montane

Wet—Unit 3, Maui—Montane Wet—Unit 4, Maui—Montane Wet—Unit 5, Maui—Montane Wet—Unit 6, Maui—Montane Wet—Unit 7, Maui—Wet Cliff—Unit 6, Maui—Wet Cliff—Unit 7, and Maui—Wet Cliff—Unit 8, identified in the legal descriptions in paragraph (e)(1) of this section, constitute critical habitat for *Platanthera holochila* on Maui.

(i) In units Maui—Montane Wet—Unit 1, Maui—Montane Wet—Unit 2, Maui—Montane Wet—Unit 3, Maui—Montane Wet—Unit 4, Maui—Montane Wet—Unit 5, Maui—Montane Wet—Unit 6, and Maui—Montane Wet—Unit 7, the physical and biological features of critical habitat are:

(A) Elevation: 3,300 to 6,500 ft (1,000 to 2,000 m).

(B) Annual precipitation: Greater than 75 in (190 cm).

(C) Substrate: Well-developed soils, montane bogs.

(D) Canopy: *Acacia*, *Charpentiera*, *Cheirodendron*, *Metrosideros*.

(E) Subcanopy: *Broussaisia*, *Cibotium*, *Eurya*, *Ilex*, *Myrsine*.

(F) Understory: Ferns, *Carex*, *Coprosma*, *Leptecophylla*, *Oreobolus*, *Rhynchospora*, *Vaccinium*.

(ii) In units Maui—Wet Cliff—Unit 6, Maui—Wet Cliff—Unit 7, and Maui—Wet Cliff—Unit 8, the physical and biological features of critical habitat are:

(A) Elevation: Unrestricted.

(B) Annual precipitation: Greater than 75 in (190 cm).

(C) Substrate: Greater than 65 degree slope, shallow soils, weathered lava.

(D) Canopy: None.

(E) Subcanopy: *Broussaisia*, *Cheirodendron*, *Leptecophylla*, *Metrosideros*.

(F) Understory: Bryophytes, ferns, *Coprosma*, *Dubautia*, *Kadua*, *Peperomia*.

## Family Piperaceae

*Peperomia subpetiolata* (ALAALA WAI NUI)

Maui—Montane Wet—Unit 1, Maui—Montane Wet—Unit 2, Maui—Montane Wet—Unit 3, Maui—Montane Wet—Unit 4, and Maui—Montane Wet—Unit 5, identified in the legal descriptions in paragraph (e)(1) of this section, constitute critical habitat for *Peperomia subpetiolata* on Maui. In units Maui—Montane Wet—Unit 1, Maui—Montane Wet—Unit 2, Maui—Montane Wet—Unit 3, Maui—Montane Wet—Unit 4, and Maui—Montane Wet—Unit 5, the physical and biological features of critical habitat are:

(i) Elevation: 3,300 to 6,500 ft (1,000 to 2,000 m).

(ii) Annual precipitation: Greater than 75 in (190 cm).

(iii) Substrate: Well-developed soils, montane bogs.

(iv) Canopy: *Acacia*, *Charpentiera*, *Cheirodendron*, *Metrosideros*.

(v) Subcanopy: *Broussaisia*, *Cibotium*, *Eurya*, *Ilex*, *Myrsine*.

(vi) Understory: Ferns, *Carex*, *Coprosma*, *Leptecophylla*, *Oreobolus*, *Rhynchospora*, *Vaccinium*.

#### Family Plantaginaceae

*Plantago princeps* (LAUKAHI KUAHIWI)

Maui—Dry Cliff—Unit 1, Maui—Dry Cliff—Unit 2, Maui—Dry Cliff—Unit 3, Maui—Dry Cliff—Unit 4, Maui—Wet Cliff—Unit 1, Maui—Wet Cliff—Unit 2, Maui—Wet Cliff—Unit 3, Maui—Wet Cliff—Unit 4, Maui—Wet Cliff—Unit 6, Maui—Wet Cliff—Unit 7, and Maui—Wet Cliff—Unit 8, identified in the legal descriptions in paragraph (e)(1) of this section, constitute critical habitat for *Plantago princeps* on Maui.

(i) In units Maui—Dry Cliff—Unit 1, Maui—Dry Cliff—Unit 2, Maui—Dry Cliff—Unit 3, and Maui—Dry Cliff—Unit 4, the physical and biological features of critical habitat are:

(A) Elevation: Unrestricted.

(B) Annual precipitation: Less than 75 in (190 cm).

(C) Substrate: Greater than 65 degree slope, rocky talus.

(D) Canopy: None.

(E) Subcanopy: *Antidesma*, *Chamaesyce*, *Diospyros*, *Dodonaea*.

(F) Understory: *Bidens*, *Eragrostis*, *Melanthera*, *Schiedea*.

(ii) In units Maui—Wet Cliff—Unit 1, Maui—Wet Cliff—Unit 2, Maui—Wet Cliff—Unit 3, Maui—Wet Cliff—Unit 4, Maui—Wet Cliff—Unit 6, Maui—Wet Cliff—Unit 7, and Maui—Wet Cliff—Unit 8, the physical and biological features of critical habitat are:

(A) Elevation: Unrestricted.

(B) Annual precipitation: Greater than 75 in (190 cm).

(C) Substrate: Greater than 65 degree slope, shallow soils, weathered lava.

(D) Canopy: None.

(E) Subcanopy: *Broussaisia*, *Cheirodendron*, *Leptecophylla*, *Metrosideros*.

(F) Understory: Bryophytes, ferns, *Coprosma*, *Dubautia*, *Kadua*, *Peperomia*.

#### Family Poaceae

*Calamagrostis hillebrandii* (NCN)

Maui—Montane Wet—Unit 6 and Maui—Montane Wet—Unit 7, identified in the legal descriptions in paragraph (e)(1) of this section, constitute critical habitat for *Calamagrostis hillebrandii* on Maui. In units Maui—Montane Wet—Unit 6 and Maui—Montane Wet—Unit

7, the physical and biological features of critical habitat are:

(i) Elevation: 3,300 to 6,500 ft (1,000 to 2,000 m).

(ii) Annual precipitation: Greater than 75 in (190 cm).

(iii) Substrate: Well-developed soils, montane bogs.

(iv) Canopy: *Acacia*, *Charpentiera*, *Cheirodendron*, *Metrosideros*.

(v) Subcanopy: *Broussaisia*, *Cibotium*, *Eurya*, *Ilex*, *Myrsine*.

(vi) Understory: Ferns, *Carex*, *Coprosma*, *Leptecophylla*, *Oreobolus*, *Rhynchospora*, *Vaccinium*.

*Cenchrus agrimonioides*

(KAMANOMANO (= SANDBUR, AGRIMONY))

Maui—Lowland Dry—Unit 1, Maui—Lowland Dry—Unit 2, Maui—Lowland Dry—Unit 3, Maui—Lowland Dry—Unit 4, Maui—Lowland Dry—Unit 5, and Maui—Lowland Dry—Unit 6, identified in the legal descriptions in paragraph (e)(1) of this section, constitute critical habitat for *Cenchrus agrimonioides* on Maui. In units Maui—Lowland Dry—Unit 1, Maui—Lowland Dry—Unit 2, Maui—Lowland Dry—Unit 3, Maui—Lowland Dry—Unit 4, Maui—Lowland Dry—Unit 5, and Maui—Lowland Dry—Unit 6, the physical and biological features of critical habitat are:

(i) Elevation: Less than 3,300 ft (1,000 m).

(ii) Annual precipitation: Less than 50 in (130 cm).

(iii) Substrate: Weathered silty loams to stony clay, rocky ledges, little-weathered lava.

(iv) Canopy: *Diospyros*, *Myoporum*, *Pleomele*, *Santalum*.

(v) Subcanopy: *Chamaesyce*, *Dodonaea*, *Leptecophylla*, *Osteomeles*, *Psydrax*, *Scaevola*, *Wikstroemia*.

(vi) Understory: *Alyxia*, *Artemisia*, *Bidens*, *Chenopodium*, *Nephrolepis*, *Peperomia*, *Sicyos*.

*Ischaemum byrone* (HILO ISCHAEMUM)

Maui—Coastal—Unit 1, Maui—Coastal—Unit 2, Maui—Coastal—Unit 3, Maui—Coastal—Unit 4, Maui—Coastal—Unit 5, Maui—Coastal—Unit 6, Maui—Coastal—Unit 7, and Maui—Coastal—Unit 8, identified in the legal descriptions in paragraph (e)(1) of this section, constitute critical habitat for *Ischaemum byrone* on Maui. In units Maui—Coastal—Unit 1, Maui—Coastal—Unit 2, Maui—Coastal—Unit 3, Maui—Coastal—Unit 4, Maui—Coastal—Unit 5, Maui—Coastal—Unit 6, Maui—Coastal—Unit 7, and Maui—Coastal—Unit 8, the physical and biological features of critical habitat are:

(i) Elevation: Less than 980 ft (300 m).

(ii) Annual precipitation: Less than 20 in (50 cm).

(iii) Substrate: Well-drained, calcareous, talus slopes; dunes; weathered clay soils; ephemeral pools; mudflats.

(iv) Canopy: *Hibiscus*, *Myoporum*, *Santalum*, *Scaevola*.

(v) Subcanopy: *Gossypium*, *Sida*, *Vitex*.

(vi) Understory: *Eragrostis*, *Jacquemontia*, *Lyceum*, *Nama*, *Sesuvium*, *Sporobolus*, *Vigna*.

#### Family Primulaceae

*Lysimachia lydgatei* (NCN)

Maui—Lowland Dry—Unit 5, Maui—Lowland Dry—Unit 6, Maui—Montane Mesic—Unit 2, Maui—Montane Mesic—Unit 3, Maui—Montane Mesic—Unit 4, Maui—Montane Mesic—Unit 5, Maui—Wet Cliff—Unit 6, Maui—Wet Cliff—Unit 7, and Maui—Wet Cliff—Unit 8, identified in the legal descriptions in paragraph (e)(1) of this section, constitute critical habitat for *Lysimachia lydgatei* on Maui.

(i) In units Maui—Lowland Dry—Unit 5 and Maui—Lowland Dry—Unit 6, the physical and biological features of critical habitat are:

(A) Elevation: Less than 3,300 ft (1,000 m).

(B) Annual precipitation: Less than 50 in (130 cm).

(C) Substrate: Weathered silty loams to stony clay, rocky ledges, little-weathered lava.

(D) Canopy: *Diospyros*, *Myoporum*, *Pleomele*, *Santalum*.

(E) Subcanopy: *Chamaesyce*, *Dodonaea*, *Leptecophylla*, *Osteomeles*, *Psydrax*, *Scaevola*, *Wikstroemia*.

(F) Understory: *Alyxia*, *Artemisia*, *Bidens*, *Chenopodium*, *Nephrolepis*, *Peperomia*, *Sicyos*.

(ii) In units Maui—Montane Mesic—Unit 2, Maui—Montane Mesic—Unit 3, Maui—Montane Mesic—Unit 4, and Maui—Montane Mesic—Unit 5, the physical and biological features of critical habitat are:

(A) Elevation: 3,300 to 6,500 ft (1,000 to 2,000 m).

(B) Annual precipitation: 50 to 75 in (130 to 190 cm).

(C) Substrate: Deep ash deposits, thin silty loams.

(D) Canopy: *Acacia*, *Ilex*, *Metrosideros*, *Myrsine*, *Nestegis*, *Nothocestrum*, *Pisonia*, *Pittosporum*, *Psychotria*, *Sophora*, *Zanthoxylum*.

(E) Subcanopy: *Alyxia*, *Charpentiera*, *Coprosma*, *Dodonaea*, *Kadua*, *Labordia*, *Leptecophylla*, *Phyllostegia*, *Vaccinium*.

(F) Understory: Ferns, *Carex*, *Peperomia*.

(iii) In units Maui—Wet Cliff—Unit 6, Maui—Wet Cliff—Unit 7, and Maui—Wet

Cliff—Unit 8, the physical and biological features of critical habitat are:

(A) Elevation: Unrestricted.

(B) Annual precipitation: Greater than 75 in (190 cm).

(C) Substrate: Greater than 65 degree slope, shallow soils, weathered lava.

(D) Canopy: None.

(E) Subcanopy: *Broussaisia*, *Cheirodendron*, *Leptecophylla*, *Metrosideros*.

(F) Understory: Bryophytes, ferns, *Coprosma*, *Dubautia*, *Kadua*, *Peperomia*.

#### Family Rhamnaceae

##### *Colubrina oppositifolia* (KAUILA)

Maui—Lowland Dry—Unit 1, Maui—Lowland Dry—Unit 2, Maui—Lowland Dry—Unit 3, Maui—Lowland Dry—Unit 4, Maui—Lowland Mesic—Unit 2, and Maui—Lowland Mesic—Unit 3, identified in the legal descriptions in paragraph (e)(1) of this section, constitute critical habitat for *Colubrina oppositifolia* on Maui.

(i) In units Maui—Lowland Dry—Unit 1, Maui—Lowland Dry—Unit 2, Maui—Lowland Dry—Unit 3, and Maui—Lowland Dry—Unit 4, the physical and biological features of critical habitat are:

(A) Elevation: Less than 3,300 ft (1,000 m).

(B) Annual precipitation: Less than 50 in (130 cm).

(C) Substrate: Weathered silty loams to stony clay, rocky ledges, little-weathered lava.

(D) Canopy: *Diospyros*, *Myoporum*, *Pleomele*, *Santalum*.

(E) Subcanopy: *Chamaesyce*, *Dodonaea*, *Leptecophylla*, *Osteomeles*, *Psydrax*, *Scaevola*, *Wikstroemia*.

(F) Understory: *Alyxia*, *Artemisia*, *Bidens*, *Chenopodium*, *Nephrolepis*, *Peperomia*, *Sicyos*.

(ii) In units Maui—Lowland Mesic—Unit 2 and Maui—Lowland Mesic—Unit 3, the physical and biological features of critical habitat are:

(A) Elevation: Less than 3,300 ft (1,000 m).

(B) Annual precipitation: 50 to 75 in (130 to 190 cm).

(C) Substrate: Shallow soils, little to no herbaceous layer.

(D) Canopy: *Acacia*, *Diospyros*, *Metrosideros*, *Myrsine*, *Pouteria*, *Santalum*.

(E) Subcanopy: *Dodonaea*, *Freycinetia*, *Leptecophylla*, *Melanthra*, *Osteomeles*, *Pleomele*, *Psydrax*.

(F) Understory: *Carex*, *Dicranopteris*, *Diplazium*, *Elaphoglossum*, *Peperomia*.

##### *Gouania hillebrandii* (NCN)

Maui—Lowland Dry—Unit 5, Maui—Lowland Dry—Unit 6, Kahoolawe—

Lowland Dry—Unit 1, and Kahoolawe—Lowland Dry—Unit 2, identified in the legal descriptions in paragraphs (e)(1) and (e)(2) of this section, constitute critical habitat for *Gouania hillebrandii* on Maui and Kahoolawe. In units Maui—Lowland Dry—Unit 5, Maui—Lowland Dry—Unit 6, Kahoolawe—Lowland Dry—Unit 1, and Kahoolawe—Lowland Dry—Unit 2, the physical and biological features of critical habitat are:

(i) Elevation: Less than 3,300 ft (1,000 m).

(ii) Annual precipitation: Less than 50 in (130 cm).

(iii) Substrate: Weathered silty loams to stony clay, rocky ledges, little-weathered lava.

(iv) Canopy: *Diospyros*, *Myoporum*, *Pleomele*, *Santalum*.

(v) Subcanopy: *Chamaesyce*, *Dodonaea*, *Leptecophylla*, *Osteomeles*, *Psydrax*, *Scaevola*, *Wikstroemia*.

(vi) Understory: *Alyxia*, *Artemisia*, *Bidens*, *Chenopodium*, *Nephrolepis*, *Peperomia*, *Sicyos*.

##### *Gouania vitifolia* (NCN)

Maui—Wet Cliff—Unit 6, Maui—Wet Cliff—Unit 7, and Maui—Wet Cliff—Unit 8, identified in the legal descriptions in paragraph (e)(1) of this section, constitute critical habitat for *Gouania vitifolia* on Maui. In units Maui—Wet Cliff—Unit 6, Maui—Wet Cliff—Unit 7, and Maui—Wet Cliff—Unit 8, the physical and biological features of critical habitat are:

(i) Elevation: Unrestricted.

(ii) Annual precipitation: Greater than 75 in (190 cm).

(iii) Substrate: Greater than 65 degree slope, shallow soils, weathered lava.

(iv) Canopy: None.

(v) Subcanopy: *Broussaisia*, *Cheirodendron*, *Leptecophylla*, *Metrosideros*.

(vi) Understory: Bryophytes, ferns, *Coprosma*, *Dubautia*, *Kadua*, *Peperomia*.

#### Family Rosaceae

##### *Acaena exigua* (LILIWAI)

Maui—Montane Wet—Unit 6 and Maui—Montane Wet—Unit 7, identified in the legal descriptions in paragraph (e)(1) of this section, constitute critical habitat for *Acaena exigua* on Maui. In units Maui—Montane Wet—Unit 6 and Maui—Montane Wet—Unit 7, the physical and biological features of critical habitat are:

(i) Elevation: 3,300 to 6,500 ft (1,000 to 2,000 m).

(ii) Annual precipitation: Greater than 75 in (190 cm).

(iii) Substrate: Well-developed soils, montane bogs.

(iv) Canopy: *Acacia*, *Charpentiera*, *Cheirodendron*, *Metrosideros*.

(v) Subcanopy: *Broussaisia*, *Cibotium*, *Eurya*, *Ilex*, *Myrsine*.

(vi) Understory: Ferns, *Carex*, *Coprosma*, *Leptecophylla*, *Oreobolus*, *Rhynchospora*, *Vaccinium*.

#### Family Rubiaceae

##### *Kadua coriacea* (KIOELE)

Maui—Lowland Dry—Unit 5 and Maui—Lowland Dry—Unit 6, identified in the legal descriptions in paragraph (e)(1) of this section, constitute critical habitat for *Kadua coriacea* on Maui. In units Maui—Lowland Dry—Unit 5 and Maui—Lowland Dry—Unit 6, the physical and biological features of critical habitat are:

(i) Elevation: Less than 3,300 ft (1,000 m).

(ii) Annual precipitation: Less than 50 in (130 cm).

(iii) Substrate: Weathered silty loams to stony clay, rocky ledges, little-weathered lava.

(iv) Canopy: *Diospyros*, *Myoporum*, *Pleomele*, *Santalum*.

(v) Subcanopy: *Chamaesyce*, *Dodonaea*, *Leptecophylla*, *Osteomeles*, *Psydrax*, *Scaevola*, *Wikstroemia*.

(vi) Understory: *Alyxia*, *Artemisia*, *Bidens*, *Chenopodium*, *Nephrolepis*, *Peperomia*, *Sicyos*.

##### *Kadua laxiflora* (PILO)

Maui—Lowland Wet—Unit 2, Maui—Lowland Wet—Unit 3, Maui—Lowland Wet—Unit 4, Maui—Lowland Wet—Unit 5, Maui—Lowland Wet—Unit 6, Maui—Lowland Wet—Unit 7, Maui—Lowland Wet—Unit 8, Maui—Dry Cliff—Unit 5, Maui—Dry Cliff—Unit 6, Maui—Wet Cliff—Unit 6, Maui—Wet Cliff—Unit 7, and Maui—Wet Cliff—Unit 8, identified in the legal descriptions in paragraph (e)(1) of this section, constitute critical habitat for *Kadua laxiflora* on Maui.

(i) In units Maui—Lowland Wet—Unit 2, Maui—Lowland Wet—Unit 3, Maui—Lowland Wet—Unit 4, Maui—Lowland Wet—Unit 5, Maui—Lowland Wet—Unit 6, Maui—Lowland Wet—Unit 7, and Maui—Lowland Wet—Unit 8, the physical and biological features of critical habitat are:

(A) Elevation: Less than 3,300 ft (1,000 m).

(B) Annual precipitation: Greater than 75 in (190 cm).

(C) Substrate: Clays; ashbeds; deep, well-drained soils; lowland bogs.

(D) Canopy: *Antidesma*, *Metrosideros*, *Myrsine*, *Pisonia*, *Psychotria*.

(E) Subcanopy: *Cibotium*, *Claoxylon*, *Kadua*, *Melicope*.

(F) Understory: *Alyxia*, *Cyrtandra*, *Dicranopteris*, *Diplazium*, *Machaerina*, *Microlepia*.

(ii) In units Maui—Dry Cliff—Unit 5 and Maui—Dry Cliff—Unit 6, the physical and biological features of critical habitat are:

(A) Elevation: Unrestricted.

(B) Annual precipitation: Less than 75 in (190 cm).

(C) Substrate: Greater than 65 degree slope, rocky talus.

(D) Canopy: None.

(E) Subcanopy: *Antidesma*, *Chamaesyce*, *Diospyros*, *Dodonaea*.

(F) Understory: *Bidens*, *Eragrostis*, *Melanthera*, *Schiedea*.

(iii) In units Maui—Wet Cliff—Unit 6, Maui—Wet Cliff—Unit 7, and Maui—Wet Cliff—Unit 8, the physical and biological features of critical habitat are:

(A) Elevation: Unrestricted.

(B) Annual precipitation: Greater than 75 in (190 cm).

(C) Substrate: Greater than 65 degree slope, shallow soils, weathered lava.

(D) Canopy: None.

(E) Subcanopy: *Broussaisia*, *Cheirodendron*, *Leptecophylla*, *Metrosideros*.

(F) Understory: Bryophytes, ferns, *Coprosma*, *Dubautia*, *Kadua*, *Peperomia*.

#### Family Rutaceae

##### *Melicope adscendens* (ALANI)

Maui—Lowland Dry—Unit 1 and Maui—Montane Mesic—Unit 1, identified in the legal descriptions in paragraph (e)(1) of this section, constitute critical habitat for *Melicope adscendens* on Maui.

(i) In unit Maui—Lowland Dry—Unit 1, the physical and biological features of critical habitat are:

(A) Elevation: Less than 3,300 ft (1,000 m), but greater than 3,200 ft (914 m).

(B) Annual precipitation: Less than 50 in (130 cm).

(C) Substrate: Weathered silty loams to stony clay, rocky ledges, little-weathered lava.

(D) Canopy: *Diospyros*, *Myoporum*, *Pleomele*, *Santalum*.

(E) Subcanopy: *Chamaesyce*, *Dodonaea*, *Leptecophylla*, *Osteomeles*, *Psydrax*, *Scaevola*, *Wikstroemia*.

(F) Understory: *Alyxia*, *Artemisia*, *Bidens*, *Chenopodium*, *Nephrolepis*, *Peperomia*, *Sicyos*.

(ii) In unit Maui—Montane Mesic—Unit 1, the physical and biological features of critical habitat are:

(A) Elevation: 3,300 to 6,500 ft (1,000 to 2,000 m).

(B) Annual precipitation: 50 to 75 in (130 to 190 cm).

(C) Substrate: Deep ash deposits, thin silty loams.

(D) Canopy: *Acacia*, *Ilex*, *Metrosideros*, *Myrsine*, *Nestegis*, *Nothocestrum*, *Pisonia*, *Pittosporum*, *Psychotria*, *Sophora*, *Zanthoxylum*.

(E) Subcanopy: *Alyxia*, *Charpentiera*, *Coprosma*, *Dodonaea*, *Kadua*, *Labordia*, *Leptecophylla*, *Phyllostegia*, *Vaccinium*.

(F) Understory: Ferns, *Carex*, *Peperomia*.

##### *Melicope balloui* (ALANI)

Maui—Lowland Wet—Unit 1, Maui—Montane Wet—Unit 1, Maui—Montane Wet—Unit 2, Maui—Montane Wet—Unit 3, Maui—Montane Wet—Unit 4, and Maui—Montane Wet—Unit 5, identified in the legal descriptions in paragraph (e)(1) of this section, constitute critical habitat for *Melicope balloui* on Maui.

(i) In unit Maui—Lowland Wet—Unit 1, the physical and biological features of critical habitat are:

(A) Elevation: Less than 3,300 ft (1,000 m).

(B) Annual precipitation: Greater than 75 in (190 cm).

(C) Substrate: Clays; ashbeds; deep, well-drained soils; lowland bogs.

(D) Canopy: *Antidesma*, *Metrosideros*, *Myrsine*, *Pisonia*, *Psychotria*.

(E) Subcanopy: *Cibotium*, *Claoxylon*, *Kadua*, *Melicope*.

(F) Understory: *Alyxia*, *Cyrtandra*, *Dicranopteris*, *Diplazium*, *Machaerina*, *Microlepia*.

(ii) In units Maui—Montane Wet—Unit 1, Maui—Montane Wet—Unit 2, Maui—Montane Wet—Unit 3, Maui—Montane Wet—Unit 4, and Maui—Montane Wet—Unit 5, the physical and biological features of critical habitat are:

(A) Elevation: 3,300 to 6,500 ft (1,000 to 2,000 m).

(B) Annual precipitation: Greater than 75 in (190 cm).

(C) Substrate: Well-developed soils, montane bogs.

(D) Canopy: *Acacia*, *Charpentiera*, *Cheirodendron*, *Metrosideros*.

(E) Subcanopy: *Broussaisia*, *Cibotium*, *Eurya*, *Ilex*, *Myrsine*.

(F) Understory: Ferns, *Carex*, *Coprosma*, *Leptecophylla*, *Oreobolus*, *Rhynchospora*, *Vaccinium*.

##### *Melicope knudsenii* (ALANI)

Maui—Montane Dry—Unit 1, identified in the legal descriptions in paragraph (e)(1) of this section, constitutes critical habitat for *Melicope knudsenii* on Maui. In unit Maui—Montane Dry—Unit 1, the physical and biological features of critical habitat are:

(i) Elevation: 3,300 to 6,500 ft (1,000 to 2,000 m).

(ii) Annual precipitation: Less than 50 in (130 cm).

(ii) Substrate: Dry cinder or ash soils, loamy volcanic sands, blocky lava, rock outcroppings.

(iv) Canopy: *Acacia*, *Metrosideros*, *Myoporum*, *Santalum*, *Sophora*.

(v) Subcanopy: *Chamaesyce*, *Coprosma*, *Dodonaea*, *Dubautia*, *Leptecophylla*, *Osteomeles*, *Wikstroemia*.

(vi) Understory: *Bidens*, *Eragrostis*, *Melanthera*, *Vaccinium*.

##### *Melicope mucronulata* (ALANI)

Maui—Lowland Dry—Unit 1, Maui—Lowland Dry—Unit 2, Maui—Lowland Dry—Unit 3, Maui—Lowland Dry—Unit 4, and Maui—Montane Dry—Unit 1, identified in the legal descriptions in paragraph (e)(1) of this section, constitute critical habitat for *Melicope mucronulata* on Maui.

(i) In units Maui—Lowland Dry—Unit 1, Maui—Lowland Dry—Unit 2, Maui—Lowland Dry—Unit 3, and Maui—Lowland Dry—Unit 4, the physical and biological features of critical habitat are:

(A) Elevation: Less than 3,300 ft (1,000 m).

(B) Annual precipitation: Less than 50 in (130 cm).

(C) Substrate: Weathered silty loams to stony clay, rocky ledges, little-weathered lava.

(D) Canopy: *Diospyros*, *Myoporum*, *Pleomele*, *Santalum*.

(E) Subcanopy: *Chamaesyce*, *Dodonaea*, *Leptecophylla*, *Osteomeles*, *Psydrax*, *Scaevola*, *Wikstroemia*.

(F) Understory: *Alyxia*, *Artemisia*, *Bidens*, *Chenopodium*, *Nephrolepis*, *Peperomia*, *Sicyos*.

(ii) In unit Maui—Montane Dry—Unit 1, the physical and biological features of critical habitat are:

(A) Elevation: 3,300 to 6,500 ft (1,000 to 2,000 m).

(B) Annual precipitation: Less than 50 in (130 cm).

(C) Substrate: Dry cinder or ash soils, loamy volcanic sands, blocky lava, rock outcroppings.

(D) Canopy: *Acacia*, *Metrosideros*, *Myoporum*, *Santalum*, *Sophora*.

(E) Subcanopy: *Chamaesyce*, *Coprosma*, *Dodonaea*, *Dubautia*, *Leptecophylla*, *Osteomeles*, *Wikstroemia*.

(F) Understory: *Bidens*, *Eragrostis*, *Melanthera*, *Vaccinium*.

##### *Melicope ovalis* (ALANI)

Maui—Lowland Wet—Unit 1, Maui—Montane Wet—Unit 1, Maui—Montane Wet—Unit 2, Maui—Montane Wet—Unit 3, Maui—Montane Wet—Unit 4, Maui—Montane Wet—Unit 5, Maui—Wet Cliff—Unit 1, Maui—Wet Cliff—Unit 2, Maui—Wet Cliff—Unit 3, and Maui—Wet Cliff—Unit 4, identified in

the legal descriptions in paragraph (e)(1) of this section, constitute critical habitat for *Melicope ovalis* on Maui.

(i) In unit Maui—Lowland Wet—Unit 1, the physical and biological features of critical habitat are:

(A) Elevation: Less than 3,300 ft (1,000 m).

(B) Annual precipitation: Greater than 75 in (190 cm).

(C) Substrate: Clays; ashbeds; deep, well-drained soils; lowland bogs.

(D) Canopy: *Antidesma*, *Metrosideros*, *Myrsine*, *Pisonia*, *Psychotria*.

(E) Subcanopy: *Cibotium*, *Claoxylon*, *Kadua*, *Melicope*.

(F) Understory: *Alyxia*, *Cyrtandra*, *Dicranopteris*, *Diplazium*, *Machaerina*, *Microlepia*.

(ii) In units Maui—Montane Wet—Unit 1, Maui—Montane Wet—Unit 2, Maui—Montane Wet—Unit 3, Maui—Montane Wet—Unit 4, and Maui—Montane Wet—Unit 5, the physical and biological features of critical habitat are:

(A) Elevation: 3,300 to 6,500 ft (1,000 to 2,000 m).

(B) Annual precipitation: Greater than 75 in (190 cm).

(C) Substrate: Well-developed soils, montane bogs.

(D) Canopy: *Acacia*, *Charpentiera*, *Cheirodendron*, *Metrosideros*.

(E) Subcanopy: *Broussaisia*, *Cibotium*, *Eurya*, *Ilex*, *Myrsine*.

(F) Understory: Ferns, *Carex*, *Coprosma*, *Leptecophylla*, *Oreobolus*, *Rhynchospora*, *Vaccinium*.

(iii) In units Maui—Wet Cliff—Unit 1, Maui—Wet Cliff—Unit 2, Maui—Wet Cliff—Unit 3, and Maui—Wet Cliff—Unit 4, the physical and biological features of critical habitat are:

(A) Elevation: Unrestricted.

(B) Annual precipitation: Greater than 75 in (190 cm).

(C) Substrate: Greater than 65 degree slope, shallow soils, weathered lava.

(D) Canopy: None.

(E) Subcanopy: *Broussaisia*, *Cheirodendron*, *Leptecophylla*, *Metrosideros*.

(F) Understory: Bryophytes, ferns, *Coprosma*, *Dubautia*, *Kadua*, *Peperomia*.

#### *Zanthoxylum hawaiiense* (AE)

Maui—Lowland Dry—Unit 1, Maui—Lowland Dry—Unit 2, Maui—Lowland Dry—Unit 3, Maui—Lowland Dry—Unit 4, Maui—Lowland Mesic—Unit 2, Maui—Lowland Mesic—Unit 3, Maui—Montane Mesic—Unit 1, Maui—Montane Mesic—Unit 2, Maui—Montane Mesic—Unit 3, Maui—Montane Mesic—Unit 4, Maui—Montane Mesic—Unit 5, Maui—Montane Dry—Unit 1, Maui—Subalpine—Unit 1, and Maui—

Subalpine—Unit 2, identified in the legal descriptions in paragraph (e)(1) of this section, constitute critical habitat for *Zanthoxylum hawaiiense* on Maui.

(i) In units Maui—Lowland Dry—Unit 1, Maui—Lowland Dry—Unit 2, Maui—Lowland Dry—Unit 3, and Maui—Lowland Dry—Unit 4, the physical and biological features of critical habitat are:

(A) Elevation: Less than 3,300 ft (1,000 m).

(B) Annual precipitation: Less than 50 in (130 cm).

(C) Substrate: Weathered silty loams to stony clay, rocky ledges, little-weathered lava.

(D) Canopy: *Diospyros*, *Myoporum*, *Pleomele*, *Santalum*.

(E) Subcanopy: *Chamaesyce*, *Dodonaea*, *Leptecophylla*, *Osteomeles*, *Psydrax*, *Scaevola*, *Wikstroemia*.

(F) Understory: *Alyxia*, *Artemisia*, *Bidens*, *Chenopodium*, *Nephrolepis*, *Peperomia*, *Sicyos*.

(ii) In units Maui—Lowland Mesic—Unit 2 and Maui—Lowland Mesic—Unit 3, the physical and biological features of critical habitat are:

(A) Elevation: Less than 3,300 ft (1,000 m).

(B) Annual precipitation: 50 to 75 in (130 to 190 cm).

(C) Substrate: Shallow soils, little to no herbaceous layer.

(D) Canopy: *Acacia*, *Diospyros*, *Metrosideros*, *Myrsine*, *Pouteria*, *Santalum*.

(E) Subcanopy: *Dodonaea*, *Freycinetia*, *Leptecophylla*, *Melanthera*, *Osteomeles*, *Pleomele*, *Psydrax*.

(F) Understory: *Carex*, *Dicranopteris*, *Diplazium*, *Elaphoglossum*, *Peperomia*.

(iii) In units Maui—Montane Mesic—Unit 1, Maui—Montane Mesic—Unit 2, Maui—Montane Mesic—Unit 3, Maui—Montane Mesic—Unit 4, and Maui—Montane Mesic—Unit 5, the physical and biological features of critical habitat are:

(A) Elevation: 3,300 to 6,500 ft (1,000 to 2,000 m).

(B) Annual precipitation: 50 to 75 in (130 to 190 cm).

(C) Substrate: Deep ash deposits, thin silty loams.

(D) Canopy: *Acacia*, *Ilex*, *Metrosideros*, *Myrsine*, *Nestegis*, *Nothocestrum*, *Pisonia*, *Pittosporum*, *Psychotria*, *Sophora*, *Zanthoxylum*.

(E) Subcanopy: *Alyxia*, *Charpentiera*, *Coprosma*, *Dodonaea*, *Kadua*, *Labordia*, *Leptecophylla*, *Phyllostegia*, *Vaccinium*.

(F) Understory: Ferns, *Carex*, *Peperomia*.

(iv) In unit Maui—Montane Dry—Unit 1, the physical and biological features of critical habitat are:

(A) Elevation: 3,300 to 6,500 ft (1,000 to 2,000 m).

(B) Annual precipitation: Less than 50 in (130 cm).

(C) Substrate: Dry cinder or ash soils, loamy volcanic sands, blocky lava, rock outcroppings.

(D) Canopy: *Acacia*, *Metrosideros*, *Myoporum*, *Santalum*, *Sophora*.

(E) Subcanopy: *Chamaesyce*, *Coprosma*, *Dodonaea*, *Dubautia*, *Leptecophylla*, *Osteomeles*, *Wikstroemia*.

(F) Understory: *Bidens*, *Eragrostis*, *Melanthera*, *Vaccinium*.

(v) In units Maui—Subalpine—Unit 1 and Maui—Subalpine—Unit 2, the physical and biological features of critical habitat are:

(A) Elevation: 6,500 to 9,800 ft (2,000 to 3,000 m).

(B) Annual precipitation: 15 to 40 in (38 to 100 cm).

(C) Substrate: Dry ash; sandy loam; rocky, undeveloped soils; weathered lava.

(D) Canopy: *Chamaesyce*, *Chenopodium*, *Metrosideros*, *Myoporum*, *Santalum*, *Sophora*.

(E) Subcanopy: *Coprosma*, *Dodonaea*, *Dubautia*, *Geranium*, *Leptecophylla*, *Vaccinium*, *Wikstroemia*.

(F) Understory: Ferns, *Bidens*, *Carex*, *Deschampsia*, *Eragrostis*, *Gahnia*, *Luzula*, *Panicum*, *Pseudognaphalium*, *Sicyos*, *Tetramolopium*.

#### Family Santalaceae

##### *Santalum haleakalae* var. *lanaiense* (LANAI SANDALWOOD, ILIAHI)

Maui—Lowland Dry—Unit 1, Maui—Lowland Dry—Unit 2, Maui—Lowland Dry—Unit 3, Maui—Lowland Dry—Unit 4, Maui—Lowland Dry—Unit 5, Maui—Lowland Dry—Unit 6, Maui—Lowland Mesic—Unit 2, Maui—Lowland Mesic—Unit 3, Maui—Lowland Wet—Unit 2, Maui—Lowland Wet—Unit 3, Maui—Lowland Wet—Unit 4, Maui—Lowland Wet—Unit 5, Maui—Lowland Wet—Unit 6, Maui—Lowland Wet—Unit 7, Maui—Lowland Wet—Unit 8, Maui—Montane Mesic—Unit 1, Maui—Montane Mesic—Unit 2, Maui—Montane Mesic—Unit 3, Maui—Montane Mesic—Unit 4, Maui—Montane Mesic—Unit 5, Maui—Montane Dry—Unit 1, Maui—Wet Cliff—Unit 6, Maui—Wet Cliff—Unit 7, and Maui—Wet Cliff—Unit 8, identified in the legal descriptions in paragraph (e)(1) of this section, constitute critical habitat for *Santalum haleakalae* var. *lanaiense* on Maui.

(i) In units Maui—Lowland Dry—Unit 1, Maui—Lowland Dry—Unit 2, Maui—Lowland Dry—Unit 3, Maui—Lowland Dry—Unit 4, Maui—Lowland Dry—Unit 5, and Maui—Lowland Dry—Unit 6, the physical and biological features of critical habitat are:

(A) Elevation: Less than 3,300 ft (1,000 m).

(B) Annual precipitation: Less than 50 in (130 cm).

(C) Substrate: Weathered silty loams to stony clay, rocky ledges, little-weathered lava.

(D) Canopy: *Diospyros*, *Myoporum*, *Pleomele*, *Santalum*

(E) Subcanopy: *Chamaesyce*, *Dodonaea*, *Leptecophylla*, *Osteomeles*, *Psydrax*, *Scaevola*, *Wikstroemia*.

(F) Understory: *Alyxia*, *Artemisia*, *Bidens*, *Chenopodium*, *Nephrolepis*, *Peperomia*, *Sicyos*.

(ii) In units Maui—Lowland Mesic—Unit 2 and Maui—Lowland Mesic—Unit 3, the physical and biological features of critical habitat are:

(A) Elevation: Less than 3,300 ft (1,000 m).

(B) Annual precipitation: 50 to 75 in (130 to 190 cm).

(C) Substrate: Shallow soils, little to no herbaceous layer.

(D) Canopy: *Acacia*, *Diospyros*, *Metrosideros*, *Myrsine*, *Pouteria*, *Santalum*.

(E) Subcanopy: *Dodonaea*, *Freycinetia*, *Leptecophylla*, *Melanthera*, *Osteomeles*, *Pleomele*, *Psydrax*.

(F) Understory: *Carex*, *Dicranopteris*, *Diplazium*, *Elaphoglossum*, *Peperomia*.

(iii) In units Maui—Lowland Wet—Unit 2, Maui—Lowland Wet—Unit 3, Maui—Lowland Wet—Unit 4, Maui—Lowland Wet—Unit 5, Maui—Lowland Wet—Unit 6, Maui—Lowland Wet—Unit 7, and Maui—Lowland Wet—Unit 8, the physical and biological features of critical habitat are:

(A) Elevation: Less than 3,300 ft (1,000 m).

(B) Annual precipitation: Greater than 75 in (190 cm).

(C) Substrate: Clays; ashbeds; deep, well-drained soils; lowland bogs.

(D) Canopy: *Antidesma*, *Metrosideros*, *Myrsine*, *Pisonia*, *Psychotria*.

(E) Subcanopy: *Cibotium*, *Claoxylon*, *Kadua*, *Melicope*.

(F) Understory: *Alyxia*, *Cyrtandra*, *Dicranopteris*, *Diplazium*, *Machaerina*, *Microlepia*.

(iv) In units Maui—Montane Mesic—Unit 1, Maui—Montane Mesic—Unit 2, Maui—Montane Mesic—Unit 3, Maui—Montane Mesic—Unit 4, and Maui—Montane Mesic—Unit 5, the physical and biological features of critical habitat are:

(A) Elevation: 3,300 to 6,500 ft (1,000 to 2,000 m).

(B) Annual precipitation: 50 to 75 in (130 to 190 cm).

(C) Substrate: Deep ash deposits, thin silty loams.

(D) Canopy: *Acacia*, *Ilex*, *Metrosideros*, *Myrsine*, *Nestegis*,

*Nothocestrum*, *Pisonia*, *Pittosporum*, *Psychotria*, *Sophora*, *Zanthoxylum*.

(E) Subcanopy: *Alyxia*, *Charpentiera*, *Coprosma*, *Dodonaea*, *Kadua*, *Labordia*, *Leptecophylla*, *Phyllostegia*, *Vaccinium*.

(F) Understory: Ferns, *Carex*, *Peperomia*.

(v) In unit Maui—Montane Dry—Unit 1, the physical and biological features of critical habitat are:

(A) Elevation: 3,300 to 6,500 ft (1,000 to 2,000 m).

(B) Annual precipitation: Less than 50 in (130 cm).

(C) Substrate: Dry cinder or ash soils, loamy volcanic sands, blocky lava, rock outcroppings.

(D) Canopy: *Acacia*, *Metrosideros*, *Myoporum*, *Santalum*, *Sophora*.

(E) Subcanopy: *Chamaesyce*, *Coprosma*, *Dodonaea*, *Dubautia*, *Leptecophylla*, *Osteomeles*, *Wikstroemia*.

(F) Understory: *Bidens*, *Eragrostis*, *Melanthera*, *Vaccinium*.

(vi) In units Maui—Wet Cliff—Unit 6, Maui—Wet Cliff—Unit 7, and Maui—Wet Cliff—Unit 8, the physical and biological features of critical habitat are:

(A) Elevation: Unrestricted.

(B) Annual precipitation: Greater than 75 in (190 cm).

(C) Substrate: Greater than 65 degree slope, shallow soils, weathered lava.

(D) Canopy: None.

(E) Subcanopy: *Broussaisia*, *Cheirodendron*, *Leptecophylla*, *Metrosideros*.

(F) Understory: Bryophytes, ferns, *Coprosma*, *Dubautia*, *Kadua*, *Peperomia*.

#### Family Sapindaceae

##### *Alectryon macrococcus* (MAHOE)

Maui—Lowland Dry—Unit 1, Maui—Lowland Dry—Unit 2, Maui—Lowland Mesic—Unit 1, Maui—Lowland Wet—Unit 2, Maui—Lowland Wet—Unit 3, Maui—Lowland Wet—Unit 4, Maui—Lowland Wet—Unit 5, Maui—Lowland Wet—Unit 6, Maui—Lowland Wet—Unit 7, Maui—Lowland Wet—Unit 8, Maui—Montane Mesic—Unit 1, Maui—Montane Dry—Unit 1, Maui—Wet Cliff—Unit 6, Maui—Wet Cliff—Unit 7, and Maui—Wet Cliff—Unit 8, identified in the legal descriptions in paragraph (e)(1) of this section, constitute critical habitat for *Alectryon macrococcus* on Maui.

(i) In units Maui—Lowland Dry—Unit 1 and Maui—Lowland Dry—Unit 2, the physical and biological features of critical habitat are:

(A) Elevation: Less than 3,300 ft (1,000 m).

(B) Annual precipitation: Less than 50 in (130 cm).

(C) Substrate: Weathered silty loams to stony clay, rocky ledges, little-weathered lava.

(D) Canopy: *Diospyros*, *Myoporum*, *Pleomele*, *Santalum*.

(E) Subcanopy: *Chamaesyce*, *Dodonaea*, *Leptecophylla*, *Osteomeles*, *Psydrax*, *Scaevola*, *Wikstroemia*.

(F) Understory: *Alyxia*, *Artemisia*, *Bidens*, *Chenopodium*, *Nephrolepis*, *Peperomia*, *Sicyos*.

(ii) In unit Maui—Lowland Mesic—Unit 1, the physical and biological features of critical habitat are:

(A) Elevation: Less than 3,300 ft (1,000 m).

(B) Annual precipitation: 50 to 75 in (130 to 190 cm).

(C) Substrate: Shallow soils, little to no herbaceous layer.

(D) Canopy: *Acacia*, *Diospyros*, *Metrosideros*, *Myrsine*, *Pouteria*, *Santalum*.

(E) Subcanopy: *Dodonaea*, *Freycinetia*, *Leptecophylla*, *Melanthera*, *Osteomeles*, *Pleomele*, *Psydrax*.

(iii) In units Maui—Lowland Wet—Unit 2, Maui—Lowland Wet—Unit 3, Maui—Lowland Wet—Unit 4, Maui—Lowland Wet—Unit 5, Maui—Lowland Wet—Unit 6, Maui—Lowland Wet—Unit 7, and Maui—Lowland Wet—Unit 8, the physical and biological features of critical habitat are:

(A) Elevation: Less than 3,300 ft (1,000 m).

(B) Annual precipitation: Greater than 75 in (190 cm).

(C) Substrate: Clays; ashbeds; deep, well-drained soils; lowland bogs.

(D) Canopy: *Antidesma*, *Metrosideros*, *Myrsine*, *Pisonia*, *Psychotria*.

(E) Subcanopy: *Cibotium*, *Claoxylon*, *Kadua*, *Melicope*.

(F) Understory: *Alyxia*, *Cyrtandra*, *Dicranopteris*, *Diplazium*, *Machaerina*, *Microlepia*.

(iv) In unit Maui—Montane Mesic—Unit 1, the physical and biological features of critical habitat are:

(A) Elevation: 3,300 to 6,500 ft (1,000 to 2,000 m).

(B) Annual precipitation: 50 to 75 in (130 to 190 cm).

(C) Substrate: Deep ash deposits, thin silty loams.

(D) Canopy: *Acacia*, *Ilex*, *Metrosideros*, *Myrsine*, *Nestegis*, *Nothocestrum*, *Pisonia*, *Pittosporum*, *Psychotria*, *Sophora*, *Zanthoxylum*.

(E) Subcanopy: *Alyxia*, *Charpentiera*, *Coprosma*, *Dodonaea*, *Kadua*, *Labordia*, *Leptecophylla*, *Phyllostegia*, *Vaccinium*.

(F) Understory: Ferns, *Carex*, *Peperomia*.

(v) In unit Maui—Montane Dry—Unit 1, the physical and biological features of critical habitat are:

(A) Elevation: 3,300 to 6,500 ft (1,000 to 2,000 m).

(B) Annual precipitation: Less than 50 in (130 cm).

(C) Substrate: Dry cinder or ash soils, loamy volcanic sands, blocky lava, rock outcroppings.

(D) Canopy: *Acacia*, *Metrosideros*, *Myoporum*, *Santalum*, *Sophora*.

(E) Subcanopy: *Chamaesyce*, *Coprosma*, *Dodonaea*, *Dubautia*, *Leptecophylla*, *Osteomeles*, *Wikstroemia*.

(F) Understory: *Bidens*, *Eragrostis*, *Melanthera*, *Vaccinium*.

(vi) In units Maui—Wet Cliff—Unit 6, Maui—Wet Cliff—Unit 7, and Maui—Wet Cliff—Unit 8, the physical and biological features of critical habitat are:

(A) Elevation: Unrestricted.

(B) Annual precipitation: Greater than 75 in (190 cm).

(C) Substrate: Greater than 65 degree slope, shallow soils, weathered lava.

(D) Canopy: None.

(E) Subcanopy: *Broussaisia*, *Cheirodendron*, *Leptecophylla*, *Metrosideros*.

(F) Understory: Bryophytes, ferns, *Coprosma*, *Dubautia*, *Kadua*, *Peperomia*.

#### Family Solanaceae

*Solanum incompletum* (POPOLO KU MAI)

Maui—Lowland Dry—Unit 1, Maui—Lowland Dry—Unit 2, Maui—Lowland Dry—Unit 3, Maui—Lowland Dry—Unit 4, and Maui—Lowland Mesic—Unit 1, identified in the legal descriptions in paragraph (e)(1) of this section, constitute critical habitat for *Solanum incompletum* on Maui.

(i) In units Maui—Lowland Dry—Unit 1, Maui—Lowland Dry—Unit 2, Maui—Lowland Dry—Unit 3, and Maui—Lowland Dry—Unit 4, the physical and biological features of critical habitat are:

(A) Elevation: Less than 3,300 ft (1,000 m).

(B) Annual precipitation: Less than 50 in (130 cm).

(C) Substrate: Weathered silty loams to stony clay, rocky ledges, little-weathered lava.

(D) Canopy: *Diospyros*, *Myoporum*, *Pleomele*, *Santalum*.

(E) Subcanopy: *Chamaesyce*, *Dodonaea*, *Leptecophylla*, *Osteomeles*, *Psydrax*, *Scaevola*, *Wikstroemia*.

(F) Understory: *Alyxia*, *Artemisia*, *Bidens*, *Chenopodium*, *Nephrolepis*, *Peperomia*, *Sicyos*.

(ii) In unit Maui—Lowland Mesic—Unit 1, the physical and biological features of critical habitat are:

(A) Elevation: Less than 3,300 ft (1,000 m).

(B) Annual precipitation: 50 to 75 in (130 to 190 cm).

(C) Substrate: Shallow soils, little to no herbaceous layer.

(D) Canopy: *Acacia*, *Diospyros*, *Metrosideros*, *Myrsine*, *Pouteria*, *Santalum*.

(E) Subcanopy: *Dodonaea*, *Freycinetia*, *Leptecophylla*, *Melanthera*, *Osteomeles*, *Pleomele*, *Psydrax*.

(F) Understory: *Carex*, *Dicranopteris*, *Diplazium*, *Elaphoglossum*, *Peperomia*.

#### Family Thymelaeaceae

*Wikstroemia villosa* (AKIA)

Maui—Lowland Wet—Unit 1, Maui—Lowland Wet—Unit 2, Maui—Lowland Wet—Unit 3, Maui—Lowland Wet—Unit 4, Maui—Lowland Wet—Unit 5, Maui—Lowland Wet—Unit 6, Maui—Lowland Wet—Unit 7, Maui—Lowland Wet—Unit 8, Maui—Montane Wet—Unit 1, Maui—Montane Wet—Unit 2, Maui—Montane Wet—Unit 3, Maui—Montane Wet—Unit 4, Maui—Montane Wet—Unit 5, and Maui—Montane Mesic—Unit 1, identified in the legal descriptions in paragraph (e)(1) of this section, constitute critical habitat for *Wikstroemia villosa* on Maui.

(i) In units Maui—Lowland Wet—Unit 1, Maui—Lowland Wet—Unit 2, Maui—Lowland Wet—Unit 3, Maui—Lowland Wet—Unit 4, Maui—Lowland Wet—Unit 5, Maui—Lowland Wet—Unit 6, Maui—Lowland Wet—Unit 7, and Maui—Lowland Wet—Unit 8, the physical and biological features of critical habitat are:

(A) Elevation: Less than 3,300 ft (1,000 m).

(B) Annual precipitation: Greater than 75 in (190 cm).

(C) Substrate: Clays; ashbeds; deep, well-drained soils; lowland bogs.

(D) Canopy: *Antidesma*, *Metrosideros*, *Myrsine*, *Pisonia*, *Psychotria*.

(E) Subcanopy: *Cibotium*, *Claoxylon*, *Kadua*, *Melicope*.

(F) Understory: *Alyxia*, *Cyrtandra*, *Dicranopteris*, *Diplazium*, *Machaerina*, *Microlepia*.

(ii) In units Maui—Montane Wet—Unit 1, Maui—Montane Wet—Unit 2, Maui—Montane Wet—Unit 3, Maui—Montane Wet—Unit 4, and Maui—Montane Wet—Unit 5, the physical and biological features of critical habitat are:

(A) Elevation: 3,300 to 6,500 ft (1,000 to 2,000 m).

(B) Annual precipitation: Greater than 75 in (190 cm).

(C) Substrate: Well-developed soils, montane bogs.

(D) Canopy: *Acacia*, *Charpentiera*, *Cheirodendron*, *Metrosideros*.

(E) Subcanopy: *Broussaisia*, *Cibotium*, *Eurya*, *Ilex*, *Myrsine*.

(F) Understory: Ferns, *Carex*, *Coprosma*, *Leptecophylla*, *Oreobolus*, *Rhynchospora*, *Vaccinium*.

(iii) In unit Maui—Montane Mesic—Unit 1, the physical and biological features of critical habitat are:

(A) Elevation: 3,300 to 6,500 ft (1,000 to 2,000 m).

(B) Annual precipitation: 50 to 75 in (130 to 190 cm).

(C) Substrate: Deep ash deposits, thin silty loams.

(D) Canopy: *Acacia*, *Ilex*, *Metrosideros*, *Myrsine*, *Nestegis*, *Nothocestrum*, *Pisonia*, *Pittosporum*, *Psychotria*, *Sophora*, *Zanthoxylum*.

(E) Subcanopy: *Alyxia*, *Charpentiera*, *Coprosma*, *Dodonaea*, *Kadua*, *Labordia*, *Leptecophylla*, *Phyllostegia*, *Vaccinium*.

(F) Understory: Ferns, *Carex*, *Peperomia*.

#### Family Urticaceae

*Neraudia sericea* (NCN)

Maui—Lowland Dry—Unit 1, Maui—Lowland Dry—Unit 2, Maui—Lowland Dry—Unit 3, Maui—Lowland Dry—Unit 4, Maui—Lowland Dry—Unit 5, Maui—Lowland Dry—Unit 6, Kahoolawe—Lowland Dry—Unit 1, Kahoolawe—Lowland Dry—Unit 2, Maui—Montane Mesic—Unit 1, Maui—Dry Cliff—Unit 5, and Maui—Dry Cliff—Unit 6, identified in the legal descriptions in paragraphs (e)(1) and (e)(2) of this section, constitute critical habitat for *Neraudia sericea* on Maui and Kahoolawe.

(i) In units Maui—Lowland Dry—Unit 1, Maui—Lowland Dry—Unit 2, Maui—Lowland Dry—Unit 3, Maui—Lowland Dry—Unit 4, Maui—Lowland Dry—Unit 5, Maui—Lowland Dry—Unit 6, Kahoolawe—Lowland Dry—Unit 1, and Kahoolawe—Lowland Dry—Unit 2, the physical and biological features of critical habitat are:

(A) Elevation: Less than 3,300 ft (1,000 m).

(B) Annual precipitation: Less than 50 in (130 cm).

(C) Substrate: Weathered silty loams to stony clay, rocky ledges, little-weathered lava.

(D) Canopy: *Diospyros*, *Myoporum*, *Pleomele*, *Santalum*.

(E) Subcanopy: *Chamaesyce*, *Dodonaea*, *Leptecophylla*, *Osteomeles*, *Psydrax*, *Scaevola*, *Wikstroemia*.

(F) Understory: *Alyxia*, *Artemisia*, *Bidens*, *Chenopodium*, *Nephrolepis*, *Peperomia*, *Sicyos*.

(ii) In unit Maui—Montane Mesic—Unit 1, the physical and biological features of critical habitat are:

(A) Elevation: 3,300 to 6,500 ft (1,000 to 2,000 m).

(B) Annual precipitation: 50 to 75 in (130 to 190 cm).

(C) Substrate: Deep ash deposits, thin silty loams.

(D) Canopy: *Acacia*, *Ilex*, *Metrosideros*, *Myrsine*, *Nestegis*,



*Nothocestrum*, *Pisonia*, *Pittosporum*, *Psychotria*, *Sophora*, *Zanthoxylum*.

(E) Subcanopy: *Alyxia*, *Charpentiera*, *Coprosma*, *Dodonaea*, *Kadua*, *Labordia*, *Leptecophylla*, *Phyllostegia*, *Vaccinium*.

(F) Understory: Ferns, *Carex*, *Peperomia*.

(iii) In units Maui—Dry Cliff—Unit 5 and Maui—Dry Cliff—Unit 6, the physical and biological features of critical habitat are:

(A) Elevation: Unrestricted.

(B) Annual precipitation: Less than 75 in (190 cm).

(C) Substrate: Greater than 65 degree slope, rocky talus.

(D) Canopy: None.

(E) Subcanopy: *Antidesma*, *Chamaesyce*, *Diospyros*, *Dodonaea*.

(F) Understory: *Bidens*, *Eragrostis*, *Melanthera*, *Schiedea*.

#### Family Violaceae

*Isodendron pyriformis* (WAHINE NOHO KULA)

Maui—Lowland Wet—Unit 2, Maui—Lowland Wet—Unit 3, Maui—Lowland Wet—Unit 4, Maui—Lowland Wet—Unit 5, Maui—Lowland Wet—Unit 6, Maui—Lowland Wet—Unit 7, Maui—Lowland Wet—Unit 8, Maui—Dry Cliff—Unit 5, Maui—Dry Cliff—Unit 6, Maui—Wet Cliff—Unit 6, Maui—Wet Cliff—Unit 7, and Maui—Wet Cliff—Unit 8, identified in the legal descriptions in paragraph (e)(1) of this section, constitute critical habitat for *Isodendron pyriformis* on Maui.

(i) In units Maui—Lowland Wet—Unit 2, Maui—Lowland Wet—Unit 3, Maui—Lowland Wet—Unit 4, Maui—Lowland Wet—Unit 5, Maui—Lowland Wet—Unit 6, Maui—Lowland Wet—Unit 7, and Maui—Lowland Wet—Unit 8, the physical and biological features of critical habitat are:

(A) Elevation: Less than 3,300 ft (1,000 m).

(B) Annual precipitation: Greater than 75 in (190 cm).

(C) Substrate: Clays; ashbeds; deep, well-drained soils; lowland bogs.

(D) Canopy: *Antidesma*, *Metrosideros*, *Myrsine*, *Pisonia*, *Psychotria*.

(E) Subcanopy: *Cibotium*, *Claoxylon*, *Kadua*, *Melicope*.

(F) Understory: *Alyxia*, *Cyrtandra*, *Dicranopteris*, *Diplazium*, *Machaerina*, *Microlepia*.

(ii) In units Maui—Dry Cliff—Unit 5 and Maui—Dry Cliff—Unit 6, the physical and biological features of critical habitat are:

(A) Elevation: Unrestricted.

(B) Annual precipitation: Less than 75 in (190 cm).

(C) Substrate: Greater than 65 degree slope, rocky talus.

(D) Canopy: None.

(E) Subcanopy: *Antidesma*,

*Chamaesyce*, *Diospyros*, *Dodonaea*.

(F) Understory: *Bidens*, *Eragrostis*, *Melanthera*, *Schiedea*.

(iii) In units Maui—Wet Cliff—Unit 6, Maui—Wet Cliff—Unit 7, and Maui—Wet Cliff—Unit 8, the physical and biological features of critical habitat are:

(A) Elevation: Unrestricted.

(B) Annual precipitation: Greater than 75 in (190 cm).

(C) Substrate: Greater than 65 degree slope, shallow soils, weathered lava.

(D) Canopy: None.

(E) Subcanopy: *Broussaisia*, *Cheirodendron*, *Leptecophylla*, *Metrosideros*.

(F) Understory: Bryophytes, ferns, *Coprosma*, *Dubautia*, *Kadua*, *Peperomia*.

(2) *Ferns and allies*.

#### Family Adiantaceae

*Pteris lidgatei* (NCN)

Maui—Lowland Wet—Unit 2, Maui—Lowland Wet—Unit 3, Maui—Lowland Wet—Unit 4, Maui—Lowland Wet—Unit 5, Maui—Lowland Wet—Unit 6, Maui—Lowland Wet—Unit 7, Maui—Lowland Wet—Unit 8, Maui—Wet Cliff—Unit 6, Maui—Wet Cliff—Unit 7, and Maui—Wet Cliff—Unit 8, identified in the legal descriptions in paragraph (e)(1) of this section, constitute critical habitat for *Pteris lidgatei* on Maui.

(i) In units Maui—Lowland Wet—Unit 2, Maui—Lowland Wet—Unit 3, Maui—Lowland Wet—Unit 4, Maui—Lowland Wet—Unit 5, Maui—Lowland Wet—Unit 6, Maui—Lowland Wet—Unit 7, and Maui—Lowland Wet—Unit 8, the physical and biological features of critical habitat are:

(A) Elevation: Less than 3,300 ft (1,000 m).

(B) Annual precipitation: Greater than 75 in (190 cm).

(C) Substrate: Clays; ashbeds; deep, well-drained soils; lowland bogs.

(D) Canopy: *Antidesma*, *Metrosideros*, *Myrsine*, *Pisonia*, *Psychotria*.

(E) Subcanopy: *Cibotium*, *Claoxylon*, *Kadua*, *Melicope*.

(F) Understory: *Alyxia*, *Cyrtandra*, *Dicranopteris*, *Diplazium*, *Machaerina*, *Microlepia*.

(ii) In units Maui—Wet Cliff—Unit 6, Maui—Wet Cliff—Unit 7, and Maui—Wet Cliff—Unit 8, the physical and biological features of critical habitat are:

(A) Elevation: Unrestricted.

(B) Annual precipitation: Greater than 75 in (190 cm).

(C) Substrate: Greater than 65 degree slope, shallow soils, weathered lava.

(D) Canopy: None.

(E) Subcanopy: *Broussaisia*, *Cheirodendron*, *Leptecophylla*, *Metrosideros*.

(F) Understory: Bryophytes, ferns, *Coprosma*, *Dubautia*, *Kadua*, *Peperomia*.

#### Family Aspleniaceae

*Asplenium diellectum* (ASPENIUM-LEAVED DIELLIA)

Maui—Lowland Dry—Unit 5, Maui—Lowland Dry—Unit 6, Maui—Lowland Mesic—Unit 2, Maui—Lowland Mesic—Unit 3, Maui—Lowland Wet—Unit 2, Maui—Lowland Wet—Unit 3, Maui—Lowland Wet—Unit 4, Maui—Lowland Wet—Unit 5, Maui—Lowland Wet—Unit 6, Maui—Lowland Wet—Unit 7, Maui—Lowland Wet—Unit 8, and Maui—Montane Mesic—Unit 1, identified in the legal descriptions in paragraph (e)(1) of this section, constitute critical habitat for *Asplenium diellectum* on Maui.

(i) In units Maui—Lowland Dry—Unit 5 and Maui—Lowland Dry—Unit 6, the physical and biological features of critical habitat are:

(A) Elevation: Less than 3,300 ft (1,000 m).

(B) Annual precipitation: Less than 50 in (130 cm).

(C) Substrate: Weathered silty loams to stony clay, rocky ledges, little-weathered lava.

(D) Canopy: *Diospyros*, *Myoporum*, *Pleomele*, *Santalum*.

(E) Subcanopy: *Chamaesyce*, *Dodonaea*, *Leptecophylla*, *Osteomeles*, *Psydrax*, *Scaevola*, *Wikstroemia*.

(F) Understory: *Alyxia*, *Artemisia*, *Bidens*, *Chenopodium*, *Nephrolepis*, *Peperomia*, *Sicyos*.

(ii) In units Maui—Lowland Mesic—Unit 2 and Maui—Lowland Mesic—Unit 3, the physical and biological features of critical habitat are:

(A) Elevation: Less than 3,300 ft (1,000 m).

(B) Annual precipitation: 50 to 75 in (130 to 190 cm).

(C) Substrate: Shallow soils, little to no herbaceous layer.

(D) Canopy: *Acacia*, *Diospyros*, *Metrosideros*, *Myrsine*, *Pouteria*, *Santalum*.

(E) Subcanopy: *Dodonaea*, *Freycinetia*, *Leptecophylla*, *Melanthera*, *Osteomeles*, *Pleomele*, *Psydrax*.

(F) Understory: *Carex*, *Dicranopteris*, *Diplazium*, *Elaphoglossum*, *Peperomia*.

(iii) In units Maui—Lowland Wet—Unit 2, Maui—Lowland Wet—Unit 3, Maui—Lowland Wet—Unit 4, Maui—Lowland Wet—Unit 5, Maui—Lowland Wet—Unit 6, Maui—Lowland Wet—Unit 7, and Maui—Lowland Wet—Unit 8, the physical and biological features of critical habitat are:

(A) Elevation: Less than 3,300 ft (1,000 m).



(B) Annual precipitation: Greater than 75 in (190 cm).

(C) Substrate: Clays; ashbeds; deep, well-drained soils; lowland bogs.

(D) Canopy: *Antidesma*, *Metrosideros*, *Myrsine*, *Pisonia*, *Psychotria*.

(E) Subcanopy: *Cibotium*, *Claoxylon*, *Kadua*, *Melicope*.

(F) Understory: *Alyxia*, *Cyrtandra*, *Dicranopteris*, *Diplazium*, *Machaerina*, *Microlepia*.

(iv) In unit Maui—Montane Mesic—Unit 1, the physical and biological features of critical habitat are:

(A) Elevation: 3,300 to 6,500 ft (1,000 to 2,000 m).

(B) Annual precipitation: 50 to 75 in (130 to 190 cm).

(C) Substrate: Deep ash deposits, thin silty loams.

(D) Canopy: *Acacia*, *Ilex*, *Metrosideros*, *Myrsine*, *Nestegis*, *Nothocestrum*, *Pisonia*, *Pittosporum*, *Psychotria*, *Sophora*, *Zanthoxylum*.

(E) Subcanopy: *Alyxia*, *Charpentiera*, *Coprosma*, *Dodonaea*, *Kadua*, *Labordia*, *Leptecophylla*, *Phyllostegia*, *Vaccinium*.

(F) Understory: Ferns, *Carex*, *Peperomia*.

*Asplenium peruvianum* var. *insulare* (NCN)

Maui—Montane Wet—Unit 1, Maui—Montane Wet—Unit 2, Maui—Montane Wet—Unit 3, Maui—Montane Wet—Unit 4, Maui—Montane Wet—Unit 5, Maui—Montane Mesic—Unit 1, Maui—Subalpine—Unit 1, and Maui—Subalpine—Unit 2, identified in the legal descriptions in paragraph (e)(1) of this section, constitute critical habitat for *Asplenium peruvianum* var. *insulare* on Maui.

(i) In units Maui—Montane Wet—Unit 1, Maui—Montane Wet—Unit 2, Maui—Montane Wet—Unit 3, Maui—Montane Wet—Unit 4, and Maui—Montane Wet—Unit 5, the physical and biological features of critical habitat are:

(A) Elevation: 3,300 to 6,500 ft (1,000 to 2,000 m).

(B) Annual precipitation: Greater than 75 in (190 cm).

(C) Substrate: Well-developed soils, montane bogs.

(D) Canopy: *Acacia*, *Charpentiera*, *Cheirodendron*, *Metrosideros*.

(E) Subcanopy: *Broussaisia*, *Cibotium*, *Eurya*, *Ilex*, *Myrsine*.

(F) Understory: Ferns, *Carex*, *Coprosma*, *Leptecophylla*, *Oreobolus*, *Rhynchospora*, *Vaccinium*.

(ii) In unit Maui—Montane Mesic—Unit 1, the physical and biological features of critical habitat are:

(A) Elevation: 3,300 to 6,500 ft (1,000 to 2,000 m).

(B) Annual precipitation: 50 to 75 in (130 to 190 cm).

(C) Substrate: Deep ash deposits, thin silty loams.

(D) Canopy: *Acacia*, *Ilex*, *Metrosideros*, *Myrsine*, *Nestegis*, *Nothocestrum*, *Pisonia*, *Pittosporum*, *Psychotria*, *Sophora*, *Zanthoxylum*.

(E) Subcanopy: *Alyxia*, *Charpentiera*, *Coprosma*, *Dodonaea*, *Kadua*, *Labordia*, *Leptecophylla*, *Phyllostegia*, *Vaccinium*.

(F) Understory: Ferns, *Carex*, *Peperomia*.

(iii) In units Maui—Subalpine—Unit 1 and Maui—Subalpine—Unit 2, the physical and biological features of critical habitat are:

(A) Elevation: 6,500 to 9,800 ft (2,000 to 3,000 m).

(B) Annual precipitation: 15 to 40 in (38 to 100 cm).

(C) Substrate: Dry ash; sandy loam; rocky, undeveloped soils; weathered lava.

(D) Canopy: *Chamaesyce*, *Chenopodium*, *Metrosideros*, *Myoporum*, *Santalum*, *Sophora*.

(E) Subcanopy: *Coprosma*, *Dodonaea*, *Dubautia*, *Geranium*, *Leptecophylla*, *Vaccinium*, *Wikstroemia*.

(F) Understory: Ferns, *Bidens*, *Carex*, *Deschampsia*, *Eragrostis*, *Gahnia*, *Luzula*, *Panicum*, *Pseudognaphalium*, *Sicyos*, *Tetramolopium*.

*Ctenitis squamigera* (PAUOA)

Maui—Lowland Dry—Unit 1, Maui—Lowland Dry—Unit 2, Maui—Lowland Dry—Unit 3, Maui—Lowland Dry—Unit 4, Maui—Lowland Dry—Unit 5, Maui—Lowland Dry—Unit 6, Maui—Lowland Mesic—Unit 1, Maui—Lowland Mesic—Unit 2, Maui—Lowland Mesic—Unit 3, Maui—Lowland Wet—Unit 2, Maui—Lowland Wet—Unit 3, Maui—Lowland Wet—Unit 4, Maui—Lowland Wet—Unit 5, Maui—Lowland Wet—Unit 6, Maui—Lowland Wet—Unit 7, Maui—Lowland Wet—Unit 8, Maui—Montane Mesic—Unit 2, Maui—Montane Mesic—Unit 3, Maui—Montane Mesic—Unit 4, Maui—Montane Mesic—Unit 5, Maui—Wet Cliff—Unit 6, Maui—Wet Cliff—Unit 7, and Maui—Wet Cliff—Unit 8, identified in the legal descriptions in paragraph (e)(1) of this section, constitute critical habitat for *Ctenitis squamigera* on Maui.

(i) In units Maui—Lowland Dry—Unit 1, Maui—Lowland Dry—Unit 2, Maui—Lowland Dry—Unit 3, Maui—Lowland Dry—Unit 4, Maui—Lowland Dry—Unit 5, and Maui—Lowland Dry—Unit 6, the physical and biological features of critical habitat are:

(A) Elevation: Less than 3,300 ft (1,000 m).

(B) Annual precipitation: Less than 50 in (130 cm).

(C) Substrate: Weathered silty loams to stony clay, rocky ledges, little-weathered lava.

(D) Canopy: *Diospyros*, *Myoporum*, *Pleomele*, *Santalum*.

(E) Subcanopy: *Chamaesyce*, *Dodonaea*, *Leptecophylla*, *Osteomeles*, *Psydrax*, *Scaevola*, *Wikstroemia*.

(F) Understory: *Alyxia*, *Artemisia*, *Bidens*, *Chenopodium*, *Nephrolepis*, *Peperomia*, *Sicyos*.

(ii) In units Maui—Lowland Mesic—Unit 1, Maui—Lowland Mesic—Unit 2, and Maui—Lowland Mesic—Unit 3, the physical and biological features of critical habitat are:

(A) Elevation: Less than 3,300 ft (1,000 m).

(B) Annual precipitation: 50 to 75 in (130 to 190 cm).

(C) Substrate: Shallow soils, little to no herbaceous layer.

(D) Canopy: *Acacia*, *Diospyros*, *Metrosideros*, *Myrsine*, *Pouteria*, *Santalum*.

(E) Subcanopy: *Dodonaea*, *Freycinetia*, *Leptecophylla*, *Melanthera*, *Osteomeles*, *Pleomele*, *Psydrax*.

(F) Understory: *Carex*, *Dicranopteris*, *Diplazium*, *Elaphoglossum*, *Peperomia*.

(iii) In units Maui—Lowland Wet—Unit 2, Maui—Lowland Wet—Unit 3, Maui—Lowland Wet—Unit 4, Maui—Lowland Wet—Unit 5, Maui—Lowland Wet—Unit 6, Maui—Lowland Wet—Unit 7, and Maui—Lowland Wet—Unit 8, the physical and biological features of critical habitat are:

(A) Elevation: Less than 3,300 ft (1,000 m).

(B) Annual precipitation: Greater than 75 in (190 cm).

(C) Substrate: Clays; ashbeds; deep, well-drained soils; lowland bogs.

(D) Canopy: *Antidesma*, *Metrosideros*, *Myrsine*, *Pisonia*, *Psychotria*.

(E) Subcanopy: *Cibotium*, *Claoxylon*, *Kadua*, *Melicope*.

(F) Understory: *Alyxia*, *Cyrtandra*, *Dicranopteris*, *Diplazium*, *Machaerina*, *Microlepia*.

(iv) In units Maui—Montane Mesic—Unit 2, Maui—Montane Mesic—Unit 3, Maui—Montane Mesic—Unit 4, and Maui—Montane Mesic—Unit 5, the physical and biological features of critical habitat are:

(A) Elevation: 3,300 to 6,500 ft (1,000 to 2,000 m).

(B) Annual precipitation: 50 to 75 in (130 to 190 cm).

(C) Substrate: Deep ash deposits, thin silty loams.

(D) Canopy: *Acacia*, *Ilex*, *Metrosideros*, *Myrsine*, *Nestegis*, *Nothocestrum*, *Pisonia*, *Pittosporum*, *Psychotria*, *Sophora*, *Zanthoxylum*.

(E) Subcanopy: *Alyxia*, *Charpentiera*, *Coprosma*, *Dodonaea*, *Kadua*, *Labordia*, *Leptecophylla*, *Phyllostegia*, *Vaccinium*.

(F) Understory: Ferns, *Carex*, *Peperomia*.

(v) In units Maui—Wet Cliff—Unit 6, Maui—Wet Cliff—Unit 7, and Maui—Wet Cliff—Unit 8, the physical and biological features of critical habitat are:

(A) Elevation: Unrestricted.

(B) Annual precipitation: Greater than 75 in (190 cm).

(C) Substrate: Greater than 65 degree slope, shallow soils, weathered lava.

(D) Canopy: None.

(E) Subcanopy: *Broussaisia*, *Cheirodendron*, *Leptecophylla*, *Metrosideros*.

(F) Understory: Bryophytes, ferns, *Coprosma*, *Dubautia*, *Kadua*, *Peperomia*.

#### *Diplazium molokaiense* (NCN)

Maui—Lowland Wet—Unit 2, Maui—Lowland Wet—Unit 3, Maui—Lowland Wet—Unit 4, Maui—Lowland Wet—Unit 5, Maui—Lowland Wet—Unit 6, Maui—Lowland Wet—Unit 7, Maui—Lowland Wet—Unit 8, Maui—Montane Wet—Unit 1, Maui—Montane Wet—Unit 2, Maui—Montane Wet—Unit 3, Maui—Montane Wet—Unit 4, Maui—Montane Wet—Unit 5, Maui—Montane Mesic—Unit 1, Maui—Montane Mesic—Unit 2, Maui—Montane Mesic—Unit 3, Maui—Montane Mesic—Unit 4, Maui—Montane Mesic—Unit 5, Maui—Dry Cliff—Unit 1, Maui—Dry Cliff—Unit 2, Maui—Dry Cliff—Unit 3, Maui—Dry Cliff—Unit 4, Maui—Dry Cliff—Unit 5, and Maui—Dry Cliff—Unit 6, identified in the legal descriptions in paragraph (e)(1) of this section, constitute critical habitat for *Diplazium molokaiense* on Maui.

(i) In units Maui—Lowland Wet—Unit 2, Maui—Lowland Wet—Unit 3, Maui—Lowland Wet—Unit 4, Maui—Lowland Wet—Unit 5, Maui—Lowland Wet—Unit 6, Maui—Lowland Wet—Unit 7, and Maui—Lowland Wet—Unit 8, the physical and biological features of critical habitat are:

(A) Elevation: Less than 3,300 ft (1,000 m).

(B) Annual precipitation: Greater than 75 in (190 cm).

(C) Substrate: Clays; ashbeds; deep, well-drained soils; lowland bogs.

(D) Canopy: *Antidesma*, *Metrosideros*, *Myrsine*, *Pisonia*, *Psychotria*.

(E) Subcanopy: *Cibotium*, *Claoxylon*, *Kadua*, *Melicope*.

(F) Understory: *Alyxia*, *Cyrtandra*, *Dicranopteris*, *Diplazium*, *Machaerina*, *Microlepia*.

(ii) In units Maui—Montane Wet—Unit 1, Maui—Montane Wet—Unit 2, Maui—Montane Wet—Unit 3, Maui—Montane Wet—Unit 4, and Maui—Montane Wet—Unit 5, the physical and biological features of critical habitat are:

(A) Elevation: 3,300 to 6,500 ft (1,000 to 2,000 m).

(B) Annual precipitation: Greater than 75 in (190 cm).

(C) Substrate: Well-developed soils, montane bogs.

(D) Canopy: *Acacia*, *Charpentiera*, *Cheirodendron*, *Metrosideros*.

(E) Subcanopy: *Broussaisia*, *Cibotium*, *Eurya*, *Ilex*, *Myrsine*.

(F) Understory: Ferns, *Carex*, *Coprosma*, *Leptecophylla*, *Oreobolus*, *Rhynchospora*, *Vaccinium*.

(iii) In units Maui—Montane Mesic—Unit 1, Maui—Montane Mesic—Unit 2, Maui—Montane Mesic—Unit 3, Maui—Montane Mesic—Unit 4, and Maui—Montane Mesic—Unit 5, the physical and biological features of critical habitat are:

(A) Elevation: 3,300 to 6,500 ft (1,000 to 2,000 m).

(B) Annual precipitation: 50 to 75 in (130 to 190 cm).

(C) Substrate: Deep ash deposits, thin silty loams.

(D) Canopy: *Acacia*, *Ilex*, *Metrosideros*, *Myrsine*, *Nestegis*, *Nothocestrum*, *Pisonia*, *Pittosporum*, *Psychotria*, *Sophora*, *Zanthoxylum*.

(E) Subcanopy: *Alyxia*, *Charpentiera*, *Coprosma*, *Dodonaea*, *Kadua*, *Labordia*, *Leptecophylla*, *Phyllostegia*, *Vaccinium*.

(F) Understory: Ferns, *Carex*, *Peperomia*.

(iv) In units Maui—Dry Cliff—Unit 1, Maui—Dry Cliff—Unit 2, Maui—Dry Cliff—Unit 3, Maui—Dry Cliff—Unit 4, Maui—Dry Cliff—Unit 5, and Maui—Dry Cliff—Unit 6, the physical and biological features of critical habitat are:

(A) Elevation: Unrestricted.

(B) Annual precipitation: Less than 75 in (190 cm).

(C) Substrate: Greater than 65 degree slope, rocky talus.

(D) Canopy: None.

(E) Subcanopy: *Antidesma*, *Chamaesyce*, *Diospyros*, *Dodonaea*.

(F) Understory: *Bidens*, *Eragrostis*, *Melanthera*, *Schiedea*.

#### Family Grammitidaceae

##### *Adenophorus periens* (PENDANT KIH FERN)

Maui—Montane Wet—Unit 1, Maui—Montane Wet—Unit 2, Maui—Montane Wet—Unit 3, Maui—Montane Wet—Unit 4, and Maui—Montane Wet—Unit 5, identified in the legal descriptions in paragraph (e)(1) of this section, constitute critical habitat for *Adenophorus periens* on Maui. In units Maui—Montane Wet—Unit 1, Maui—Montane Wet—Unit 2, Maui—Montane Wet—Unit 3, Maui—Montane Wet—Unit 4, and Maui—Montane Wet—Unit 5, the physical and biological features of critical habitat are:

(i) Elevation: 3,300 to 6,500 ft (1,000 to 2,000 m).

(ii) Annual precipitation: Greater than 75 in (190 cm).

(iii) Substrate: Well-developed soils, montane bogs.

(iv) Canopy: *Acacia*, *Charpentiera*, *Cheirodendron*, *Metrosideros*.

(v) Subcanopy: *Broussaisia*, *Cibotium*, *Eurya*, *Ilex*, *Myrsine*.

(vi) Understory: Ferns, *Carex*, *Coprosma*, *Leptecophylla*, *Oreobolus*, *Rhynchospora*, *Vaccinium*.

#### Family Lycopodiaceae

##### *Huperzia mannii* (WAWAEIOLE)

Maui—Lowland Mesic—Unit 1, Maui—Lowland Wet—Unit 1, Maui—Lowland Wet—Unit 2, Maui—Lowland Wet—Unit 3, Maui—Lowland Wet—Unit 4, Maui—Lowland Wet—Unit 5, Maui—Lowland Wet—Unit 6, Maui—Lowland Wet—Unit 7, Maui—Lowland Wet—Unit 8, Maui—Montane Wet—Unit 1, Maui—Montane Wet—Unit 2, Maui—Montane Wet—Unit 3, Maui—Montane Wet—Unit 4, Maui—Montane Wet—Unit 5, Maui—Montane Wet—Unit 6, Maui—Montane Wet—Unit 7, Maui—Montane Mesic—Unit 1, Maui—Montane Mesic—Unit 2, Maui—Montane Mesic—Unit 3, Maui—Montane Mesic—Unit 4, and Maui—Montane Mesic—Unit 5, identified in the legal descriptions in paragraph (e)(1) of this section, constitute critical habitat for *Huperzia mannii* on Maui.

(i) In unit Maui—Lowland Mesic—Unit 1, the physical and biological features of critical habitat are:

(A) Elevation: Less than 3,300 ft (1,000 m).

(B) Annual precipitation: 50 to 75 in (130 to 190 cm).

(C) Substrate: Shallow soils, little to no herbaceous layer.

(D) Canopy: *Acacia*, *Diospyros*, *Metrosideros*, *Myrsine*, *Pouteria*, *Santalum*.

(E) Subcanopy: *Dodonaea*, *Freycinetia*, *Leptecophylla*, *Melanthera*, *Osteomeles*, *Pleomele*, *Psydrax*.

(F) Understory: *Carex*, *Dicranopteris*, *Diplazium*, *Elaphoglossum*, *Peperomia*.

(ii) In units Maui—Lowland Wet—Unit 1, Maui—Lowland Wet—Unit 2, Maui—Lowland Wet—Unit 3, Maui—Lowland Wet—Unit 4, Maui—Lowland Wet—Unit 5, Maui—Lowland Wet—Unit 6, Maui—Lowland Wet—Unit 7, and Maui—Lowland Wet—Unit 8, the physical and biological features of critical habitat are:

(A) Elevation: Less than 3,300 ft (1,000 m).

(B) Annual precipitation: Greater than 75 in (190 cm).

(C) Substrate: Clays; ashbeds; deep, well-drained soils; lowland bogs.

(D) Canopy: *Antidesma*, *Metrosideros*, *Myrsine*, *Pisonia*, *Psychotria*.

(E) Subcanopy: *Cibotium*, *Claoxylon*, *Kadua*, *Melicope*.

(F) Understory: *Alyxia*, *Cyrtandra*, *Dicranopteris*, *Diplazium*, *Machaerina*, *Microlepia*.

(iii) In units Maui—Montane Wet—Unit 1, Maui—Montane Wet—Unit 2, Maui—Montane Wet—Unit 3, Maui—Montane Wet—Unit 4, Maui—Montane Wet—Unit 5, Maui—Montane Wet—Unit 6, and Maui—Montane Wet—Unit 7, the physical and biological features of critical habitat are:

(A) Elevation: 3,300 to 6,500 ft (1,000 to 2,000 m).

(B) Annual precipitation: Greater than 75 in (190 cm).

(C) Substrate: Well-developed soils, montane bogs.

(D) Canopy: *Acacia*, *Charpentiera*, *Cheirodendron*, *Metrosideros*.

(E) Subcanopy: *Broussaisia*, *Cibotium*, *Eurya*, *Ilex*, *Myrsine*.

(F) Understory: Ferns, *Carex*, *Coprosma*, *Leptecophylla*, *Oreobolus*, *Rhynchospora*, *Vaccinium*.

(iv) In units Maui—Montane Mesic—Unit 1, Maui—Montane Mesic—Unit 2, Maui—Montane Mesic—Unit 3, Maui—Montane Mesic—Unit 4, and Maui—Montane Mesic—Unit 5, the physical and biological features of critical habitat are:

(A) Elevation: 3,300 to 6,500 ft (1,000 to 2,000 m).

(B) Annual precipitation: 50 to 75 in (130 to 190 cm).

(C) Substrate: Deep ash deposits, thin silty loams.

(D) Canopy: *Acacia*, *Ilex*, *Metrosideros*, *Myrsine*, *Nestegis*, *Nothocestrum*, *Pisonia*, *Pittosporum*, *Psychotria*, *Sophora*, *Zanthoxylum*.

(E) Subcanopy: *Alyxia*, *Charpentiera*, *Coprosma*, *Dodonaea*, *Kadua*, *Labordia*, *Leptecophylla*, *Phyllostegia*, *Vaccinium*.

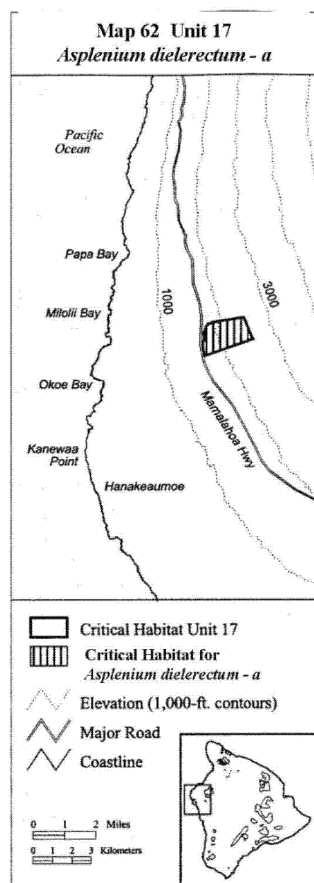
(F) Understory: Ferns, *Carex*, *Peperomia*.

\* \* \* \* \*

(k) \* \* \*

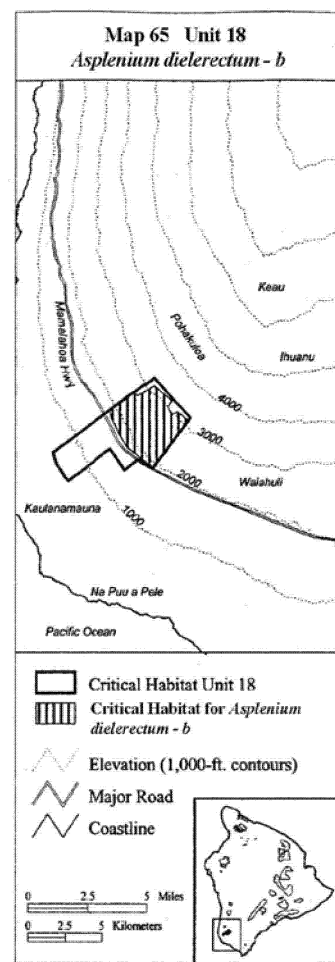
(62) \* \* \*

(ii) Note: Map 62 follows:



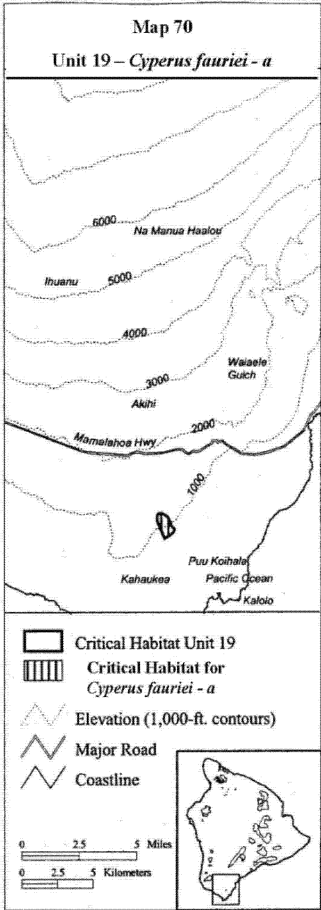
(65) \* \* \*

(ii) Note: Map 65 follows:



(70) \* \* \*

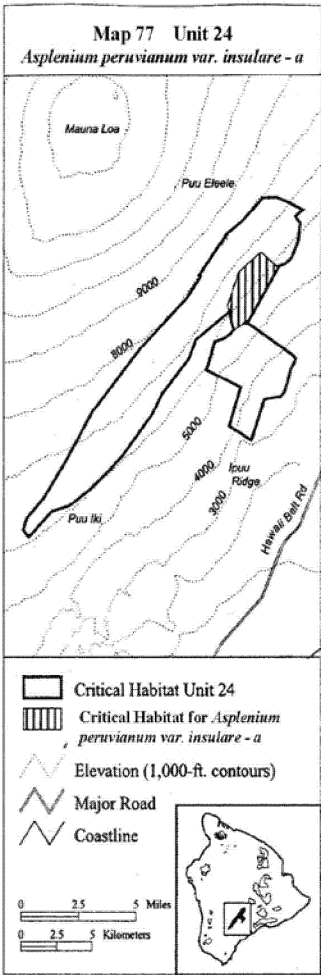
(ii) Note: Map 70 follows:



\* \* \* \*

(77) \* \* \*

(ii) Note: Map 77 follows:



\* \* \* \*

Dated: February 19, 2016.

**Michael J. Bean,**  
*Principal Deputy Assistant Secretary for Fish and Wildlife and Parks.*

[FR Doc. 2016–06069 Filed 3–29–16; 8:45 am]

**BILLING CODE 4333–15–P**



# FEDERAL REGISTER

---

Vol. 81                      Wednesday,  
No. 61                      March 30, 2016

Book 2 of 2 Books

Pages 18111–18446

---

Part III

## Department of the Interior

---

Bureau of Ocean Energy Management

30 CFR Parts 550, 556, 559, et al.

Leasing of Sulfur or Oil and Gas in the Outer Continental Shelf; Final  
Rule

**DEPARTMENT OF THE INTERIOR****Bureau of Ocean Energy Management****30 CFR Parts 550, 556, 559 and 560**

RIN 1010-AD06

[Docket ID: MMS-2007-OMM-0069]

**Leasing of Sulfur or Oil and Gas in the Outer Continental Shelf****AGENCY:** Bureau of Ocean Energy Management (BOEM), Interior.**ACTION:** Final rule.

**SUMMARY:** This final rule updates and streamlines the existing Outer Continental Shelf (OCS) leasing regulations and clarifies implementation of the Federal Oil and Gas Royalty Simplification and Fairness Act of 1996, which amended the Federal Oil and Gas Royalty Management Act of 1982 (FOGRMA). The final rule reorganizes leasing requirements to more effectively communicate the leasing process as it has evolved over the years. The final rule makes changes to regulations which relate to the oil, gas, and sulfur leasing requirements. The final rule does not, however, include substantive changes to regulations which relate to bonding, which will be the subject of a separate new proposed rulemaking.

**DATES:** This final rule will become effective May 31, 2016.

**FOR FURTHER INFORMATION CONTACT:**

Peter Meffert, Senior Regulatory Specialist, Office of Policy, Regulations and Analysis, Bureau of Ocean Energy Management, at [regulation1@boem.gov](mailto:regulation1@boem.gov), at 703-787-1610, or Jaron Ming, Regional Supervisor, Office of Leasing and Plans, Gulf of Mexico Region, Bureau of Ocean Energy Management, at [jaron.ming@boem.gov](mailto:jaron.ming@boem.gov), at 504-736-2761, or David Diamond, Chief, Leasing Division, Bureau of Ocean Energy Management, at [david.diamond@boem.gov](mailto:david.diamond@boem.gov), at (703) 787-1251.

**SUPPLEMENTARY INFORMATION:****Table of Contents****I. Executive Summary****A. Background****1. Why We Need to Publish a Rule****2. What is covered by the rule?****B. Abbreviations of Terms and Acronyms****C. Final Rule as Adopted and Response to Comments****1. Availability of Public Comments****2. Effects of the Reorganization of MMS Into Three Distinct Agencies****3. Definitions****4. Delayed Provisions****5. Other Editorial Improvements****II. Derivation Tables****A. Derivation Table for 30 CFR part 550 ("Oil and Gas and Sulfur Operations in the Outer Continental Shelf")****B. Derivation Table for 30 CFR part 556 ("Leasing of Sulfur or Oil and Gas and Bonding Requirements in the Outer Continental Shelf")****C. Derivation Table for 30 CFR part 560 ("Outer Continental Shelf Oil and Gas Leasing")****III. Section-by-Section Analysis of the Final Rulemaking****A. Part 550—Oil and Gas and Sulfur Operations in the Outer Continental Shelf****1. Subpart A—General Provisions****2. Subpart D—Leasing Maps and Diagrams****B. Part 556—Leasing of Sulfur or Oil and Gas and Bonding Requirements in the Outer Continental Shelf****1. The Table of Contents for Part 556****2. Subpart A—General Provisions****3. Subpart B—Oil and Gas Five Year Leasing Program****4. Subpart C—Planning and Holding a Lease Sale****5. Subpart D—Qualifications****6. Subpart E—Issuance of a Lease****7. Subpart F—Lease Term and Obligations****8. Commentary on Subparts G & H—Transferring Interests in a Lease****9. Subpart G—Transferring All or Part of a Record Title Interest in a Lease****10. Subpart H—Transferring All or Part of the Operating Rights in a Lease****11. Subpart I—Bonding or Other Financial Assurance****12. Subpart J—Bonus or Royalty Credits for Exchange of Certain Leases****13. Subpart K—Ending a Lease****14. Subpart L—Leases Maintained Under Section 6 of OCSLA****15. Subpart M—Environmental Studies****C. Part 559—Mineral Leasing: Definitions****D. Part 560—Outer Continental Shelf Oil and Gas Leasing****1. Subpart A—General Provisions****2. Subpart B—Bidding Systems****3. Subpart C—Operating Allowances****4. Subpart D—Joint Bidding****5. Subpart E—Electronic Filings****IV. Table of Comments and Responses****A. General Comments****B. Section-Specific Comments****V. Legal and Regulatory Analyses****A. Statutes and Executive Orders****1. Improving Regulation and Regulatory Review (Executive Order (E.O. 13563)****2. Regulatory Planning and Review (E.O. 12866)****3. Regulatory Flexibility Act****4. Small Business Regulatory Enforcement Fairness Act (SBREFA)****5. Comments from Small Businesses****6. Unfunded Mandates Reform Act****7. Takings Implication Assessment (E.O. 12630)****8. Federalism (E.O. 13132)****9. Civil Justice Reform (E.O. 12988)****10. Consultation with Indian Tribal Governments (E.O. 13175)****11. Paperwork Reduction Act (PRA)****12. Other Changes in the Information Collection (IC) Between the Proposed and Final Rules****13. Burden Breakdown Table****14. National Environmental Policy Act of 1969****15. Data Quality Act****16. Effects on the Energy Supply (E.O. 13211)****List of Subjects****I. Executive Summary****A. Background**

On May 27, 2009, the Minerals Management Service (MMS) published a proposed rule (Notice of Proposed Rulemaking or NPRM) in the **Federal Register** entitled, "Leasing of Sulphur or Oil and Gas and Bonding Requirements in the Outer Continental Shelf" (74 FR 25177, May 27, 2009). Since that time, the MMS was renamed the Bureau of Ocean Energy Management, Regulation, and Enforcement (BOEMRE) and then was reorganized and divided into three separate bureaus—the Bureau of Ocean Energy Management (BOEM), the Bureau of Safety and Environmental Enforcement (BSEE) and the Office of Natural Resources Revenue (ONRR). The leasing program is under the authority of BOEM, whose regulations reside in 30 CFR Chapter V.

**1. Why We Need to Publish a Rule**

This final rule reorganizes and reorders the parts of the BOEM regulations concerning leasing, adds new sections to standardize or clarify practices in all three BOEM OCS regional offices, and eliminates redundant or otherwise unnecessary text. The final rule also includes regulatory provisions which, during the division of BOEMRE, were inadvertently assigned to an agency other than BOEM, but have proven necessary for BOEM's use and are therefore added back into these regulations. (In this Preamble, the BOEMRE regulations, as they existed before BOEMRE was divided into BOEM, BSEE, and ONRR, are sometimes referred to as the "pre-split regulations.")

Additionally, this final rule also updates and clarifies processes required by legislation enacted since BOEM's regulations were last amended, such as those required by the Federal Oil and Gas Royalty Simplification and Fairness Act of 1996, which amended FOGRMA, or by more recently promulgated regulations, such as the Department of the Interior's (Department or DOI) non-procurement debarment rules. The final rule also includes changes that will assist BOEM in meeting its stewardship responsibilities and performing its role as a responsible regulator.

**2. What is covered by the rule?**

This final rule revises sections of the regulations at 30 CFR parts 550, "Oil and Gas and Sulfur Operations in the Outer Continental Shelf," 556, "Leasing

of Sulfur or Oil and Gas in the Outer Continental Shelf,” 559, “Mineral Leasing: Definitions,” and 560, “Outer Continental Shelf Oil and Gas Leasing.”

The changes made in part 550, “Oil and Gas and Sulfur Operations in the Outer Continental Shelf” and those made in part 560, “Outer Continental Shelf Oil and Gas Leasing,” relate primarily to simplifying and clarifying the regulatory language, as well as creating new, and re-establishing pre-split, regulations that had been inadvertently deleted when the former BOEMRE was divided into three new agencies. For example, in October 2010 (as part of the direct final rule RIN 1010-AD70, *Reorganization of Title 30, Code of Federal Regulations* (75 FR 61051, October 4, 2010)), during the first split of the BOEMRE regulations, a regulation related to operating allowances was inadvertently deleted from the BOEM regulations and included only in the ONRR regulations. In order for ONRR’s operating allowance regulations to be effective, however, they must have counterpart provisions in the BOEM regulations. The operating allowance regulation is re-established in BOEM’s regulations by this final rule.

Most of the final rule consists of revisions to part 556. Part 556 includes regulations pertaining to: (1) The oil and gas leasing program; (2) preparing for a lease sale; (3) issuing, maintaining, transferring, and terminating a lease; and (4) bonding requirements. As explained in greater detail below, the final rule addresses the first three components, but the fourth component, bonding, is not addressed in this final rule, except to make minor editorial and conforming changes. Bonding and financial assurance will be further addressed in future rulemakings.

#### *B. Abbreviations of Terms and Acronyms*

The following are abbreviations of terms used in the preamble:

API American Petroleum Institute  
 ASTM American Society for Testing and Materials  
 BAST Best Available and Safest Technology  
 BOEM Bureau of Ocean Energy Management  
 BOEMRE Bureau of Ocean Energy Management, Regulation, and Enforcement  
 BSEE Bureau of Safety and Environmental Enforcement  
 CFR Code of Federal Regulations  
 CID Conservation Information Document  
 CPA Central Planning Area of the GOM  
 CZMA Coastal Zone Management Act  
 DOI Department of the Interior  
 DOCD Development Operations Coordination Document  
 DOO Designation of Operator

DPP Development and Production Plan  
 EIA Environmental Impact Analysis  
 EO Executive Order  
 EP Exploration Plan  
 EPA Eastern Planning Area of the GOM  
 EPCA Energy Policy Act of 2005  
 ESIGN Electronic Signatures in Global and National Commerce Act of 2000  
 FNOS Final Notice of Sale  
 FOGSMA Federal Oil and Gas Royalty Management Act of 1982  
 FOGSFA Federal Oil and Gas Royalty Simplification and Fairness Act of 1996  
 FR Federal Register  
 G&G Geological and Geophysical  
 GDIS Geophysical Data and Information Statement  
 GOM Gulf of Mexico  
 GOMESA Gulf of Mexico Energy Security Act of 2006  
 GPEA Government Paperwork Elimination Act of 1998  
 H<sub>2</sub>S Hydrogen sulfide  
 IC Information Collection  
 IOAA Independent Offices Appropriations Act of 1952  
 LLC Limited Liability Company  
 MBB Mapping and Boundary Branch  
 MMS Minerals Management Service  
 MSL Mean Sea Level  
 NAD North American Datum  
 NAICS North American Industry Classification System  
 NEPA National Environmental Policy Act of 1969  
 NGPA Natural Gas Processors Association  
 NOAA National Oceanic and Atmospheric Administration  
 NPR Notice of Proposed Rulemaking  
 NTL Notice to Lessees  
 OCS Outer Continental Shelf  
 OCSLA Outer Continental Shelf Lands Act  
 OMB Office of Management and Budget  
 ONRR Office of Natural Resources Revenue  
 OPD Official Protraction Diagram  
 PDP Proved Developed Producing (reserves)  
 PNOS Proposed Notice of Sale  
 PRA Paperwork Reduction Act  
 PSI Pounds Per Square inch  
 RFA Regulatory Flexibility Act of 1980  
 ROW Right of Way  
 RSV Royalty Suspension Volume  
 RUE Right of Use and Easement  
 SBA Small Business Administration  
 SBREFA Small Business Regulatory Enforcement Fairness Act of 1996  
 SEC Securities and Exchange Commission  
 SLA Submerged Lands Act of 1953  
 US United States  
 U.S.C. United States Code  
 USCG U.S. Coast Guard  
 USEPA U.S. Environmental Protection Agency  
 UTM Universal Transverse Mercator Coordinate System  
 WPA Western Planning Area of the GOM

#### *C. Final Rule as Adopted and Response to Comments*

On May 27, 2009, BOEM published a proposed rule entitled, “Leasing of Sulphur or Oil and Gas and Bonding Requirements in the Outer Continental Shelf” (74 FR 25177). In the six years since the proposed regulation was

published, several developments have brought about the need for the final rule to appear different from the proposed rulemaking. The organization of the final rule is structured differently from that of the proposed rule to make the regulations easier for the public to read and follow. The major reasons for the other differences between the proposed rule and the final rule are explained below:

##### 1. Availability of Public Comments

BOEM received a total of eight comments from the American Petroleum Institute (API), Shell Oil Company, Chevron Oil Company, Anglo Suisse, Dynamic Offshore Resources, RLI Insurance Company, and two citizens, who commented to show their support of OCS leasing and the oil and gas program. Each comment was considered and some resulted in changes to the proposed rule. BOEM’s responses are addressed in this Preamble.

All comments can be viewed at [www.BOEM.gov](http://www.BOEM.gov) under the Regulations section and at [www.regulations.gov](http://www.regulations.gov).

##### 2. Effects of the Reorganization of MMS Into Three Distinct Agencies

###### Background

On May 19, 2010, the Secretary signed Secretarial Order 3299 directing the split of MMS into three new bureaus, BOEM, BSEE, and ONRR. This split was accomplished in two phases. In 2010 MMS was split into two agencies, ONRR and BOEMRE. In 2011 BOEMRE was itself split into two agencies, BOEM and BSEE.

Prior to October 4, 2010, the regulations of BOEM, BSEE, and ONRR were contained in one set of regulations (“pre-split” regulations), which were issued by the MMS. On October 4, 2010, MMS published a final rule in the **Federal Register** (75 FR 61051), moving its regulations related to its royalty and revenue functions from MMS to ONRR and creating a new chapter XII. The name of the remaining organization was changed from the MMS to BOEMRE. On October 18, 2011, DOI published a final rule (76 FR 64432) splitting BOEMRE regulations into separate BOEM and BSEE chapters. Pursuant to that split, BOEM is responsible for the resource evaluation, planning, and leasing functions for offshore oil and gas. BSEE is primarily responsible for the safety and environmental enforcement of offshore oil and gas development activities. BOEM’s regulations were recodified into 30 CFR Chapter V. BSEE’s regulations remained in 30 CFR Chapter II.

## Assignment and Retention of Regulations

As time has passed, it has come to light that some regulations were incorrectly assigned during the split. For example, some of the regulatory provisions assigned to BSEE or ONRR have proven necessary for BOEM. Regulatory provisions that fall into this category have been included in the final rulemaking, as explained in this Preamble. Because of the reorganization of the former MMS, some provisions of the proposed rule are now outside the scope of BOEM's responsibilities and are not included in this final rule.

In addition, there are some regulatory provisions that appear in this final rulemaking that did not appear in the proposed rule. These regulatory provisions are not "substantively new," however. They appeared in the former MMS regulations. The Final Rule also differs from the Proposed Rule in that the Final Rule retains certain provisions that the Proposed Rule suggested deleting. Instances of retention of prior sections of the regulations are also discussed in this Preamble.

## Administrative Changes

There are some wholly administrative changes from the proposed rule that appear in the final rule. These changes were also primarily necessitated by the division of MMS into three separate agencies. For example, the BOEM regulations are now found in a different chapter of Title 30 of the Code of Federal Regulations (CFR) than the chapter in which the BOEMRE regulations were found. Before the BOEMRE regulations were divided into two sets of independent agency regulations, they were all contained in Chapter II of Title 30 of the CFR, within parts 203 through 291. This means that the first digit in the section number of each individual provision was a "2." After the division of the regulations, all BSEE regulations remained in Chapter II, and thus retained the first digit "2." And, because the proposed rule was published before the agency split, its provisions also begin with a "2." After the division, however, the BOEM regulations were moved into Chapter V. Thus, although the proposed rule provisions each began with a "2," all final BOEM rule provisions begin with a "5." Also, in the final rule, internal citations to section numbers were changed to maintain correct and consistent cross-references, and sections were re-numbered to maintain internal numerical order. Whenever appropriate, references to "MMS" from the proposed rule have been changed to "BOEM" in

the final rule. These administrative changes have no effect on the substance of the regulations, and therefore do not require notice and comment, but they do make the regulations clearer, more consistent, and easier to use.

## Removed Provisions

The proposed rule would have added a new "expenses . . . with supporting documentation" reporting requirement to the then-BOEMRE, now-BSEE regulatory sections 250.1717, 250.1729, and 250.1743. Section 250.1717 addresses the information that must be submitted after well plugging and abandonment. Section 250.1729 addresses the information that must be submitted after removal of a platform or other facility, and section 250.1743 addresses the information that must be submitted after site clearance. The proposed rule added new requirements concerning the submittal of information on the costs of decommissioning.

When BOEMRE was divided into two agencies, the operational aspects of decommissioning were placed within BSEE's rather than BOEM's purview. In the final rulemaking, therefore, BOEM decided to remove the three provisions proposing revisions to sections 250.1717, 250.1729, and 250.1743, as BSEE finalized the rule addressing the submittal of information on the costs of decommissioning in their rule entitled "Oil and Gas and Sulphur Operations in the Outer Continental Shelf; Decommissioning Costs," RIN 1014-AA24, published in the **Federal Register** on December 4, 2015.

The other proposed provision that was removed from the final rule was proposed rule section 256.621, concerning the submission of reports about lease term pipelines when requesting BOEM's approval of a lease assignment. As with decommissioning, BSEE has been tasked with the administration of the operational aspects of pipelines on the OCS; therefore, the submission of reports on lease term pipelines is within BSEE's jurisdiction. BSEE has proposed to address the submission of reports concerning lease term pipelines in a rule entitled "Pipelines and Pipeline Right-of-Way Safety," RIN 1014-AA27.

## 3. Definitions

Several definitions have been added in the final rulemaking that did not appear in the proposed rulemaking to clarify the meaning of terms used in the regulations. In each case, the term either was defined in the BOEMRE regulations or its definition is apparent from the context of the prior regulatory language.

## 4. Delayed Provisions

The proposed rule included a subpart E, "Financial Accountability and Risk Management," which contained provisions addressing requirements for general and additional bonding, surety, and third-party indemnity. After the proposed rule was published, BOEM identified possible conflicts between the proposed rule's use/definitions of certain terms and their use/definitions within BOEM's oil spill financial responsibility regulations (30 CFR part 553). Also, after publication of the proposed rule, BOEM began a process of reassessing its bonding and financial assurance policies, leading to a decision to publish this final rule with the text of existing subpart I (Bonding), with only limited conforming changes. This decision will enable BOEM and the regulated public to continue to rely on the existing financial assurance regulations until BOEM is ready to make necessary changes to its policies and to propose and seek comment on separate new regulations specific to bonding and financial assurance to implement these new policies.

## 5. Other Editorial Improvements

A consistent change that was made in the final rule was to add, where appropriate, the word "final" before the phrase "notice of sale." Another change is eliminating any references to "Associate Director," since there are no longer any Associate Directors in BOEM. The word "sulphur" has been replaced with a more contemporary spelling of "sulfur." All cross-references and section numbers within this final rule have been updated.

## II. Derivation Tables

The following derivation tables describe the source(s) of the regulations in the final rule relative to those in the prior regulations and/or those in the proposed rule. These tables are intended only to provide cross-references to the other materials. The section-by-section analysis that follows these derivation tables provides a detailed explanation of the changes made with this final rule.

Most sections of the final rule reflect content from the proposed rule, however, in some cases, the organization of the regulations and the final section numbers have changed since the rule was proposed. The derivation tables compare the location of the various rule sections in the final rule to the prior section numbers in the prior regulations that have been modified and the corresponding section numbers from the proposed rule, if appropriate.



*A. Derivation Table for 30 CFR part  
550—Oil and Gas and Sulfur  
Operations in the Outer Continental  
Shelf*

Final rule section	Prior regulation that the final rule would modify for replace	Corresponding section number from the proposal (if any)
Subpart A—General Provisions		
PERFORMANCE STANDARDS:		
550.120—This section provides that BOEM will regulate activities under a lease, right-of-use and easement, or right-of-way, to promote the orderly exploration, development, and production of mineral resources, while preventing waste, protecting the environment and ensuring cooperation with other government agencies.	None .....	This section was in the regulations before the split of MMS into three different agencies and has been reinserted for consistency.
550.121—This section provides that BOEM may require additional measures to ensure the use of Best Available and Safest Technology (BAST) as identified by BSEE to avoid the failure of equipment that would have a significant effect on health, safety, property or the environment when economically feasible.	None .....	This section was in the regulations before the split of MMS into three different agencies and has been reinserted for consistency.
INFORMATION AND REPORTING REQUIREMENTS:		
550.197(b)—This subsection provides that BOEM will generally release geological data and analyzed geological information two years after the required submittal date for such information or 60 days after a lease sale.	550.197(b) .....	Section 256.100(b).
550.197(c)—This subsection provides that BOEM will generally release geological data and analyzed geological information to individuals with a need to know that agree to maintain the confidentiality of the relevant information.	550.197(c) .....	Section 256.100(b).
550.197(d)—This section provides, in accordance with section 26 of OCSLA, that no proprietary information received by BOEM will be transmitted to any affected State unless the lessee, or the permittee and all persons to whom such permittee has sold such information under promise of confidentiality, agree to such transmittal.	None .....	New provision required to conform the regulations to the Outer Continental Shelf Lands Act (OCSLA) (43 U.S.C. 1352(c)).
Subpart D—Leasing Maps and Diagrams		
550.400—This section provides that any area of the OCS, which has been appropriately platted, may be leased for any mineral not included in an existing lease issued under the Act or meeting the requirements of subsection (a) of section 6 of the Act.	556.8 .....	New subpart. Section 256.202(a).

*B. Derivation Table for 30 CFR Part  
556—Leasing of Sulfur or Oil and Gas  
and Bonding Requirements in the Outer  
Continental Shelf*

Final rule section	Prior regulation that the final rule would modify or replace	Corresponding section number from the proposal (if any)
Subpart A—General Provisions		
556.100—This section states that management of Outer Continental Shelf (OCS) resources is to be conducted in accordance with the findings, purposes, and policy directions provided by the Outer Continental Shelf Lands Act.	556.2 .....	None.
556.101—This section sets forth the purpose of the regulations in this part.	556.1 .....	Section 256.102.
556.102—This section lists the statutory authorities for this part ...	556.4 .....	Undesignated authority section.
556.103—This section lists related regulations .....	556.7 .....	None.
556.104—This section provides the legal basis for BOEM's collection of information in connection with the administration of its OCS oil, gas and sulfur leasing program and describes how BOEM will handle and maintain proprietary information.	556.0, 556.10 .....	Section 256.100.
556.104(c)—This subsection describes BOEM's treatment of proprietary information received in response to a Call for Information and Nominations.	556.10(a) .....	Section 256.100(b).
556.105—This section provides definitions for key terms used throughout this part of the regulations.	556.5, 556.40 .....	Section 256.103.
556.106—This section identifies administrative fees that BOEM requires for various services.	556.63 .....	Section 256.104.

Final rule section	Prior regulation that the final rule would modify or replace	Corresponding section number from the proposal (if any)
556.107—This section sets forth an alternative procedure, to avoid the use of a corporate seal, for those electronic document submissions for which a corporate seal is otherwise required by these regulations.	556.46, 556.54, 556.95 .....	None.
Subpart B—Oil and Gas Five-Year Leasing Program		
556.200—This section reiterates those key provisions of OCSLA that require the Secretary to prepare an oil and gas leasing program that consists of a five-year schedule of proposed lease sales.	None .....	Section 256.200.
556.201—This section reiterates the OCSLA requirement that BOEM consider multiple uses of the OCS in its development of the Five-Year oil and gas leasing program.	None .....	New provision based on 43 U.S.C. 1344(a)(2)(D).
556.202—This section sets forth the steps BOEM takes in initiating the Five-Year program.	556.16 .....	Section 256.202.
556.203—This section provides that BOEM will invite comments from governors on a draft proposed program at least 60-days before it publishes a proposed Five-Year program.	556.17(a) .....	Section 256.203.
556.204—This section states the procedures to be followed to obtain inter-governmental and citizens' comments on the proposed Five-Year program.	556.17(b) .....	Section 256.204.
556.205—This section provides that the Secretary must provide a copy of the proposed Five-Year Program, or any significant revision thereto, to Congress and the President at least 60-days before approving it.	556.17(c) .....	Section 256.205.
Subpart C—Planning and Holding a Lease Sale		
556.300—This section provides that BOEM will prepare a report describing the general geology and potential mineral resources of the area under consideration for a sale.	556.22 .....	None.
556.301—This section outlines the process BOEM uses to collect information to inform its determination as to which areas should be made available for leasing.	556.23 .....	Section 256.300.
556.302—This section explains the process used to arrive at the Area ID.	556.26, 556.10 .....	Section 256.301.
556.303—This section sets forth the information that BOEM will provide to a State when an area proposed for leasing lies within three nautical miles of the seaward boundary of that State.	556.10, 556.25 .....	Section 256.302.
556.304—This section describes the process utilized to prepare a proposed notice of sale.	556.29 .....	Section 256.303.
556.305—This section outlines the process by which BOEM coordinates with affected States following the proposed notice of sale.	556.29, 556.31 .....	Section 256.304.
556.306—This section provides a process for resolving issues or disputes that may arise between a State and the Federal government when a hydrocarbon-bearing area underlies both the Federal OCS and State submerged lands.	556.25(b)–(d) .....	None. Added for consistency with OCSLA section 8(g)(3), as amended in 1986 (43 U.S.C. 1337 (8)(g)(3)).
556.307—This section provides a description of the process that BOEM will use to evaluate comments and recommendations of governors and local governments.	556.31 .....	Section 256.305.
556.308—This section sets forth BOEM's procedures for conducting a lease sale.	556.28, 556.32 .....	Section 256.306.
556.309—This section sets forth BOEM's procedures for conducting a Supplemental Sale.	556.12 .....	Section 256.206.
Subpart D—Qualifications		
QUALIFICATIONS:		
556.400—This section provides that, in order to bid on, own, hold, or operate a lease on the OCS, bidders, record title holders, and operating rights owners must first obtain a qualification number from BOEM.	556.35 .....	Section 256.400.
556.401—This section outlines BOEM's requirements for a prospective lessee to become a qualified bidder.	556.35, 556.46 .....	Section 256.400.
556.402—This section describes the types of evidence that BOEM will require in order to qualify a person to hold leases on the OCS.	556.35 .....	Section 256.401.
556.403—This section describes the circumstances under which a person may be excluded or disqualified from holding a lease on the OCS.	556.35(c), 556.46(h) .....	Section 256.402.
556.404—This section details how to comply with the Department's non-procurement debarment rules.	None .....	Section 256.403.
556.405—This section provides that lessees must notify BOEM of any merger, name change, or change of business form as soon as practicable, but in no case later than one year after the change or action.	585.109 .....	Section 256.404.

Final rule section	Prior regulation that the final rule would modify or replace	Corresponding section number from the proposal (if any)
Subpart E—Issuance of a Lease		
HOW TO BID:		
556.500—This section sets forth the procedures for submitting a bid at a lease sale.	556.46(a)–(b) .....	Section 256.410.
556.501—This section explains what geological and geophysical information must be submitted with a bid at a lease sale.	551.11, 551.12, 580.51 .....	None.
RESTRICTIONS ON JOINT BIDDING:		
556.511—This section prohibits joint bidding by major oil and gas producers under certain circumstances.	556.41 .....	Section 256.411.
556.512—This section provides the circumstances under which a bid for an oil and gas lease will be disqualified and/or rejected.	556.44 .....	Section 256.402.
556.513—This section explains the circumstances under which a lessee must prepare and send to BOEM a statement describing its oil and gas production and what the statement is to contain.	556.40 .....	Section 256.412.
556.514—This section details what production must be counted when determining whether a company should be considered a “restricted bidder”.	556.40, 556.43 .....	Section 256.413.
556.515—This section provides the circumstances under which a person may be exempted from joint bidding restrictions.	556.41(d) .....	Section 256.414.
HOW DOES BOEM ACT ON BIDS:		
556.516—This section outlines the procedures BOEM will follow when reviewing bids received for leases on the OCS and when handling tie bids.	556.47 .....	Section 256.416.
556.517—This section describes the reconsideration procedures that apply in the event that BOEM rejects a high bid.	556.47(e)(1)–(e)(3) .....	Section 256.417.
AWARDING THE LEASE:		
556.520—This section describes the steps involved in the lease award process.	556.47 .....	Section 256.420.
556.521—This section explains when a lease becomes effective ..	556.50 .....	Section 256.421.
556.522—This section provides that the terms and conditions of the lease will be stated in the final notice of sale, as well as in the lease instrument itself.	556.49 .....	Section 256.306(a)(2).
Subpart F—Lease Term and Obligations		
LENGTH OF LEASE:		
556.600—This section sets forth the primary term of an oil and gas lease.	556.37(a)–(b) .....	Section 256.600.
556.601—This section sets forth the methods by which a lessee may maintain its oil and gas lease beyond the primary term.	556.37(a)–(b), 556.70, 556.71, 556.72. ....	Section 256.601.
556.602—This section sets forth the primary term of a sulfur lease.	556.37(c) .....	Section 256.602.
556.603—This section sets forth the methods by which a lessee may maintain its sulfur lease beyond the primary term.	556.37(c) .....	Section 256.603.
LEASE OBLIGATIONS:		
556.604—This section outlines the rights and obligations of a record title holder of an OCS lease.	550.146, 556.62, 556.64 ....	Sections 256.605 and 256.612.
556.605—This section outlines the rights and obligations of an operating rights owner of an OCS lease.	550.146, 556.62, 556.64 ....	Sections 256.606 and 256.612.
HELIUM:		
556.606—This section provides that BOEM reserves the ownership of, and the right to extract, helium from all gas produced from an OCS lease, and describes what BOEM will do if it requests you to deliver helium from operations associated with a lease.	556.11 .....	Section 256.630.
Subpart G—Transferring All or Part of the Record Title Interest in a Lease		
556.700—This section describes how a company may apply for approval to assign its whole, or a partial, record title interest in its lease, or in any aliquot(s) thereof, or to sublease operating rights.	556.62, 556.64 .....	Sections 256.610, 256.611, and 256.612.
556.701—This section describes the process for obtaining BOEM approval of an assignment of a record title or operating rights interest in an OCS lease.	556.62(a), 556.65 .....	Section 256.611.
556.702—This section describes when an assignment will result in a segregated ( <i>i.e.</i> , new) lease.	556.68 .....	Section 256.613(a)(2).
556.703—This section addresses the effects of a lease segregation.	556.68 .....	Section 256.613(a)(2).
556.704—This section sets forth the circumstances under which BOEM would disapprove an assignment or sublease.	556.62, 556.64 .....	Section 256.611.
556.705—This section outlines the procedures to follow to transfer an interest in an OCS lease from a deceased natural person.	556.64(e)–(g) .....	Section 256.614.
556.706—This section outlines the process for transferring record title interests in more than one lease to different parties.	None .....	Section 256.615.

Final rule section	Prior regulation that the final rule would modify or replace	Corresponding section number from the proposal (if any)
556.707—This section outlines the process for transferring different types of interests in a lease to different parties.	556.67 .....	Section 256.615.
556.708—This section outlines the process for transferring record title interests in more than one lease to the same party.	556.64(a)(8), 556.67 .....	Section 256.615.
556.709—This section outlines the process for transferring the record title interest in one lease to more than one party.	556.64 .....	Section 256.616.
556.710—This section sets forth the effect of an assignment of record title on an assignor's liability under the lease.	556.64 .....	Section 256.616.
556.711—This section provides that a record title holder who subleases operating rights remains liable for later accruing obligations of the lease, but is only secondarily liable for monetary obligations accruing thereafter.	556.64 .....	Section 256.616.
556.712—This section describes the effective legal date of the transfer of a record title interest in a lease.	556.62(c) .....	Section 256.617.
556.713—This section sets forth the effect of an assignment of record title on an assignee's liability under the lease.	556.62(e) .....	Section 256.618.
556.714—This section describes procedures to be used in assignments between those on the restricted joint bidders list.	556.64(i) .....	Section 256.619.
556.715—This section provides that a lessee may create, transfer, or assign an economic interest in a lease without BOEM approval, but that such transferor must send BOEM a copy of each instrument creating or transferring such a lease interest within 90 days after the last party executes the transfer instrument.	556.64(a)(7) .....	Section 256.620.
556.716—This section provides the circumstances under which the transfer of a record title interest triggers the need to file a new designation of operator form with BOEM.	550.143 .....	Section 256.611.
Subpart H—Transferring All or Part of the Operating Rights in a Lease		
556.800—This section provides that an operating rights owner may assign all or part of its operating rights interests, subject to BOEM approval.	556.62, 556.64 .....	Section 256.612.
556.801—This section describes the process by which an assignor of operating rights must obtain approval of such an assignment.	550.143, 556.64 .....	Section 256.613.
556.802—This section sets forth the circumstances under which BOEM may disapprove an assignment of operating rights.	556.62 .....	Section 256.611.
556.803—This section addresses the assignment of operating rights interests in more than one lease to different parties.	556.67 .....	Section 256.615.
556.804—This section addresses the assignment of operating rights interests in one lease to more than one party.	556.64(a)(8) .....	Section 256.615.
556.805—This section sets forth the effect of an assignment of operating rights on an assignor's liability under the lease.	556.62(d) .....	Section 256.616.
556.806—This section describes the effective legal date of the transfer of an operating rights interest in a lease.	556.62(c) .....	Section 256.617.
556.807—This section sets forth the effect of an assignment of operating rights on an assignee's liability under the lease.	556.62, 556.64 .....	Section 256.618.
556.808—This section provides that an operating rights owner may create, transfer, or assign economic interests without BOEM approval, but that for record keeping purposes, the operating rights owner must send BOEM a copy of each instrument creating or transferring such interests within 90 days after the last party executes the transfer instrument.	556.64(a)(7) .....	Section 256.620.
556.809 .....	Reserved .....	None.
556.810—This section provides the circumstances under which the transfer of an operating rights interest triggers the need to file a new designation of operator form with BOEM.	550.143, 556.62 .....	Section 256.611.
Subpart I—Bonding or Other Financial Assurance		
556.900—This section sets forth general bonding/financial assurance requirements for OCS leases.	556.52 .....	Sections 256.500, 256.502, 256.510, and 256.521.
556.901—This section sets forth additional bonding/financial assurance requirements for OCS leases.	556.53 .....	Sections 256. 501 and 256.510.
556.902—This section sets forth the requirements which a bond or other security must meet.	556.54 .....	Sections 256.502 and 256.503.
556.903—This section sets forth what must be done if a bond lapses.	556.55 .....	Section 256.520.
556.904—This section sets forth the procedures for establishing lease abandonment accounts as a method of financial assurance.	556.56 .....	Section 256.512.
556.905—This section sets forth the procedures for using a third-party guarantee as a method of financial assurance.	556.57 .....	Section 256.511.
556.906—This section sets forth the procedures for terminating the period of liability of, and cancelling, a bond.	556.58 .....	Section 256.522 and 256.523.

Final rule section	Prior regulation that the final rule would modify or replace	Corresponding section number from the proposal (if any)
556.907—This section sets forth the procedures for forfeiting a bond or other security.	556.59 .....	Sections 256.524, 256.525, and 256.526.
Subpart J—Bonus or Royalty Credits for Exchange of Certain Leases		
556.1000—This section sets forth the deadline for applying for certain bonus or royalty credits which had been available under the Gulf of Mexico Energy Security Act of 2006 (GOMESA) (43 U.S.C. 1331 note).	556.90–556.95 .....	Sections 256.900–256.905.
Subpart K—Ending a Lease		
556.1100—This section provides the circumstances under which a lease will expire at the end of its primary term.	556.37(b)–(c) .....	Section 256.700.
556.1101—This section sets forth the procedures to follow for relinquishment of a lease.	556.76 .....	Section 256.701.
556.1102—This section provides the circumstances under which BOEM may cancel or void a producing or a non-producing OCS lease.	556.77 .....	Section 256.702.
Subpart L—Leases Maintained Under Section 6 of OCSLA		
556.1200—This section explains the relationship between BOEM's regulations and leases maintained under section 6 of OCSLA.	556.79 .....	None.
556.1201—This section states that the existence of a lease for other minerals under section 6 of OCSLA in an area does not preclude the issuance of other leases in the same area.	556.80 .....	None.
Subpart M—Environmental Studies		
556.1300—This section provides that BOEM will conduct studies of any area or region included in any oil and gas lease sale, as needed, to assess and manage impacts on the human, marine and coastal environments which may be affected by OCS oil and gas or other mineral activities in such area or region.	556.82 .....	None.

## DERIVATION TABLE FOR 30 CFR PART 560—OUTER CONTINENTAL SHELF OIL AND GAS LEASING

Final rule section	Prior regulation that the final rule would modify or replace	Corresponding section number from the proposal (if any)
<b>Subpart A—General Provisions</b>		
560.100—This section describes the authorities applicable to this part.	Undesignated authority section.	Undesignated authority section.
560.101—This section describes the purpose of this part .....	560.1 .....	None.
560.102—This section sets forth the definitions applicable to this part.	559.001—559.002, 560.2 ....	None.
560.103—This section describes BOEM's information collection authority.	560.3 .....	None.
<b>Subpart B—Bidding Systems</b>		
<b>GENERAL PROVISIONS:</b>		
560.200—This section describes the purpose of this subpart .....	560.101 .....	None.
560.201—This section sets forth the definitions applicable to this subpart.	560.102 .....	None.
560.202—This section describes the bidding systems that BOEM may utilize.	560.110 .....	None.
560.203—This section describes the terms and conditions that would apply, depending on the bidding systems that BOEM utilizes.	560.111 .....	None.
<b>ELIGIBLE LEASES:</b>		
560.210—This section describes how royalty suspension volumes could apply to a lease.	560.112 .....	None.
560.211—This section describes when a lease may qualify for royalty suspensions.	560.113 .....	None.
560.212—This section describes how BOEM would assign royalty suspension volumes for eligible leases.	560.114 .....	None.
560.213—This section specifies how long royalty suspension volumes may be effective to eligible leases.	560.115 .....	None.
560.214—This section describes how a lessee should measure the natural gas production on an eligible lease, subject to the royalty suspension volume.	560.116 .....	None.
<b>ROYALTY SUSPENSION LEASES:</b>		
560.220—This section describes how royalty suspensions apply to leases issued in a sale held after November 2000.	560.120 .....	None.
560.221—This section describes when a lease issued in a sale held after November 2000 is entitled to a royalty suspension.	560.121 .....	None.

## DERIVATION TABLE FOR 30 CFR PART 560—OUTER CONTINENTAL SHELF OIL AND GAS LEASING—Continued

Final rule section	Prior regulation that the final rule would modify or replace	Corresponding section number from the proposal (if any)
560.222—This section describes how long a royalty suspension volume would be effective for a lease issued in a sale held after November 2000.	560.122 .....	None.
560.223—This section describes how to measure natural gas production for a lease subject to royalty suspension volumes issued in a sale held after November 2000.	560.123 .....	None.
560.224—This section describes how a royalty suspension would apply if BOEM assigns a lease issued in a sale held after November 2000 to a field that has a lease issued before the enactment of the OCS Deep Water Royalty Relief Act. (43 U.S.C. 1337(3)).	560.124 .....	None.
<b>BIDDING SYSTEM SELECTION CRITERIA:</b>		
560.230—This section describes what criteria BOEM uses for selecting bidding systems and bidding system components.	560.130 .....	None.
<b>Subpart C—Operating Allowances</b>		
560.300—This section explains that Operating Allowances can be specified in an oil and gas leases.	206.120 .....	This section was originally part of MMS regulations at section 206.120 and was inadvertently omitted from BOEM regulations during the split of the MMS rules into those of three different agencies. 75 FR 65051.
<b>Subpart D—Joint Bidding</b>		
Reserved .....	560.301—560.303 .....	The proposed rule amended 30 CFR part 260 by removing subpart D, which consisted of prior regulations sections 560.301—560.303.
<b>Subpart E—Electronic Filings</b>		
560.500—This section describes BOEM's electronic document and data transmissions procedures.	None .....	This section is derived in part from proposed rule section 256.503(c).
560.501—This section describes how BOEM will maintain the confidentiality of electronic documents and data.	None .....	None.
560.502—This section describes under what circumstances electronic document filings will be considered legally binding.	None .....	None.

**III. Section-by-Section Analysis of the Final Rulemaking****A. Part 550—Oil and Gas and Sulfur Operations in the Outer Continental Shelf****1. Subpart A—General Provisions**

Section 550.120. What standards will BOEM use to regulate leases, rights-of-use and easement, and rights-of-way? This section provides that BOEM will regulate activities under a lease, right-of-use and easement, or right-of-way, to promote the orderly exploration, development, and production of mineral resources, while preventing waste, protecting the environment and ensuring cooperation with other government agencies. Final rule section 550.120 did not appear in the proposed rule, but it was in the pre-split regulations, at 30 CFR 250.106. When BOEMRE was split into two agencies, this regulation was assigned to BSEE, and it therefore still appears at 30 CFR 250.106. As time has passed, however, BOEM has found itself hampered in properly evaluating and approving certain types of plans (such as exploration plans (EPs), development

and production plans (DPPs), or development operations coordination documents (DOCDs)) without this provision in its regulations. This section has therefore been put into the final rule with minor word changes.

Section 550.121. What must I do to protect health, safety, property, and the environment? This section provides that, when economically feasible, BOEM may require additional measures to ensure the use of Best Available and Safest Technology (BAST) as identified by BSEE, to avoid the failure of equipment that would have a significant effect on safety, health, or the environment. Final rule section 550.121 did not appear in the proposed rule, but it was in the pre-split regulations, at 30 CFR 250.107 and tracks section 21(b) of OCSLA. When BOEMRE was split into two agencies, this regulation was assigned to BSEE, and it therefore still appears at 30 CFR 250.107. As time has passed, however, BOEM has found itself hampered in properly evaluating and approving certain types of plans (e.g., EPs) without this provision in the BOEM regulations. It has therefore been put into the final rule with some changes necessary to conform the

provision to the scope of BOEM's enforcement authority.

Section 550.197(b)(5). Data and information to be made available to the public or for limited inspection. This section provides that BOEM will generally release geological data and analyzed geological information two years after the required submittal date for such information or 60 days after a lease sale. This final rule provision did not appear in the proposed rule, but did appear in the pre-split regulations at section 250.197(b)(5) (now BOEM regulation 550.197(b)(5)). However, the prior section, 550.197(b)(5), states “[i]f the primary term specified in the lease is extended under the heading of ‘Suspensions’ under this subpart, the extension applies to this provision.” Since the agency split, the determination whether to grant a suspension is made by BSEE. Because BOEM does not make these determinations, “suspensions” are no longer addressed in this subpart. Accordingly, the text in this final rulemaking changes the statement to say: “[i]f the primary term specified in the lease is extended, the extension applies to this provision,” removing the

reference to “suspensions” and to “this subpart” while retaining the meaning of the earlier provision.

Section 550.197(c). Data and information to be made available to the public or for limited inspection. This section provides that BOEM may allow limited data and information inspection, but only by a person with a direct interest in related BOEM decisions and issues in a specific geographic area, and who agrees in writing to maintain the confidentiality of geological and geophysical (G&G) data and information submitted under this part. Similar to the last-discussed provision, this section did not appear in the proposed rulemaking, but it did appear in the pre-split regulations, at 250.197(c) (now BOEM regulation 550.197(c)). The provision in the final rulemaking changes “MMS” to “BOEM” and deletes a reference to “part 203,” which no longer exists in the regulations at Title 30. The pre-split regulation listed several activities done by MMS. Only the part of that list that is pertinent to BOEM is retained in this final rule section.

Section 550.197(d). Data and information to be made available to the public or for limited inspection. This section provides, in accordance with section 26 of OCSLA, that no proprietary information received by BOEM will be transmitted to any affected State unless the lessee, or the permittee and all persons to whom such permittee has sold such information under promise of confidentiality, agree to such transmittal. The final rule includes this provision, which did not appear in the proposed rule, because section 26(c) of OCSLA requires a regulation providing for maintenance of the confidentiality of privileged or proprietary information received by BOEM. (43 U.S.C. 1352(c)).

## 2. Subpart D—Leasing Maps and Diagrams

This is a new subpart, which is being created as part of this rule.

Section 550.400. Leasing maps and diagrams. This section provides that any area of the OCS, that has been appropriately platted, may be leased for any mineral not included in an existing lease issued under the Act or meeting the requirements of subsection (a) of section 6 of the Act. This section was in the pre-split regulations at section 256.8 (now BOEM regulation 556.8), but was omitted in part from the proposed rule. The Derivation Table in the Preamble to the proposed rule said the language of 256.8 was “simplified” and placed in proposed rule section 256.202. Proposed rule section 256.202, however, is not

sufficient to ensure that the substance of former 256.8 is retained in the regulations. After reviewing these provisions, BOEM has determined that the text of former section 256.8 (now 556.8) should be retained. Hence, it has been included in this final rulemaking as section 550.400, which retains the text from prior section 556.8 without any changes.

## B. Part 556—Leasing of Sulfur or Oil and Gas and Bonding Requirements in the Outer Continental Shelf

### 1. The Table of Contents for Part 556

The Table of Contents for part 556 in the final rulemaking reflects a changed organization and structure from the proposed rule. After publication of the proposed rule, and after BOEMRE was divided into two agencies, BOEM analyzed the organization of part 556 and the way in which information was presented within the sections in the part, and decided to modify the organization of the part.

The first three subparts in the final rule (subpart A—General Provisions, subpart B—Oil and Gas Five Year Leasing Program, and subpart C—Planning and Holding a Lease Sale), contain the same information as the first three subparts in the proposed rule; the fourth subpart, Subpart D, however, includes more significant organizational changes. In the proposed rule, Subpart D—Issuance of a Lease, contained five subtitles within it: Qualifications, How to Bid, Restrictions on Joint Bidding, How Does MMS Act on Bids?, and Awarding the Lease. In the final rule, Subpart D includes only one subtitle: Qualifications. BOEM made this change in order to separate out the qualifications provisions and set them out in a clearer, more sequential manner. Subpart E in the final rule picks up the other four subtitles from the proposed rule’s Subpart D.

In the proposed rule, Subpart E covered bonding and financial assurance. These topics are found in Subpart I in the final rule, but as previously noted, no substantive changes have been made to the provisions in this subpart in the final rule. Instead of adopting the proposed rule sections on these topics, BOEM will retain the prior bonding and financial assurance provisions—which, with minor editorial and conforming revisions, are found at final rule sections 556.900 through 556.907—until such time as a new rulemaking is proposed for these topics.

In the proposed rule, Subpart F was entitled, “Maintaining a Lease,” and it contained four subtitles: Initial Period of

a Lease, Lease Obligations, Transferring Interest in All or Part of a Lease, and Helium. In the final rule, Subpart F contains three subtitles: Length of Lease, Lease Obligations, and Helium. These subtitles cover the same regulatory issues as Subpart F in the proposed rule, with the exception of the proposed rule’s subtitle concerning transfers of interest. In the final rule, regulatory provisions concerning the transfer of a record title interest and those provisions concerning transfers of an operating rights interest have been split into two different Subparts—Subpart G and Subpart H, respectively.

The final rule’s Subpart H was “Reserved” in the proposed rule. In the final rule, Subpart H includes provisions addressing the transfer of operating rights interests. As noted above, final rule Subpart I addresses BOEM’s bonding and financial assurance requirements, which are substantively unchanged from the prior BOEM regulations. Provisions dealing with bonus or royalty credits in exchange for certain leases, found in final rule Subpart J, were found in proposed rule Subpart I. The final rule’s Subpart K—Ending a Lease, was the proposed rule’s Subpart G.

Finally, final rule Subpart L—Leases Maintained under Section 6 of OCSLA (43 U.S.C. 1335), and Subpart M—Environmental Studies, did not appear in the proposed rule. The Derivation Table in the Preamble to the proposed rule proposed to eliminate both subparts as unnecessary, but BOEM has rethought this elimination, and has decided to retain them. We do so because, in the case of Subpart L, there are extant “Section 6 Leases,” and with respect to Subpart M, OCSLA section 20 requires that the Secretary perform environmental studies. (43 U.S.C. 1346).

### 2. Subpart A—General Provisions

Section 556.100. Statement of Policy. This section states that management of Outer Continental Shelf (OCS) resources is to be conducted in accordance with the findings, purposes, and policy directions provided by OCSLA. The corollary to final rule section 556.100 is prior BOEM regulation 556.2. Both sections set forth a general policy statement. The proposed rule did not contain a section setting forth a statement of policy. Although this section is new in the final rule, it is explanatory in nature and does not impose any new requirements on the public. Therefore, BOEM is including it in this final rule without prior public notice and comment.

Section 556.101. Purpose. The proposed rule contained a statement of

purpose at section 256.102, “What does this part cover?” In the final rule, however, BOEM decided to retain the statement of purpose section from the prior regulations, which was found at 556.1.

**Section 556.102. Authority.** In the final rule, BOEM decided to include a regulatory section setting forth the authority(ies) for the issuance of these regulations, which has been updated to reflect the amendments made to FOGSMA by the Federal Oil and Gas Royalty Simplification and Fairness Act of 1996, (30 U.S.C. 1701 note). The proposed rule did not contain a regulatory section with a list of authorities, but did contain such a list at the end of the proposed rule’s Table of Contents. The list needed to be updated since the publication of the proposed rule.

**Section 556.103. Cross references.** The proposed rule did not contain a section setting out cross-references. Current BOEM regulations section 556.7 lists pertinent cross-references, and BOEM decided to include a cross-reference section in the final rule. We did so because cross-references enable the reading public to more quickly find related regulations. Cross-references do not impose any new substantive requirements that require prior public notice and comment.

**Section 556.104. Information collection and proprietary information.** This section has two major provisions. The first provides the legal basis for BOEM’s collection of information in connection with the administration of its OCS oil, gas and sulfur leasing program. The second provision describes how BOEM will handle and maintain proprietary information. Final rule section 556.104 contains the same information as the corresponding proposed rule section, section 256.100. Subsection (b) of the proposed rule provision addressed “proprietary information,” but it was unclear whether the subsection extended to all proprietary information, or only to such information received in response to a Call for Information and Nominations (“Call”). To rectify this situation, we drafted the final rule provision to address proprietary information generally, (section 556.104(b)), and separately, proprietary information received in response to a Call (section 556.104(c)).

**Section 556.105. Definitions.** This section provides definitions for key terms used throughout this part of the regulations. As explained further below, some of these definitions are retained from the preexisting regulations; others are identical to definitions included in

the proposed rule; and finally, a few definitions are new to this final rule, but they define terms already used in the regulations.

The terms and phrases listed in the next paragraph have been retained from the regulations as they existed before BOEMRE was divided into two agencies, and therefore, as the regulations were constituted at the time of publication of the proposed rule.

The list of terms that have been retained from the pre-split regulations is as follows: Aliquot or Aliquot Part, Authorized officer, Average daily production, Barrel, Crude oil, Development block, Economic interest, Initial period, Lease term pipeline, Lessee, Natural gas, Operating rights, Operator, Outer Continental Shelf (OCS), Outer Continental Shelf Lands Act (OCSLA), Owned, Planning area, Regional Director, Regional Supervisor, Security, Single bid, Six-month bidding period, and Statement of production.

In the following cases, we moved definitions of terms from a substantive regulation to this definitions section, with no change to the meaning expressed.

**Aliquot part.** The definition of the term “aliquot part” from proposed rule section 256.611, which addresses transfers of lease interests, was moved into this definitions section (556.105).

**BOEM.** The term “BOEM” was retained, from the prior regulations, in final rule section 556.105.

**Development block.** The definition of the term “development block” was moved from section 556.12(c)(3) to this definitions section.

**Economic interest.** The definition of the term “economic interest” was moved from section 556.40 to this definitions section.

**Western Planning Area.** Pursuant to a commenter’s recommendation, a definition of “Western Planning Area” was added, in final rule section 556.105.

The following terms were retained unchanged from the prior BOEM regulations, or remain as described in the proposed rule: Act, Affected State, Authorized Officer, Coastal Environment, Coastal Zone, Coastline, Desoto Canyon OPD, Destin Dome OPD, Human Environment, Marine Environment, Pensacola OPD. The term “person” was added to the regulations, utilizing the definition from the proposed rule.

The following definitions have been added in final rule section 556.105 to define terms or concepts already used in the regulations, the definitions of which were apparent from the context of the prior regulatory language: BSEE, crude oil, designated operator, economic

interest, initial period, primary term, joint bid, lease, lease interest, lessee, natural gas, natural gas liquids, operating rights, operating rights owner, operating rights tract, operator, owned, planning area, primary term, regional director, regional supervisor, RUE, ROW, security, single bid, six month bid period, and statement of production. A few of these terms were updated, as follows:

- **Designated operator.** The requirement to designate an operator is set out in prior BOEM regulations at section 550.143. Consistent with the “designated operator” requirements in that section, BOEM is including a definition of the term “designated operator” in the definitions section of the final rule. Prior section 550.143(a) states that “each lessee must submit a Designation of Operator (DOO) form” to designate an operator. As implemented, this requirement applies to all record title owners and to those operating rights owners that own operating rights in the aliquots/depths in which the designated operator, to which the DOO form applies, will be operating. This interpretation is reflected in the definition of “[d]esignated operator” in the final rule.

- **Lease interest.** The term “lease interest” appears, as “interests in . . . leases,” in the first sentence of prior BOEM regulations at section 556.62. The final rule definition lists interests already recognized in the prior regulations.

- **Minerals.** The term has been redefined to better correspond to its meaning in OCSLA.

- **Natural gas liquids.** The definition of “Natural gas liquids” is taken from the prior term “Liquefied petroleum products.” 42 U.S.C. 6213 restricts joint bidding on leases for those producing more than an average worldwide daily production of 1.6 million barrels of crude oil and/or its equivalent in natural gas liquids and natural gas during a 6-month period preceding a lease sale. Previously, regulations implementing 42 U.S.C. 6213 referred to “liquefied petroleum products” rather than “natural gas liquids,” but then defined “liquefied petroleum products” as natural gas liquids. We dropped references to “liquefied petroleum products,” but there is no change in the concept; only the term has been changed.

- **Operating rights owner.** The definition of the term “Operating rights owner” has been added into this definitions section. It is based on the definition of “Operating rights” in prior BOEM regulations at section 550.105.



- *Right-of-use and easement.* The prior BOEM regulations, at 30 CFR 550.105, defined the terms “Easement” and “Right-of-use” separately. But the term that is actually used throughout the prior regulations is “right-of-use and easement.” (See, e.g., 30 CFR 550.16—550.166). The term “right-of-use and easement” is also used in the proposed rule (see, e.g., proposed rule sections 256.502(c), 256.410(a), and 256.511(a)). The term is defined in the final rule because it appears in final rule section 556.104, concerning BOEM’s information collections and its handling of proprietary information.

- *Right-of-way.* The definition of “Right-of-way” in the final rule is based on the definition of “Right-of-way pipelines” in the prior BOEM regulations at section 550.105, but the definition has been updated to make clear that a right-of-way authorization is issued by BSEE.

- *You.* The term “You” was defined in proposed rule provision 256.103 by providing a list of individuals to whom it would apply. This list has been retained in the final rule, but an introductory sentence has been added to the definition that defines the word, rather than merely listing the individuals to whom the term applies.

Section 556.106. Service fees. This section identifies various administrative fees that BOEM requires for various services. The language in the Service Fees section, 256.104(b), of the proposed rulemaking, “payment . . . must accompany . . . submission,” engendered comments as to whether the proposed rule would have required operators to send in checks with their submission(s). BOEM therefore changed the language of this provision in the final rule to reflect that evidence of payment of the required fee(s) via pay.gov must accompany document submission(s) or must be sent to the office identified by BOEM. The fees in this rule are being adjusted to reflect the Implicit Price Deflator change of 3.31 percent (inflation from 2011 through 2013). The fees were last adjusted for inflation through calendar year 2011 (78 FR 5836).

Section 556.107. Corporate Seal requirements. This section sets forth an alternative procedure, to avoid the use of a corporate seal, for those electronic document submissions for which a corporate seal is otherwise required by these regulations. BOEM’s rules require the use of a corporate seal in several instances. The Federal Government is, however, moving rapidly toward an all-electronic filing and records retention system. Because of this, BOEM has added section 556.107 to the final rule,

which permits document submitters to electronically file documents with BOEM using a secure electronic filing system without the use of corporate seals. The filer may choose to file a document electronically; electronic document submission is not required by the final rule.

In order to maintain the legal validity of documents filed electronically without corporate seals, BOEM is requiring that those entities who choose to so file provide BOEM with a one-time filing of a document containing the entity’s corporate seal, signed by an authorized party, and stating that the entity’s filings made through a secure electronic filing system will be legally binding.

Final rule section 556.107 also enables those who choose not to file documents electronically to forego repeated use of the corporate seal by filing a document similar to the document discussed in the last paragraph, which states that future non-electronic filings will be legally binding without the use of a corporate seal.

BOEM further recognizes that not all States issue corporate seals. Therefore, final rule section 556.107 contains a paragraph (c), which states that an entity from a non-corporate seal State may file a document with BOEM stating that its state of incorporation does not use corporate seals. This document must be signed by an authorized party and must state that submissions made by this corporation will be legally binding.

Final rule section 556.107 does not have a counterpart in the proposed rule, but notice and comment on this provision is unnecessary because the provision does not require that any member of the public do anything differently than was already required by the prior regulations. Section 556.107 will, however, reduce the burden on those who choose to use the options it provides by streamlining the document submission process for them. The provision is also in accord with the Federal-Government-wide effort to digitize government services. See, e.g., the Government Paperwork Elimination Act, Public Law 105–277, 112 Stat. 2681 (1998).

### 3. Subpart B—Oil and Gas Five Year Leasing Program

Sections under this subpart detail the steps BOEM takes to develop the Five-Year Oil and Gas Leasing Program. The final rule provisions set forth, sequentially, the stages in the development of the Five Year program, and closely mirror those in the proposed rule.

Proposed rule section 256.206, “Does MMS offer blocks in a sale that is not on the 5-year program schedule?” appeared under this Subpart B in the proposed rule. In the final rule, this section was moved to the next subpart, Subpart C—Planning and Holding a Lease Sale, because the section is substantively concerned with holding a certain type of lease sale, not with the development of the Five Year program. BOEM believes this section is more appropriately placed within Subpart C.

Section 556.200. What is the Five Year leasing program? This section reiterates those key provisions of OCSLA that require the Secretary to prepare an oil and gas leasing program that consists of a five-year schedule of proposed lease sales. Final rule section 556.200(a) substantially repeats proposed rule section 256.200. BOEM received two comments on proposed rule section 256.200 (section 556.200 in the final rule) that part of the section repeated language from OCSLA, and was therefore “inconsistent with the streamlining that MMS has taken with the proposed regulations.” BOEM considered these comments, but decided to retain the statutory language as it is important to explain the goals of the Five Year program. BOEM received no other comments on this subpart.

Section 556.201. Does BOEM consider multiple uses of the OCS? Final rule section 556.201 reiterates the OCSLA requirement that BOEM consider multiple uses of the OCS in its development of the Five Year oil and gas leasing program. This approach derives from a requirement in Section 18 of OCSLA (43 U.S.C. 1344(a)(2)(D)) that the leasing program shall be prepared and maintained in a manner consistent with, among other things, “other uses of the sea and seabed, including fisheries, navigation, existing or proposed sea lanes, potential sites of deepwater ports, and other anticipated uses of the resources and space of the outer Continental Shelf.” Final rule section 556.201 emphasizes that BOEM gathers information about multiple uses of the OCS to assist the Secretary in making decisions on the Five Year program, pursuant to the provisions of 43 U.S.C. 1344. For this purpose, BOEM invites and considers suggestions from States and local governments, industry, and any other interested parties, primarily through public notice and comment procedures. BOEM also invites and considers suggestions from Federal agencies.

Section 256.201 from the proposed rule has been modified in the final rule. As originally worded, proposed rule section 256.201 might have been

considered confusing because it used the word “consult” in the context of the Five Year Program. The term “consult” is a term of art usually associated with consultation under the Endangered Species Act (16 U.S.C. 1531–1544) and government-to-government consultation with Indian tribes. The Endangered Species Act does not require consultation during the preparation of the Five Year program. OCSLA requires that BOEM invite and consider comments and suggestions from other agencies and from States during its Five Year program preparation process, 43 U.S.C. 1344(c), and so the final rule addresses that in sections 556.201 through 556.203.

Section 556.202. How does BOEM start the Five Year preparation process? This section sets forth the steps BOEM takes in initiating the Five Year program. Final rule section 556.202 substantively repeats proposed rule section 256.202, but the final rule changes the statement in the proposed rule that “[a]ny area properly included on the official 5-year diagrams and maps may be offered for lease for any mineral not already leased” by substituting the explanation that any “area not already leased for oil and gas may be offered for lease.” The statement in the proposed rule was inaccurate because the Five Year program applies only to the leasing of oil and gas.

Section 556.203. What does BOEM do before publishing a proposed Five Year program? This section provides that BOEM will invite comments from governors on a draft proposed program at least sixty days before it publishes a proposed Five Year program. Final rule section 556.203 repeats proposed rule section 256.203, with some minor wording changes.

Section 556.204. How do governments and citizens comment on a proposed Five Year program? This section states the procedures to be followed to obtain inter-governmental and citizens’ comments on the proposed Five Year program. Final rule section 556.204 repeats proposed rule section 256.204.

Section 556.205. What does BOEM do before approving a proposed final Five Year program or a significant revision of a previously-approved Five Year program? This section provides that the Secretary must provide a copy of the proposed Five Year Program, or any significant revision thereto, to Congress and the President at least sixty days before approving it. Final rule section 556.205 is substantively the same as proposed rule section 256.205.

#### 4. Subpart C—Planning and Holding a Lease Sale

Sections in this subpart address the process leading up to a lease sale, the conduct of a lease sale, and the circumstances under which a lease sale that is not on the Five Year Program schedule may be held. Subpart C in the final rule generally tracks Subpart C in the proposed rule, with certain differences, described in the following paragraphs, which discuss final rule sections 556.300 through 556.309.

Section 556.300. What reports may BOEM and other Federal agencies prepare before a lease sale? This section provides that BOEM will prepare a report describing the general geology and potential mineral resources of the area under consideration. Although this final rule section did not appear in the proposed rule, it did appear in the prior BOEM regulations, at prior Subpart C—Reports from Federal Agencies, which consists of one section, 556.22, “General.” The Preamble to the proposed rule stated that the precursor to prior regulations section 556.22 (*i.e.*, 256.22) was “[e]liminated as repetitive with [OCSLA].” BOEM has decided to retain the section in the final rule because the regulated public will be looking to the regulations, and not to OCSLA, for guidance on BOEM’s processes and requirements. Final rule section 556.300 is substantively identical to the prior BOEM regulation 556.22.

Section 556.301. What is a Call for Information and Nominations? The formal lease sale process usually begins with BOEM’s publication of a Call for Information and Nominations, sometimes referred to as the “Call.” The Call requests indications of interest from industry in the leasing of specific blocks, and requests comments on other relevant information that BOEM can use in developing a recommendation of leasing areas for the Secretary. This section outlines the process BOEM uses to collect information to inform its determination as to which areas should be made available for leasing.

Final rule section 556.301 is substantively identical to proposed rule section 256.300, except for the addition of an additional topic on which the Call will request comments. The prior regulations, at section 556.23(b), state that the Call “shall also request comments on areas which should receive special concern and analysis.” The proposed rule did not include “areas of special concern and analysis” as one of the topics on which the Call will request comments, but the Preamble to the proposed rule shed no

light on why this topic was omitted, stating only that section 256.23 (now 556.23) was “[r]eorganized.” BOEM sees no reason to omit “areas of special concern and analysis” from the list of topics on which the Call will request comments, and so has retained it in the list of such topics stated in final rule section 556.301.

Section 556.302. What does BOEM do with the information from the Call? Using the information received in response to the Call and further analysis of environmental issues, resource potential, stated interest, potential use conflicts, and other relevant information, the Director will develop a recommendation of the area to be included in a lease sale. This recommendation is often termed the “Area Identification,” or “Area ID.” This section explains the process used to arrive at the Area ID.

BOEM received one comment on proposed rule section 256.301, on which final rule section 556.302 is based. The comment noted that the phrase “as soon as possible,” which appeared in the analogous prior regulation (section 556.26(c)), had been deleted by the proposed rule, resulting in the following statement in section 256.301(b) of the proposed rule: “[w]e inform the public of any additions or deletions from the area proposed for leasing in the 5-year program that result from the call process.” The commenter requested that the phrase be retained in the final rule because whether or not areas have been deleted from a sale area is of great importance to potential bidders that are preparing for lease sales. BOEM agrees with this comment and has re-inserted this phrase in final rule section 556.302(c).

Section 256.301 of the proposed rule addressed the Area ID stage of BOEM’s lease sale preparation, but omitted several aspects that appeared in the prior BOEM regulations at section 556.26. There is no reason given in the proposed rule as to why certain aspects of this stage of the lease sale process were left out, except the statement that prior section 256.26 was “[r]eorganized.” Final rule section 556.302 contains the substance of proposed rule section 256.301, as well as several paragraphs from the prior section 556.26. Specifically, three aspects of prior section 556.26 were not in the proposed rule, but have been retained in section 556.302 of the final rule. First, subparagraph (a)(2) of final rule section 556.302 states that the Director may, on his or her own motion, include in his or her recommendation areas that were not indicated in response to a Call. (*See* section

556.26(a)). Second, the last sentence of final rule section 556.302(b) states that the Director may hold public hearings on the environmental analysis done on the areas identified for leasing. (See section 556.26(b)). Third, subparagraph 556.302(e) of the final rule repeats the last sentence in section 556.26(a), stating that, in the case of a supplemental sale, the Director's recommendation will be replaced with his findings made under this section.

Final rule section 556.302(d) states that the Director may, upon request, provide relative indications of interest in areas received in response to a Call. Paragraph (d) also addresses the potentially confidential nature of such indications of interest and indicates that BOEM will release this information in such a way so as not to compromise the competitive interest of any of the respondents to the Call. The language of this final rule paragraph was found in the prior regulations at section 556.10(d). The substance of this final rule paragraph 556.302(d) was found in the proposed rule at section 256.100(b)(1) and (2), but BOEM believes it is more appropriately placed in this final rule section, which addresses the treatment of information received in response to a Call.

Section 556.303. What does BOEM do if an area proposed for leasing is within three nautical miles of the seaward boundary of a coastal State? Final rule section 556.303 sets forth the information that BOEM will provide to a State when an area proposed for leasing lies within three nautical miles of the seaward boundary of that State. Section 556.303 is the same as proposed rule section 256.302, except that the final rule corrects the language of the provision to be consistent with OCSLA section 8(g) (43 U.S.C. 1337(g)) in its use of the term "nautical miles" instead of the proposed rule's "geographical miles."

Section 556.304. How is a proposed notice of sale prepared? This section describes the process utilized to prepare a proposed notice of sale. Final rule section 556.304 retains all the substance of proposed rule section 256.303, but for clarity divides the proposed rule provision's one paragraph into multiple paragraphs. The final rule provision also has a new title because the proposed rule provision's text and its title—"What happens with an approved proposed notice of sale?"—appears to have addressed an already-approved notice of sale without explaining how the agency arrives at the approved notice. The final rule provision helps clarify this by retaining some of the paragraphs from the analogous section

in the prior regulations, 556.29, which were left out of proposed rule provision 256.303, but which help to explain BOEM's procedures. The Preamble to the proposed rule stated that proposed rule provision 256.303 represented a "[s]implifi[cation]" of section 256.29 (now 556.29), but some steps were left out in the simplifying process, creating gaps in the regulations. These gaps have been eliminated with the retention of certain concepts from the prior regulations in final rule section 556.305.

Final rule section 556.305(a) states that the Director of BOEM may, in consultation with other Federal agencies, develop lease stipulations and conditions, which will appear or be referenced in the proposed notice of sale. Both the prior regulation section 556.29 and proposed rule section 256.303 contained similar language, but the proposed rule provision went further and stated that the proposed notice of sale also includes "the Director's findings, and all comments and recommendations received on the proposal." While reviewing the proposed rule, BOEM realized that these last three items are not *in* the proposed notice of sale, but accompany it when it is presented to the Secretary for approval. This concept that certain items will accompany the proposed notice of sale to the Secretary is correctly expressed in prior section 556.29(b), therefore this language has been used in final rule section 556.304(b).

BOEM received a comment requesting that the lease form be attached to or referenced in the proposed notice of lease sale because "the terms of an oil and gas lease sale are integral to the lessee/lessor relationship and lessees . . . should have the right to know the lease terms in advance of submitting bids." BOEM agrees with this comment insofar as potential bidders should be aware of the lease terms and conditions, to the extent possible, in advance of the lease sale. To that end, final rule provision 556.304(c) makes clear that the proposed notice of sale references the lease form.

Section 556.305. How does BOEM coordinate and consult with States regarding a proposed notice of sale? This section outlines the process by which BOEM coordinates with affected States following the proposed notice of sale. Final rule section 556.305 is substantively the same as proposed rule section 256.304. One change was made to the language of the section in the final rule as a result of a comment. The comment requested that the section "actually reference" the Coastal Zone Management Act (CZMA) (16 U.S.C.

1451–1466) "so that if the CZMA is modified or amended or repealed, [BOEM] can continue to follow the process outlined in the act, rather than risking conflict or inconsistency." BOEM agrees with this suggestion, and has included a reference to the CZMA in final rule section 556.305(b).

Section 556.306. What if a potentially oil-or gas-bearing area underlies both the OCS and lands subject to State jurisdiction? This section provides a process for resolving issues or disputes that may arise between a State and the Federal government when a hydrocarbon-bearing area underlies both the Federal OCS and State submerged lands. This final rule section did not appear in the proposed rule. The substance of the final rule section is, however, found at prior BOEM regulation section 556.25(b)–(d). The Preamble to the proposed rule stated that this section of the prior regulations had been left out in an attempt to simplify the regulations. Upon reconsideration, however, BOEM believes that the proposed rule may have over-simplified the regulations, resulting in a gap. The proposed rule, at section 256.302, addressed potentially leasable areas "within 3 miles of the seaward boundary of a coastal State." The proposed rule did not, however, address potentially leasable areas that underlie the Federal/State boundary, resulting in potentially leasable resources on both sides of this boundary. The two situations are treated differently in OCSLA, at sections 8(g)(2) and 8(g)(3), respectively (43 U.S.C. 1337(g)(2) and 1337(g)(3)). Therefore, BOEM believes that they should be treated separately in the regulations and BOEM has decided to retain the prior regulations' provisions in the final rule, at section 556.306.

Section 556.307. What does BOEM do with comments and recommendations received on the proposed notice of sale? Final rule section 556.307 addresses BOEM's treatment of comments received on the proposed notice of sale, particularly those received from governors and local governments. This section provides a description of the process that BOEM will use to evaluate recommendations of governors and local governments. Section 556.307 is substantively the same as proposed rule section 256.305, but the final rule section has been divided into paragraphs for ease of reading and reference. The final rule section, at paragraph (b), contains one sentence that does not appear in the proposed rule, but did appear in the analogous prior section, 556.31(b). That sentence merely states that the determination of

the “national interest” as meant in this section, will be based on the findings, purposes, and policies of OCSLA.

Section 556.308. How does BOEM conduct a lease sale? Final rule section 556.308 explains that BOEM will publish a final notice of sale at least 30 days before the scheduled date of a lease sale. This final notice of sale will contain all the information needed to place a bid, as well as the terms and conditions of the lease, including any stipulations necessary to mitigate potential adverse impacts on the environment.

Final rule section 556.308, paragraphs (a)–(c), are substantively the same as proposed rule section 256.306. The final rule section includes a new paragraph (d), which was added at the request of a commenter. The commenter requested that “the Notices of Lease Sale should include the lease form that will be used to grant successful bids.” Therefore, final rule section 556.308 (d) states: “[t]he final notice of lease sale references, or provides a link to, the OCS lease form which will be issued to successful bidders.”

Section 556.309. Does BOEM offer blocks in a sale that is not on the Five Year program schedule (called a Supplemental Sale)? Under certain circumstances, detailed in proposed rule section 256.206 and final rule section 556.309, BOEM is authorized to offer blocks in an otherwise unscheduled sale, referred to as a supplemental sale. The proposed and final rule sections are the same.

##### 5. Subpart D—Qualifications

Final rule Subpart D—Qualifications, was a sub-subpart in the proposed rule, under proposed rule Subpart D—Issuance of a Lease. The substance of the provisions in Subpart D of the final rule is the same as that found in sections 256.400 through 256.404 of the proposed rule. BOEM decided, however, that the provisions covering the qualifications necessary to hold leases on the OCS were significant enough to merit a separate subchapter in the final rule. BOEM believes it is logical to place “Qualifications” into its own subpart and to remove it from under the heading “Issuance of a Lease,” where it was found in the proposed rule as one must qualify *before* a lease can be issued.

There are six sections within final rule Subpart D—Qualifications, which generally correspond with the five sections under the subheading “qualifications” in the proposed rule. There are, however, a few minor differences between the sections in the proposed rule and the sections in the final rule, including the lack of a table

in the final rule to set out the type of evidence required by BOEM to demonstrate proof of qualification to hold leases on the OCS. The proposed rule laid out the evidence requirements in a table format, but on reconsideration BOEM found this format too limiting, and opted to remove the table and instead use regulatory text to set forth the evidence requirements for qualification. The substance of the regulations remains the same in the final rule.

Generally, there were some logical gaps in the scheme laid out by the proposed rule sections regarding “Qualification” to hold leases on the OCS, which BOEM has rectified in the final rule. For example, BOEM has been issuing “qualification numbers” to qualified potential lessees for many years, but the fact that such a number must be obtained by a potential lessee as a first step in the leasing process has not been clearly spelled out in the regulations. The lay-out of the proposed rule sections on qualification appeared to assume that the reader knew that he or she must obtain a qualification number from BOEM in order to be “qualified” to hold leases on the OCS, without ever saying how that number would be obtained.

The other minor differences between the proposed and final rule provisions dealing with “Qualifications” are set forth, section-by-section, below.

Section 556.400. When must I demonstrate that I am qualified to hold a lease on the OCS? This section provides that, in order to bid on, own, hold, or operate a lease on the OCS, bidders, record title holders, and operating rights owners must first obtain a qualification number from BOEM. The title of this section was reworded to more clearly describe this purpose.

Final rule section 556.400 is an outgrowth of proposed rule section 256.401(a). Proposed rule section 256.401(a) stated that, a person, in order to show that he or she was qualified to be a lessee, must “provide [his] MMS qualification number.” The proposed rule failed to explain, however, that a potential lessee first had to obtain a qualification number from BOEM. Final rule section 556.400 explains that, “in order to bid, own, hold, or operate a lease on the OCS,” one must obtain a qualification number from BOEM. Final rule section 556.400 also makes clear that a bidder must be qualified in order to bid on OCS leases, as was required by prior section 556.46.

Section 556.401. What do I need to show to become qualified to hold a lease on the OCS and obtain a qualification number? This section outlines BOEM’s

requirements for a prospective lessee to become a qualified bidder. Final rule section 556.401 is essentially proposed rule section 256.400, with a few minor additions, which flow from the language of the proposed rule. Like the proposed rule provision, the final rule provision lists those who may become qualified to hold leases on the OCS, but better describes the entities previously identified only as “associations.” Proposed rule section 256.400(c) listed “[a] private, public or municipal corporation organized under the laws of any State of the U.S., the District of Columbia, or any territory or insular possession subject to U.S. jurisdiction.” A Limited Liability Company (LLC) was not listed in proposed rule section 256.400(c), but LLC was listed in the table in proposed rule section 256.401 as one of the entities that may become qualified to hold leases on the OCS. Therefore, the final rule provision adds to the list in section 556.401 a “Limited Liability Company or Limited Liability Corporation organized under the laws of any State of the United States, the District of Columbia, or any territory or insular possession subject to United States jurisdiction.”

Proposed rule section 556.400(e) listed a “State” as one entity potentially qualified to hold leases on the OCS. The final rule, at section 556.401(a)(5), using language from proposed rule section 256.400(c), instead says: “[a] State, the District of Columbia, or any territory or insular possession subject to United States jurisdiction.” Similarly, proposed rule section 256.400(f) listed a “political subdivision of States” as also potentially qualified to hold leases on the OCS. The final rule, at section 556.401(a)(6) instead says: “[a] political subdivision of a State, the District of Columbia, or any territory or insular possession subject to United States jurisdiction.”

Final rule section 556.401, at paragraph (a)(7) adds “Trust” to the types of entities that are potentially qualified to hold leases on the OCS. A trust is one of the entities listed in the table in proposed rule section 256.401, but it is not among those potentially qualified entities that were listed in proposed rule section 256.400. In order to rectify this oversight, the final rule section adds “Trust” to the list of those potentially qualified set forth in final rule section 556.401, and adds that any such Trust must also be “organized under the laws of any State of the United States, the District of Columbia, or any territory or insular possession subject to United States jurisdiction.”

Final rule section 556.401(c) affirmatively states that BOEM may

issue a qualification number to one who has provided acceptable evidence of qualification. This is a clarification of proposed rule section 256.401(a), which stated: “[p]rovide your . . . qualification number if you have qualified with us.” The final rule merely affirmatively states that BOEM will issue that number, if appropriate.

Section 556.402. How do I make the necessary showing to qualify and obtain a qualification number? This section describes the types of evidence that BOEM will require in order to qualify a person to hold leases on the OCS. Section 556.402 replaces proposed rule section 256.401, including the table in the latter. There are certain minor differences between the proposed and final rule sections, including the following:

Both proposed rule section 256.401 and final rule section 556.402 list the evidence needed to show that one is qualified to hold leases on the OCS. In the final rule, we added that such evidence must be “acceptable to BOEM.” This requirement was implicit in the proposed rule. There would be no point in requiring evidence of qualification if BOEM were obligated to accept evidence that is not sufficient as to form or content to enable BOEM to be certain of the status of the submitter. In order to be certain of this status, it is reasonable to expect that only evidence “acceptable to BOEM” will be accepted.

Final rule section 556.402, subparagraph (c)(3), adds the requirement that an entity seeking to qualify to hold leases on the OCS provide BOEM with a list of persons authorized to bind the entity, and that such list be kept current. This subparagraph reminds the entity that it is up to the entity, (and therefore, not up to BOEM) to determine who in its organization is authorized to bind it. BOEM believes that the requirement to provide a list of persons authorized to bind an organizational entity is a logical extension of the requirement to provide the various documents listed in the proposed rule table at proposed rule section 256.401. BOEM also believes that providing and updating this list of persons, along with the other evidence required by final rule section 556.402, is a simpler and more manageable way to approach the question of who is authorized to bind a specific entity than the prior regulations or the language used in the proposed rule.

Final rule section 556.402 contains several paragraphs that did not appear in the analogous section of the proposed rule (section 256.401). Both proposed rule section 256.401 and final rule section 556.402 address traditional

business entities, such as corporations and partnerships. There are, however, other types of business organizations that are eligible to qualify to hold leases on the OCS, but that would not have been covered by the qualifications provision in the proposed rule.

Paragraph (e) of final rule section 556.402 therefore addresses business entities with non-traditional business forms. Some of these non-traditional business forms do not have standard positions, such as “president” or “secretary.” Accordingly, paragraph (e) of final rule section 556.402 does not name a particular position but states that an individual from the highest level of management of an entity with a non-traditional business form, who is authorized by the entity’s operating agreement or governance documents to submit evidence of eligibility to hold OCS leases, must submit such evidence. Paragraph (e) is a clarification of proposed rule sections 256.401(c)(4) and 256.401(d), both of which sought to ensure that BOEM does business with the person within a qualified organization who has the authority to bind that organization. Paragraph (e) is a general catch-all meant to ensure that there are no gaps in BOEM’s regulations when it comes to the evidence necessary to demonstrate qualification to hold leases on the OCS.

Final rule section 556.402(f) states the entity that obtains a qualification number is responsible for ensuring that the number is used only for the purposes that the entity’s governance documents allow. This was implicit in the proposed rule, but the new final subsection makes it clear that it is not BOEM’s responsibility to ensure that entities are not going beyond their allowed powers in their dealings on the OCS.

Lastly, final rule section 556.402(h) makes it clear that one may not hold leases on the OCS until BOEM has issued a qualification number. This concept was also implicit in the proposed rule and in BOEM’s prior regulations in the requirement to obtain the qualification number.

Section 556.403. Under what circumstances may I be disqualified from holding a lease on the OCS? This section describes the circumstances under which a person may be excluded or disqualified from holding a lease on the OCS. Final rule section 556.403 substantively replicates proposed rule section 256.402, with some minor language changes. The language at final rule section 556.403, paragraph (b), tracks the language of OCSLA more closely than did the language of the corresponding section in the proposed

rule. This was done at the request of a commenter and ensures that paragraph (b) (“You may not hold an OCS lease if . . . The Secretary finds, after notice and hearing, that you or your principals fail to meet due diligence requirements or to exercise due diligence under section 8(d) of OCSLA . . . on any OCS lease”) could not be interpreted to conflict with section 8(d) of OCSLA (“No bid for a lease may be submitted if the Secretary finds, after notice and hearing, that the bidder is not meeting due diligence requirements on other leases.” 43 U.S.C. 1337(d)).

Also, the language at final rule section 556.403, paragraph (c), was revised to make it clear that either BOEM or BSEE could offer notice and opportunity for a hearing to determine whether operating performance is unacceptable, pursuant to either appropriate BOEM regulations or appropriate BSEE regulations. This clarification is necessary because of the division of BOEMRE into two agencies, and the fact that both BOEM and BSEE have a role in determining whether operating performance is unacceptable.

Section 556.404. What do the non-procurement debarment rules require that I do? Final rule section 556.404 details how to comply with the Department’s non-procurement debarment rules, specifically those that relate to entering covered transactions and notifying BOEM if you know that you or your principals are excluded or disqualified, or have been indicted or convicted of a crime. It is substantively the same as proposed rule section 256.403, with minor conforming language changes.

Section 556.405. When must I notify BOEM of mergers, name changes, or changes of business form? This section provides that lessees must notify BOEM of any merger, name change, or change of business form as soon as practicable, but in no case later than one year after the change or action. Final rule section 556.405 is the same as the proposed rule section, 256.404, with one exception. The proposed section stated “[y]ou must immediately notify BOEM of a name change,” but then allowed up to one year within which to do so. A commenter pointed out the inconsistency between the word “immediately” and the one-year period, and BOEM has therefore dropped the word “immediately” from final rule section 556.405 and replaced it with “as soon as practicable.”

This same commenter opined that providing BOEM with name changes or changes of business form would be too burdensome and that BOEM has “multiple ways to learn of a merger or name change.” BOEM does not agree

with these opinions. BOEM has run into difficulties in the past brought about by name changes and/or mergers about which BOEM had not been timely informed. It is not practicable for BOEM to monitor filings of name changes and merger information in each State. BOEM does not see that it is a burden for entities doing business on the OCS to keep BOEM apprised of changes of name or corporate form, such as may occur with a merger.

#### 6. Subpart E—Issuance of a Lease

Subpart E—Issuance of a Lease, is divided into four subdivisions in the final rule: “How to Bid,” “Restrictions on Joint Bidding,” “How Does BOEM Act on Bids?” and “Awarding the Lease.” The regulations in the first subdivision delineate the process of submitting a bid to BOEM and the information that must be submitted with the bid. The next subdivision, “Restrictions on Joint Bidding,” explains the effect of being placed on BOEM’s Restricted Joint Bidders List and the reporting requirements for those placed on the List. “How Does BOEM Act on Bids?” presents information as to BOEM’s acceptance or rejection of bids, the treatment of a tied bid, and the options available to a high bidder whose bid was rejected. The last subdivision of Subpart E, “Awarding the Lease” explains the procedures the bidder must follow after BOEM accepts its bid.

Following is a section-by-section analysis of the sections within Subpart E.

#### How To Bid

Section 556.500. Once qualified, how do I submit a bid? Final rule section 556.500 states generally that each bidder must submit a separate sealed bid for each tract or bidding unit, along with a bid deposit. The final rule section specifies that information regarding the timing of bid submission, and the amount and payment method of bid deposits, will be set forth in the final notice of sale. Final rule section 556.500 appeared at proposed rule section 256.410.

Paragraph (c) of final rule section 556.500 reaffirms the practice from the prior regulations (section 556.46(b)) and the proposed rule (section 256.410(b)) that the final notice of sale will specify the amount of the bid deposit. Paragraph (c) adds, however, that if not so specified, the “default” deposit amount will be twenty percent of the bid, the deposit amount that has been required for many years. As pointed out by a commenter, a bid deposit of twenty percent is the “status quo.” Another commenter noted that the bid deposit is

“typically set at one-fifth of the bonus bid amount.” BOEM finds it unnecessary to seek comments on this “default” language, which merely reflects the “status quo.”

Section 556.501. What information do I need to submit with my bid? Final rule section 556.501 reiterates requirements, found in section 26(a)(1)(A) of OCSLA (43 U.S.C. 1352(a)(1)(A)), to provide geological and geophysical (G&G) data to BOEM upon request. Current BOEM regulations in part 551 of Title 30 of the CFR, “Geological and Geophysical (G&G) Explorations of the Outer Continental Shelf,” already address this requirement, as applied to G&G activities permitted “on unleased lands or on lands leased to a third party,” 30 CFR 551.12(a). Therefore, current part 551 already applies to lands being bid upon, but BOEM has included section 556.501 in this final rule, because part 556 sets forth bidding and leasing procedures/requirements, and the requirement to provide G&G information with a bid logically falls within this comprehensive whole. Including final rule section 556.501 ensures that bidders are aware that they may need to submit requested G&G information at the time of bidding.

#### Restrictions on Joint Bidding

In the prior regulations, there are a series of definitions and other provisions that apply only in the context of restricted joint bidding, which were not in the proposed rule. Prior regulation section 556.40 lists 13 definitions, which help explicate the joint bidding restrictions. The proposed rule Preamble stated that section 256.40 (now 556.40) was “[e]liminated as redundant,” but, upon reviewing the proposed rule and the comments, BOEM decided that these definitions and provisions are not “redundant,” but instructive and helpful to explain the concepts underlying restrictions on joint bidding. The definitions have been retained in the final rule, some in the final rule definitions section, 556.106, and some in the provisions under this subheading of “Restrictions on Joint Bidding,” made up of final rule sections 556.511 to 556.515.

Further, there are several provisions previously found at 556.43(d) and (e), which explain how to measure oil, natural gas liquids, and natural gas, for purposes of determining whether a person’s production has exceeded 1.6 million barrels in the prior period, and thus whether he or she will be on the Restricted Joint Bidders List (sometimes referred to below as the “List”). For example, prior section 556.43(d) stated that: “[a]ll measurements of crude oil

. . . under this section shall be at 60 degrees Fahrenheit.” These important provisions were left out of the proposed rule with no explanation other than that section 256.43 (previously 556.43) was “simplified and reorganized.” BOEM has reconsidered this “simplification and reorganization” and has determined that these measurement-describing provisions should be retained. They appear in final rule section 556.513(d).

Section 556.511. Are there restrictions on bidding with others and do those restrictions affect my ability to bid? This section prohibits joint bidding by major oil and gas producers under certain circumstances. Final rule section 556.511 is substantively the same as proposed rule section 256.411, but the final rule section has one additional paragraph. This additional paragraph, 556.611(d), makes clear that a person on the Restricted Joint Bidders List may not enter into a pre-bidding agreement for the conveyance of any lease interest to another person on the List. The prohibition on pre-bid agreements between persons on the List was addressed in prior section 556.44 (c), but was not addressed in the proposed rule. BOEM has decided to retain this provision because of its continued relevance and applicability.

Section 556.512. What bids may be disqualified? This section provides the circumstances under which a bid for any oil and gas lease will be disqualified and/or rejected. Final rule section 556.512 does not have a counterpart in the proposed rule, but it was found in the prior regulations at section 556.44. The Preamble to the proposed rule stated that section 256.44 (now 556.44) was “simplified,” and the reader was directed to proposed rule section 256.402 in its stead, but this “simplification” would create a discrepancy. Current section 556.44 addresses disqualification of certain types of bids involving persons on the List of Restricted Joint Bidders. Proposed rule section 256.402 has nothing to do with joint bidding, but sets forth three discrete situations where any person may be disqualified from holding a lease (exclusion due to the non-procurement debarment and suspension system, failure to exercise due diligence, or unacceptable operating performance). The substance of prior section 556.44 did not appear anywhere in the proposed rule, but BOEM has decided that it is necessary for a full understanding of the effects and ramifications of being placed on the Restricted Joint Bidders List. Therefore, the text of prior section 556.44 has been retained, verbatim, with only necessary

conforming changes, in final rule section 556.512.

Section 556.513. When must I file a statement of production? This section explains the circumstances under which a lessee must prepare and send to BOEM a statement describing its oil and gas production and what the statement is to contain. Final rule section 556.513 contains the substance of proposed rule section 256.412, as well as three subparagraphs previously found at prior section 556.40(l) and omitted from the proposed rule. Proposed rule section 256.412 explained that a person on the List of Restricted Joint Bidders would have to file a statement of production when its production exceeded 1.6 million barrels of oil, natural gas liquids, and natural gas during the prior production period. The prior regulations had the same provision, but the prior regulations, at section 556.40(l), also defined what "Production" meant with respect to each of these resources. Appropriate portions of the 556.40(l) definitions have been retained in final rule section 556.513 to make clear what is to be included in the measurement of crude oil, natural gas liquids, and natural gas when determining production chargeable to the prior production period.

Section 556.514. How do I determine my production for purposes of the Restricted Joint Bidders List? This section details what production must be counted when determining whether a company should be considered a "restricted bidder." Final rule section 556.514 replicates proposed rule section 256.413, with some concepts included from prior sections 556.40 and 556.43. Section 556.43(d) states that "[a]ll measurements of crude oil and liquefied petroleum products [referred to as natural gas liquids in the final rule] . . . shall be at 60 degrees Fahrenheit." The proposed rule did not include the 60 degree Fahrenheit measurement parameter, but BOEM has decided to retain it as a necessary instruction for those persons who need to determine their production for purposes of the Restricted Joint Bidders List. The measurement parameter is in final rule section 556.514(a)(1).

Also in final rule section 556.514(a)(1) is a reference to the equivalency factors set forth in 42 U.S.C. 6213(b)(2) and (3), which state, respectively: "[o]ne barrel of natural gas equivalent equals 5,626 cubic feet of natural gas measured at 14.73 pounds per square inch [(PSI) relative to the mean sea level, or] (MSL) and 60 degrees Fahrenheit" and "[o]ne barrel of natural gas liquids equivalent equals 1.454 barrels of natural gas liquids at 60 degrees Fahrenheit." These

two equivalencies were found in the prior regulations at section 556.43(e), but were omitted from the proposed rule. BOEM believes that these equivalencies are also necessary instructions for persons attempting to determine whether their production would place them on the Restricted Joint Bidders List.

The final rule, at section 556.514(d), also retains the definition of "subsidiary" found in prior section 556.43(a)(3), but not contained in the proposed rule. Final rule section 556.514(f), which further explains how measurements of resources must be made, was not in the proposed rule, but was found at prior section 556.40(l)(1) and (2).

Final rule section 556.514(e) is a logical extension of the interplay among prior section 556.40's definitions of "economic interest" and "owned" and prior section 556.43(b). The definitions in prior section 556.40 applied to joint bidding and restrictions thereon. The definition of "economic interest" defines certain types of passive interests, such as a royalty interest or a net profits interest. The definition of "owned" in prior 556.40 included "having . . . an economic interest in" the production of crude oil, natural gas, or natural gas liquids. And 556.43(b) stated that a person is chargeable, for purposes of joint bidding restrictions, with production that it "owns." Therefore, reading these provisions logically together, a person's economic interest in production must be counted in that production chargeable to him or her for purposes of determining whether he or she is on the Restricted Joint Bidders List. This concept from the prior regulations is retained in the final rule in section 556.514(e) and the text was not changed from how it was originally proposed.

Section 556.515. May a person be exempted from joint bidding restrictions? This section provides the circumstances under which a person may be exempted from joint bidding restrictions. Final rule section 556.515 is based on proposed rule section 256.414. Proposed section 256.414, however, did not state the specific regulatory sections from which exemption from the joint bidding restrictions or reporting requirements may be granted. These specific designations were found in the prior regulations, at section 556.41(d), and have been retained in final rule section 556.515.

#### How Does BOEM Act on Bids?

Section 556.516. What does BOEM do with my bid? This section outlines the

procedures BOEM will follow when reviewing bids received for leases on the OCS and when handling tie bids.

Section 556.516 of the final rule is based on proposed rule section 256.416. Proposed section 256.416(b) stated that BOEM would accept or reject all bids within 90 days, or a longer time if BOEM extended the 90-day period. Section 556.516(b) of the final rule adds that BOEM will timely notify bidders in writing of a decision to extend the 90-day period. Proposed section 256.416(d) states that the Attorney General may review the results of a sale before BOEM accepts any bid. This requirement is repeated in final rule section 556.516(d), with additional language explaining that the Attorney General must act within 30 days and may consult with the Federal Trade Commission. Both of these strictures are found in section 8(c)(1) of OCSLA (43 U.S.C. 1344(c)(1)).

BOEM received the following comment: "There is no policy reason not to allow co-ownership by agreement of bidders with a tie bid, when the tie bidders are on the restricted joint bidder list. Those parties cannot have communicated or agreed with respect to the bid, but going forward could agree to an assignment creating co-ownership after the lease is awarded." Neither the prior regulations (see 30 CFR 556.47(c)), nor the proposed rule, (see section 256.416(c)), permit tie high bidders who are both (or all) on the Restricted Joint Bidders List to accept a lease jointly. BOEM considered the comment above but concluded that there is no way to know whether tie bidders "communicated or agreed with respect to the bid." Therefore, BOEM has decided that the current policy is a sound one and will not be changed.

There is one significant difference between proposed rule section 256.416 and final rule section 556.516. Proposed rule section 256.416(c) addressed tie bids and stated that if there was no agreement among the bidders as to who would receive the lease, BOEM would "award the lease to the high bidder selected by lot." The prior regulation, at section 556.47(e)(2), did not allow a bid to be awarded by lot, but stated that if an agreement from the tie bidders was not submitted to BOEM within 15 days, "all bids shall be rejected."

BOEM has reconsidered the "award by lot" policy enunciated in the proposed rule, and has decided not to adopt that policy. The policy is inherently unfair to one of the bidders and is inconsistent with BOEM's long-standing policy that if no bids are accepted, the lease will be withheld by BOEM and offered in the next lease sale. This policy affords BOEM the



opportunity to obtain a greater return, furthering OCSLA's goal that BOEM obtain fair market value for OCS leases. *See*, section 18(a)(4) of OCSLA (43 U.S.C. 1344(a)(4)). BOEM will therefore retain the policy in the existing regulation that all tie bids, for which a timely agreement delineating who will receive the lease has not been submitted to BOEM, will be deemed rejected. This policy is stated in final rule section 556.516(c)(3).

Section 556.517. What may I do if my high bid is rejected? This section describes the reconsideration procedures that apply in the event that a high bid is rejected by BOEM. Proposed rule section 256.417 would have allowed a bidder whose bid was rejected to request reconsideration of that rejection within 15 days, and stated that the bidder would receive a written response. The previous regulations at section 556.47(e), and the proposed rule at section 256.410, stated that the request for reconsideration is to be made to the Secretary. The proposed rule section did not address whether such a request could be appealed, but the previous regulations at 556.47 stated that decisions on high bids are not subject to review by the Department's Office of Hearings and Appeals.

BOEM received a comment on proposed section 256.417 that requested more detail regarding reconsideration of rejection of a high bid, specifically as to the review process for a reconsideration request. In response to the comment, BOEM has added detail to the final rule section to clarify the procedures to be followed by the bidder requesting reconsideration, and those that will be followed by BOEM when it receives such a request. Therefore, final rule section 556.517 states that the decision of the authorized officer on bids is the final action of the Department, and that the request for reconsideration of such a decision must be made to the Director, as the Secretary's delegate, and must include evidence as to why the decision should be reconsidered. The final rule section retains the section 556.47 statement that the decision on the reconsideration is not subject to review by the Department's Office of Hearings and Appeals.

#### Awarding the Lease

Section 556.520. What happens if I am the successful high bidder and BOEM accepts my bid? This section describes the steps involved in the lease award process. BOEM received several comments on proposed section 256.420, which appears at final rule section 556.520, particularly on proposed section 256.420(c). That paragraph

stated that if a successful bidder did not return the executed lease in the prescribed time or if it otherwise failed to comply with the regulations, its deposit would be forfeited "and [BOEM] may take appropriate action to collect the full amount bid." Three commenters pointed out that, traditionally, in the scenario posited above, the bidder's deposit was forfeited, but BOEM had never attempted to collect the full amount bid. One of these commenters stated that "[p]ayment of the one-fifth amount is sufficient penalty," and payment of amounts beyond that "is not warranted." Another of the commenters pointed out that forfeiting the "significant penalty" of the one-fifth deposit "allows lessees to make an informed decision on leasing if information relating to the area becomes available after the bids are made." The third commenter "objected" to the forfeiture of the full bid amount, but also suggested some alternatives for BOEM's implementation of this provision, such as offering the second-highest qualified bidder the lease if the high bidder forfeits.

BOEM generally agrees with the comments. Accordingly, final rule section 556.520 does not include the language that, in a forfeiture situation, BOEM may take action to collect the full amount bid. Nor will BOEM offer the lease to the second-highest bidder, as that could violate BOEM's mandate to obtain fair market value for all leases. Instead, BOEM will retain the current policy, now expressed in the regulations at section 556.47(g), that in the case of forfeiture, the forfeiting bidder will lose its deposit.

BOEM also received a comment on another aspect of proposed section 256.420(c). The comment noted that the proposed section states that a high bidder must "execute and return the lease within 11 business days after receipt" and contrasted that with the prior regulation, which stated that "the bidder shall, not later than the 11th business day after receipt of the lease, execute the lease." *See*, section 556.47(f). The comment pointed out that while the current language does not specify that the executed lease must be returned to BOEM by the 11th day, the proposed rule section does so specify. The comment asked if this "signif[ies] a change in how the process is administered?" The rule does not signify a change in the interpretation of the regulation or in the administration of the process. The prior regulation was interpreted to mean that the lease must be executed and returned by the 11th business day after it is received, and the proposed and final rules continue this

policy, but make the language more precise.

Section 556.521. When is my lease effective? Final rule section 556.521 and proposed rule section 256.421 are the same. They both state BOEM's long-standing policy that a lease is effective on the first day of the month following the month in which BOEM executes the lease, but that a lessee may request that its lease be made effective as of the first day of the month in which BOEM executes it. The final rule also adds a provision that, if BOEM agrees to make it effective as of the earlier date, it will so indicate when it executes the lease.

Section 556.522. What are the terms and conditions of the lease and when are they published? This section provides that the terms and conditions of the lease will be stated in the final notice of sale, as well as in the lease instrument itself. Final rule section 556.522 is based on prior section 556.49. The prior section stated that oil and gas and sulfur lease forms will be approved by the BOEM Director. The prior section also mentioned forms for other minerals. The section was not included in the proposed rule, the Preamble of which stated that the "[d]iscussion of form[s] for other minerals [was] eliminated as redundant." However, the proposed rule eliminated all of prior section 556.49 and BOEM has decided to retain, in final rule section 556.522, the statement as to forms for oil and gas and sulfur leases. Final rule section 556.522 also echoes final rule section 556.308(a)(2), which states that the terms and conditions of the lease will be found in the final notice of sale.

#### 7. Subpart F—Lease Term and Obligations

##### Length of Lease

Section 556.600. What is the primary term of my oil and gas lease? Final rule section 556.600 (a) and (b) closely follows OCSLA and makes clear that the initial period/primary term of a lease will be five years, unless BOEM determines that a longer initial period/primary term, up to 10 years, is necessary due to unusually deep water or unusually adverse conditions. Proposed section 256.600 stated that an initial period of an oil and gas lease "may range from five to ten years," but provided no clarification as to why there could be such a range. Section 8(b) of OCSLA (43 U.S.C. 1337(b)) states that the initial period of a lease must be for five years, or for up to 10 years, if extension of the lease term is necessary due to unusually deep water or other unusually adverse conditions.



Final rule section 556.600 (a) and (b) follows OCSLA's example, with one slight difference. OCSLA most commonly refers to the initial term of a lease as the "initial period," but also refers to the initial term as the "primary term." See, e.g., section 8(a)(7)(C) of OCSLA (43 U.S.C. 1337(a)(7)(C)). BOEM uses the phrase "primary term" in the final rule.

Proposed rule section 256.600 used the term "initial period" to refer to the originally granted length of a lease. The terms "primary term" and "initial period" were used interchangeably throughout BOEM's prior regulations to mean the same thing (for example, 556.37(a) and (b) refer to "initial period," while 556.68(b) and (c), and 556.70 refer to "primary term") and BOEM has elected to use the phrase "primary term" rather than "initial period" in this final rule in order to better reflect the lease term description that is most commonly used in the U.S. oil and gas industry.

The final rule removes the provision found in BOEM's previous regulations at section 556.37 and proposed rule section 256.600, which stated that, for leases in water depths between 400 and 800 meters, the primary term will be eight years, subject to administrative cancellation if no exploratory well is begun during the first five years after lease issuance. No further notice and comment are required for this change, as BOEM notified the public of the change in 2009 and provided an opportunity to comment, and all lease sales since 2009 have been consistent with this new practice. Specifically, BOEM stopped issuing leases with eight-year primary terms beginning with Central Gulf of Mexico Lease Sale 213, held on March 17, 2010. On November 16, 2009, eight months after the publication of the proposed rule, the MMS published the Proposed Notice of Sale for Lease Sale 213 (PNOS) (74 FR 58975). The PNOS notified the public that BOEM was considering dropping the eight-year primary term, and replacing it with a five-year primary term, which could be extended another three years if certain conditions were met. The PNOS also detailed that this five-year primary term, with a possible three-year extension, would apply in water depths between 0 and 800 meters, whereas a seven-year primary term, with a possible three-year extension, would apply in water depths between 800 and 1600 meters. In more than 1600 meters of water, the PNOS stated that the primary term would be 10 years.

The PNOS also stated that, if a five- or seven-year primary term were not extended, the lease would expire,

removing the need for administrative cancellation. The MMS received comments on the change from an eight-year primary term to a five- or seven-year primary term, as well as on the change from cancellation to expiration. The MMS carefully considered these comments and responded to them in the Final Notice of Sale for Lease Sale 213 (FNOS). In the FNOS, the MMS stated that it had decided to no longer offer leases with eight-year primary terms and to proceed with offering leases in Sale 213 with five- and seven-year primary terms, which would be subject to extension or expiration.

BOEM has offered five- and/or seven-year primary terms in all eight lease sales held since Sale 213 and intends to continue doing so. To avoid any confusion about whether BOEM intends to revert to the pre-2010 practice of issuing leases for eight year terms contingent on drilling in the first five years, however, final rule section 556.600 tracks OCSLA closely in stating that the primary term of all leases will be five years, unless BOEM specifies otherwise. Unlike the prior regulations and the proposed rule, section 556.600 in the final rule does not attempt to "specify otherwise" in the regulation itself. Instead, it states, at subsection 556.600(c), that BOEM will specify the primary term in the final notice of sale and in the lease instrument, giving BOEM flexibility for the future.

The new language will not preclude BOEM from offering eight year leases, nor does the existing regulation mandate eight year leases. Thus, the rule does not change BOEM's current practice. Accordingly, pursuant to 5 U.S.C. 553(b)(3)(B), BOEM, for good cause, finds that notice and public comment are unnecessary. In any event, as noted above, the public had an opportunity to express its views on the underlying policy in response to the PNOS published in the **Federal Register** in 2009.

Section 556.601. How may I maintain my oil and gas lease beyond the primary term? This section lists the ways in which a lessee may maintain its lease for a period of time after the end of the primary term. Final rule section 556.601 is substantively the same as proposed rule section 256.601, with some minor language changes for clarity. Proposed rule section 256.601(a) included, among the ways of maintaining a lease beyond its primary term, the granting of a suspension, but final rule section 556.601(f) retains the more specific language from prior sections 556.37(b) and 556.73 that maintenance of a lease beyond the primary term will not result from a suspension imposed due to gross

negligence or willful violation of a lease provision or regulation.

Section 556.602. What is the primary term of my sulfur lease? As described in proposed rule section 256.602, final rule section 556.602 states that the primary term of a sulfur lease will be not more than 10 years, as mandated by section 8(j) of OCSLA. (43 U.S.C. 1337(j)). Proposed section 256.602 stated that a sulfur lease is subject to administrative cancellation if an exploratory well was not begun in the first five years. BOEM is no longer following the practice of cancelling leases in these circumstances, and this provision has been dropped from the final rule. Instead, final rule 556.602 states that the sulfur lease will expire at the end of the primary term if not maintained in accordance with the regulations.

Section 556.603. How may I maintain my sulfur lease beyond the primary term? This section lists the ways in which a lessee may maintain its sulfur lease after the end of the primary term. Final rule section 556.603 is substantively the same as proposed rule section 256.603, with some minor language changes for clarity. Proposed rule section 256.603 included, among ways of maintaining a lease beyond its primary term, the granting of a suspension, but final rule section 556.603 elaborates that such an extension cannot result from a suspension imposed due to gross negligence or willful violation of a lease provision or regulation, as was stated at prior section 556.73.

#### Lease Obligations

Section 556.604. What are my rights and obligations as a record title owner? This section outlines the rights and obligations of a record title holder of an OCS lease. Final rule section 556.604 includes, with different subsections and some additional language, proposed rule sections 256.605 and 256.612. Proposed rule section 256.605 was entitled, "What are my obligations as a record title owner?" and proposed rule section 256.612 was entitled, "May I assign operating rights?" In the final rule, BOEM has combined these sections, as they both address the rights and obligations of a record title owner.

Proposed rule section 256.612 stated that a record title owner may assign (sever) operating rights, and refers to these assignments as "subleases," which they are. The term "assignment of operating rights" has been used in the past, but is inaccurate when referring to an initial severance of operating rights. Operating rights are a part of the whole of a record title interest. When they are initially severed, they are actually

carved out of the record title and subleased to another party, while the record title owner retains the rest of the record title interest, *i.e.*, that part of the record title from which the operating rights were severed. This is different from a true assignment of a record title interest, wherein the assignor does not retain the corresponding part of the record title interest. And it is also different from a true assignment of an operating rights interest, which would occur when one who owns operating rights transfers his operating rights interest to another. Final rule section 556.604(b) retains the proposed rule's use of the term "sublease" and specifically states that a record title owner may sublease its operating rights to someone else, who is thereby the sublessee, referred to in the regulations as the operating rights owner.

Both proposed rule section 256.612 and final rule sections 556.604(b) and (c) explain that operating rights must be described by officially designated aliquot parts, and that, within any aliquot part, a record title owner may create a maximum of two subleases by depth. The one, or two, subleases may include the entire depth of the lease, but if they do not, any depth intervals not subleased are retained by the lessee/sublessor. Final rule section 556.604(c) elaborates that if two subleases are created by depth level, the two subleases must abut each other, with no gap in between. The "no gap" concept did not appear in the proposed rule, but it is, and has been, BOEM's long-established policy, and imposes no new duty on lessees. Therefore notice and comment is unnecessary.

Both proposed rule section 256.605(a) and final rule section 556.604(d) explain that a record title interest owner is jointly and severally liable, with all other record title owners and all operating rights owners, for all non-monetary obligations of a lease that accrue while it holds record title. Final rule section 556.604(f) also contains the concept that a record title owner who obtained its record title through assignment is responsible for remedying all existing environmental or operational problems on a lease, with subrogation rights against prior lessees. This concept was found in both the prior regulations and in the proposed rule in sections addressing transfers of lease interests, (556.62(e) and 256.618, respectively), as it is in the final rule (556.713 and 556.807), but it is also appropriately included here, as the requirement that an assignee remedy all existing environmental and operational lease problems is an "obligation" of the assignee-record title owner.

Proposed rule section 256.605(b) and final rule section 556.604(f) both also address the responsibility of record title owners for monetary obligations, pursuant to the Federal Oil and Gas Royalty Simplification and Fairness Act. Both sections make clear that, with respect to operating rights retained by a record title owner, the record title owner is primarily liable for monetary obligations, but with respect to those operating rights that have been subleased to others, the record title owner becomes secondarily liable, while the sublessee/operating rights owner is primarily liable.

Section 556.605. What are my rights and obligations as an operating rights owner? Proposed rule section 256.606 and final rule section 556.605 both address the rights and obligations of an operating rights owner, as opposed to a record title owner.

Final rule section 556.605(d) was added as the result of two comments on the proposed rule. The comments pointed out that the proposed rule was inconsistent in that proposed section 256.605(a) stated that operating rights owners were jointly and severally liable with record title owners for all non-monetary obligations, but proposed section 256.606(c) stated that operating rights owners were so liable only with respect to that portion of the lease subject to their operating rights. To make clear that the latter concept is correct, BOEM added final rule section 556.605(d), which states: "[a]n operating rights owner is only liable for obligations arising from that portion of the lease to which its operating rights appertain and that accrue during the period in which the operating rights owner owned the operating rights."

Proposed rule sections 256.606(c) and (d) are essentially repeated in final rule sections 556.605 (e) and (g). In both cases, the former section states that an operating rights owner is jointly and severally liable, with all other operating rights owners and record title owners, for non-monetary obligations. Also in both cases, the latter section states that an operating rights owner is liable for monetary obligations in proportion to its share of operating rights. Final rule section 556.605(g) goes on to point out that operating rights owners are primarily liable for these monetary obligations, while (as stated in final rule section 556.604(f) and pointed out above) record title owners are secondarily liable.

Final rule section 556.605(f) also makes clear that operating rights owners that obtained rights through assignment are responsible for remedying all existing environmental or operational

problems on a lease, with subrogation rights against prior operating rights owners. As mentioned above, this concept was found in both the prior BOEM regulations and in the proposed rule in sections addressing transfers of lease interests, (556.62(e) and 256.618, respectively), as well as in other sections of the final rule (556.712 and 556.807), but it is also appropriately included here, as the requirement that an assignee remedy all existing environmental and operational lease problems is an "obligation" of an assignee of operating rights.

#### Helium

Section 556.606. What must a lessee do if BOEM elects to extract helium from a lease? This section provides that BOEM reserves the ownership of, and the right to extract, helium from all gas produced from an OCS lease, and describes what BOEM will do if it requests you to deliver helium from operations associated with a lease. Final rule section 556.606 repeats proposed rule section 256.630. The final rule makes no changes to the proposed rule, other than conforming changes, such as changing "MMS" to "BOEM."

#### 8. Commentary on Subparts G & H—Transferring Interests in a Lease

The proposed rule followed the general format of the prior regulations in addressing together, in one regulatory subpart, both transfers of record title interests and transfers of operating rights interests. These two types of transfers are not the same, however, and they may have different consequences. Addressing them in the same regulatory sections has sometimes led to confusion and ambiguity. Therefore, in the final rule, BOEM divided the provisions dealing with assignment of different types of lease interests into two different subparts. Subpart G includes those provisions detailing the effects of an assignment of a record title interest, while subpart H includes those provisions detailing the effects of a sublease or subsequent assignment of an operating rights interest. None of the provisions in these subparts contains anything substantively new relative to the prior regulations, but the final rule more clearly separates out and explains the effects of an assignment of each type of lease interest on both the assignor and assignee. Subpart G consists of sections 556.700 through 556.716, and subpart H consists of sections 556.800 through 556.810. A section-by-section analysis of the sections in Subpart G is presented below, followed by a section-by-section analysis of the sections in Subpart H.

#### 9. Subpart G—Transferring All or Part of a Record Title Interest in a Lease

Section 556.700. May I assign or sublease all or any part of the record title interest in my lease? This section describes how a company may apply for approval to assign its whole or partial record title interest in its lease, or in any aliquot(s) thereof or to sublease operating rights. Proposed rule sections 256.610, 256.611, and 256.612 were collapsed and subsumed into final rule section 556.700, insofar as they apply to transfers of record title interests. Proposed rule section 256.610 stated that all transfers of lease interests require BOEM approval. Proposed rule section 256.611 and proposed rule section 256.612 repeated this requirement, with respect to transfers of “lease interests,” and operating rights, respectively. The requirement that BOEM approve transfers of record title interests and severances of operating rights interests appears in final rule sections 556.700(a), (b), and (c). Proposed rule sections 256.611 and 256.612 also specified that transfers must be properly described by aliquot parts and/or depth. This requirement of proper description is retained in final rule section 556.700(c).

Proposed rule section 256.611 referred to both “subdivisions” and “aliquot parts” when describing transfers of lease interests, but in final rule section 556.700, we removed the reference to subdivisions, retaining only the reference to aliquot parts, in order to reduce the potential for confusion. We also removed the definition of “aliquot part” from this section and moved it into the definitions section of the rule, section 556.106.

The last sentence of proposed rule section 256.611, stating that BOEM may disapprove a transfer when the assignor or assignee has unsatisfied obligations under this chapter, has been moved to final rule section 556.704, entitled, “When would BOEM disapprove an assignment or sublease of an interest in my lease?” Placement in that final rule section is more appropriate.

Section 556.701. How do I seek approval of an assignment of the record title interest in my lease, or a severance of operating rights from that record title interest? This section describes the process for obtaining BOEM approval of an assignment of a record title or operating rights interest in an OCS lease. Final rule section 556.701(a) was found at proposed rule section 256.613(a). The proposed rule section, at 256.613(a)(1), set out the official form numbers and names that one would use to effectuate and request approval of a

transfer of lease interest. The final rule, however, merely states that the BOEM Regional Director will provide the form to be used to request and record such a transfer. BOEM made this change to retain flexibility as to form name and number in case these identifiers change in the future.

Proposed rule section 256.613(b), which provided that BOEM must consult with and consider the views of the Attorney General before approving a transfer of a lease interest, appears at final rule section 556.701(b). Finally, final rule paragraph 556.701(b) retains from prior section 556.65 the statement that the Secretary may act on a transfer if the Attorney General does not respond to a consultation request within 30 days of that request.

Section 556.702. When will my assignment result in a segregated lease? Final rule section 556.702(a) and proposed rule section 256.613(a)(2) both make clear that a transfer of 100% of the record title interest in one or more aliquots of a lease results in segregating the lease into two leases, both of which are referred to as “segregated leases” and are subject to all the terms and conditions of the original lease. (Although it would be uncommon, it is also possible that a lease could be segregated into more than two leases.)

Final rule section 556.702 also contains a subsection that was not found in the proposed rule and was not in the prior regulations—556.702(b). This provision in the final rule clarifies the principles governing lease segregation. It is an outgrowth and corollary of the lease segregation concept expressed in proposed rule section 256.613(a)(2). Specifically, final rule section 556.702(b) sets forth the direct corollary to section 556.702(a) by making clear that transfer of anything less than 100% of the record title interest in a certain aliquot does not create a new lease, but creates a joint ownership situation between the assignee(s) and assignor(s) in the portion of the lease in which part of the ownership was transferred.

The last sentence of final rule section 556.702(b) states that a transfer of less than 100% of the record title to an aliquot(s) is subject to BOEM approval. This sentence reiterates the principle that all transfers of lease interests are subject to approval by BOEM, pursuant to section 8(e) of OCSLA (43 U.S.C. 1337(e)), the lease terms (see section 20 of the current lease form, Form BOEM–2005), and prior regulations. This sentence was added in the final rule to ensure that there is no doubt as to whether a transfer that creates a joint ownership in a portion of a lease would

constitute a lease transfer necessitating BOEM approval.

Section 556.703. What is the effect of the approval of the assignment of 100 percent of the record title in a particular aliquot(s) of my lease and of the resulting lease segregation? Final rule section 556.703 addresses the effects of a lease segregation (*i.e.*, a transfer of 100% of a record title interest in a particular aliquot of a lease, which creates a new lease to be in effect on the segregated aliquot). It combines part of proposed rule section 256.613(a)(2) with retained parts of BOEM’s prior regulations from section 556.68. Proposed rule section 256.613(a)(2) stated that, in the case of a lease segregation, the requirement to post the requisite financial assurance applies to each new lease. This concept has been carried through into final rule section 556.703(a).

An important clarification is made in final rule section 556.703(c). The proposed rule at section 256.613(a)(2) stated that upon lease segregation, “the newly segregated lease . . . is subject to all the terms and conditions of your original lease.” The ambiguity of this language could give rise to an improper inference in certain circumstances that the terms of the original lease pertaining to any applicable royalty suspension volume (RSV) would apply in full and equally to each of the segregated leases.

BOEM’s prior regulations in section 556.68(a) were more specific than those from the proposed rule’s section 256.613(a)(2), but are still ambiguous on this point. The prior regulation stated that “[r]oyalty, minimum royalty and rental provisions of the original lease shall apply separately to each segregated portion.” The prior regulation mentioned royalty provisions specifically, and stated that such provisions will apply “separately” to each lease, but its relationship to any unused RSV was not clear.

The ambiguity in the prior regulation may have led some to incorrectly infer that when a lease is segregated, each new lease would be allowed the entire amount of remaining available RSV that applied to the original lease. Such an interpretation would not have been justified. In the case of segregation of a deep water lease with an RSV into two leases, for example, that interpretation would have the substantive effect of doubling the remaining volume of royalty-free production. That is not the intent of offering particular leases with specified royalty suspension volumes under the authority of 43 U.S.C. 1337(a)(1)(H) or 1337(a)(3)(C) (the royalty relief provisions of the OCSLA enacted in the Deep Water Royalty

Relief Act of 1995) or 42 U.S.C. 19504 or 19505 (the deep gas and deep water royalty relief provisions in the Energy Policy Act of 2005). The correct interpretation is that if an offshore lease is divided through segregation, any remaining unused RSV must be shared by the segregated leases in a manner not to exceed the total amount of the remaining unused RSV.

Final rule section 556.703(c) clarifies that in a lease segregation, each segregated lease is not individually entitled to the whole remaining RSV allowed to the original lease. Each lease segregation is unique and presents different circumstances that might affect the allocation of RSV. Therefore, paragraph (c) makes clear that BOEM will allocate the RSV among segregated leases on an equitable basis, considering all of the circumstances. Circumstances that may affect that allocation include the reasons for the segregation, whether the lease is producing, the relative production of the leases after segregation, future development plans, etc. The allocation of any remaining RSV will be stated in BOEM's approval of the assignment and segregation.

Final rule section 556.703(c) grows out of the proposed rule's statement at section 256.613(a)(2) that a newly segregated lease "is subject to all the terms and conditions of [the] original lease." The final rule section carries forward the concept that the newly segregated lease is "subject to" any RSV provision that applied to the original lease, but clarifies in what manner that RSV provision will be applied to the two now-segregated leases. The language of final rule section 556.703(c) also clarifies the prior regulation's statement that royalty provisions apply "separately" to each lease. The final rule's language continues to apply the RSV provision "separately" to each segregated lease, but clarifies that "separately" does not mean "equally."

Final rule section 556.703(d) retains from prior section 556.68(b) the principle that each segregated lease continues in effect for the primary term specified in the original lease, unless maintained thereafter pursuant to the regulations. Paragraph (d) makes express the principle that with respect to continuation beyond the primary term, each segregated lease stands on its own. To remain in force after the primary term, each segregated lease must, on its own, meet the requirements of section 556.601, regardless of whether other segregated leases, which were part of the original lease, meet such requirements. Production from one segregated lease will not keep any other lease that was part of the original lease

in effect beyond its primary term (unless, of course, the leases are included within the same unit). BOEM believes that the regulations are more clear with both principles expressly stated in the final rule.

Section 556.704. When would BOEM disapprove an assignment or sublease of an interest in my lease? Final rule section 556.704 sets forth when a transfer of a lease interest may be void or disapproved by BOEM. The final rule section combines parts of proposed rule section 256.611 and section 556.62 from BOEM's prior regulations. The last sentence of proposed rule section 256.611 stated that an assignment could be disapproved if the assignor or assignee had outstanding obligations under this chapter of the regulations. This provision appears at final rule section 556.704(a)(1). Prior section 556.62 voided assignments made pursuant to certain prelease agreements. This provision is found at final rule section 556.704(b).

Final rule section 556.704 also contains two provisions, at paragraphs (a)(2) and (a)(3), which make clear that BOEM may disapprove an assignment that is incorrect as to form or that does not comport with the regulations. Provision 556.704(a)(2) more clearly expresses the intent of proposed rule section 256.613, which listed the names and numbers of the forms that BOEM requires to be used to effectuate a transfer of record title or operating rights interests. Pursuant to the proposed rule, BOEM would accept only transfers submitted on these forms. Implicit in the requirement to use these forms is the requirement to complete them correctly. Transfers attempted to be submitted on other forms, on incorrectly completed forms, or using other documentation would not be accepted.

In order to allow more flexibility and avoid restricting BOEM to a particular form name or number stated in the regulations, the final rule states that the Regional Director will provide a form for use in transfers of record title or operating rights. As in the proposed rule, however, only the form provided by the Regional Director will be accepted by BOEM, and only when completed correctly. Therefore, final rule section 556.704(a)(2) makes clear that a transfer request submitted to BOEM may be rejected if not "acceptable as to form or content." The latter provision, 556.704(a)(3), provides that an attempted transfer that does not comport with the regulations or other applicable law will be disapproved.

Section 556.705. How do I transfer the interest of a deceased natural person

who was a lessee? This section outlines the procedures to follow to transfer an interest in an OCS lease from a deceased natural person. Final rule section 556.705 repeats proposed rule section 256.614, with minor wording changes.

Section 556.706. What if I want to transfer record title interests in more than one lease at the same time, but to different parties? Final rule section 556.706 repeats proposed rule section 256.615 with some minor language changes. Both the proposed and final rule sections address a lessee or other interest holder who desires to transfer interests it owns in different leases to different parties. Both sections note that in this situation, each transfer requires its own instrument, which must be originally executed and filed in duplicate with BOEM.

Section 556.707. What if I want to transfer different types of lease interests (not only record title interests) in the same lease to different parties? This section outlines the process for transferring different types of interests in a lease to different parties. Final rule section 556.707 derives from proposed rule section 256.615. That proposed rule section addressed the situation where interests in *different leases* are being transferred to different parties. The proposed rule said nothing, however, about the corollary situation: Where the interest holder desires to transfer different types of lease interests in the *same lease* to different parties. Final rule section 556.707 was added to cover this corollary situation. It states that even if an interest holder is transferring interests in the same lease, if they are different types of interests and being transferred to different parties, each transfer requires its own separate instrument, which must be duly executed and filed in duplicate with BOEM.

Section 556.708. What if I want to transfer my record title interests in more than one lease to the same party? This final rule section addresses lessees who desire to transfer interests in more than one lease to the same party. Final rule section 556.708 derives from the first sentence of proposed rule section 256.615. As noted by both proposed rule section 256.615 and final rule section 556.708, a lessee may not transfer record title interest in more than one lease using the same instrument. If a lessee wishes to transfer record title interest in more than one lease at the same time, the lessee must submit separate, originally executed forms for each transfer. Final rule section 556.708 also retains the statement from prior section 556.64(a)(8) that a separate fee applies to each individual transfer of interest.

Section 556.709. What if I want to transfer my record title interest in one lease to multiple parties? This section describes the requirements associated with transferring the record title interest in a lease to multiple parties. There is no analogous section in the proposed rule to final rule section 556.709, but the final rule section is a clarification of proposed rule section 256.615. That proposed rule section addressed the situations where interests in *different leases* are being transferred to different parties, or to the same party. The proposed rule did not address, however, the corollary situation, where the interest holder desires to transfer different portions of its record title interest in the *same lease* to multiple parties. Final rule section 556.709 was added to cover this corollary situation. It states that if a record title owner is transferring its record title interests in a single lease to multiple parties, it may use a single instrument. This differs from the circumstance addressed in section 556.707 where transfers of more than one type of interest in the single lease require use of more than one instrument. Final rule section 556.709 also retains the statement from prior section 556.64(a)(8) that where multiple transfers of interest are accomplished, a separate fee applies to each individual transfer of interest.

Section 556.710. What is the effect of an assignment of a lease on an assignor's liability under the lease? Final rule section 556.710 was found at proposed rule section 256.616. Both the proposed and final rule sections state the long-established regulatory concept that after an assignment an assignor remains liable for all monetary and non-monetary obligations that accrued before approval of the assignment. Proposed rule section 256.616 applied to assignments in general, but final rule section 556.710 applies only to transfers of record title interests, and an analogous final rule section, 556.805, applies only to transfers of operating rights interests.

Section 556.711. What is the effect of a record title holder's sublease of operating rights on the record title holder's liability? This section provides that a record title holder who subleases operating rights remains liable for later accruing obligations of the lease, but is only secondarily liable for monetary obligations accruing thereafter. Parts of proposed rule section 256.616 appear at final rule section 556.711, specifically in 556.711(a) and (b). These two paragraphs, along with final rule section 556.709, retain all of proposed rule section 256.616 and make clear the extent of the liability retained by a party

who assigns its record title interest. BOEM received a comment on proposed rule section 256.616 requesting that the final sentence be deleted because it was ambiguous. BOEM agrees with the comment and has deleted that sentence. The scenario it addressed in the proposed rule has been addressed without ambiguity in final rule section 556.711(a).

Final rule section 556.711(c) arises from FOGSMA, and states that a sublessee of operating rights is primarily liable for monetary obligations, but the record title holder, even after the sublease, remains secondarily liable for monetary obligations.

Section 556.712. What is the effective date of a transfer? This section describes the effective date of the transfer of a record title interest in a lease. Final rule section 556.712 is a combination of proposed rule section 256.617 and section 556.62(c) of BOEM's prior regulations. In the proposed rule, section 256.617 stated that an assignment is effective on the first day of the month following the request to assign, not following the date that BOEM approved the assignment. This left open the possibility, for example, that if you made a request to assign in April, it would become effective on the first of May, even if BOEM did not approve it until the fifteenth of May or later. The final rule section clarifies that, unless requested otherwise (see below), the effective date of a transfer of a lease interest is the first day of the next month after BOEM approves the transfer.

Final rule section 556.712, like proposed rule section 256.617, allows the parties to a transfer to specify a date on which their transfer will become effective. The proposed rule stated that BOEM would record the assignment as effective as of the date specified by the parties. The prior regulation, at section 556.62(c), did not affirmatively state that BOEM would accept the date specified by the parties. The prior regulation used the word "request" to refer to the parties' choice of a different effective date, and stated that the effective date would be specified in BOEM's approval. After further consideration of this issue, BOEM has decided to retain the idea in the prior regulation, and to clarify any ambiguity by stating that BOEM must approve a request for a specified effective date for a transfer of record title interest.

Both proposed rule section 256.617 and final rule section 556.712 also make clear that the transferor's obligations continue to accrue until BOEM approves the transfer, no matter when the effective date is specified to be. In

other words, the proposed and final rules clarify that if the parties to a transfer specify an effective date that falls before BOEM's approval of the transfer, this date is "effective" between the parties, but it does not have any effect on the obligations of the transferor to BOEM. The accrual of those obligations is ended only by BOEM's approval of the transfer.

Section 556.713. What is the effect of an assignment of a lease on an assignee's liability under the lease? With respect to an assignee of a record title interest, final rule section 556.713 repeats proposed rule section 256.618. Both sections recite the obligations of an assignee, which include complying with the lease terms and regulations, remedying existing environmental and operational problems, and performing decommissioning.

Section 556.714. As a restricted joint bidder, may I transfer an interest to another restricted joint bidder? Final rule section 556.714 requires a person on the Restricted Joint Bidders List, when transferring less than 100% of its interest in a lease to another person on the same list, to file with BOEM all agreements applicable to the acquisition of the interest transferred. Final rule paragraph 556.714(a) retains the language to this effect found in prior section 556.64(i). This same requirement was also found in proposed rule section 256.619, and it engendered a comment that objected to proposed rule section 256.619 on several grounds. The comment stated that the documents requested by proposed section 256.619 may be "sensitive," *i.e.*, confidential, and that the section is too broad and vague with an "unascertainable" intent. The comment also stated that because BOEM approves assignments, BOEM will be aware of the chain of title through which the assignor received its interest, rendering unnecessary the filing of agreements relating to the assignor's acquisition of that interest. The commenter suggested that BOEM "should only be interested in the timing and nature of the agreement whereby one restricted joint bidder acquired from another restricted joint bidder."

For the most part, BOEM disagrees with this comment. Proposed rule section 256.619 did not introduce a new concept, but restated what was originally in prior section 556.64(i). Nor does BOEM find the section overly vague. The filing of the requested agreements or the provision of the description of the transaction (see below) is necessary to allow the Department of Justice to properly review the antitrust implications of assignments between restricted joint

bidders, as is required for all assignments by section 8(e) of OCSLA (43 U.S.C. 1337(e)). Also, the final rule section does, as one comment noted, demonstrate BOEM's interest in "the timing and nature of the agreement whereby one restricted joint bidder acquired [a lease interest] from another restricted joint bidder." The final rule, by retaining the language from prior section 556.64(i), makes clear that BOEM is seeking information about acquisitions only from a transferor that was on the Restricted Joint Bidders List at the time of its acquisition of the interest, and that is now transferring less than its entire interest to an entity that was on the same list.

In response to the comment, however, BOEM has noted in section 556.714(d) that a person submitting the requested agreements may request they be treated confidentially and BOEM will do so to the extent authorized by its regulations and applicable Departmental regulations. Further, as suggested by the commenter, section 556.714(a) allows the assignor/submitter to choose whether to submit the requested agreements or instead to provide BOEM with a description of the timing and nature of the transfer agreement, together with a statement certifying the truth of this description.

Section 556.715. Are there any interests I may transfer or record without BOEM approval? This section provides that a lessee may create, transfer, or assign an economic interest in a lease without BOEM approval, but that such transferor must send BOEM a copy of each instrument creating or transferring such a lease interest within 90 days after the last party executes the transfer instrument. Final rule section 556.715 (along with final rule section 556.808) is the successor to proposed rule section 256.620. Final rule section 556.715 and proposed section 256.620 are substantively similar, but the language of the proposed section was changed somewhat in the final rule. The proposed rule section stated that a lessee could create or transfer "carried working interests, overriding royalty interests, or payments out of production" without BOEM approval. In the final rule, instead of listing these three types of interests, section 556.715(a) states that a lessee may create, transfer, or assign "economic interests" without BOEM approval. The term "economic interest" is defined in final rule section 556.106 to encompass "any right to, or any right dependent upon, production of crude oil, natural gas, or liquefied petroleum products," and includes, among others, the three

types of interests listed in the proposed section.

Final rule section 556.714 also makes clear that the 90-day deadline set forth in prior section 556.64(a)(2) applies to filings memorializing transfers of economic interests. Prior section 556.64(a)(2) did not explicitly state that the 90-day deadline applies to such filings. The 90-day filing deadline appears in final rule section 556.701 with respect to the filings of transfers of record title interests and the severance of operating rights interests, and the final rule makes clear that the deadline also applies to filings of transfers of economic interests by so stating in final rule section 556.714.

BOEM received one comment on proposed section 256.620, which expressed concerns about confidentiality of documents and asked whether the section intended to require the submission of joint operating agreements to BOEM. The comment notes this provision, *i.e.*, section 256.620, and its requirements are "not [] new," and that is correct—this provision is currently found at section 556.64(a)(7). The final rule section does not impose any new requirements and does not require the filing of joint operating agreements as they do not necessarily create economic interests, only rights to such interests. Once those interests are created, however, documents respecting them must be filed with BOEM. As to confidentiality, documents will be treated in accordance with BOEM's regulation at section 556.104 and any applicable Departmental regulations.

Section 556.716. What must I do with respect to the designation of operator on a lease when a transfer of record title is submitted? This section provides the circumstances under which the transfer of a record title interest triggers the need to file a new designation of operator form with BOEM. Final rule section 556.716 is based on several prior and proposed rule sections. Proposed rule section 256.611 and prior section 556.62 explained how a record title, or other lease interest, may be transferred, but did not mention the need, which often arises upon such a transfer, to file a new designation of operator form. Prior regulation section 550.143 stated that, when there is a change of designated operator, you must file a new designation of operator form with BOEM. Prior section 550.143 was, however, in a part of the regulations that does not address transfers of lease interests. Because, as stated above, the need to file a new designation of operator form often arises when lease interests are transferred, BOEM added

section 556.716 here in part 556, to augment section 550.143 and ensure that parties to a transfer are aware of their duties with respect to designation of an operator.

#### 10. Subpart H—Transferring All or Part of the Operating Rights in a Lease

Section 556.800. As an operating rights owner, may I assign all or part of my operating rights interest? This section provides that an operating rights owner may assign all or part of its operating rights interests, subject to BOEM approval. Final rule section 556.800 repeats proposed rule section 256.612 with minor language changes.

Section 556.801. How do I seek approval of an assignment of my operating rights? This section describes the process by which an assignor of operating rights must obtain approval of such an assignment. Final rule section 556.801 is based on proposed rule section 256.613. The proposed rule section applied to all transfers of lease interests, but final rule section 556.801 applies only to assignments of operating rights from one operating rights owner to another, in accordance with the approach in the final rule to separate regulatory sections concerning transfers of operating rights and those concerning transfers of record title interests.

Both proposed rule section 256.613 and final rule section 556.801 require that BOEM approve transfers of operating rights. Documents memorializing such transfers must be filed within 90 days of the transfer. Both sections also note BOEM may consult with the Attorney General. The final rule section states the Regional Director will provide the form on which to record the transfer of operating rights, instead of citing particular forms as was done in the proposed rule. For the same reasons laid out above in the discussion of final rule section 556.716, final rule section 556.801 reiterates the requirement found at prior regulation section 550.143 that a new operating rights owner must file a designation of operator form.

One paragraph of final rule section 556.801 did not appear in the proposed rule: 556.801(c) states that if an operating rights owner transfers an undivided interest in its operating rights, that transfer creates a joint ownership of the operating rights in the transferor and the transferee. This provision did not appear in the proposed rule, but it is merely a description of the well-accepted legal consequences of such a transfer. As with a record title interest, an operating rights owner can transfer less than 100% of a certain part of its operating

rights interest, retaining some percentage of interest in that part. This is referred to as the transfer of an “undivided interest” and creates co-ownership.

Section 556.802. When would BOEM disapprove the assignment of all or part of my operating rights interest? Final rule section 556.802 sets forth the circumstances under which BOEM would disapprove an assignment of an operating rights interest. The final rule section is based on proposed rule section 256.611. The last sentence of proposed rule section 256.611 stated an assignment could be disapproved if the assignor or assignee had outstanding obligations under this chapter of the regulations. This provision appears at final rule section 556.802(a).

Final rule section 556.802 also contains two provisions, at paragraphs (b) and (c), which make clear that BOEM may disapprove an assignment of operating rights interests that is incorrect as to form or does not comport with the regulations. The former provision, 556.802(b), derives from proposed rule section 256.613, which listed the names and numbers of the forms that BOEM requires to be used to effectuate a transfer of record title or operating rights interests. Pursuant to the proposed rule, BOEM would accept only transfers submitted on—and consistent with—these forms.

In order to allow more flexibility and avoid restricting BOEM to a particular form name or number stated in the regulations, the final rule states the Regional Director will provide a form for use in transfers of record title or operating rights. As in the proposed rule, only the form provided by the Regional Director will be accepted by BOEM and only when completed correctly. Therefore, final rule section 556.802(b) makes clear that a transfer request submitted to BOEM may be rejected if not “acceptable as to form or content.” The latter provision, 556.802(c), provides that an attempted transfer that does not comport with the regulations and/or applicable law will be disapproved.

Section 556.803. What if I want to assign operating rights interests in more than one lease at the same time, but to different parties? This section addresses the assignment of operating rights interests in more than one lease to different parties. Final rule section 556.803 is based on proposed rule section 256.615. Both the first sentence of the proposed rule section and the final rule section address the situation where a lessee or other interest holder desires to transfer interests it owns in different leases to different parties. Final

rule section 556.803, however, applies only to an operating rights owner who desires to simultaneously assign its operating rights in multiple leases. The limited application of final rule section 556.803 is in keeping with the final rule’s separation of regulatory sections concerning transfers of record title by record title holders and those concerning transfers of operating rights by operating rights owners.

Section 556.804. What if I want to assign my operating rights in a lease to multiple parties? This section addresses the assignment of operating rights interests in one lease to more than one party. There was no analogous section in the proposed rule to final rule section 556.804, but the final rule section developed out of proposed rule section 256.615. That proposed rule section, also discussed immediately above, addressed the transfer of interests in *different leases* to different parties, or to the same party. The proposed rule did not address, however, the corollary situation, where the interest holder desires to transfer different portions of its operating rights interests in the *same lease* to multiple parties. Final rule section 556.804 was added to cover this corollary situation. It states that if an operating rights owner is transferring its operating rights in a single lease to multiple parties, it may use a single instrument. Final rule section 556.804 also retains the statement from prior section 556.64(a)(8), which states that where multiple transfers of interest are accomplished using one instrument, a separate fee applies to each individual transfer of interest.

Section 556.805. What is the effect of an operating rights owner’s assignment of operating rights on the assignor’s liability? This final rule section states the long-established regulatory concept that after an assignment, the assignor remains liable for all monetary and non-monetary obligations that accrued before approval of the assignment. Final rule section 556.805 was found at proposed rule section 256.616. That proposed rule section applied to assignments in general, but final rule section 556.805 applies only to assignments of operating rights interests.

Section 556.806. What is the effective date of an assignment of operating rights? This section describes the effective date of the transfer of an operating rights interest in a lease. Final rule section 556.806 is a combination of proposed rule section 256.617 and prior section 556.62(c). In the proposed rule, analogous provision 256.617 stated an assignment is effective on the first day of the month following the request to

assign, not following the date that BOEM approved the assignment. As explained above, in the discussion of final rule section 556.712, this left open the possibility that an assignment could ostensibly become “effective” before it was approved. Final rule section 556.806 clarifies that (unless requested otherwise, see below) the effective date of an assignment of an operating rights interest is the first day of the month after the month in which BOEM approves the transfer.

Final rule section 556.806, like proposed rule section 256.617, allows the parties to a transfer to specify a date on which their transfer will become effective. The proposed rule stated that BOEM would record the assignment as effective as of the date specified by the parties. The prior regulation, at section 556.62(c), did not affirmatively state that BOEM would accept the date specified by the parties. The prior regulation used the word “request” to refer to the parties’ choice of a different effective date, and stated that the effective date would be specified in BOEM’s approval. After further consideration of this issue, BOEM has decided, in the final rule, to retain the idea in the prior regulation, and to clarify any ambiguity by stating that BOEM must approve a request for a specified effective date for a transfer of an operating rights interest.

Both proposed rule section 256.617 and final rule section 556.806 also make clear that the transferor’s obligations do not end until BOEM approves the transfer, no matter when the effective date is specified to be. In other words, the proposed and final rules clarify that if the parties to a transfer specify an effective date that falls before BOEM’s approval of the transfer, this date is “effective” between the parties, but it does not have any effect on the obligations of the transferor to BOEM. The accrual of those obligations is ended only by BOEM’s approval of the transfer.

Section 556.807. What is the effect of an assignment of operating rights on an assignee’s liability? This section recites the obligations of an assignee, which include complying with the lease terms and regulations, remedying existing environmental and operational problems on the leasehold, and performing decommissioning obligations. Final rule section 556.807 repeats proposed rule section 256.618, but only with respect to an assignee of an operating rights interest. Proposed rule section 256.618 addressed both assignees of record title interests and operating rights interests, but consistent with the final rule’s separate treatment



of these two types of interests, this final rule section addresses only the effect of an assignment of operating rights on an assignee's liability.

Section 556.808. As an operating rights owner, are there any interests I may assign without BOEM approval? This section provides that an operating rights owner may create, transfer, or assign economic interests without BOEM approval, but that for record keeping purposes, the operating rights owner must send BOEM a copy of each instrument creating or transferring such interests within 90 days after the last party executes the transfer instrument. Final rule section 556.808 (along with final rule section 556.715) is the successor to proposed rule section 256.620. Final rule section 556.808 is substantively similar to proposed section 256.620, but the final rule section applies to operating rights owners and contains somewhat different language from the proposed section. The proposed rule section stated that you could create or transfer "carried working interests, overriding royalty interests, or payments out of production" without BOEM approval. In the final rule, instead of listing these three types of interests, section 556.808(a) states that you may create, transfer, or assign "economic interests" without BOEM approval. The term "economic interest" is defined in final rule section 556.106 to encompass "any right to, or any right dependent upon, production of crude oil, natural gas, or natural gas liquids," and includes, among others, the three types of interests listed in the proposed section.

Final rule section 556.808 also makes clear that the 90-day deadline set forth in prior regulation section 556.64(a)(2) also applies to filings memorializing transfers of economic interests. Prior section 556.64(a)(2) did not explicitly state that the 90-day deadline applies to such filings. The 90-day filing deadline appears in final rule section 556.801 with respect to the filings of assignments of operating rights interests, and the final rule makes clear that the deadline also applies to filings of transfers of economic interests by so stating in final rule section 556.808.

BOEM received one comment on proposed section 256.620, which expressed concerns about confidentiality of documents and asked whether the section intended to require the submission of joint operating agreements to BOEM. The comment notes that this provision, *i.e.*, 256.620, and its requirements are "not [ ] new" and that is correct—this provision is currently found at 556.64(a)(7). The final rule section does not impose any

new requirements and does not require the filing of joint operating agreements as they do not necessarily create economic interests, only rights to such interests. Once those interests are created, however, documents respecting them must be filed with BOEM. As to confidentiality, documents will be treated in accordance with final rule section 556.104 and any applicable Departmental regulations.

Section 556.810. What must I do with respect to the designation of operator on a lease when a transfer of operating rights ownership is submitted? This section provides the circumstances under which the transfer of an operating rights interest triggers the need to file a new designation of operator form with BOEM. Final rule section 556.810 is a clarification and extension of several prior and proposed rule sections. Proposed rule section 256.611 and section 556.62 from BOEM's previous regulations explained how a record title or operating rights interest may be transferred, but did not mention the need, which often arises upon such a transfer, to file a new designation of operator form. Current section 550.143 states that, when there is a change of designated operator, you must file a new designation of operator form with BOEM. Current section 550.143 is, however, in a part of the regulations that does not address transfers of lease interests. Because the need to file a new designation of operator form often arises when lease interests are transferred, such as operating rights interests, BOEM added section 556.810 here in part 556 to augment prior BOEM regulation section 550.143, and to ensure that parties to an operating rights transfer are aware of their duties with respect to designation of an operator.

#### 11. Subpart I—Bonding or Other Financial Assurance

Part 560, section 560.500(b) in the final rule, addresses the electronic filing of documents concerning bonding or other financial assurance. The substance of final rule section 560.500(b) was in proposed rule section 256.503(c), which established the circumstances under which BOEM may require, rather than request, electronic document submission. The proposed and final rule sections provide that BOEM reserves the right to mandate the submission of financial assurance information electronically after publishing a 90 day-notice to that effect in the **Federal Register**. Submission of financial assurance data electronically would contribute significantly to streamlining the bonding process and facilitate a more efficient transfer of data and

information between BOEM and the regulated community. BOEM received no comments on proposed rule section 256.503(c). Accordingly, although no other substantive changes related to bonding are made in the final rule, this provision was retained from the proposed rule at section 560.500(b).

Other than the electronic filing change that appears in final rule section 560.500(b) and minor administrative changes made to subpart I, as noted below, the regulatory sections in the subpart remain the same as in the prior regulations, where they are located at 30 CFR subpart I, consisting of prior sections 556.52 through 556.59.

Sections 556.900–556.907. These sections establish bonding requirements for the lessee of an OCS oil and gas or sulfur lease. BOEM is not making any substantive changes to Subpart I—Bonding or Other Financial Assurance—relative to the prior regulations. The only changes made to this subpart in the final rule are administrative or conforming changes necessary to avoid inconsistency with the rest of BOEM's regulations. These changes are: (1) Editorial improvement; (2) correction of the inadvertent deletion of cross-references to former MMS regulations now administered by BSEE and ONRR; (3) changes in the section numbers and conforming changes needed in the text due to the section number changes; (4) changing references to "Associate Director" to "Director," as there are no "Associate Directors" within BOEM; and (5) consistently referring to decommissioning obligations as "decommissioning obligations," rather than by listing some or all of the constituent parts of decommissioning.

#### 12. Subpart J—Bonus or Royalty Credits for Exchange of Certain Leases

Section 556.1000. Leases formerly eligible for a bonus or royalty credit. This section provides that bonus or royalty credits issued by BOEM pursuant to the Gulf of Mexico Energy Security Act of 2006 (GOMESA) (43 U.S.C. 1331 note) are no longer available. The deadline for applying for such a bonus or royalty credit was October 14, 2010; therefore, lessees may no longer apply for such credits. The proposed rule contained several sections addressing these credits because it was published in May 2009, before the October 2010 deadline. The final rule has only one section addressing these credits—section 556.1000.

Although the GOMESA lease exchange/credit program is no longer active, section 556.1000 has been included in the final rule because



GOMESA did not specify a deadline to apply for lease credits. The October 14, 2010, deadline was set by BOEM in its regulations, and must be retained to forestall future requests for lease credits under GOMESA.

### 13. Subpart K—Ending a Lease

Section 556.1100. How does a lease expire? This section provides the circumstances under which a lease will expire at the end of its primary term. Final section 556.1100 is substantively the same as proposed rule section 256.700, with minor wording changes. The final rule section is also divided into two paragraphs, one addressing oil and gas leases, and one addressing sulfur leases.

BOEM received one comment noting that proposed section 256.700 listed the ways to maintain a lease beyond the primary term, but failed to list production from unitized leases as one of those ways. The comment suggested that BOEM add in section 256.700 a reference to production from unitized leases as one of the ways to maintain a lease. Final rule section 556.1100 refers back to final rule section 556.601 for the ways in which to maintain a lease beyond the primary term, which includes, at 556.601(e), production from unitized leases.

Section 556.1101. May I relinquish my lease or an aliquot part thereof? Final rule section 556.1101 repeats the substance of proposed rule section 256.701. Both sections name the form that must be filed in triplicate by all lessees to effect a lease relinquishment and both note that the relinquishment is effective on the date of filing. Both sections also make clear that a relinquishment does not relieve the relinquisher(s) of any accrued obligations, but to express this concept the final rule section has retained the language in prior section 556.76, rather than using the proposed language.

Prior section 556.76 also stated that no filing fee is required for a relinquishment. The proposed rule, however, said nothing on this subject. It did not contain the statement in the prior regulations that no filing fee is required, but neither did it say that a filing fee was required for a relinquishment. The final rule retains the “no filing fee” statement from prior regulations at section 556.76.

Section 556.1102. Under what circumstances will BOEM cancel my lease? This section provides the circumstances under which BOEM may cancel a producing or a non-producing OCS lease. Final rule section 556.1102 contains the substance of proposed rule section 256.702, with some minor

wording changes for clarity. Both sections state that failure to comply with a provision of a lease or of the regulations may result in lease cancellation, but the final rule section also makes clear that failure to provide requested financial assurance may result in lease cancellation or assessment of civil penalties. (See final rule section 556.1102(f).) Final rule section 556.1102(f) is a clarification of proposed rule subsections 256.702(b) and (c). Both these subsections state that failure to comply with any provision of the regulations may result in lease cancellation, and this includes failure to comply with those regulations requiring the maintenance of financial assurance.

Proposed rule section 256.702 generally referred to section 5(a) of OCSLA (43 U.S.C. 1334(a)), whereas final rule section 556.1102 was written to more closely follow sections 5(a)(2)(A) and (B) of OCSLA (43 U.S.C. 1334(a)(2)(A) and 1334(a)(2)(B)). Both the final and proposed rule sections repeat section 5(a)'s directive that a lease may be cancelled any time BOEM finds that continued activity will probably cause harm or damage to *inter alia*, life or property, that such threat of harm or damage will not disappear or acceptably decrease in a reasonable time, and that the advantages of lease cancellation outweigh the advantages of continuing the lease. But final rule section 556.1102 paragraphs (d) and (e) also include section 5(a)'s requirements that cancellation pursuant to the terms above must be subsequent to a hearing and may not occur unless and until operations under the lease have been suspended or prohibited by the Department continuously for a period of five years.

### 14. Subpart L—Leases Maintained Under Section 6 of OCSLA

Subpart L consists of two final rule sections, 556.1200 and 556.1201, which have been retained from prior sections 556.79 and 556.80, respectively. These two sections were not in the proposed rule. The Preamble to the proposed rule stated that prior section 256.79 (now 556.79) was “[e]liminated as unnecessary repetition” of OCSLA section 6(b) (43 U.S.C. 1335(b)) and prior section 256.80 (now 556.80) was “covered in 30 CFR part 281” (now part 581).

BOEM has reconsidered its decision to eliminate subpart L from its regulations, and, for the reasons outlined below, has decided to retain it in this final rule.

Section 556.1200. Effect of regulations on lease. Final rule section 556.1200 makes clear the relationship between

BOEM's regulations and the lease provisions of those leases maintained under section 6 of OCSLA (43 U.S.C. 1335). Section 6 of OCSLA applies to a specific group of leases—State-issued OCS leases issued before December 21, 1948.

BOEM has retained this provision, derived from prior section 556.79, even though it includes some repetition of Section 6 of OCSLA. Retaining this in final rule section 556.112 is helpful to BOEM's stakeholders because it clarifies the interplay between BOEM's regulations and Section 6 leases.

Section 556.1201. Section 6(a) leases and leases other than those for oil, gas, or sulfur. BOEM has determined that the proposed rule was incorrect in asserting that prior part 556, subpart L, which consisted of prior sections 556.79 and 556.80, was an unnecessary duplication of provisions in another part of the regulations. BOEM has therefore decided to retain, in final rule section 556.1201, the substance of prior section 556.80. Final rule section 556.1201 states that the existence of a Section 6 oil and gas lease does not preclude the issuance, in the same area, of other types of leases under OCSLA. BOEM has determined that this section should be retained to clarify the circumstances surrounding Section 6 leases.

### 15. Subpart M—Environmental Studies

Section 556.1300. Environmental studies. Subpart M—Environmental Studies consists of section 556.1300 in the final rule and provides that BOEM will conduct studies of any area or region included in any oil and gas lease sale as needed to assess and manage impacts on the human, marine and coastal environments, which may be affected by OCS oil and gas or other mineral activities in such area or region. Subpart M in the previous regulations consisted of section 556.82. The proposed rule deleted subpart M as an “unnecessary recitation of internal procedures,” but section 20(c) of OCSLA specifically states that the “Secretary shall, by regulation, establish procedures for carrying out his duties [to conduct environmental studies] under this section.” (43 U.S.C. 1346(c)). BOEM has determined to retain subpart M to comply with section 20 of OCSLA and to set forth in the regulations, procedures for the conduct of environmental studies with minor revisions to clarify text.

### C. Part 559—Mineral Leasing: Definitions

Prior part 559 was moved into final rule part 560, as explained below, in the discussion of final rule part 560.

### *D. Part 560—Outer Continental Shelf Oil and Gas Leasing*

The final rule updates the authority citation for part 560 and amends the Table of Contents for part 560 by removing prior subpart D, reserving the subpart, and adding new subparts C and E.

Also, in this final rule, BOEM has moved the definitions from prior part 559 into final rule part 560 and deleted part 559. Prior part 559 consisted of only two sections. The first section, 559.001, stated that “[t]he purpose of this part 559 is to define various terms appearing in part 560.” The second section, 559.002, listed these definitions. This relocation did not appear in the proposed rule, but it is merely an administrative change, which streamlines the regulations and does not trigger the need for notice and comment.

The wording of the definition of “person” in part 560 has been made consistent with that in part 556, but no change is being made to the other definitions except their re-location within the regulations.

#### 1. Subpart A—General Provisions

Section 560.100. Authority. This section provides a listing of the statutes that provide the legal basis for the regulations promulgated under this part. The authority provisions of part 560 have been revised in this new section, and the titles of the public laws corresponding to the relevant statutes have been added. FOGRMA (30 U.S.C. 1701–1759) has been updated to include the amendments made to it by the Federal Oil and Gas Royalty Simplification and Fairness Act of 1996, (FOGRSFA, 30 U.S.C. 1701 note).

Section 560.101. What is the purpose of this part? This final rule section retains the language of section 560.1 in the prior regulations, with no changes, but redesignated.

Section 560.102. What definitions apply to this part? This section consolidates and updates the definitions previously located in part 559 with the definitions previously located in section 560.2.

Section 560.103. What is BOEM’s authority to collect information? This section provides that BOEM may not conduct or sponsor a collection of information unless the information collection displays a currently valid OMB control number, and specifies the circumstances under which comments regarding any aspect of the collection of information under this part may be submitted to BOEM. This section is unchanged from section 560.3 but has been redesignated.

#### 2. Subpart B—Bidding Systems

Sections 560.200–560.230. These provisions establish the bidding systems that BOEM may use to offer and sell Federal leases for the exploration, development, and production of oil and gas resources located on the OCS. No changes were made to this subpart, except that all section numbers have been changed to conform to the numbering convention used throughout the final rule.

#### 3. Subpart C—Operating Allowances

Section 560.300. Operating allowances. The final rule includes a new subpart C, which consists of one section—556.300—that reestablishes a provision concerning operating allowances in the BOEM regulations. Operating allowance provisions were originally added into MMS (later BOEMRE) regulations by RIN 1010–AB93, 61 FR 3800, *Bidding Systems for Leases in the Outer Continental Shelf*. When the MMS was reorganized into ONRR, BOEM, and BSEE, the operating allowance sections of the regulations were moved from the BOEMRE regulations to the ONRR regulations, but the corresponding sections were not included in the BOEM regulations. Under the current organizational structure of the Department, ONRR will collect royalty as calculated using the operating allowance, but BOEM must first issue leases that contain the operating allowance. In order to effectuate the ONRR regulations related to operating allowances, therefore, counterpart provisions must also be re-established within the BOEM regulations.

Subpart C re-establishes the operating allowance provisions in BOEM’s regulations. It does not make any change to the regulatory provisions with respect to what sort of operating allowance would be available or when one might be granted.

#### 4. Subpart D—Joint Bidding

Both the proposed and final rules amend part 560 by removing subpart D, which concerned joint bidding. All the provisions in the prior subpart D have been moved to part 556 in the final rule (see sections 556.511–556.515, and 556.106, definitions of “average daily production,” “barrel,” “crude oil,” “economic interest,” “joint bid,” “natural gas,” “natural gas liquids,” “owned,” “single bid,” “six-month bidding period,” and “statement of production”). The regulation sections that were in part 560, subpart D, more appropriately belong in part 556, subpart E, under the subheading,

“Restrictions on Joint Bidding,” because subpart E contains the full panoply of regulations relating to the restrictions on joint bidding. There is no clear rationale supporting retention of these sections in part 560 as well, and including these provisions twice in the regulations may cause confusion. Therefore, part 560, subpart D is being removed.

#### 5. Subpart E—Electronic Filings

In part 560, the final rule includes a new subpart E, “Electronic Filings,” which provides that BOEM may notify lessees and other parties that it will allow or request the submission of information electronically through BOEM’s secure electronic filing system, through an alternate secure electronic filing system supported and maintained by the Department, or through some other electronic filing system that BOEM has approved for this purpose. This subpart did not appear in the proposed rule, nor did it appear in the prior regulations, but notice and an opportunity to comment on these new provisions are unnecessary because the subpart does not impose any requirements. Rather, it provides that anyone submitting documents to BOEM may do so electronically. The electronic-submittal option will likely reduce the burden on those making the submissions. Moreover, the option furthers the Federal government’s move toward all-electronic document production, submission, and filing, a goal evidenced by the Government Paperwork Elimination Act (GPEA), Public Law 105–277, 112 Stat. 2681 (1998), and the U.S. Office of Management and Budget’s guidance for implementing that Act (Memorandum 00–10 OMB Procedures and Guidance on Implementing the Government Paperwork Elimination Act, April 25, 2000). Because subpart E imposes no requirements on the public, it constitutes a procedural rule that does not require notice and comment.

Subpart E consists of three sections, which are individually addressed below.

Section 560.500. Electronic documents and data transmission. Final rule section 560.500 lists the types of information that may be filed electronically. The section also makes clear that if BOEM sends a document in an electronic format, return of the document using the same format or in print is acceptable (560.500(c)), and that BOEM may electronically approve or execute documents referenced in this section (560.500(d)).

Final rule section 560.500(b) repeats proposed rule section 256.503(c), which

established the circumstances under which BOEM may require, rather than request, electronic document submission. The proposed and final rule sections provide that BOEM reserves the right to mandate the submission of financial assurance information electronically after publishing a 90 day-notice to that effect in the **Federal Register**. Submission of financial assurance data electronically would contribute significantly to streamlining the bonding process and facilitate a more efficient transfer of data and information between BOEM and the regulated community. BOEM received no comments on proposed rule section 256.503(c). Accordingly, although most other changes related to bonding were removed from the final rule, this provision was retained at section 560.500(b).

Section 560.501. How long will the confidentiality of electronic document and data transmissions be maintained? Final rule section 560.501 states that electronically-submitted confidential information will be maintained as confidential for the same amount of time that corresponding non-electronic information would be so maintained.

Section 560.502. Are electronically filed document transmissions legally binding? Final rule section 560.502 has been included to ensure that electronic submission will not be a bar to legal viability. Pursuant to section 560.502, documents that are properly submitted through an approved electronic format will be considered legally binding (assuming they are properly prepared, executed, or whatever else may be necessary in each individual case), without the need to also submit a paper

copy of such document. In other words, if all else has been done properly with regard to a document submission, the fact that it has been submitted electronically will not bar it from being legally binding.

Final rule section 560.502 was not in the proposed rule and is being included in the final rule without a period of notice and comment. The Government Paperwork Elimination Act, found within the Omnibus Consolidated and Emergency Supplemental Appropriations Act of 1999 (Public Law 105–277, 112 Stat. 2681 (1999)), at sections 1701 *et seq.*, authorizes agencies to consider properly submitted electronic submissions as legally binding. The Government Paperwork Elimination Act, at section 1707, specifically addresses the question of whether, and how, electronically filed documents are legally binding. It states: “Electronic records submitted or maintained in accordance with procedures developed under this title, or electronic signatures or other forms of electronic authentication used in accordance with such procedures, shall not be denied legal effect, validity, or enforceability because such records are in electronic form.” Pub. L. 105–277, 112 Stat. 2681–751 (1999).

Further, section 7001(a) of the Electronic Signatures in Global and National Commerce Act (ESIGN) (15 U.S.C. 7001–7031) states: “Notwithstanding any statute, regulation, or other rule of law (other than this subchapter and subchapter II of this chapter), with respect to any transaction in or affecting interstate or foreign commerce—(1) a signature, contract, or other record relating to such

transaction may not be denied legal effect, validity, or enforceability solely because it is in electronic form; and (2) a contract relating to such transaction may not be denied legal effect, validity, or enforceability solely because an electronic signature or electronic record was used in its formation.”

Final rule section 560.502 is administrative and serves to reduce the burden on those submitting filings to BOEM, but more importantly it is necessary to effectuate BOEM’s electronic filing system and to ensure electronic submissions are considered legally valid documents.

#### IV. Table of Comments and Responses

We do not provide responses to comments on subpart I because no substantive changes were made to that subpart as part of this final rule.

##### A. General Comment

*Comment:* In an effort to streamline the regulations, the proposed rule eliminated several sections that repeat provisions of OCSLA. But in other instances, the proposed rule added language that is found in relevant statutes. BOEM should carefully review the proposed rule and eliminate instances in which the substance of statutes is simply repeated. Specifically, BOEM should consider proposed sections 556.101, 556.200 (second sentence), 556.304(b), 556.402(b) in this regard.

*Response:* We kept added statutory language when it was considered necessary for clarity.

##### B. Section-Specific Comments

Proposed rule section (30 CFR)	Comments received	BOEM Response
256.101 .....	The American Petroleum Institute (API) submitted comments on many sections of the proposed rule, which are discussed throughout the following Table. Section 256.101 references 18 U.S.C. 1001, which is unnecessary and potentially creates confusion. In the event 18 U.S.C. 1001 were revised, amended or repealed, MMS would need to do the same here. It's redundant and unnecessary.	BOEM agrees with the comment and has removed the provision referencing 18 U.S.C. 1001 from the final rule.
256.103 .....	The definition for “authorized officer” should be retained in proposed section 256.103, as it is still used in the regulations. The proposal includes definitions for the “Central Planning Area” and the “Eastern Planning Area,” but not for the “Western Planning Area.” For completeness, MMS should consider including a definition for the “Western Planning Area.”	We revised the definition for “Secretary” to include both the terms “official” and “designated employee” who are “authorized to act on behalf of the Secretary.” We have added the definition for the “Western Planning Area.”
256.200 .....	Section 256.200—The second sentence appears to be repeated from OCSLA and its repetition is not necessary. See, 43 U.S.C. 1344(a)(3). Repeating language from the statute is inconsistent with the streamlining approach that MMS has taken with the proposed regulations.	The second sentence is short and explicit and therefore has been retained.

Proposed rule section (30 CFR)	Comments received	BOEM Response
256.301 .....	Section 256.301 eliminates the requirement that MMS inform the public as soon as possible, when areas are deleted from leasing. This requirement should be retained. It should be recognized that deleting areas from leasing is of great importance to lessees who are spending resources in preparing for lease sales, and this information should be published as soon as possible.	We have not deleted this provision. See final rule section 556.302(c), which states: "BOEM will seek to inform the public, as soon as possible, of changes from the area(s) proposed for leasing that occur after the Call process."
256.304(b) .....	Section 256.304(b)—The Coastal Zone Management Act (CZMA) (16 U.S.C. 1451 <i>et seq.</i> ) sets out the process for consistency determinations by the affected States. While MMS may be merely setting out the process it uses in order to ensure consistency with the States, the regulation should actually reference the CZMA so that if the CZMA is modified or amended or repealed, MMS can continue to follow the process outlined in that act, rather than risking conflict or inconsistency.	We cite the CZMA at section 556.305(b), where we refer to the consistency determination.
256.303 .....	Shell Exploration and Production Company (Shell) Comments. Section 256.303—The terms of an oil and gas lease are integral to the lessee/lessor relationship and lessees who are bidding millions of dollars on leases should have the right to know the lease terms in advance of submitting bids. Accordingly, Shell requests that the form of lease on which successful lease bids will be granted be attached to or referenced in the notice of lease sale.	We agree with this suggestion and have incorporated this requirement into sections 556.304(c) and 556.308. The final notice of sale will replicate the terms and conditions in the lease form. The following is a sample statement from a recent notice of sale: "BOEM will use the recently revised Form BOEM-2005 (October 2011) to convey leases; it can be viewed at: <a href="http://www.boem.gov/About-BOEM/Procurement-Business-Opportunities/BOEM-OCS-Operation-Forms/BOEM-OCS-Operation-Forms.aspx">http://www.boem.gov/About-BOEM/Procurement-Business-Opportunities/BOEM-OCS-Operation-Forms/BOEM-OCS-Operation-Forms.aspx</a> . The lease form will be amended with the specific terms, conditions and stipulations applicable to the individual lease."
256.402(b) .....	Section 256.402(b) should clarify that this section does not impact the statutory requirements under OCSLA that provide for a finding by the Secretary that the bidder is not meeting due diligence requirements and that provide for notice and hearing. Section 256.402(c) should cite to the statutory provisions authorizing the prohibition based upon unacceptable operating performance.	We agree with this comment and changed the language, which is now found at final rule section 556.403(b), to more closely track the language of section 8(d) of OCSLA (43 U.S.C. 1337(d)).  Section 8(a)(1) of OCSLA (43 U.S.C. 1337(a)(1)) states: "The Secretary is authorized to grant to the highest responsible qualified bidder or bidders by competitive bidding, under regulations promulgated in advance, any oil and gas lease on submerged lands of the outer Continental Shelf . . ." The Secretary has determined through promulgated regulations that acceptable operating performance under 30 CFR parts 250 and 550 on any other OCS lease is necessary to be considered a "responsible" bidder. This provision is not new. The prior regulations, at 30 CFR 556.35(c), provided that, "BOEM may disqualify you from acquiring any new lease holdings or lease assignments if your operating performance is unacceptable according to 30 CFR 550.135." We disagree that the citation to the statutory provisions codified from section 8(a)(1) of the OCSLA is necessary as the regulation is clear and the concept is long-standing in the prior regulations.
256.404 .....	Section 256.404—This new provision will create unnecessary additional administrative burdens. MMS has multiple ways to learn of a merger or name change, including, without limitation, the filing of merger and name change documents with the Secretary of State in most States and the submission of new designation of operator and other MMS forms. This additional obligation need not be imposed on lessees. In addition, MMS should delete "immediately" as it is inconsistent with the one year limit. The API suggested using "as soon as practicable," but not "immediately."	We disagree with this comment, but in final rule section 556.405, we replaced "immediately" with "as soon as practicable." The new provision is needed to address the problems that the Bureau has had in the past with name changes and/or mergers about which BOEM is not informed in a timely fashion. It is not practical for BOEM to monitor all filings with all Secretaries of State in the United States.

Proposed rule section (30 CFR)	Comments received	BOEM Response
256.416(b) .....	Section 256.416(b)—There is no policy reason not to allow co-ownership by agreement of bidders with a tie bid, when the tie bidders are on the restricted joint bidders list. Those parties cannot have communicated or agreed with respect to the bid, but going forward could agree to an assignment creating co-ownership after the lease is awarded.	We disagree with the recommended policy change proffered in this comment. The presumption that an agreement (whether written or oral, formal or informal) could not have been made prior to, or simultaneously with, the submission of bids by two or more bidders on the restricted joint bidders list is flawed. Collusive bidding practices are a possibility that is addressed explicitly in existing regulation, for example, section 556.44 specifically disqualifies bids where collusive bidding is evident. We clarified the language of paragraph (c) of final rule section 556.516 to address the treatment of tie high bids submitted by two bidders on the Restricted Joint Bidders List. Paragraph (c) states that only those tied bidders, “not otherwise prohibited from bidding together” may accept a lease jointly. Because two bidders on the restricted joint bidders list would “otherwise [be] prohibited from bidding together,” this provision retains the current policy of not allowing tied restricted joint bidders to accept a lease jointly. The use of the plural lessee(s) at section 556.516(c)(2) implies that there could be more than two tied bidders and that they could agree to allow more than one of the tied bidders to become lessees. We deleted the words “or they may decide” as the language did not clearly state how to notify us of their decision.
256.417 .....	Section 256.417—The protest procedure has been eliminated entirely. MMS should specify or refer to an appeal process: to whom appeals are made, how long the agency has to make a decision, who will make the decision, and to whom that decision will be appealed.	A procedure to request reconsideration of a rejected bid has been retained in the rule, but the difference in the proposed and prior regulations is that “Secretary” has been replaced by “BOEM Director.”
256.420 .....	Section 256.420—MMS should retain the status quo that the failure to pay the remaining 4/5ths lease bonus results in a forfeiture of the 1/5th payment. Payment of the 1/5th amount is sufficient penalty and MMS may still offer and lease the tract at the next lease sale. Payment of amounts beyond the 1/5th is not warranted. As a result, MMS should strike the words “and MMS may take appropriate action to collect the full amount bid.” In addition, the existing rule, §256.47(g), states that the successful bidder has 11 business days to execute the lease and otherwise comply with the applicable regulations. This proposed rule required that a lessee “execute and return” a lease within 11-business days after receipt (emphasis added.) Can MMS confirm whether the addition of the words “and return” signify a change in how the process is administered? If this does constitute a change, then can MMS explain the rationale behind this change?	BOEM agrees with this comment and has decided to limit the penalty for failure to pay the remainder to the amount of the bid deposit. Prior section 556.47(f) stated that “If a bid is accepted, such notice shall transmit three copies of the lease to the successful bidder.” As provided in the prior 30 CFR 1218.155, the bidder shall, not later than the 11th business day after receipt of the lease, execute the lease, pay the first-year’s rental, and unless deferred, pay the balance of the bonus bid.” 30 CFR 1218.155(c) made it clear that the payment must be “. . . received by the Federal Reserve Bank of New York no later than noon, eastern standard time, on the 11th business day after receipt of the lease forms by the successful bidder.” The new regulation makes it clear that the leases must be signed and returned to BOEM within 11-business days after the receipt. This has always been the rule and is not a change of BOEM processes.
	As discussed above, API objects to forfeiture of the full bid amount, because forfeiture of the 1/5th payment is sufficient. However, in the event that this option is retained, MMS should consider providing some flexibility within this provision in the event that the full bid amount is collected. The bidder should not suffer forfeiture of the lease if the full bid amount has been paid. MMS should also consider giving the second highest qualified bidder the opportunity to receive the lease in the event that the high bidder forfeits the lease under these provisions.	Prior BOEM regulation section 556.47(g) said that if a bidder fails to execute the lease as required by the regulations, BOEM will collect or retain only the deposit. The final rulemaking, at section 556.520(c), says the same. Granting the second highest bidder the opportunity to receive the lease in the event that the high bidder forfeits the lease under this provision may not result in BOEM receiving fair market value for the lease (see section 18(A)(4) of OCSLA) and is contrary to the present BOEM policy of offering all blocks that are not awarded in a particular lease sale in the next lease sale for that planning area.
256.420(c) .....	Chevron comments: Chevron does not view section 256.420(c) as a clarification but a significant change. Delete the phrase from section 256.420(c) “and MMS may take appropriate action to collect the full amount bid, if so provided for in the notice of sale.”	Same response as above.

Proposed rule section (30 CFR)	Comments received	BOEM Response
	<p>Shell comment: MMS should reconsider allowing MMS to collect the full amount bid in the event a successful bidder does not pay the remaining 4/5th of the bid. Currently, lessees are permitted to suffer the significant penalty of forfeiting the 1/5th advance payment and this process allows lessees to make an informed decision on leasing if information relating to the area becomes available after the bids are made.</p>	Same response as above.
256.605(a) and 256.606(c) ..	<p>API Comment: Section 256.605(a) is inconsistent with proposed section 256.606(c). In the former, operating rights and record title owners are jointly and severally liable for all non-monetary obligations, but in the latter, operating rights owners are only responsible for liabilities insofar as their interest in the lease.</p>	We separated into two sections those provisions that concern the rights and obligations of record title owners (section 556.604) and those that concern the rights and obligations of operating rights owners (section 556.605).
256.616 .....	<p>Section 256.616—The last sentence is ambiguous. The liabilities for an assignor are covered in section 256.605. The last sentence should be deleted.</p>	<p>We renumbered this item 556.710 and clarified it as follows: “Until there is a BOEM-approved assignment of interest, you, as the assignor, remain liable for the performance of all lease obligations that accrued while you held record title interest, until all such obligations are fulfilled.”</p>
	<p>Shell Comment: MMS should remove the last sentence of Proposed Section 256.616, which is ambiguous and which concept is addressed in Section 256.605. Also, proposed Section 256.605(a) is inconsistent with Section 256.606(c).</p>	See above.
256.619 .....	<p>API Comment: Section 256.619—The new rule poses the question, “As a restricted bidder, may I assign interest to another restricted joint bidder?” The new rule answers in the affirmative but also states that “you must submit to MMS a copy of any agreements relating to the acquisition of the lease or interest,” API is concerned about the submission of commercial agreements under this provision. The types of agreements requested are potentially highly sensitive. MMS should only be interested in the timing and nature of the agreement whereby one restricted joint bidder acquired from another restricted joint bidder. Agreements whereby a restricted joint bidder acquired the interest assigned are irrelevant (unless they came from another restricted joint bidder). Further, because assignments are approved, MMS will already know the chain of title by which the assigning party received the interest. Further, this provision is so broad as to be unascertainable as to the intent, raising further questions about implementation and what documents are sufficient to meet the requirement.</p>	<p>We disagree with the comment. The requirement to provide the agreements between two parties on the restricted joint bidders list is not new, but simply represents a restatement of the prior 30 CFR 556.64(i), which required that “the assignor or transferor shall file a copy, prior to approval of the assignment, of all agreements applicable to the acquisition of that lease or a fractional interest.” The agreements are necessary for the Department of Justice to properly review the antitrust implications of these types of assignments. The new provision, now at final rule section 556.714, adds the option of both parties providing BOEM with “a description of the timing and nature of the agreement(s) by which the assignor or transferor acquired the interest it now wishes to transfer.” Thus, the company on the restricted joint bidders list has a choice of submitting what has previously been required under prior section 30 CFR 556.64(i), or may submit a description of the timing and nature of the agreement, subject to the applicability of 18 U.S.C. 1001. The implementation of this provision will not raise any questions as to which documents are needed as that portion of the provision at issue is not a new requirement of the regulations.</p>
256.620(a) .....	<p>Section 256.620(a)—This is not a new provision, but API questions the effectiveness or the need for filing with MMS contractually created interests that typically are not placed on record in any other public record. Theoretically, any time a co-owner stands out or goes “non-consent” under a joint operating agreement; it assigns its interests in the well until payout. Does MMS intend those joint operating agreements to be filed? We also have concerns about confidentiality of agreements; therefore, this rule should only apply to recorded documents.</p>	<p>This language is essentially identical to the language of the prior section 556.64(a)(7), but it is found at section 556.715 in the final rule. BOEM is not changing any legal requirement except that we may require filing of these interests electronically. Joint Operating Agreements are not required to be filed with BOEM as they do not necessarily create economic interests, only rights to such interests. However, once those interests are created, instruments creating these interests must be filed with BOEM, just as instruments creating these interests were required to be filed under prior section 556.64(a)(8).</p>
256.700 .....	<p>Section 256.700—This provision should reference section 256.601(d), relating to the effect of production from unitized leases, as an additional circumstance that maintains a lease.</p>	<p>We added the reference at final rule section 556.601(e) to clarify the effect of production from a BSEE approved unit on individual lease terms.</p>

Proposed rule section (30 CFR)	Comments received	BOEM Response
N/A .....	Anglo Suisse Offshore Partners comment: NTL (Notice to Lessees) No. 2008–N07 grossly overestimates the amount of supplemental bonding required. NTL No. 2008–N07 also requires MMS staff to recalculate a lessee's PDP reserve values rather than using third party Securities and Exchange Commission (SEC) reserve reports.	We have noted the comment. BOEM disagrees and has decided not to make any changes at this time to the NTL. There is nothing in the rule that prevents BOEM from taking SEC reserve reports into account, but BOEM is not obligated to use those numbers if it believes that they are inaccurate or insufficiently substantiated.
N/A .....	Additional Issues: • Waiver criteria on supplemental bonds ..... • Amount of bond vs. net worth ..... • Credit for net worth in calculating bonding amounts .. • New surety rules for issuance of bonds ..... Should MMS attempt to value a company, rather than rely on the SEC to do so?	These issues are beyond the scope of the final rule and may be addressed in future rulemaking.

## V. Legal and Regulatory Analyses

### A. Statutes and Executive Orders

#### 1. Improving Regulation and Regulatory Review (Executive Order (E.O. 13563))

E.O. 13563, *Improving Regulation and Regulatory Review* (January 18, 2011), together with follow-up memoranda *EO Guidance Memorandum, M–11–10 (February 2, 2011)* and *Retrospective Analysis Guidance Memorandum, M–11–19 (April 25, 2011)*, require that the regulatory system protect public health, welfare, safety, and the environment while promoting economic growth, innovation, competitiveness, and job creation. The regulatory system must be based on the best available science, while allowing public participation and an open exchange of ideas, thus promoting predictability and reducing uncertainty. The regulatory system must identify and use the best, most innovative and least burdensome tools for achieving regulatory ends and it must take into account benefits and costs, both quantitative and qualitative. It must ensure that regulations are accessible, consistent, written in plain language, and easy to understand. It must also measure, and seek to improve, the actual results of regulatory requirements.

E.O. 13563 supplements and reaffirms the principles, structures, and definitions governing contemporary regulatory review that were established in E.O. 12866 of September 30, 1993. As stated in that E.O., and to the extent permitted by law, each agency must, among other things: (1) Propose or adopt a regulation only upon a reasoned determination that its benefits justify its costs (recognizing that some benefits and costs are difficult to quantify); (2) tailor its regulations to impose the least burden on society, consistent with obtaining regulatory objectives, taking into account, among other things, and to

the extent practicable, the costs of cumulative regulations; (3) select, in choosing among alternative regulatory approaches, those approaches that maximize net benefits (including potential economic, environmental, public health and safety, and other advantages, distributive impacts, and equity); (4) to the extent feasible, specify performance objectives, rather than specifying the behavior or manner of compliance that regulated entities must adopt; and (5) identify and assess available alternatives to direct regulation, including providing information upon which the public can base choices, or providing economic incentives to encourage the desired behavior, such as user fees or marketable permits.

#### 2. Regulatory Planning and Review (E.O. 12866)

This final rule is not a significant rule, as determined by the Office of Management and Budget (OMB), and is not subject to review under E.O. 12866, *Regulatory Planning and Review* (September 30, 1993). This rule primarily updates existing regulations that govern the Federal leasing process for offshore sulfur and oil and gas subject to the exclusive jurisdiction of the United States. The rule is rewritten in simple, clear language, and reorganized to reflect the steps in the leasing process as they have evolved over time. Minor changes will make certain practices uniform among the OCS regional offices.

(1) This final rule does not have an annual effect of \$100 million or more on the economy. It will not adversely affect in a material way the economy, productivity, competition, jobs, the environment, public health or safety, or State, local, or tribal governments or communities. The rule rewrites 30 CFR part 556 in plain language, as well as portions of 30 CFR parts 550 and 560,

and contains similar reporting and recordkeeping requirements and attendant costs as the prior regulations. A cost-benefit analysis was not performed because this is a rule of administrative procedure for which such an analysis is not required. However, an overall economic analysis was performed pursuant to the Regulatory Flexibility Act.

(2) This rule does not create a serious inconsistency or otherwise interfere with an action taken or planned by another agency.

(3) This rule does not alter the budgetary effects of entitlements, grants, user fees, or loan programs or the rights or obligations of their recipients. Nominal user fees imposed by the rule are not material in size or nature. The final rule includes a new fee for recording certain secondary lease interests, \$29, and continues existing fees for submitting non-required documents, \$29, and requesting approval of the assignment or transfer of certain lease interests, \$198.

(4) This rule does not raise novel legal or policy issues arising out of legal mandates, the President's priorities, or the principles set forth in E.O. 12866. The final rule supersedes the existing regulations.

#### 3. Regulatory Flexibility Act

The Department certifies that this final rule does not have a significant economic effect on a substantial number of small entities under the Regulatory Flexibility Act (5 U.S.C. 601–612).

The changes in this final rule affect lessees and potential lessees, of which there are approximately 130 different companies. These companies are generally classified under the North American Industry Classification System (NAICS) Code 211111, which includes companies that extract crude petroleum and natural gas. For this NAICS code classification, a small

company is one with fewer than 500 employees. BOEM estimates that of the 130 lessees and operators that explore for and produce oil and gas on the OCS, approximately 90 are small businesses (70 percent).

The costs associated with the information collection (IC) activities related to this rulemaking should not have any significant economic effect on small businesses. This rule contains most of the same burden hour requirements and non-hour cost burdens as were in effect with BOEM's prior regulations. The changes in reporting requirements that are implemented with this rule do not significantly increase the IC burden on respondents—large or small. BOEM estimates an annual cumulative increase of 2,441 hours in the paperwork burden for all lessees over that imposed by the prior regulations. There is also a new \$29 non-hour cost burden for recording certain secondary lease interests resulting in an annual increase of \$20,300 (\$29 × an estimated 700 filings). A regulatory flexibility analysis is not required. Accordingly, a small entity compliance guide is also not required.

#### 4. Small Business Regulatory Enforcement Fairness Act (SBREFA)

This final rule is not a major rule under 5 U.S.C. 801–808), the Small Business Regulatory Enforcement Fairness Act. This rule:

(a) Will not have an annual effect on the economy of \$100 million or more;

(b) Will not cause a major increase in costs or prices for consumers, individual industries, Federal, State, or local government agencies, or geographic regions; and

(c) Will not have significant adverse effects on competition, employment, investment, productivity, innovation, or the ability of United States-based enterprises to compete with foreign-based enterprises.

#### 5. Comments From Small Businesses

The Small Business and Agriculture Regulatory Enforcement Ombudsman and 10 Regional Fairness Boards were established to receive comments from small businesses about Federal agency enforcement actions. The Ombudsman will annually evaluate the enforcement activities and rate each agency's responsiveness to small business. If you wish to comment on the actions of BOEM, call 1–888–734–3247. You may comment to the Small Business Administration (SBA) without fear of retaliation. Allegations of discrimination/retaliation filed with the Small Business Administration will be investigated for appropriate action.

#### 6. Unfunded Mandates Reform Act

This final rule does not impose an unfunded mandate on State, local, or tribal governments or the private sector of more than \$100 million per year. The final rule does not have a significant or unique effect on State, local, or tribal governments or the private sector. A statement containing the information required by the Unfunded Mandates Reform Act (2 U.S.C. 1531–1538) is not required.

#### 7. Takings Implication Assessment (E.O. 12630)

Under the criteria in E.O. 12630, *Governmental Action and Interference with Constitutionally-Protected Property Rights* (March 15, 1988), this final rule does not have significant takings implications. The rule is not a governmental action capable of interference with constitutionally-protected property rights. A takings implication assessment is not required.

#### 8. Federalism (E.O. 13132)

Under the criteria in E.O. 13132, *Federalism* (August 4, 1999), this final rule does not have sufficient federalism implications to require a Federalism Assessment. This final rule does not substantially and directly affect the relationship between the Federal and State governments. To the extent that State and local governments play a role in OCS activities, this rule does not affect that role.

#### 9. Civil Justice Reform (E.O. 12988)

This rule complies with the requirements of E.O. 12988, *Civil Justice Reform* (February 7, 1996). Specifically, this rule:

(a) Meets the criteria of section 3(a) requiring that all regulations be reviewed to eliminate errors and ambiguity and be written to minimize litigation; and

(b) Meets the criteria of section 3(b)(2) requiring that all regulations be written in clear language and contain clear legal standards.

#### 10. Consultation With Indian Tribal Governments (E.O. 13175)

Under the criteria in E.O. 13175, *Consultation and Coordination with Indian Tribal Governments* (November 9, 2000), we have evaluated this final rule and determined it has no substantial effect on Federally-recognized Indian tribes.

#### 11. Paperwork Reduction Act (PRA)

This rule contains new IC requirements; therefore, a submission to OMB under the Paperwork Reduction Act (PRA) of 1995 (44 U.S.C. 3501–

3521) was required. The OMB has approved the IC for the final rulemaking and assigned OMB Control Number 1010–0006 for a total of 19,454 burden hours and \$766,053 non-hour cost burdens.

The title of the IC is “Leasing of Sulfur or Oil and Gas in the Outer Continental Shelf (30 CFR part 550, part 556, and part 560)”. Respondents are Federal sulfur or oil and gas lessees and/or operators. Some responses to this IC are required to obtain or retain a benefit, and some are mandatory. The frequency of response varies but is primarily on occasion. The IC does not include questions of a sensitive nature. BOEM will protect proprietary information according to section 26 of OCSLA; the Freedom of Information Act (5 U.S.C. 552), its implementing regulations at 43 CFR part 2; and the regulations at 30 CFR 556.104(b) and 550.197, addressing proprietary data and data and information to be made available to the public or for limited inspection.

This rulemaking is a partial rewrite of 30 CFR part 556, Leasing of Sulfur or Oil and Gas and Bonding Requirements in the Outer Continental Shelf and of 30 CFR part 560, OCS Oil and Gas Leasing. It also refers to, but does not change current requirements and burdens already approved by OMB under 30 CFR part 550, subpart A (1010–0114). BOEM uses the information collected in the rulemaking to help determine specific areas of leasing interest, to determine if applicants are qualified to hold leases in the OCS, to identify parties ineligible to bid jointly, and to track owners of, and operators on, leaseholds.

In response to the proposed rule (74 FR 25177, May 27, 2009), BOEM received comments from the American Petroleum Institute, Shell Exploration and Production Company, Chevron North America Exploration and Production, Anglo Suisse Offshore Partners, LLC. (and Anglo Suisse Texas Offshore Partners, LLC.), Dynamic Offshore Resources, RLI Insurance Company, and two private citizens. Comments that addressed aspects of the information collection for this rulemaking are summarized below. All comments are addressed in detail in the preamble of this final rule.

Commenting on proposed rule section 256.404, one company indicated that it is burdensome to submit merger or name change information and that BOEM can obtain the information from the Secretary of State in most States. In the final rule, BOEM is retaining the requirement to submit such information in order to address the problems that the Bureau has had in the past with name/



merger changes of which BOEM was not timely informed. It is not practical for BOEM to monitor all filings with the Secretaries of State in each State. In final rule section 556.405, however, BOEM replaced the immediate filing with a requirement that the filing be accomplished as soon as practicable. No change in the burden resulted.

Concerning proposed rule sections 256.619 and 256.620, one company questioned submitting commercial agreements relating to certain transfers between restricted joint bidders because of the information's sensitivity. In final rule section 556.714, BOEM provided an option for the submission of a description of the timing and nature of the agreement(s) by which the assignor or transferor acquired the interest it now wishes to transfer. No change in the hour burden resulted. However, partially in response to the comment, BOEM added a general provision to the part (section 556.104(b)) to protect proprietary information (+ 125 hours).

In addition, between the proposed and final rules, several actions occurred that affected the information collection.

- The MMS was reorganized, per Secretarial Orders 3302 and 3299, resulting in a realignment of the regulations, with the leasing regulations going to BOEM, under 30 CFR chapter 5 (e.g., 30 CFR part 256 is now 30 CFR part 556).

- The IC burden for 30 CFR part 550, subpart J, bonding requirements for pipelines and pipeline rights-of-way, was consolidated into the collection being revised for this rulemaking for 30 CFR part 556 (1010–0006) due to the regulations realignment. The consolidation was approved by OMB on 11/14/2011.

- The proposed rule included a total rewrite of 30 CFR part 556; however, the final rule does not make substantive revisions to the regulations for general and supplemental bonding in prior part 556 (subpart I). After the proposed rule was published, questions arose about possible inconsistencies between the revised bonding regulations and regulations for oil-spill financial responsibility under 30 CFR part 553. Also, since the publication of the proposed rule, BOEM has decided to engage in an overhaul of its financial assurance processes, and subpart I will be revised in a separate rulemaking. Therefore, the regulations and the associated IC burden for 30 CFR part 550, subpart I, will remain in effect, but the sections in subpart I have been renumbered to fit within the numbering scheme of this rule (e.g., prior section 556.52 is now section 556.900).

- In the final rule, BOEM rearranged discussions to make the regulations easier to read and follow. Thus, all rule sections and citations have been renumbered from the proposed rule, as explained in the preamble of the final rule.

- The information collection for prior 30 CFR part 556 regulations (1010–0006) was renewed by OMB, thereby updating burden hours based on public outreach. BOEM has therefore used those updated estimates where relevant instead of those used in the proposed rulemaking.

## 12. Other Changes in the Information Collection (IC) Between the Proposed and Final Rules

- The proposed rule included regulatory text concerning the reporting of decommissioning costs in 30 CFR part 250, subpart Q, and text concerning reports on lease-term pipelines in section 256.621. Due to the realignment of regulations and bureau responsibilities, BOEM removed these requirements from the final rule as they were addressed in the Bureau of Safety and Environmental Enforcement (BSEE) regulations (– 820 hours for removing Subpart Q and – 1,500 hours for removing section 256.621 in the final rule).

- The final rule also removed the provisions under proposed rule sections 256.902(a) and 256.905 for requesting/transferring a bonus or royalty credit, because the program has officially ended (– 2 hours from current collection).

- BOEM also divided the IC requirements for commenting on the 5-Year Program and responding to Calls for Information, etc. (sections 556.201–204 and sections 556.301–302) into general (not considered IC per the PRA) and specific, in accordance with the currently approved collection for part 556 (+ 596 hours). Where applicable, all estimates were updated according to the recent Office of Management and Budget (OMB) approved renewal of the 30 CFR part 556 information collection.

- BOEM also included a burden that was overlooked in the proposed rule (section 256.100, now section 556.302(d)) for requesting a summary of interest on Calls for Information (+ 5 hours).

- The proposed rule (section 256.620) introduced a new cost recovery fee (\$27) for filing required documents for record purposes. In the final rule (section 556.715(a)), the fee has been increased to \$29 in accordance with changes BOEM made, due to inflation, to other such fees on January 28, 2013 (78 FR 5837).

- To make the regulations easier to follow, in the final rule BOEM split the discussion (requirements and associated fee) of assignment/transfer of record title and that of operating rights interests (30 CFR part 256, subpart G, in the proposed rule) into two subparts (30 CFR part 556, subparts G and H). With this reorganization, BOEM discovered that it had not properly counted the number of submissions for transfers of operating rights; therefore, in the final rule, BOEM is reporting an adjustment increase for such transfers of record title/operating rights (+ 421 hours; + \$83,358 non-hour costs).

In addition, to streamline activities, reduce the burden in the future, and assist respondents, the final rule includes:

- A clarification of the proposed rule (section 256.611) and BOEM's prior regulations (section 556.62), which both explained how a record title, or other lease interest may be transferred, but did not mention the need to file a new Designation of Operator form (BOEM–1123, 30 CFR part 550, subpart A), which often arises when a lease interest is transferred. This clarification in part 556 (sections 701(c); 715(b); 801(b); 810(b)) will result in a one-time increase in the number of submissions after the rule becomes effective (+ 80 hours); otherwise the requirement is covered under OMB Control No. 1010–0114.

- A clarification that geophysical statements and maps are included with bid submissions (sections 556.500–501). This requirement and its hour burden have always been part of the bid process but not specifically stated (no change in hour burden).

- A provision (section 556.107) to allow a company's one-time submission of documentation, with a corporate seal, to establish the legal status of future submissions without such seals, where such seals would otherwise be required (+ 67 hours as a one-time burden but expected to reduce the net burden for companies in the future).

- An expansion of a provision from the proposed rule (section 256.503(c)) to allow implementation of electronic submission systems (e.g., for bonding information) (sections 556.107; 560.500) (+ 800 hours as a one-time increase to allow companies to adjust their processes; however, we expect this provision to reduce the hour burden of each affected requirement in the future).

The following table shows the breakdown of the hour and non-hour cost burdens for this final rulemaking.

## 13. Burden Breakdown Table

*[Italics show expansion of existing requirements; bold indicates new*

requirements; regular font shows collection are being used instead of  
current requirements. Where applicable, those in the proposed rulemaking.]  
updated estimates from the existing

30 CFR part 556 and NTLs	Reporting requirement *	Non-hour cost burdens		
		Hour burden	Average number of annual responses	Annual burden hours
Subpart A				
104(b) New .....	Submit confidentiality agreement .....	0.25 .....	500 .....	125
106 .....	Cost recovery/service fees; confirmation receipt ...	Cost recovery/service fees and associated documentation are covered under individual requirements throughout the part.		0
107 New .....	Submit required documentation electronically through BOEM-approved system; comply with filing specifications, as directed by notice in the <b>Federal Register</b> in accordance with § 560.500.	Burden covered in § 560.500.		0
107 New .....	File seals, documents, statements, signatures, etc., to establish legal status of all future submissions (paper and/or electronic).	10 min .....	400 .....	67
Subtotal .....	.....	.....	900 .....	192
Subpart B				
201–204 .....	Submit nominations, suggestions, and general comments in response to Request for Information/Comments, proposed 5-year leasing program, etc., including information from States/local governments, Federal agencies, industry, and others.	Not considered IC as defined in 5 CFR 1320.3(h)(4).		0
201–204 .....	Submit nominations & specific information requested in response to Request for Information/Comments, proposed 5-year leasing program, etc., including from States/local governments, Federal agencies, industry, and others.	4 .....	69 .....	276
Subtotal .....	.....	.....	69 .....	276
Subpart C				
301; 302 .....	Submit response & specific information requested in Requests for Industry Interest and Calls for Information and Nominations, etc., on areas proposed for leasing; including information from States/local governments.	4 .....	20 responses/sale × 2 sales/call × 2 calls/year = 80.	320
302(d) New .....	Request summary of interest (nonproprietary information) for Calls for Information/Requests for Interest, etc.	1 .....	5 .....	5
305; 306 .....	States or local governments submit comments, recommendations, and other responses on size, timing, or location of proposed lease sale. Request extension; enter agreement.	4 .....	25 .....	100
Subtotal .....	.....	.....	110 .....	425
Subpart D				
400–402; 405 .....	Establish file for qualification; submit evidence/certification for lessee/bidder qualifications. Provide updates; obtain BOEM approval & qualification number.	2 .....	107 .....	214
403(c) .....	Request hearing on disqualification .....	Requirement not considered IC under 5 CFR 1320.3(h)(9).		0

30 CFR part 556 and NTLs	Reporting requirement *	Non-hour cost burdens		
		Hour burden	Average number of annual responses	Annual burden hours
403; 404 New .....	Notify BOEM if you or your principals are excluded, disqualified, or convicted of a crime—Federal non-procurement debarment and suspension requirements; request exception; enter transaction.	1.5 .....	50 .....	75
405 .....	Notify BOEM of all mergers, name changes, or changes of business.	Requirement not considered IC under 5 CFR 1320.3(h)(1).		0
Subtotal .....	.....	.....	157 .....	289

**Subpart E**

500; 501 .....	Submit bids, deposits, and required information, including GDIS & maps; in manner specified. Make data available to BOEM.	5 .....	2,000 .....	10,000
500(e); 517 .....	Request reconsideration of bid decision .....	Requirement not considered IC under 5 CFR 1320.3(h)(9).		0
501(e) New .....	Apply for reimbursement .....	Burden covered in 1010–0048, 30 CFR part 551.		0
511(b); 517 .....	Submit appeal due to restricted joint bidders list; appeal bid decision.	Requirement not considered IC under 5 CFR 1320.3(h)(9).		0
513; 514 .....	File statement and detailed report of production. Make documents available to BOEM.	2 .....	100 .....	200
515 .....	Request exemption from bidding restrictions; submit appropriate information.	Requirement not considered IC under 5 CFR 1320.3(h)(9).		0
516 .....	Notify BOEM of tie bid decision; file agreement on determination of lessee.	3.5 .....	2 .....	7
520; 521; 600(c) .....	Execute lease (includes submission of evidence of authorized agent/completion and request effective date of lease); submit required data and rental.	1 .....	852 .....	852
520(b) New .....	Provide acceptable bond for payment of a deferred bonus. (We do not expect this to occur, hence minimum burden).	0.25 .....	1 .....	1
Subtotal .....	.....	.....	2,955 .....	11,060

**Subparts F, G, H**

Subpart F, G, H .....	References to requests of approval for various operations or submit plans or applications. Burden included with other approved collections for BOEM 30 CFR part 550 (Subpart A 1010–0114; Subpart B 1010–0151) and for BSEE 30 CFR part 250 (Subpart A 1014–0022; Subpart D 1014–0018).			0
701(c); 716(b); 801(b); 810(b) New.	Submit new designation of operator (BOEM–1123). <i>One-time increase to existing requirements and burdens already covered in 1010–0114. Extra burden will be deleted in next renewal. No fee.</i>	0.5 .....	160 .....	80
700–715 .....	File application and required information for assignment/transfer of record title/lease interest (form BOEM–0150; form is 30 min.) (includes sell, sublease, sever, exchange, transfer); request effective date/confidentiality; provide notifications.	1 .....	1,414 .....	1,414
		\$198 fee × 1,414 forms = \$279,972		

30 CFR part 556 and NTLs	Reporting requirement *	Non-hour cost burdens		
		Hour burden	Average number of annual responses	Annual burden hours
800–810 .....	File application and required information for assignment/transfer of operating rights interest (form BOEM–0151; form is 30 min.) (includes sell, sublease, sever, exchange, transfer); request effective date; provide notifications.	1 .....	421 .....	421
		\$198 fee × 421 forms = \$83,358		
715(a); 808(a) .....	File required instruments creating or transferring working interests, etc., for record purposes.	1 .....	2,369 .....	2,369
New Fee .....		\$29 fee × 2,369 filings = \$68,701		
715(b); 808(b) .....	Submit “non-required” documents, for record purposes that respondents want BOEM to file with the lease document.  (Accepted on behalf of lessees as a service; BOEM does not require or need them.).	Accepted as a service.	11,518 .....	0
		\$29 fee × 11,518 filings = \$334,022		
Subtotal .....	.....	.....	15,882 .....	4,284
		\$766,053		
Subpart I				
900(a)–(e); 901; 902; 903(a).	Submit OCS Mineral Lessee’s and Operator’s Bond (Form BOEM–2028); execute bond.  Demonstrate financial worth/ability to carry out present and future financial obligations, request approval of another form of security, or request reduction in amount of supplemental bond required on BOEM-approved forms. Monitor and submit required information.	0.33 .....	135 .....	45
900(c), (d), (f), (g); 901(c), (d), (f); 902(e).		3.5 .....	166 .....	581
900(e); 901; 902; 903(a)	Submit OCS Mineral Lessee’s and Operator’s Supplemental Plugging & Abandonment Bond (Form BOEM–2028A); execute bond.	0.25 .....	141 .....	35
900(f), (g) .....	Submit authority for Regional Director to sell Treasury or alternate type of securities.	2 .....	12 .....	24
901 .....	Submit EP, DPP, and DOCDs .....	IC burden covered in 1010–0151, 30 CFR part 550, subpart B.		0
901(f) .....	Submit oral/written comment on adjusted bond amount and information.	Requirement not considered IC under 5 CFR 1320.3(h)(9).		0
903(b) .....	Notify BOEM of any lapse in previous bond/action filed alleging lessee, surety, or guarantor is insolvent or bankrupt.	1 .....	4 .....	4
904 .....	Provide plan/instructions to fund lease-specific abandonment account and related information; request approval to withdraw funds.	12 .....	2 .....	24
905 .....	Provide third-party guarantee, indemnity agreement, financial and required information, related notices, reports, and annual update; notify BOEM if guarantor becomes unqualified.	19 .....	46 .....	874
905(d)(3); 906 .....	Provide notice of and request approval to terminate period of liability, cancel bond, or other security; provide required information.	0.5 .....	378 .....	189
907(c)(2) .....	Provide information to demonstrate lease will be brought into compliance.	16 .....	5 .....	80
Subtotal .....	.....	.....	889 .....	1,856

30 CFR part 556 and NTLs	Reporting requirement *	Non-hour cost burdens		
		Hour burden	Average number of annual responses	Annual burden hours
Subpart K				
1101 .....	Request relinquishment (form BOEM–0152) of lease; submit required information.	1 .....	247 .....	247
1102 .....	Request additional time to bring lease into compliance.	1 .....	1 .....	1
1102(c) .....	Comment on cancellation .....	Requirement not considered IC under 5 CFR 1320.3(h)(9).		0
Subtotal .....	.....	.....	248 .....	248
30 CFR Part 556 Total.	.....	.....	21,210 .....	18,630
			\$766,053 Non-Hour Cost Burdens	
30 CFR Part 550 Subpart J	Reporting requirement *	Hour burden	Average number of annual responses	Annual burden hours
550.1011(a) .....	Provide surety bond (form BOEM–2030) and required information.	GOM 0.25 .....	52 .....	13
		Pacific 3.5 .....	3 .....	11
30 CFR Part 550, Subpart J, Total.	.....	.....	55 .....	24
30 CFR Part 560	Reporting requirement *	Hour burden	Average number of annual responses	Annual burden hours
560.224(a) .....	Request BOEM to reconsider field assignment of a lease.	Requirement not considered IC under 5 CFR 1320.3(h)(9).		0
560.500 New .....	Submit required documentation electronically through BOEM-approved system; comply with filing specifications, as directed by notice in the <b>Federal Register</b> (e.g., bonding info.).	1 .....	800 .....	800
30 CFR Part 560 Total.	.....	.....	800 .....	800
Total Reporting For Collection.	.....	.....	22,065 .....	19,454
			\$766,053 Non-Hour Cost Burdens	

\* In the future, BOEM may require electronic filing of certain submissions.

An agency may not conduct or sponsor, and you are not required to respond to, a collection of information unless it displays a currently valid OMB control number. The public may comment, at any time, on the accuracy of the IC burden estimate in this rule and may submit any comments to the Information Collection Clearance Officer, Office of Policy, Regulations, and Analysis; Bureau of Ocean Energy Management; U.S. Department of the Interior; VAM–BOEM DIR; 45600 Woodland Rd, Sterling, Virginia 20166.

#### 14. National Environmental Policy Act of 1969

This rule does not constitute a major Federal action significantly affecting the quality of the human environment.

BOEM has considered the rule under the criteria of the National Environmental Policy Act (NEPA) (42 U.S.C. 4321–4370h) and 516 Departmental Manual 15. This rule meets the criteria set forth in 43 CFR 46.210(5) for a Departmental “categorical exclusion” in that this final rule is “. . . of an administrative, financial, legal, technical, or procedural nature or whose environmental effects are too broad, speculative, or conjectural to lend themselves to meaningful analysis. . . .” This rule also meets the criteria set forth in 516 Departmental Manual 15.4(C)(1) for a BOEM “categorical exclusion” in that its impacts are limited to administrative, economic or technological effects. Further, BOEM has analyzed this rule to

determine if it meets any of the extraordinary circumstances that require an environmental assessment or an environmental impact statement as set forth in 43 CFR 46.215 and has concluded that it does not.

#### 15. Data Quality Act

In developing this rule, we did not conduct or use a study, experiment, or survey requiring peer review under the Data Quality Act (44 U.S.C. 3516–3521), Public Law 106–554, app. C section 515, 114 Stat. 2763, 2763A–153–154).

#### 16. Effects on the Energy Supply (E.O. 13211)

This rule is not a significant energy action under the definition in E.O. 13211, *Actions Concerning Regulations*

*That Significantly Affect Energy Supply, Distribution, or Use* (May 18, 2001). A statement of energy effects is not required.

List of Subjects

30 CFR Part 550

Administrative practice and procedure, Continental shelf, Environmental impact statements, Environmental protection, Federal lands, Government contracts, Investigations, Mineral resources, Oil and gas exploration, Outer continental shelf, Penalties, Pipelines, Reporting and recordkeeping requirements, Rights-of-way, Sulfur.

30 CFR Part 556

Administrative practice and procedure, Continental shelf, Environmental protection, Federal lands, Government contracts, Intergovernmental relations, Oil and gas exploration, Outer continental shelf, Mineral resources, Rights-of-way, Reporting and recordkeeping requirements.

30 CFR Part 559

Continental shelf, Federal lands, Federal lease, Gas, Government contracts, Mineral resources, Mineral royalties, Oil and gas exploration, Outer continental shelf, Reporting and recordkeeping requirements.

30 CFR Part 560

Continental shelf, Federal lands, Government contracts, Mineral

resources, Mineral royalties, Oil and gas exploration, Outer continental shelf, Reporting and recordkeeping requirements.

Dated: March 10, 2016.

Amanda C. Leiter,  
Acting Assistant Secretary—Land and Minerals Management.

For the reasons stated in the preamble, the Bureau of Ocean Energy Management, (BOEM) amends 30 CFR parts 550, 556, 559 and 560 as follows:

PART 550—OIL AND GAS AND SULFUR OPERATIONS IN THE OUTER CONTINENTAL SHELF

- 1. Revise the authority citation for 30 CFR part 550 to read as follows:

Authority: 31 U.S.C. 9701, 43 U.S.C. 1334.

Subpart A—General Provisions

- 2. Add § 550.120 to read as follows:

§ 550.120 What standards will BOEM use to regulate leases, rights-of-use and easement, and rights-of-way?

BOEM will regulate all activities under a lease, a right-of-use and easement, or a right-of-way to:

- (a) Promote the orderly exploration, development, and production of mineral resources;
- (b) Prevent injury or loss of life;
- (c) Prevent damage to or waste of any natural resource, property, or the environment; and
- (d) Ensure cooperation and consultation with affected States, local

governments, other interested parties, and relevant Federal agencies.

- 3. Add § 550.121 to read as follows:

§ 550.121 What must I do to protect health, safety, property, and the environment?

The Director may require additional measures to ensure the use of Best Available and Safest Technology (BAST) as identified by BSEE:

- (a) To avoid the failure of equipment that would have a significant effect on safety, health, or the environment;
- (b) If it is economically feasible; and
- (c) If the incremental benefits justify the incremental costs.

§§ 550.145 and 550.146 [Redesignated as §§ 550.146 and 550.147]

- 4. Redesignate §§ 550.145 and 550.146 as §§ 550.146 and 550.147, respectively.

- 5. Amend § 550.197 as follows:

- a. Revise the first sentence of the introductory text.
- b. Revise paragraph (b)(5).
- c. Revise paragraph (c).
- d. Add paragraph (d).

The revisions and addition read as follows:

§ 550.197 Data and information to be made available to the public or for limited inspection.

BOEM will protect data and information that you submit under this chapter, as described in this section.

\* \* \*  
\* \* \* \* \*  
(b) \* \* \*

If	BOEM will release	At this time	Special provisions
(5) Your lease is still in effect and within the primary term specified in the lease.	Geological data, analyzed geological information.	Two years after the required submittal date or 60 days after a lease sale if any portion of an offered lease is within 50 miles of a well, whichever is later.	These release times apply only if the provisions in this table governing high-resolution systems and the provisions in § 552.7 do not apply. If the primary term specified in the lease is extended, this provision applies to the extension.

\* \* \* \* \*

(c) BOEM may allow limited data and information inspection, but only by a person with a direct interest in related BOEM decisions and issues in a specific geographic area, and who agrees in writing to maintain the confidentiality of geological and geophysical (G&G) data and information submitted under this part that BOEM uses to:

- (1) Promote operational safety;
- (2) Protect the environment; or
- (3) Make field determinations.
- (d) No proprietary information received by BOEM under 43 U.S.C. 1352 will be transmitted to any affected State unless the lessee, or the permittee and

all persons to whom such permittee has sold such information under promise of confidentiality, agree to such transmittal.

- 6. Add subpart D to part 550 to read as follows:

Subpart D—Leasing Maps and Diagrams

§ 550.400 Leasing maps and diagrams.

(a) Any area of the OCS, which has been appropriately platted as provided in paragraph (b) of this section, may be leased for any mineral not included in an existing lease issued under the Act or meeting the requirements of

subsection (a) of section 6 of the Act. Before any lease is offered or issued an area may be:

- (1) Withdrawn from disposition pursuant to section 12(a) of the Act; or
- (2) Designated as an area or part of an area restricted from operation under section 12(d) of the Act.

(b) BOEM will prepare leasing maps and official protraction diagrams of areas of the OCS. The areas included in each mineral lease will be in accordance with the appropriate leasing map or official protraction diagram.

- 7. Revise part 556 to read as follows:

## **PART 556—LEASING OF SULFUR OR OIL AND GAS AND BONDING REQUIREMENTS IN THE OUTER CONTINENTAL SHELF**

### **Subpart A—General Provisions**

Sec.

- 556.100 Statement of policy.
- 556.101 Purpose.
- 556.102 Authority.
- 556.103 Cross references.
- 556.104 Information collection and proprietary information.
- 556.105 Acronyms and definitions.
- 556.106 Service fees.
- 556.107 Corporate seal requirements.

### **Subpart B—Oil and Gas Five Year Leasing Program**

- 556.200 What is the Five Year leasing program?
- 556.201 Does BOEM consider multiple uses of the OCS?
- 556.202 How does BOEM start the Five Year program preparation process?
- 556.203 What does BOEM do before publishing a proposed Five Year program?
- 556.204 How do Governments and citizens comment on a proposed Five Year program?
- 556.205 What does BOEM do before approving a proposed final Five Year program or a significant revision of a previously-approved Five Year program?

### **Subpart C—Planning and Holding a Lease Sale**

- 556.300 What reports may BOEM and other Federal agencies prepare before a lease sale?
- 556.301 What is a Call for Information and Nominations?
- 556.302 What does BOEM do with the information from the Call?
- 556.303 What does BOEM do if an area proposed for leasing is within three nautical miles of the seaward boundary of a coastal State?
- 556.304 How is a proposed notice of sale prepared?
- 556.305 How does BOEM coordinate and consult with States regarding a proposed notice of sale?
- 556.306 What if a potentially oil or gas bearing area underlies both the OCS and lands subject to State jurisdiction?
- 556.307 What does BOEM do with comments and recommendations received on the proposed notice of sale?
- 556.308 How does BOEM conduct a lease sale?
- 556.309 Does BOEM offer blocks in a sale that is not on the Five Year program schedule (called a Supplemental Sale)?

### **Subpart D—Qualifications**

- 556.400 When must I demonstrate that I am qualified to hold a lease on the OCS?
- 556.401 What do I need to show to become qualified to hold a lease on the OCS and obtain a qualification number?
- 556.402 How do I make the necessary showing to qualify and obtain a qualification number?

- 556.403 Under what circumstances may I be disqualified from holding a lease on the OCS?
- 556.404 What do the non-procurement debarment rules require that I do?
- 556.405 When must I notify BOEM of mergers, name changes, or changes of business form?

### **Subpart E—Issuance of a Lease**

#### **How To Bid**

- 556.500 Once qualified, how do I submit a bid?
- 556.501 What information do I need to submit with my bid?

#### **Restrictions on Joint Bidding**

- 556.511 Are there restrictions on bidding with others and do those restrictions affect my ability to bid?
- 556.512 What bids may be disqualified?
- 556.513 When must I file a statement of production?
- 556.514 How do I determine my production for purposes of the restricted joint bidders list?
- 556.515 May a person be exempted from joint bidding restrictions?

#### **How does BOEM act on bids?**

- 556.516 What does BOEM do with my bid?
- 556.517 What may I do if my bid is rejected?

#### **Awarding the Lease**

- 556.520 What happens if I am the successful high bidder and BOEM accepts my bid?
- 556.521 When is my lease effective?
- 556.522 What are the terms and conditions of the lease and when are they published?

### **Subpart F—Lease Terms and Obligations**

#### **Length of Lease**

- 556.600 What is the primary term of my oil and gas lease?
- 556.601 How may I maintain my oil and gas lease beyond the primary term?
- 556.602 What is the primary term of my sulfur lease?
- 556.603 How may I maintain my sulfur lease beyond the primary term?

#### **Lease Obligations**

- 556.604 What are my rights and obligations as a record title owner?
- 556.605 What are my rights and obligations as an operating rights owner?

#### **Helium**

- 556.606 What must a lessee do if BOEM elects to extract helium from a lease?

### **Subpart G—Transferring All or Part of the Record Title Interest in a Lease**

- 556.700 May I assign or sublease all or any part of the record title interest in my lease?
- 556.701 How do I seek approval of an assignment of the record title interest in my lease, or a severance of operating rights from that record title interest?
- 556.702 When will my assignment result in a segregated lease?
- 556.703 What is the effect of the approval of the assignment of 100 percent of the

record title in a particular aliquot(s) of my lease and the resulting lease segregation?

- 556.704 When would BOEM disapprove an assignment or sublease of an interest in my lease?
- 556.705 How do I transfer the interest of a deceased natural person who was a lessee?
- 556.706 What if I want to transfer record title interests in more than one lease at the same time, but to different parties?
- 556.707 What if I want to transfer different types of lease interests (not only record title interests) in the same lease to different parties?
- 556.708 What if I want to transfer my record title interests in more than one lease to the same party?
- 556.709 What if I want to transfer my record title interest in one lease to multiple parties?
- 556.710 What is the effect of an assignment of a lease on an assignor's liability under the lease?
- 556.711 What is the effect of a record title holder's sublease of operating rights on the record title holder's liability?
- 556.712 What is the effective date of a transfer?
- 556.713 What is the effect of an assignment of a lease on an assignee's liability under the lease?
- 556.714 As a restricted joint bidder, may I transfer an interest to another restricted joint bidder?
- 556.715 Are there any interests I may transfer or record without BOEM approval?
- 556.716 What must I do with respect to the designation of operator on a lease when a transfer of record title is submitted?

### **Subpart H—Transferring Operating Rights in All or Part of a Lease**

- 556.800 As an operating rights owner, may I assign all or part of my operating rights interest?
- 556.801 How do I seek approval of an assignment of my operating rights?
- 556.802 When would BOEM disapprove the assignment of all or part of my operating rights interest?
- 556.803 What if I want to assign operating rights interests in more than one lease at the same time, but to different parties?
- 556.804 What if I want to assign my operating rights interest in a lease to multiple parties?
- 556.805 What is the effect of an operating rights owner's assignment of operating rights on the assignor's liability?
- 556.806 What is the effective date of an assignment of operating rights?
- 556.807 What is the effect of an assignment of operating rights on an assignee's liability?
- 556.808 As an operating rights owner, are there any interests I may assign without BOEM approval?
- 556.809 [Reserved]
- 556.810 What must I do with respect to the designation of operator on a lease when a transfer of operating rights ownership is submitted?

**Subpart I—Bonding or Other Financial Assurance**

- 556.900 Bond requirements for an oil and gas or sulfur lease.
- 556.901 Additional bonds.
- 556.902 General requirements for bonds.
- 556.903 Lapse of bond.
- 556.904 Lease-specific abandonment accounts.
- 556.905 Using a third-party guarantee instead of a bond.
- 556.906 Termination of the period of liability and cancellation of a bond.
- 556.907 Forfeiture of bonds and/or other securities.

**Subpart J—Bonus or Royalty Credits for Exchange of Certain Leases**

- 556.1000 Leases formerly eligible for a bonus or royalty credit.

**Subpart K—Ending a Lease**

- 556.1100 How does a lease expire?
- 556.1101 May I relinquish my lease or an aliquot part thereof?
- 556.1102 Under what circumstances will BOEM cancel my lease?

**Subpart L—Leases Maintained Under Section 6 of OCSLA**

- 556.1200 Effect of regulations on lease.
- 556.1201 Section 6(a) leases and leases other than those for oil, gas, or sulfur.

**Subpart M—Environmental Studies**

- 556.1300 Environmental studies.

**Authority:** 30 U.S.C. 1701 note, 30 U.S.C. 1711, 31 U.S.C. 9701, 42 U.S.C. 6213, 43 U.S.C. 1331 note, 43 U.S.C. 1334, 43 U.S.C. 1801–1802.

**Subpart A—General Provisions****§ 556.100 Statement of policy.**

The management of Outer Continental Shelf (OCS) resources is to be conducted in accordance with the findings, purposes, and policy directions provided by the Outer Continental Shelf Lands Act Amendments of 1978 (OCSLA or the Act) (43 U.S.C. 1332, 1801, 1802), and other executive, legislative, judicial and departmental guidance. The Secretary of the Interior (the Secretary) will consider available environmental information in making decisions affecting OCS resources.

**§ 556.101 Purpose.**

The purpose of the regulations in this part is to establish the procedures under which the Secretary will exercise the authority to administer a leasing program for oil and gas, and sulfur. The regulations pertaining to the procedures under which the Secretary will exercise the authority to administer a program to grant rights-of-use and easements are found in part 550 of this chapter.

**§ 556.102 Authority.**

(a) The Outer Continental Shelf Lands Act (OCSLA) (43 U.S.C. 1334)

authorizes the Secretary of the Interior to issue, on a competitive basis, leases for oil and gas, and sulfur, in submerged lands of the OCS. The Act authorizes the Secretary to grant rights-of-way and easements through the submerged lands of the OCS.

(b) The Federal Oil and Gas Royalty Management Act of 1982 (FOGRMA) (30 U.S.C. 1711) governs oil and gas royalty management and requires the development of enforcement practices to ensure the prompt and proper collection of oil and gas revenues owed to the U.S.

(c) The Independent Offices Appropriations Act of 1952 (IOAA) (31 U.S.C. 9701) authorizes fees and charges for Federal government services.

(d) The Energy Policy and Conservation Act of 1975 (42 U.S.C. 6213) prohibits joint bidding by major oil and gas producers.

(e) The Gulf of Mexico Energy Security Act of 2006 (GOMESA) (Pub. L. 109–432, 43 U.S.C. 1331 note):

(1) Shares leasing revenues with Gulf producing states and the Land & Water Conservation Fund for coastal restoration projects; and

(2) Allows companies to exchange certain existing leases in moratorium areas for bonus and royalty credits to be used on other Gulf of Mexico leases.

**§ 556.103 Cross references.**

The following includes some of the major regulations relevant to offshore oil and gas development:

(a) For other applicable Bureau of Ocean Energy Management (BOEM) oil and gas regulations, see 30 CFR parts 550 through 560.

(b) For Bureau of Safety and Environmental Enforcement (BSEE) regulations governing exploration, development and production, and oil spill response, see 30 CFR chapter II.

(c) For Office of Natural Resources Revenue (ONRR) regulations related to rentals, royalties, and fees, see 30 CFR chapter XII.

(d) For BOEM regulations governing the appeal of an order or decision issued under the regulations in this part, see 30 CFR part 590.

(e) For regulations on the National Environmental Policy Act (NEPA), see 40 CFR 1500–1508 and 43 CFR part 46.

(f) For ocean dumping sites, see the U.S. Environmental Protection Agency (USEPA) listing—40 CFR part 228.

(g) For air quality, see USEPA regulations at 40 CFR part 55 and BOEM regulations at 30 CFR part 550 subparts B and C.

(h) For related National Oceanic and Atmospheric Administration (NOAA) programs, see:

(1) Marine Sanctuary regulations, 15 CFR part 922;

(2) Fishermen's Contingency Fund, 50 CFR part 296;

(3) Coastal Zone Management Act (CZMA), 15 CFR part 930;

(4) Essential Fish Habitat, 50 CFR 600.90.

(i) For U.S. Coast Guard (USCG) regulations on the oil spill liability of vessels and operators, see 33 CFR parts 132, 135, and 136.

(j) For USCG regulations on port access routes, see 33 CFR part 164.

(k) For Department of Transportation regulations on offshore pipeline facilities, see 49 CFR part 195.

(1) For Department of Defense regulations on military activities on offshore areas, see 32 CFR part 252.

**§ 556.104 Information collection and proprietary information.**

(a) *Information collection.* (1) The Office of Management and Budget (OMB) approved the collection of information under 44 U.S.C. 3501–3521, and assigned OMB Control Number 1010–0006. The title of this collection of information is “Leasing of Sulfur or Oil and Gas in the Outer Continental Shelf (30 CFR part 550, part 556, and part 560).”

(2) BOEM collects this information to determine if an applicant seeking to obtain a lease or right-of-use and easement (RUE) on the OCS is qualified to hold such a lease or RUE and to determine whether any such applicant can meet the monetary and non-monetary requirements associated with a lease or RUE. Responses to this information collection are either required to obtain or retain a benefit or are mandatory under OCSLA (43 U.S.C. 1331–1356a). BOEM will protect proprietary information collected according to section 26 of OCSLA (43 U.S.C. 1352), and this section.

(3) The Paperwork Reduction Act of 1995 (44 U.S.C. 3501–3521) requires us to inform the public that an agency may not conduct or sponsor, and that no one is required to respond to, a collection of information unless it displays a current and valid OMB control number.

(4) Send comments regarding any aspect of the collection of information under this part, including suggestions for reducing the burden, to the Information Collection Clearance Officer, Bureau of Ocean Energy Management, by mail at 45600 Woodland Road, Sterling, VA 20166 or by email to [regulation1@boem.gov](mailto:regulation1@boem.gov), or by phone at (703) 787–1025.

(b) *Proprietary information.* (1) Any proprietary information maintained by BOEM will be subject to the requirements of 43 CFR part 2.



(2) No proprietary information received by BOEM under 43 U.S.C. 1352(c) will be transmitted to any affected State unless the lessee, to whom such information applies, or the permittee and all persons, to whom such permittee has sold such information under promise of confidentiality, agree to such transmittal.

(c) Proprietary information in response to a Call for Information and Nominations (Call).

(1) A specific indication of interest in an area received in response to a Call issued by the Secretary is proprietary information.

(2) Notwithstanding paragraph (c)(1) of this section, BOEM may provide a summary of indications of interest in areas received in response to a Call for a proposed sale.

#### **§ 556.105 Acronyms and definitions.**

(a) Acronyms and terms used in this part have the following meanings:

ASTM American Society for Testing and Materials  
 BAST Best Available and Safest Technology  
 BOEM Bureau of Ocean Energy Management  
 BSEE Bureau of Safety and Environmental Enforcement  
 CFR Code of Federal Regulations  
 CPA Central Planning Area of the GOM  
 CZMA Coastal Zone Management Act  
 DOI Department of the Interior  
 DOCD Development Operations Coordination Document  
 DOO Designation of Operator  
 DPP Development and Production Plan  
 EIA Environmental Impact Analysis  
 EP Exploration Plan  
 EPA Eastern Planning Area of the GOM  
 EPAct Energy Policy Act of 2005  
 FNOS Final Notice of Sale  
 FOGMA Federal Oil and Gas Royalty Management Act of 1982  
 G&G Geological and Geophysical  
 GDIS Geophysical Data and Information Statement  
 GOM Gulf of Mexico  
 GOMESA Gulf of Mexico Energy Security Act of 2006  
 IOAA Independent Offices Appropriations Act of 1952  
 LLC Limited Liability Company  
 MBB Mapping and Boundary Branch  
 NAD North American Datum  
 NEPA National Environmental Policy Act of 1969  
 NGPA Natural Gas Processors Association  
 NOAA National Oceanic and Atmospheric Administration  
 NTL Notice to Lessees  
 OCS Outer Continental Shelf  
 OCSLA Outer Continental Shelf Lands Act  
 OMB Office of Management and Budget  
 ONRR Office of Natural Resources Revenue  
 OPD Official Protraction Diagram  
 PPOS Proposed Notice of Sale  
 PRA Paperwork Reduction Act  
 ROW Right of way

RSV Royalty Suspension Volume  
 RUE Right of Use and Easement  
 SLA Submerged Lands Act of 1953  
 U.S. United States  
 U.S.C. United States Code  
 USCG U.S. Coast Guard  
 USEPA U.S. Environmental Protection Agency  
 UTM Universal Transverse Mercator coordinate system  
 WPA Western Planning Area of the GOM

(b) As used in this part, each of the terms and phrases listed below has the meaning given in the Act or as defined in this section.

*Act* means the Outer Continental Shelf Lands Act, as amended (OCSLA) (43 U.S.C. 1331–1356a).

*Affected State* means, with respect to any program, plan, lease sale, or other activity proposed, conducted, or approved pursuant to the provisions of OCSLA, any State:

(i) The laws of which are declared, pursuant to section 4(a)(2) of OCSLA (43 U.S.C. 1333(a)(2)), to be the law of the United States for the portion of the OCS on which such activity is, or is proposed to be, conducted;

(ii) Which is, or is proposed to be, directly connected by transportation facilities to any artificial island or structure referred to in section 4(a)(1) of OCSLA (43 U.S.C. 1333(a)(1));

(iii) Which is receiving, or in accordance with the proposed activity will receive, oil for processing, refining, or transshipment that was extracted from the OCS and transported directly to that State by means of one or more vessels or by a combination of means, including a vessel;

(iv) Which is designated by the Secretary as a State in which there is a substantial probability of significant impact on or damage to the coastal, marine, or human environment; or a State in which there will be significant changes in the social, governmental, or economic infrastructure resulting from the exploration, development, and production of oil and gas anywhere on the OCS; or

(v) In which the Secretary finds that because of such activity, there is, or will be, a significant risk of serious damage, due to factors such as prevailing winds and currents, to the marine or coastal environment in the event of any oil spill, blowout, or release of oil or gas from one or more vessels, pipelines, or other transshipment facilities.

*Aliquot or Aliquot part* means an officially designated subdivision of a lease's area, which can be a half of a lease ( $\frac{1}{2}$ ), a quarter of a lease ( $\frac{1}{4}$ ), a quarter of a quarter of a lease ( $\frac{1}{4} \times \frac{1}{4}$ ), or a quarter of a quarter of a quarter of a lease ( $\frac{1}{4} \times \frac{1}{4} \times \frac{1}{4}$ ).

*Authorized officer* means any person authorized by law or by delegation of authority to or within BOEM to perform the duties described in this part.

*Average daily production* means the total of all production in an applicable production period that is chargeable under § 556.514 divided by the exact number of calendar days in the applicable production period.

*Barrel* means 42 U.S. gallons. All measurements of crude oil and natural gas liquids under this section must be at 60 °F.

(i) For purposes of computing production and reporting of natural gas, 5,626 cubic feet of natural gas at 14.73 pounds per square inch equals one barrel.

(ii) For purposes of computing production and reporting of natural gas liquids, 1,454 barrels of natural gas liquids at 60 °F equals one barrel of crude oil.

*Bidding unit* means one or more OCS blocks, or any portion thereof, that may be bid upon as a single administrative unit and will become a single lease. The term "tract," as defined in this section, may be used interchangeably with the term "bidding unit."

*BOEM* means Bureau of Ocean Energy Management of the U.S. Department of the Interior.

*Bonus or royalty credit* means a legal instrument or other written documentation approved by BOEM, or an entry in an account managed by the Secretary, that a bidder or lessee may use in lieu of any other monetary payment for a bonus or a royalty due on oil or gas production from certain leases, as specified in, and permitted by, the Gulf of Mexico Energy Security Act of 2006, Pub. L. 109–432 (Div. C, Title 1), 120 Stat. 3000 (2006), codified at 43 U.S.C. 1331, note.

*BSEE* means Bureau of Safety and Environmental Enforcement of the U.S. Department of the Interior.

*Central Planning Area (CPA)* means that portion of the Gulf of Mexico that lies southerly of Louisiana, Mississippi, and Alabama. Precise boundary information is available from the BOEM Leasing Division, Mapping and Boundary Branch (MBB).

*Coastal environment* means the physical, atmospheric, and biological components, conditions, and factors that interactively determine the productivity, state, condition, and quality of the terrestrial ecosystem from the shoreline inland to the boundaries of the coastal zone.

*Coastal zone* means the coastal waters (including the lands therein and thereunder) and the adjacent shorelands (including the water therein and

thereunder), strongly influenced by each other and in proximity to the shorelines of one or more of the several coastal States, and includes islands, transition and intertidal areas, salt marshes, wetlands, and beaches, whose zone extends seaward to the outer limit of the United States territorial sea and extends inland from the shore lines to the extent necessary to control shorelands, the uses of which have a direct and significant impact on the coastal waters, and the inland boundaries of which may be identified by the several coastal States, under section 305(b)(1) of the Coastal Zone Management Act (CZMA) of 1972, 16 U.S.C. 1454(b)(1).

*Coastline* means the line of mean ordinary low water along that portion of the coast in direct contact with the open sea and the line marking the seaward limit of inland waters.

*Crude oil* means a mixture of liquid hydrocarbons, including condensate that exists in natural underground reservoirs and remains liquid at atmospheric pressure after passing through surface separating facilities, but does not include liquid hydrocarbons produced from tar sand, gilsonite, oil shale, or coal.

*Designated operator* means a person authorized to act on your behalf and fulfill your obligations under the Act, the lease, and the regulations, who has been designated as an operator by all record title holders and all operating rights owners that own an operating rights interest in the aliquot/depths in which the designated operator, to which the Designation of Operator form applies, will be operating, and who has been approved by BOEM to act as designated operator.

*Desoto Canyon OPD* means the Official Protraction Diagram (OPD) designated as Desoto Canyon that has a western edge located at the universal transverse mercator (UTM) X coordinate 1,346,400 in the North American Datum of 1927 (NAD27).

*Destin Dome OPD* means the Official Protraction Diagram (OPD) designated as Destin Dome that has a western edge located at the Universal Transverse Mercator (UTM) X coordinate 1,393,920 in the NAD27.

*Development block* means a block, including a block susceptible to drainage, which is located on the same general geologic structure as an existing lease having a well with indicated hydrocarbons; a reservoir may or may not be interpreted to extend on to the block.

*Director* means the Director of the BOEM of the U.S. Department of the Interior, or an official authorized to act on the Director's behalf.

*Eastern Planning Area (EPA)* means that portion of the Gulf of Mexico that lies southerly and westerly of Florida. Precise boundary information is available from the BOEM Leasing Division, Mapping and Boundary Branch.

*Economic interest* means any right to, or any right dependent upon, production of crude oil, natural gas, or natural gas liquids and includes, but is not limited to: a royalty interest; an overriding royalty interest, whether payable in cash or kind; a working interest that does not include a record title interest or an operating rights interest; a carried working interest; a net profits interest; or a production payment.

*Human environment* means the physical, social, and economic components, conditions, and factors that interactively determine the state, condition, and quality of living conditions, employment, and health of those affected, directly or indirectly, by activities occurring on the OCS.

*Initial period or primary term* means the initial period referred to in 43 U.S.C. 1337(b)(2).

*Joint bid* means a bid submitted by two or more persons for an oil and gas lease under section 8(a) of the Act.

*Lease* means an agreement that is issued under section 8 or maintained under section 6 of the Act and that authorizes exploration for, and development and production of, minerals on the OCS. The term also means the area covered by that agreement, whichever the context requires.

*Lease interest* means one or more of the following ownership interests in an OCS oil and gas or sulfur lease: a record title interest, an operating rights interest, or an economic interest.

*Lessee* means a person who has entered into a lease with the United States to explore for, develop, and produce the leased minerals and is therefore a record title owner of the lease, or the BOEM-approved assignee-owner of a record title interest. The term lessee also includes the BOEM-approved sublessee- or assignee-owner of an operating rights interest in a lease.

*Marine environment* means the physical, atmospheric, and biological components, conditions, and factors that interactively determine the productivity, state, conditions, and quality of the marine ecosystem, including the waters of the high seas, the contiguous zone, transitional and intertidal areas, salt marshes, and wetlands within the coastal zone and on the OCS.

*Mineral* means oil, gas, and sulfur; it also includes sand, gravel, and salt used to facilitate the development and production of oil, gas, and sulfur.

*Natural gas* means a mixture of hydrocarbons and varying quantities of non-hydrocarbons that exist in the gaseous phase.

*Natural gas liquids* means liquefied petroleum products produced from reservoir gas and liquefied at surface separators, field facilities, or gas processing plants worldwide, including any of the following:

(i) Condensate—natural gas liquids recovered from gas well gas (associated and non-associated) in separators or field facilities; or

(ii) Gas plant products—natural gas liquids recovered from natural gas in gas processing plants and from field facilities. Gas plant products include the following, as classified according to the standards of the Natural Gas Processors Association (NGPA) or the American Society for Testing and Materials (ASTM):

(A) Ethane—C<sub>2</sub>H<sub>6</sub>

(B) Propane—C<sub>3</sub>H<sub>8</sub>

(C) Butane—C<sub>4</sub>H<sub>10</sub>, including all products covered by NGPA specifications for commercial butane, including isobutane, normal butane, and other butanes—all butanes not included as isobutane or normal butane;

(D) Butane-Propane Mixtures—All products covered by NGPA specifications for butane-propane mixtures;

(E) Natural Gasoline—A mixture of hydrocarbons extracted from natural gas, that meets vapor pressure, end point, and other specifications for natural gasoline set by NGPA;

(F) Plant Condensate—A natural gas plant product recovered and separated as a liquid at gas inlet separators or scrubbers in processing plants or field facilities; and

(G) Other Natural Gas plant products meeting refined product standards (*i.e.*, gasoline, kerosene, distillate, etc.).

*Operating rights* means an interest created by sublease out of the record title interest in an oil and gas lease, authorizing the owner to explore for, develop, and/or produce the oil and gas contained within a specified area and depth of the lease (*i.e.*, operating rights tract).

*Operating rights owner* means the holder of operating rights.

*Operating rights tract* means the area within the lease from which the operating rights have been severed on an aliquot basis from the record title interest, defined by a beginning and ending depth.

*Operator* means the person designated as having control or management of operations on the leased area or a portion thereof. An operator may be a lessee, the operating rights owner, or a designated agent of the lessee or the operating rights owner.

*Outer Continental Shelf (OCS)* means all submerged lands lying seaward and outside of the area of lands beneath navigable waters as defined in the Submerged Lands Act (43 U.S.C. 1301–1315) and of which the subsoil and seabed appertain to the United States and are subject to its jurisdiction and control.

*Outer Continental Shelf Lands Act (OCSLA)* means the Outer Continental Shelf Lands Act (43 U.S.C. 1331–1356a), as amended.

*Owned*, as used in the context of restricted joint bidding or a statement of production, means:

- (i) With respect to crude oil—having either an economic interest in or a power of disposition over the production of crude oil;
- (ii) With respect to natural gas—having either an economic interest in or a power of disposition over the production of natural gas; and
- (iii) With respect to natural gas liquids—having either an economic interest in or a power of disposition over any natural gas liquids at the time of completion of the liquefaction process.

*Pensacola OPD* means the Official Protraction Diagram (OPD) designated as Pensacola that has a western edge located at the UTM X coordinate 1,393,920 in the NAD27.

*Person* means a natural person, where so designated, or an entity, such as a partnership, association, State, political subdivision of a State or territory, or a private, public, or municipal corporation.

*Planning area* means a large portion of the OCS, consisting of contiguous OCS blocks, defined for administrative planning purposes.

*Primary term or initial period* means the initial period referred to in 43 U.S.C. 1337(b)(2).

*Regional Director* means the BOEM officer with responsibility and authority for a Region within BOEM.

*Regional Supervisor* means the BOEM officer with responsibility and authority for leasing or other designated program functions within a BOEM Region.

*Right-of-Use and Easement (RUE)* means a right to use a portion of the seabed at an OCS site other than on a lease you own, for the construction and/or use of artificial islands, facilities, installations, and other devices, established to support the exploration, development or production of oil and gas, mineral, or energy resources from an OCS or State submerged lands lease.

*Right-of-Way (ROW)* means an authorization issued by BSEE under the authority of section 5(e) of the OCSLA (43 U.S.C. 1334(e)) for the use of submerged lands of the Outer Continental Shelf for pipeline purposes.

*Secretary* means the Secretary of the Interior or an official or a designated employee authorized to act on the Secretary's behalf.

*Security or securities* means any note, stock, treasury stock, bond, debenture, evidence of indebtedness, certificate of interest or participation in any profit-sharing agreement; collateral-trust certificate; pre-organization certificate or subscription; transferable share; investment contract; voting-trust certificate; certificate of deposit for a security; fractional undivided interest in oil, gas, or other mineral rights; or, in general, any interest or instrument commonly known as a "security" or any certificate of interest or participation in, temporary or interim certificate for, receipt for, guarantee of, or warrant or right to subscribe to or purchase any of the foregoing.

*Single bid* means a bid submitted by one person for an oil and gas lease under section 8(a) of the Act.

*Six-month bidding period* means the 6-month period of time:

- (i) From May 1 through October 31; or
- (ii) from November 1 through April 30.

*Statement of production* means, in the context of joint restricted bidders, the following production during the applicable prior production period:

- (i) The average daily production in barrels of crude oil, natural gas, and natural gas liquids which it owned worldwide;

(ii) The average daily production in barrels of crude oil, natural gas, and natural gas liquids owned worldwide by every subsidiary of the reporting person;

(iii) The average daily production in barrels of crude oil, natural gas, and natural gas liquids owned worldwide by any person or persons of which the reporting person is a subsidiary; and

(iv) The average daily production in barrels of crude oil, natural gas, and natural gas liquids owned worldwide by any subsidiary, other than the reporting person, of any person or persons of which the reporting person is a subsidiary.

*Tract* means one or more OCS blocks, or any leasable portion thereof, that will be part of a single oil and gas lease. The term tract may be used interchangeably with the term "bidding unit."

*We, us, and our* mean BOEM or the Department of the Interior, depending on the context in which the word is used.

*Western Planning Area (WPA)* means that portion of the Gulf of Mexico that lies south and east of Texas. Precise boundary information is available from the Leasing Division, Mapping and Boundary Branch.

*You* means any party that has, or may have, legal obligations to the Federal government with respect to any operations on the OCS in which it is or may become involved. Depending on the context of the regulation, the term "you" may include a lessee (record title owner), an operating rights owner, a designated operator or agent of the lessee, a predecessor lessee, a holder of a State or Federal RUE, or a pipeline ROW holder.

#### **§ 556.106 Service fees.**

(a) The table in this paragraph shows the fees you must pay to BOEM for the services listed. BOEM will adjust the fees periodically according to the Implicit Price Deflator for Gross Domestic Product and publish a document showing the adjustment in the **Federal Register**. If a significant adjustment is needed to arrive at a new fee for any reason other than inflation, then a proposed rule containing the new fees will be published in the **Federal Register** for comment.

**SERVICE FEE TABLE**

Service—processing of the following:	Fee amount	30 CFR Citation
(1) Assignment of record title interest in Federal oil and gas lease(s) for BOEM approval. ....	\$198	§ 556.701(a)
(2) Sublease or Assignment of operating rights interest in Federal oil and gas lease(s) for BOEM approval. ....	198	§ 556.801(a)
(3) Required document filing for record purpose, but not for BOEM approval. ....	29	§ 556.715(a) § 556.808(a)

## SERVICE FEE TABLE—Continued

Service—processing of the following:	Fee amount	30 CFR Citation
(4) Non-required document filing for record purposes. ....	29	§ 556.715(b) § 556.808(b)

(b) Evidence of payment via pay.gov of the fees listed in paragraph (a) of this section must accompany the submission of a document for approval or filing, or be sent to an office identified by the Regional Director.

(c) Once a fee is paid, it is nonrefundable, even if your service request is withdrawn.

(d) If your request is returned to you as incomplete, you are not required to submit a new fee with the amended submission.

(e) The pay.gov Web site is accessible at <https://www.pay.gov/paygov/> or through the BOEM Web site at <http://www.boem.gov/Fees-for-Services>.

(f) The fees listed in the table above apply equally to any document or information submitted electronically pursuant to part 560, subpart E, of this chapter.

#### § 556.107 Corporate seal requirements.

(a) If you electronically submit to BOEM any document or information referenced in § 560.500 of this chapter, any requirement to use a corporate seal under this chapter will be satisfied, and you will not need to affix your corporate seal to such document or information, if:

(1) You properly file with BOEM a paper, with a corporate seal and the signature of the authorized person(s), stating that electronic submissions made by you will be legally binding, as set forth in § 560.502 of this chapter; and

(2) You make electronic submissions to BOEM through a secure electronic filing system that conforms to the requirements of § 560.500; or,

(b) You may file with BOEM a non-electronic document, containing a corporate seal and the signature of an authorized person(s), attesting that future documents and information filed by you by electronic or non-electronic means will be legally binding without an affixed corporate seal. If you file such a non-electronic attestation document with BOEM, any requirement for use of a corporate seal under the regulations of this chapter will be satisfied, and you will not need to affix your corporate seal to submissions where they would have been otherwise required.

(c) If the State or territory in which you are incorporated does not issue or require corporate seals, the document referred to in paragraphs (a) and (b) of

this section need not contain a corporate seal, but must still contain the signature of the authorized person(s), a statement that the State in which you are incorporated does not issue or require corporate seals, and a statement that submissions made by you will be legally binding.

(d) Any document, or information submitted without corporate seal must still contain the signature of an individual qualified to sign who has the requisite authority to act on your behalf.

(e) Any document or information submitted pursuant to this section is submitted subject to the penalties of 18 U.S.C. 1001, as amended by the False Statements Accountability Act of 1996.

#### Subpart B—Oil and Gas Five Year Leasing Program

##### § 556.200 What is the Five Year leasing program?

Section 18(a) of OCSLA (43 U.S.C. 1344(a)), requires the Secretary to prepare an oil and gas leasing program that consists of a five-year schedule of proposed lease sales to best meet national energy needs, showing the size, timing, and location of leasing activity as precisely as possible. BOEM prepares the five year schedule of proposed lease sales consistent with the principles set out in section 18(a)(1) and (2)(A)-(H) of OCSLA (43 U.S.C. 1344(a)(1) and (2)(A)-(H)) to obtain a proper balance among the potential for environmental damage, the potential for the discovery of oil and gas, and the potential for adverse impact on the coastal zone, as required by OCSLA section 18(a)(3) (43 U.S.C. 1344(a)(3)).

##### § 556.201 Does BOEM consider multiple uses of the OCS?

BOEM gathers information about multiple uses of the OCS in order to assist the Secretary in making decisions on the 5-year program pursuant to provisions of 43 U.S.C. 1344. For this purpose, BOEM invites and considers suggestions from States and local governments, industry, and any other interested parties, primarily through public notice and comment procedures. BOEM also invites and considers suggestions from Federal agencies.

##### § 556.202 How does BOEM start the Five Year program preparation process?

To begin preparation of the Five Year program, BOEM invites and considers nominations for any areas to be included or excluded from leasing, by doing the following:

(a) BOEM prepares and makes public official protraction diagrams and leasing maps of OCS areas. In any area properly included in the official Five Year diagrams and maps, any area not already leased for oil and gas may be offered for lease.

(b) BOEM invites and considers suggestions and relevant information from governors of States, local governments, industry, Federal agencies, and other interested parties, through a publication of a request for information in the **Federal Register**. Any local government must first submit its comments on the request for information to its State governor before sending the comments to BOEM.

(c) BOEM sends a letter to the governor of each affected State asking the governor to identify specific laws, goals, and policies that should be considered. Each State governor, as well as the Department of Commerce, is requested to identify the relationship between any oil and gas activity and the State under sections 305 and 306 of the CZMA, 16 U.S.C. 1454 and 1455.

(d) BOEM asks the Department of Energy for information on regional and national energy markets and transportation networks.

##### § 556.203 What does BOEM do before publishing a proposed Five Year program?

After considering the comments and information described in § 556.202, BOEM will prepare a draft proposed Five Year program.

(a) At least 60 days before publication of a proposed program, BOEM will send a letter, together with the draft proposed program, to the governor of each affected State, inviting the governor to comment on the draft proposed program.

(b) A governor, whether for purposes of preparing that State's comments or otherwise, may solicit comments from local governments that he determines may be affected by an oil and gas leasing program.

(c) If a governor's comments on the draft proposed program are received by

BOEM at least 15 days before submission of the proposed program to Congress and its publication for comment in the **Federal Register**, BOEM will reply to the governor in writing.

**§ 556.204 How do governments and citizens comment on a proposed Five Year program?**

BOEM publishes the proposed program in the **Federal Register** for comment by the public. At the same time, BOEM sends the proposed program to the governors of the affected States and to Congress and the Attorney General of the United States for review and comment.

(a) Governors are responsible for providing a copy of the proposed program to affected local governments in their States. Local governments may comment directly to BOEM, but must also send their comments to the governor of their State.

(b) All comments from any party are due within 90 days after publication of the request for comments in the **Federal Register**.

**§ 556.205 What does BOEM do before approving a proposed final Five Year program or a significant revision of a previously-approved Five Year program?**

At least 60 days before the Secretary may approve a proposed final Five Year program or a significant revision to a previously approved final Five Year program, BOEM will submit a proposed final program or proposed significant revision to the President and Congress. BOEM will also submit comments received and indicate the reasons why BOEM did or did not accept any specific recommendation of the Attorney General of the United States, the governor of a State, or the executive of a local government.

**Subpart C—Planning and Holding a Lease Sale**

**§ 556.300 What reports may BOEM and other Federal agencies prepare before a lease sale?**

For an oil and gas lease sale in a Five Year program, and as the need arises for other mineral leasing pursuant to part 581 of this chapter, BOEM will prepare a report describing the general geology and potential mineral resources of the area under consideration. The Director may request other interested Federal agencies to prepare reports describing, to the extent known, any other valuable resources contained within the general area and the potential effect of mineral operations upon the resources or upon the total environment or other uses of the area.

**§ 556.301 What is a Call for Information and Nominations?**

BOEM issues a Call for Information and Nominations (“Call”) on an area proposed for leasing in the Five Year program through publication in the **Federal Register** and other publications. A Call may include more than one proposed sale. Comments are requested from industry and the public on:

- (a) Industry interest in the area proposed for leasing, including nominations or indications of interest in specific blocks within the area;
- (b) Geological conditions, including bottom hazards;
- (c) Archaeological sites on the seabed or near shore;
- (d) Potential multiple uses of the proposed leasing area, including navigation, recreation, and fisheries;
- (e) Areas that should receive special concern and analysis; and
- (f) Other socioeconomic, biological, and environmental information.

**§ 556.302 What does BOEM do with the information from the Call?**

(a) Based upon information and nominations received in response to the Call, and in consultation with appropriate Federal agencies, the Director will develop a recommendation of areas proposed for leasing for the Secretary for further consideration for leasing and/or environmental analysis.

(1) In developing the recommendation, the Director will consider available information concerning the environment, conflicts with other uses, resource potential, industry interest, and other relevant information, including comments received from State and local governments and other interested parties in response to the Call.

(2) The Director, on his/her own motion, may include in the recommendation areas in which interest has not been indicated in response to a Call. In making a recommendation, the Director will consider all available environmental information.

(3) Upon approval by the Secretary, the Director will announce the area identified in the **Federal Register**.

(b) BOEM will evaluate the area(s) identified for further consideration for the potential effects of leasing on the human, marine, and coastal environments, and may develop measures to mitigate adverse impacts, including lease stipulations, for the options to be analyzed. The Director may hold public hearings on the environmental analysis after an appropriate notice.

(c) BOEM will seek to inform the public, as soon as possible, of changes

from the area(s) proposed for leasing that occur after the Call process.

(d) Upon request, the Director will provide relative indications of interest in areas, as well as any comments filed in response to a Call for a proposed sale. However, no information transmitted will identify any particular area with the name of any particular party so as not to compromise the competitive position of any participants in the process of indicating interest.

(e) For supplemental sales provided for by § 556.308, the Director’s recommendation will be replaced by a statement describing the results of the Director’s consideration of the factors specified above in this section.

**§ 556.303 What does BOEM do if an area proposed for leasing is within three nautical miles of the seaward boundary of a coastal State?**

For an area proposed for leasing that is within three nautical miles of the seaward boundary of a coastal State, as governed by section 8(g)(1) of OCSLA (43 U.S.C. 1337(g)(1)):

(a) BOEM provides the governor of the coastal State, subject to the confidentiality requirements in this chapter:

- (1) A schedule for leasing; and
- (2) An estimate of the potential oil and gas resources.

(b) At the request of the governor of a coastal State, BOEM will provide to that governor, subject to the confidentiality requirements in this chapter:

- (1) Information concerning geographical, geological, and ecological characteristics; and
- (2) An identification of any field, geological structure, or trap, or portion thereof, that lies within three nautical miles of the State’s boundary.

**§ 556.304 How is a proposed notice of sale prepared?**

(a) The Director will, in consultation with appropriate Federal agencies, develop measures, including lease stipulations and conditions, to mitigate adverse impacts on the environment, which will be contained, or referenced, in the proposed notice of sale.

(b) A proposed notice of sale will be submitted to the Secretary for approval. All comments and recommendations received and the Director’s findings or actions thereon, will also be forwarded to the Secretary.

(c) Upon approval by the Secretary, BOEM will send a proposed notice of sale to the governors of affected States and publish the notice of its availability in the **Federal Register**. The proposed notice of sale references or provides a

link to the lease form, and contains a description of the area proposed for leasing, the proposed lease terms and conditions of sale, and proposed stipulations to mitigate potential adverse impacts on the environment.

**§ 556.305 How does BOEM coordinate and consult with States regarding a proposed notice of sale?**

(a) Within 60 days after receiving the proposed notice of sale, governors of affected States may submit comments and recommendations to BOEM regarding the size, timing, and location of the proposed sale. Local governments may comment to BOEM directly, but must also send their comments to the governor of their State.

(b) BOEM will provide a consistency determination under the Coastal Zone Management Act (CZMA) (16 U.S.C. 1456) to each State with an approved coastal zone management program that will determine whether the proposed sale is consistent, to the maximum extent practicable, with the enforceable policies of the State's approved coastal zone management program.

**§ 556.306 What if a potentially oil- or gas-bearing area underlies both the OCS and lands subject to State jurisdiction?**

(a) Whenever the Director or the governor of a coastal State determines that a common potentially hydrocarbon-bearing area may underlie the Federal OCS and State submerged lands, the Director or the governor will notify the other party in writing of the determination.

(b) Thereafter the Director will provide to the governor of the coastal State, subject to the confidentiality requirements in this chapter:

(1) An identification of the areas proposed for leasing and a schedule for, leasing; and

(2) An estimate of the oil and gas resources.

(c) At the request of the governor of the coastal State, the Director will provide to such governor, subject to the confidentiality requirements in this chapter:

(1) All geographical, geological, and ecological characteristics of the areas proposed for leasing; and

(2) An identification of any field, geological structure, or trap that lies within 3 miles of the State's seaward boundary.

(d) If BOEM intends to lease such blocks or tracts, the Director and the governor of the coastal State may enter into an agreement for the equitable disposition of the revenues from production of any common potentially hydrocarbon-bearing area, pursuant to

OCSLA section 8(g)(3) (43 U.S.C. 1337(g)(3)). Any revenues received by the United States under such an agreement are subject to the requirements of OCSLA section 8(g)(2) (43 U.S.C. 1337(g)(2)).

(e) If the Director and the governor do not enter into an agreement under paragraph (d) of this section within 90 days, BOEM may nevertheless proceed with the leasing of the tracts, in which case all revenues will be deposited in a separate account in the Treasury of the United States, pending disposition of 27% (twenty-seven percent) of the revenues to the relevant coastal state(s), pursuant to the requirements of OCSLA section 8(g)(2). (43 U.S.C. 1337(g)(2)).

**§ 556.307 What does BOEM do with comments and recommendations received on the proposed notice of sale?**

(a) BOEM will consider all comments and recommendations received in response to the proposed notice of sale.

(b) If the Secretary determines, after providing opportunity for consultation, that a governor's comments, and those of any affected local government, provide a reasonable balance between the national interest and the well-being of the citizens of the State, the Secretary will accept the recommendations of a State and/or local government(s). Any such determination of the national interest will be based on the findings, purposes and policies of the Act set forth in 43 U.S.C. 1332 and 43 U.S.C. 1801.

(c) BOEM will send to each governor written reasons for its determination to accept or reject each governor's recommendation, and/or to implement any alternative means to provide for a reasonable balance between the national interest and the interests of the citizens of the State.

**§ 556.308 How does BOEM conduct a lease sale?**

(a) BOEM publishes a final notice of sale in the **Federal Register** and in other publications, as appropriate, at least 30 days before the date of the sale. The final notice:

(1) States the place, time, and method for filing bids and the place, date, and hour for opening bids; and

(2) Contains or references a description of the areas offered for lease, the lease terms and conditions of sale, and stipulations to mitigate potential adverse impacts on the environment.

(b) Oil and gas tracts are offered for lease by competitive sealed bid in accordance with the terms and conditions in the final notice of sale and applicable laws and regulations.

(c) Unless BOEM finds that a larger area is necessary for reasonable

economic production, no individual tract for oil and gas leasing will exceed 5,760 acres in area. If BOEM finds that an area larger than 5,760 acres is necessary in any particular area, the size of any such tract will be specified in the final notice of sale.

(d) The final notice of sale references, or provides a link to, the OCS lease form which will be issued to successful bidders.

**§ 556.309 Does BOEM offer blocks in a sale that is not on the Five Year program schedule (called a Supplemental Sale)?**

(a) Except as provided in paragraph (c) of this section, BOEM may offer a block within a planning area included in the Five Year program in an otherwise unscheduled sale, if the block:

(1) Received a bid that was rejected in an earlier sale;

(2) Had a high bid that was forfeited in a scheduled sale; or

(3) Is a development block subject to drainage.

(b) For an unscheduled sale, BOEM may disclose the classification of the block as a development block.

(c) Blocks in the Central or Western Gulf of Mexico Planning Areas cannot be offered in a sale that is not on the schedule.

**Subpart D—Qualifications**

**§ 556.400 When must I demonstrate that I am qualified to hold a lease on the OCS?**

In order to bid on, own, hold, or operate a lease on the OCS, bidders, record title holders, and operating rights owners must first obtain a qualification number from BOEM.

**§ 556.401 What do I need to show to become qualified to hold a lease on the OCS and obtain a qualification number?**

(a) You may become qualified to hold a lease on the OCS and obtain a qualification number in accordance with § 556.402, if you submit evidence demonstrating that you are:

(1) A natural person who is a citizen or national of the United States;

(2) A natural person who is an alien lawfully admitted for permanent residence in the United States, as defined in 8 U.S.C. 1101(a)(20);

(3) A private, public, or municipal corporation or Limited Liability Company or Limited Liability Corporation (either/both sometimes herein referred to as "LLC") organized under the laws of any State of the United States, the District of Columbia, or any territory or insular possession subject to United States jurisdiction;

(4) An association of such citizens, nationals, resident aliens, or corporations;

(5) A State, the District of Columbia, or any territory or insular possession subject to United States jurisdiction;

(6) A political subdivision of a State, the District of Columbia, or any territory or insular possession subject to United States jurisdiction; or

(7) A Trust organized under the laws of any State of the United States, the District of Columbia, or any territory or insular possession subject to United States jurisdiction;

(b) Statements and evidence submitted to demonstrate qualification under paragraphs (a)(1) through (6) of this section are subject to the penalties of 18 U.S.C. 1001.

(b) BOEM may issue you a qualification number after you have provided evidence acceptable to BOEM.

**§ 556.402 How do I make the necessary showing to qualify and obtain a qualification number?**

(a) If BOEM has already issued you a qualification number, you may present that number to BOEM. If not, in order to become qualified, you must provide the information in paragraph (b) or (c) of this section before BOEM will issue you a BOEM qualification number.

(b) A natural person must be a citizen or national of the United States, or a resident alien, to qualify. A United States citizen or national must submit written evidence acceptable to BOEM attesting to United States citizenship or national status. A resident alien must submit an original or a photocopy of the United States Citizenship and Immigration Services form evidencing legal status as a resident alien.

(c) A person who is not a natural person must submit evidence (refer to paragraph (d) of this section) acceptable to BOEM that:

(1) It is authorized to conduct business under the laws of a State, the District of Columbia, or any territory or insular possession subject to United States jurisdiction under which it is organized;

(2) Under the operating rules of its business, it is authorized to hold OCS leases; and

(3) Includes an up-to-date list of persons, and their titles, who are authorized to bind the corporation, association or other entity when conducting business on the OCS. It is up to you, in accordance with your organizational structure or rules, to identify the individual, or group of individuals, who has actual authority to bind your organization, and the title(s) they will use when they sign documents to bind the organization. You must maintain and regularly update the information as to who has the authority

to bind the organization whenever that information changes.

(d) Acceptable evidence under paragraph (c) of this section includes, but is not limited to:

(1) For a corporation,

(i) A statement by the Secretary of the corporation, over corporate seal, certifying that the corporation is authorized to hold OCS leases; and

(ii) Evidence of authority of holders of positions entitled to bind the corporation, certified by Secretary of the corporation, over corporate seal, such as:

(A) Certified copy of resolution of the board of directors with titles of officers authorized to bind corporation;

(B) Certified copy of resolutions granting corporate officer authority to issue a power of attorney; or

(C) Certified copy of power of attorney or certified copy of resolution granting power of attorney.

(2) For a Limited or General Partnership,

(i) A statement by an authorized party certifying that the partnership is authorized to hold OCS leases;

(ii) A copy of your signed partnership formation documents, including a partnership agreement;

(iii) A statement from each partner indicating, as appropriate, U.S. citizenship or incorporation or organization under the laws of a State, the District of Columbia, or any territory or insular possession subject to U.S. jurisdiction; and

(iv) Documentation evidencing the existence of the partnership and that it was properly created, either from the Secretary of State of the State in which the partnership is registered or by an equivalent State or governmental office.

(3) For a Limited Liability Company or Limited Liability Corporation,

(i) A certificate of formation of the LLC;

(ii) A statement by an individual authorized to bind the LLC, as listed under (c)(4) above, certifying that the LLC is authorized to hold OCS leases;

(iii) A statement from each member indicating, as appropriate, U.S. citizenship, or incorporation or organization under the laws of a State, the District of Columbia, or any territory or insular possession subject to U.S. jurisdiction; and

(iv) Evidence of authority of holders of positions entitled to bind the LLC, certified by an individual authorized to bind the LLC.

(4) For a Trust,

(i) A copy of the trust agreement or document establishing the trust and all amendments, properly certified by the trustee; and

(ii) A statement indicating the law under which the trust is established and that the trust is authorized to hold OCS leases.

(e) In the event that a person may be eligible to hold OCS leases, but that type of person is not listed in paragraphs (c) or (d) of this section, evidence of such eligibility will be submitted and certified by the highest level of management of the person authorized to do so pursuant to its operating agreement or governance documents.

(f) Any person who obtains a qualification number from BOEM is responsible to ensure that it is not using the qualification number approved by BOEM for any purpose that its operating rules do not allow.

(g) Any evidence submitted in response to paragraphs (c), (d), or (e) of this section is submitted subject to 18 U.S.C. 1001.

(h) A person may not hold leases on the OCS until the evidence requested in this section has been accepted and approved by BOEM and BOEM has issued a qualification number to that person.

(i) If use of a corporate seal is required by this section, you may meet the requirement as specified in § 556.107.

**§ 556.403 Under what circumstances may I be disqualified from holding a lease on the OCS?**

You may not hold an OCS lease if:

(a) You or your principals are excluded or disqualified from participating in a transaction covered by Federal non-procurement debarment and suspension (2 CFR parts 180 and 1400), unless the Department explicitly approves an exception for a transaction pursuant to the regulations in those parts;

(b) The Secretary finds, after notice and hearing, that you or your principals (including in the meaning of “you,” for purposes of this subparagraph, a bidder or prospective bidder) fail to meet due diligence requirements or to exercise due diligence under section 8(d) of OCSLA (43 U.S.C. 1337(d)) on any OCS lease; or

(c) BOEM disqualifies you from holding a lease on the OCS based on your unacceptable operating performance. BOEM will give you adequate notice and opportunity for a hearing before imposing a disqualification, unless BSEE has already provided such notice and opportunity for a hearing.

**§ 556.404 What do the non-procurement debarment rules require that I do?**

You must comply with the Department’s non-procurement



debarment regulations at 2 CFR parts 180 and 1400.

(a) You must notify BOEM if you know that you or your principals are excluded, disqualified, have been convicted or are indicted of a crime as described in 2 CFR part 180, subpart C. You must make this notification before you sign a lease, sublease, or an assignment of record title interest or operating rights interest, or become a lease or unit operator. This paragraph does not apply if you have previously provided a statement disclosing this information, and you have received an exception from the Department, as described in 2 CFR 180.135 and 2 CFR 1400.137.

(b) If you wish to enter into a covered transaction with another person at a lower tier, as described in 2 CFR 180.200, you must first:

(1) Verify that the person is not excluded or disqualified under 2 CFR part 180; and

(2) Require the person to:

(i) Comply with 2 CFR part 180, subpart C; and

(ii) Include the obligation to comply with 2 CFR part 180, subpart C in its contracts and other transactions.

(c) After you enter into a covered transaction, you must immediately notify BOEM in writing if you learn that:

(1) You failed to disclose pertinent information earlier; or

(2) Due to changed circumstances, you or your principals now meet any of the criteria in 2 CFR 180.800.

**§ 556.405 When must I notify BOEM of mergers, name changes, or changes of business form?**

You must notify BOEM of any merger, name change, or change of business form as soon as practicable, but in no case later than one year after the earlier of the effective date or the date of filing the change or action with the Secretary of State or other authorized official in the State of original registry.

**Subpart E—Issuance of a Lease**

**How To Bid**

**§ 556.500 Once qualified, how do I submit a bid?**

(a) You must submit a separate sealed bid for each tract or bidding unit to the address provided and by the time specified in the final notice of sale. You may not bid on less than an entire tract or bidding unit.

(b) BOEM requires a deposit for each bid. The final notice of sale will specify the amount and method of payment.

(c) Unless otherwise specified in the final notice of sale, the bid deposit

amount will be 20 percent of the amount of the bid for any given tract or bidding unit.

(d) You may not submit a bid on an OCS tract if, after notice and hearing under section 8(d) of OCSLA (43 U.S.C. 1337(d)), the Secretary finds that you are not meeting the diligence requirements on any OCS lease.

(e) If the authorized officer within BOEM rejects your high bid, the decision is final for the Department, subject only to reconsideration upon your written request as set out in § 556.517.

**§ 556.501 What information do I need to submit with my bid?**

In accordance with OCSLA section 18(a)(4) (43 U.S.C. 1344(a)(4)), BOEM must evaluate every bid to ensure that the federal government receives fair market value for every lease. Section 26(a)(1)(A) of OCSLA (43 U.S.C. 1352(a)(1)(A)) provides that, in accordance with regulations prescribed by the Secretary, any lessee or permittee conducting any exploration for, or development or production of, oil or gas must provide the Secretary access to all data and information (including processed, analyzed, and interpreted information) obtained from that activity and must provide copies of that data and information as the Secretary may request.

(a) As part of the lease sale process, every bidder submitting a bid on a tract, or participating as a joint bidder in such a bid, may at the time of bid be required to submit various information, including a Geophysical Data and Information Statement (GDIS) corresponding to that tract, as well as the bidder's exclusive/proprietary geophysical data in order for BOEM to properly evaluate the bid. If a GDIS required, each GDIS must include, as required by § 551.12(b) and (c) of this chapter:

(1) A list of geophysical surveys or other information used as part of the decision to bid or participate in a bid on the block.

(2) An accurate and complete record of each geophysical survey conducted, including digital navigational data and final location maps. The bidder and any joint bidder must include a map for each survey identified in the GDIS that illustrates the actual areal extent of the proprietary geophysical data.

(b) If a bidder is required to submit a GDIS, the GDIS must be submitted even if the bidder did not rely on proprietary geophysical data and information in deciding to bid or participate as a joint bidder in the bid for any particular

block, and must include entries for all such blocks.

(c) The bidder must submit each GDIS in a separate and sealed envelope, or in an electronically readable spreadsheet format, with proprietary seismic data maps also available in an electronic format. Each bidder must submit the GDIS even if its joint bidder or bidders on a specific block also have submitted a GDIS.

(d) If BOEM requires additional information related to bidding, it will describe the additional information requirements in the final notice of sale.

(e) BOEM will reimburse bidders for the costs of complying with the requirements of this section, in accordance with § 550.196 (on lease) and/or § 551.13 (off lease) of this chapter.

(f) Bids that are not made in compliance with this section will be considered incomplete and invalid.

**Restrictions on Joint Bidding**

**§ 556.511 Are there restrictions on bidding with others and do those restrictions affect my ability to bid?**

The Energy Policy and Conservation Act of 1975, 42 U.S.C. 6213, prohibits joint bidding by major oil and gas producers under certain circumstances. BOEM implements 42 U.S.C. 6213 as follows:

(a) BOEM publishes twice yearly in the **Federal Register** a restricted joint bidders list. A person appearing on this list is limited in its ability to submit a joint bid. The list:

(1) Consists of the persons chargeable with an average worldwide daily production in excess of 1.6 million barrels of crude oil and/or its equivalent in natural gas liquids and natural gas for the prior production period; and

(2) Is based upon the statement of production that filed as required by § 556.513.

(b) If BOEM places you on the restricted joint bidders list, BOEM will send you a copy of the order placing you on the list. You may appeal this order to the Interior Board of Land Appeals under 30 CFR part 590, subpart A.

(c) If you are listed in the **Federal Register** in any group of restricted bidders, you may not bid:

(1) Jointly with another person in any other group of restricted bidders for the applicable 6-month bidding period; or

(2) Separately during the 6-month bidding period if you have an agreement with another restricted bidder that will result in joint ownership in an OCS lease.

(d) If you are listed in the **Federal Register** in any group of restricted



bidders, you may not make any pre-bidding agreement for the conveyance of any potential lease interest, whether by assignment, sale, transfer, or other means, to any person on the list of restricted joint bidders.

(e) Even if you are not listed in the **Federal Register** in any group of restricted bidders, you are prohibited from making any pre-bidding agreement for the assignment, sale, transfer, or other conveyance of any potential lease interest to two or more persons in different groups on the list of restricted joint bidders.

(f) As a bidder, you are prohibited from unlawful combination with, or intimidation of, bidders under 18 U.S.C. 1860.

#### **§ 556.512 What bids may be disqualified?**

The following bids for any oil and gas lease will be disqualified and rejected in their entirety:

(a) A joint bid submitted by two or more persons who are on the effective List of Restricted Joint Bidders; or

(b) A joint bid submitted by two or more persons when:

(1) One or more of those persons is chargeable for the prior production period with an average daily production in excess of 1.6 million barrels of crude oil, natural gas and natural gas liquids and has not filed a Statement of Production, as required by § 556.513 of this part for the applicable 6-month bidding period, or

(2) Any of those persons have failed or refused to file a detailed report of production when required to do so under § 556.513, or

(c) A single or joint bid submitted pursuant to an agreement (whether written or oral, formal or informal, entered into or arranged prior to or simultaneously with the submission of such single or joint bid, or prior to or simultaneously with the award of the bid upon the tract) that provides:

(1) For the assignment, transfer, sale, or other conveyance of less than a 100 percent interest in the entire tract on which the bid is submitted, by a person or persons on the List of Restricted Joint Bidders, effective on the date of submission of the bid, to another person or persons on the same List of Restricted Joint Bidders; or

(2) For the assignment, sale, transfer or other conveyance of less than a 100 percent interest in any fractional interest in the entire tract (which fractional interest was originally acquired by the person making the assignment, sale, transfer or other conveyance, under the provisions of the act) by a person or persons on the List of Restricted Joint Bidders, effective on

the date of submission of the bid, to another person or persons on the same List of Restricted Joint Bidders; or

(3) For the assignment, sale, transfer, or other conveyance of any interest in a tract by a person or persons not on the List of Restricted Joint Bidders, effective on the date of submission of the bid, to two or more persons on the same List of Restricted Joint Bidders; or

(4) For any of the types of conveyances described in paragraphs (c)(1), (2), or (3) of this section where any party to the conveyance is chargeable for the prior production period with an average daily production in excess of 1.6 million barrels of crude oil, natural gas and natural gas liquids and has not filed a Statement of Production pursuant to § 556.513 for the applicable six-month bidding period. Assignments expressly required by law, regulation, lease or lease stipulation will not disqualify an otherwise qualified bid; or

(d) A bid submitted by or in conjunction with a person who has filed a false, fraudulent or otherwise intentionally false or misleading detailed Report of Production.

#### **§ 556.513 When must I file a statement of production?**

(a) You must file a statement of production if your average worldwide daily production exceeded 1.6 million barrels for the prior production period, as determined using the method set forth in § 556.514. Your statement of production must specify that you were chargeable with an average daily production in excess of 1.6 million barrels for the prior production period.

(b) The prior production periods are as follows:

For the bidding period of	The prior production period is the preceding
(1) May through October.	July through December.
(2) November through April.	January through June.

(c) You must file the statement of production by the following deadlines:

For the bidding period of	You must file the statement by
(1) May through October.	March 17.
(2) November through April.	September 17.

(d) If you are required to file a statement of production, BOEM may require you to submit a detailed report of production.

(1) The detailed report of production must list crude oil, natural gas liquids, and natural gas produced worldwide from reservoirs during the prior production period, and therefore chargeable to the prior production period.

(i) The amount of crude oil chargeable to the prior production period will be established by measurement of volumes delivered at the point of custody transfer (e.g., from storage tanks to pipelines, trucks, tankers, or other media for transport to refineries or terminals), with adjustments for net differences between opening and closing inventories, and basic sediment and water.

(ii) The amount of natural gas liquids chargeable to the prior production period must include gas liquefied at surface separators, field facilities, or gas processing plants.

(iii) The amount of natural gas chargeable to the prior production period must include adjustments, where applicable, to reflect the volume of gas returned to natural reservoirs, and the reduction of volume resulting from the removal of natural gas liquids and non-hydrocarbon gases.

(2) You must submit the detailed report of production within 30 days after receiving BOEM's request.

(3) BOEM may inspect and copy any document, record of production, analysis, and other material to verify the accuracy of any earlier statement of production.

(e) If you submit a statement of production that misrepresents your chargeable production, the Department may cancel any lease awarded in reliance upon the statement.

#### **§ 556.514 How do I determine my production for purposes of the restricted joint bidders list?**

(a) To determine the amount of production chargeable to you, add together:

(1) Your average daily production in barrels of crude oil, natural gas liquids, and natural gas worldwide, all measured at 60 °F, using the

equivalency or conversion factors for natural gas liquids and natural gas set out in 42 U.S.C. 6213(b)(2) and (3); and

(2) Your proportionate share of the average daily production owned by any person that has an interest in you and/or in which you have an interest.

(b) For the purpose of paragraph (a)(1) of this section, your production includes 100 percent of production owned by:

- (1) You;
- (2) Every subsidiary of yours;
- (3) Every person of which you are a subsidiary; and

(4) Every subsidiary of any person of which you are a subsidiary.

(c) For purposes of paragraph (a)(2) of this section, interest means at least a five percent ownership or control of you or the reporting person and includes any interest:

(1) From ownership of securities or other evidence of ownership; or,

(2) By participation in any contract, agreement, or understanding regarding control of the person or their production of crude oil, natural gas liquids, or natural gas.

(d) For purposes of this section, subsidiary means a person, 50 percent or more of whose stock or other interest having power to vote for the election of a controlling body, such as directors or trustees, is directly or indirectly owned or controlled by another person.

(e) For purposes of this section, production chargeable to you includes, but is not limited to, production obtained as a result of a production payment or a working, net profit, royalty, overriding royalty, or carried interest.

(f) For purposes of this section, production must be measured with appropriate adjustments for:

- (1) Basic sediment and water;
- (2) Removal of natural gas liquids and non-hydrocarbon gases; and
- (3) Volume of gas returned to natural reservoirs.

**§ 556.515 May a person be exempted from joint bidding restrictions?**

BOEM may exempt you from some or all of the reporting requirements listed in § 556.513, and/or some or all of the joint bidding restrictions listed in §§ 556.511 and/or 556.512(a), (b), and/or (c), if, after opportunity for a hearing, BOEM determines that the extremely high costs in an area will preclude exploration and development without an exemption.

**How Does BOEM Act on Bids?**

**§ 556.516 What does BOEM do with my bid?**

(a) BOEM opens the sealed bids at the place, date, and hour specified in the final notice of sale for the sole purpose of publicly announcing and recording the bids. BOEM does not accept or reject any bids at that time.

(b) BOEM reserves the right to reject any and all bids received, regardless of the amount offered. BOEM accepts or rejects all bids within 90 days of opening. BOEM reserves the right to extend that time if necessary, and in that event, BOEM will notify bidder(s) in writing prior to the expiration of the initial 90-day period, or of any extension. Any bid not accepted within

the prescribed 90-day period, or any extension thereof, will be deemed rejected. If your bid is rejected, BOEM will refund any money deposited with your bid, plus any interest accrued.

(c) If the highest bids are a tie, BOEM will notify the bidders who submitted the tie bids. Within 15 days after notification, those bidders, if qualified, and not otherwise prohibited from bidding together, may:

(1) Agree to accept the lease jointly. The bidders must notify BOEM of their decision and submit a copy of their agreement to accept the lease jointly.

(2) Agree between/among themselves which bidder will accept the lease. The bidders must notify BOEM of their decision.

(d) If no agreement is submitted pursuant to paragraph (c) of this section, BOEM will reject all the tie bids.

(e) The Attorney General, in consultation with the Federal Trade Commission, has 30 days to review the results of the lease sale before BOEM may accept the bid(s) and issue the lease(s).

**§ 556.517 What may I do if my high bid is rejected?**

(a) The decision of the authorized officer on bids is the final action of the Department, subject only to reconsideration of the rejection of the high bid by the Director, in accordance with paragraph (b) of this section.

(b) Within 15 days of bid rejection, you may file a written request for reconsideration with the Director, with a copy to the authorized officer. Such request must provide evidence as to why the Director should reconsider your bid. You will receive a written response either affirming or reversing the rejection of your bid.

(c) The Director's decision on the request for reconsideration is not subject to appeal to the Interior Board of Land Appeals in the Department's Office of Hearings and Appeals.

**Awarding the Lease**

**§ 556.520 What happens if I am the successful high bidder and BOEM accepts my bid?**

(a) If BOEM accepts your bid, BOEM will provide you with the appropriate number of copies of the lease for you to execute and return to BOEM. Within 11 business days after you receive the lease copies, you must:

- (1) Execute all copies of the lease;
- (2) Pay the first year's rental;
- (3) Pay the balance of the bonus bid, unless deferred under paragraph (b) below;
- (4) Comply with subpart I of this part; and,

(5) Return all copies of the executed lease, including any required bond or other form of security approved by the Regional Director, to BOEM.

(b) If provided for in the final notice of sale, BOEM may defer any part of the bonus and bid payment for up to five years after the sale according to a schedule included in the final notice of sale. You must provide a bond acceptable to BOEM to guarantee payment of a deferred bonus bid.

(c) If you do not make the required payments and execute and return all copies of the lease and any required bond within 11 business days after receipt, or if you otherwise fail to comply with applicable regulations, your deposit will be forfeited. However, BOEM will return any deposit with interest if the tract is withdrawn from leasing before you execute the lease.

(d) If you use an agent to execute the lease, you must include evidence with the executed copies of the lease that a person who is on the list of persons referenced in § 556.402(c)(3) authorized the agent to act for you.

(e) After you comply with all requirements in this section, and after BOEM has executed the lease, BOEM will send you a fully executed lease.

**§ 556.521 When is my lease effective?**

Your lease is effective on the first day of the month following the date that BOEM executes the lease. You may request in writing, before BOEM executes the lease, that your lease be effective as of the first day of the month in which BOEM executes the lease. If BOEM agrees to make the lease effective as of the earlier date, BOEM will so indicate when it executes the lease.

**§ 556.522 What are the terms and conditions of the lease and when are they published?**

The terms and conditions of the lease will be stated in the final notice of sale and contained in the lease instrument itself. Oil and gas leases and leases for sulfur will be issued on forms approved by the Director.

**Subpart F—Lease Term and Obligations**

**Length of Lease**

**§ 556.600 What is the primary term of my oil and gas lease?**

(a) The primary term of an oil and gas lease will be five years, unless BOEM determines that:

- (1) The lease is located in unusually deep water or involves other unusually adverse conditions; and,
- (2) A lease term longer than five years is necessary to explore and develop the lease.

(b) If BOEM determines that the criteria in paragraphs (a)(1) and (2) of this section are met, it may specify a longer primary term, not to exceed 10 years.

(c) BOEM will specify the primary term in the final notice of sale and in the lease instrument.

(d) The lease will expire at the end of the primary term, unless maintained beyond that term in accordance with the provisions of § 556.601.

**§ 556.601 How may I maintain my oil and gas lease beyond the primary term?**

You may maintain your oil and gas lease beyond the expiration of the primary term as long as:

(a) You are producing oil or gas in paying quantities;

(b) You are conducting approved drilling or well reworking operations with the objective of establishing production in paying quantities, in accordance with 30 CFR 250.180;

(c) You are producing from, or drilling or reworking, an approved well adjacent to or adjoining your lease that extends directionally into your lease in accordance with 30 CFR 256.71;

(d) You make compensatory payments on your lease in accordance with 30 CFR 256.72;

(e) Your lease is included in a BSEE-approved unit, in accordance with 30 CFR part 250, subpart M; or

(f) Your lease is subject to a suspension of production or a suspension of operations, in accordance with 30 CFR 250.168 through 250.180, for reasons other than gross negligence or a willful violation of a provision of your lease or any governing regulations.

**§ 556.602 What is the primary term of my sulfur lease?**

(a) Your sulfur lease will have a primary term of not more than 10 years, as specified in the lease.

(b) BOEM will announce the primary term prior to the lease sale.

(c) The lease will expire at the end of the primary term unless maintained beyond that term in accordance with the provisions of § 556.603.

**§ 556.603 How may I maintain my sulfur lease beyond the primary term?**

You may maintain your sulfur lease after the primary term as long as you are producing sulfur in paying quantities, conducting drilling, well reworking or plant construction, or other operations for the production of sulfur or you are granted a suspension by BSEE; or your lease is subject to a suspension directed by BSEE for reasons other than gross negligence or a willful violation of a provision of your lease or governing regulations.

**Lease Obligations**

**§ 556.604 What are my rights and obligations as a record title owner?**

(a) As a record title owner, you are responsible for all administrative and operating performance on the lease, including paying any rent and royalty due.

(b)(1) A record title owner owns operating rights to the lease, unless and until he or she severs the operating rights by subleasing them to someone else.

(2) A sublease of operating rights from record title may be for a whole or undivided fractional interest in the entire lease or a described aliquot portion of the lease and/or a depth interval. The sublease creates an operating rights interest in the sublessee, herein referred to as the operating rights owner.

(c) Within any given aliquot, the record title owner may sublease operating rights for up to a maximum of two depth divisions, which may result in a maximum of three different depth intervals. But, if the one, or two, depth divisions to which operating rights are subleased do not include the entire depth of the lease, whatever depth division(s) has not been subleased, remains part of the lessee/sublessor's record title interest. The depth intervals for which operating rights are subleased must be defined by a beginning and ending depth and the ending of one depth level must abut the beginning of the next depth level, with no gap in between.

(d) Every current and prior record title owner is jointly and severally liable, along with all other record title owners and all prior and current operating rights owners, for compliance with all non-monetary terms and conditions of the lease and all regulations issued under OCSLA, as well as for fulfilling all non-monetary obligations, including decommissioning obligations, which accrue while it holds record title interest.

(e) Record title owners that acquired their record title interests through assignment from a prior record title owner are also responsible for remedying all existing environmental or operational problems on any lease in which they own record title interests, with subrogation rights against prior lessees.

(f) For monetary obligations, your obligation depends on the source of the monetary obligation and whether you have retained or severed your operating rights.

(1) With respect to those operating rights that you have retained, you are

primarily liable under 30 U.S.C. 1712(a) for your pro-rata share of all other monetary obligations pertaining to that portion of the lease subject to the operating rights you have retained, based on your share of operating rights in that portion of the lease.

(2) With respect to all monetary obligations arising from or in connection with those operating rights that have been severed from your record title interest, your obligation is secondary to that of the sublessee(s) or later assignee(s) of the operating rights that were severed from your record title interest, as prescribed in 30 U.S.C. 1712(a).

**§ 556.605 What are my rights and obligations as an operating rights owner?**

(a) As an operating rights owner, you have the right to enter the leased area to explore for, develop, and produce oil and gas resources, except helium gas, contained within the aliquot(s) and depths within which you own operating rights, according to the lease terms, applicable regulations, and BOEM's approval of the sublease or subsequent assignment of the operating rights.

(b) Unless otherwise prohibited, you have the right to authorize another party to conduct operations on the part of the lease to which your operating rights appertain.

(c) An owner of operating rights who is designating a new designated operator must file a designation of operator under § 550.143 of this chapter.

(d) An operating rights owner is only liable for obligations arising from that portion of the lease to which its operating rights appertain and that accrue during the period in which the operating rights owner owned the operating rights.

(e) You are jointly and severally liable with other operating rights owners and the record title owners for all non-monetary lease obligations pertaining to that portion of the lease subject to your operating rights, which accrued during the time you held your operating rights interest.

(f) An operating rights owner that acquires its operating rights interests through assignment from a prior operating rights owner is also responsible, with subrogation rights against prior operating rights owners, for remedying existing environmental or operational problems, to the extent that such problems arise from that portion of the lease to which its operating rights appertain, on any lease in which it owns operating rights.

(g) You are primarily liable for monetary obligations pertaining to that portion of the lease subject to your

operating rights, and the record title owners are secondarily liable. If there is more than one operating rights owner in a lease, each operating rights owner is primarily liable for its pro-rata share of the monetary obligations that pertain to the portion of the lease that is subject to its operating rights.

## Helium

### **§ 556.606 What must a lessee do if BOEM elects to extract helium from a lease?**

(a) BOEM reserves the ownership of, and the right to extract, helium from all gas produced from your OCS lease. Under section 12(f) of OCSLA (43 U.S.C. 1341(f)), upon our request, you must deliver all or a specified portion of the gas containing helium to BOEM at a point on the leased area or at an onshore processing facility that BOEM designates.

(b) BOEM will determine reasonable compensation and pay you for any loss caused by the extraction of helium, except for the value of the helium itself. BOEM may erect, maintain, and operate on your lease any reduction work and other equipment necessary for helium extraction. Our extraction of helium will be conducted in a manner to not cause substantial delays in the delivery of gas to your purchaser.

## **Subpart G—Transferring All or Part of the Record Title Interest in a Lease**

### **§ 556.700 May I assign or sublease all or any part of the record title interest in my lease?**

(a) With BOEM approval, you may assign your whole, or a partial record title interest in your entire lease, or in any aliquot(s) thereof.

(b) With BOEM approval, you may sever all, or a portion of, your operating rights.

(c) You must request approval of each assignment of a record title interest and each sublease of an operating rights interest. Each instrument that transfers a record title interest must describe, by aliquot parts, the interest you propose to transfer. Each instrument that severs an operating rights interest must describe, by officially designated aliquot parts and depth levels, the interest proposed to be transferred.

### **§ 556.701 How do I seek approval of an assignment of the record title interest in my lease, or a severance of operating rights from that record title interest?**

(a) The Regional Director will provide the form to record an assignment of record title interest in a Federal OCS oil and gas or sulfur lease, or a severance of operating rights from that record title interest. You must submit to BOEM two originals of each instrument that

transfers ownership of record title within 90 days after the last party executes the transfer instrument. You must pay the service fee listed in § 556.106 with your request and your submission must include evidence of payment via pay.gov.

(b) Before BOEM approves an assignment or transfer, it must consult with, and consider the views of, the Attorney General. The Secretary may act on an assignment or transfer if the Attorney General has not responded to a request for consultation within 30 days of said request.

(c) A new record title owner or sublessee must file a designation of operator, in accordance with § 550.143 of this chapter, along with the request for the approval of the assignment.

### **§ 556.702 When will my assignment result in a segregated lease?**

(a) When there is an assignment by all record title owners of 100 percent of the record title to one or more aliquots in a lease, the assigned and retained portions become segregated into separate and distinct leases. In such case, both the new lease and the remaining portion of the original lease are referred to as “segregated leases” and the assignee(s) becomes the record title owner(s) of the new lease, which is subject to all the terms and conditions of the original lease.

(b) If a record title holder transfers an undivided interest, *i.e.*, less than 100 percent of the record title interest in any given aliquot(s), that transfer will not segregate the portions of the aliquots, or the whole aliquots, in which part of the record title was transferred, into separate leases from the portion(s) in which no interest was transferred. Instead, that transfer will create a joint ownership between the assignee(s) and assignor(s) in the portions of the lease in which part of the record title interest was transferred. Any transfer of an undivided interest is subject to approval by BOEM.

### **§ 556.703 What is the effect of the approval of the assignment of 100 percent of the record title in a particular aliquot(s) of my lease and of the resulting lease segregation?**

(a) The bonding/financial assurance requirements of subpart I of this part apply separately to each segregated lease.

(b) The royalty, minimum royalty, and rental provisions of the original lease will apply separately to each segregated lease.

(c) BOEM will allocate among the segregated leases, on a basis that is equitable under the circumstances, any remaining unused royalty suspension

volume or other form of royalty suspension or royalty relief that had been granted to the original lease, not to exceed in aggregate the total remaining amount.

(d) Each segregated lease will continue in full force and effect for the primary term of the original lease and so long thereafter as each segregated lease meets the requirements outlined in § 556.601. A segregated lease that does not meet the requirements of § 556.601 does not continue in force even if another segregated lease, which was part of the original lease, continues to meet those requirements.

### **§ 556.704 When would BOEM disapprove an assignment or sublease of an interest in my lease?**

(a) BOEM may disapprove an assignment or sublease of all or part of your lease interest(s):

(1) When the transferor or transferee has unsatisfied obligations under this chapter or 30 CFR chapters II or XII;

(2) When a transferor attempts a transfer that is not acceptable as to form or content (*e.g.*, not on standard form, containing incorrect legal description, not executed by a person authorized to bind the corporation, transferee does not meet the requirements of § 556.401, etc.); or,

(3) When the transfer does not conform to these regulations, or any other applicable laws or regulations (*e.g.*, departmental debarment rules).

(b) A transfer will be void if it is made pursuant to any prelease agreement that would cause a bid to be disqualified, such as those described in § 556.511(c), (d), or (e).

### **§ 556.705 How do I transfer the interest of a deceased natural person who was a lessee?**

(a) An heir or devisee must submit evidence by means of a certified copy of an appropriate court order or decree that the person is deceased; or, if no court action is necessary, a certified copy of the will and death certificate or notarized affidavits of two disinterested parties with knowledge of the facts.

(b) The heir or devisee, if the lawful successor in interest, must submit evidence that he/she is the person named in the will or evidence from an appropriate judgment of a court or decree that he/she is the lawful successor in interest, along with the required evidence of his/her qualifications to hold a lease under subpart D of this part.

(c) If the heir or devisee does not qualify to hold a lease under subpart D of this part, he/she will be recognized as the successor in interest, but he/she

must divest him/herself of this interest in the lease, to a person qualified to be a hold a lease, within two years.

**§ 556.706 What if I want to transfer record title interests in more than one lease at the same time, but to different parties?**

You may not transfer interests in more than one lease to different parties using the same instrument. If you want to transfer the interest in more than one lease at the same time, you must submit duplicate, originally executed forms for each transfer. The forms used for each transfer must be accompanied by a cover letter executed by one of the parties to the transfer (or an authorized agent thereof) and evidence of payment via pay.gov.

**§ 556.707 What if I want to transfer different types of lease interests (not only record title interests) in the same lease to different parties?**

You may not transfer different types of lease interests in a lease to different parties using the same instrument. You must submit duplicate, originally executed forms for each transfer, to a different party, of a different type of lease interest. The form used to transfer each type of lease interest must be accompanied by a cover letter executed by one of the parties to the transfer (or an authorized agent thereof) and evidence of payment via pay.gov.

**§ 556.708 What if I want to transfer my record title interests in more than one lease to the same party?**

You may not transfer your record title interests in more than one lease to the same party using the same instrument. If you want to transfer record title interests in more than one lease at the same time, you must submit separate, originally executed forms for each transfer. The forms used for each transfer must be accompanied by a cover letter executed by one of the parties to the transfer (or an authorized agent thereof), and evidence of payment via pay.gov. A separate fee applies to each individual transfer of interest.

**§ 556.709 What if I want to transfer my record title interest in one lease to multiple parties?**

You may transfer your record title interest in one lease to multiple parties using the same instrument. That instrument must be submitted in duplicate originals, accompanied by a cover letter executed by one of the parties to the transfer (or an authorized agent thereof). In such a multiple transfer of interests using a single instrument, a separate fee applies to each individual transfer of interest, and

evidence of payment via pay.gov must accompany the instrument.

**§ 556.710 What is the effect of an assignment of a lease on an assignor's liability under the lease?**

If you assign your record title interest, as an assignor you remain liable for all obligations, monetary and non-monetary, that accrued in connection with your lease during the period in which you owned the record title interest, up to the date BOEM approves your assignment. BOEM's approval of the assignment does not relieve you of these accrued obligations. Even after assignment, BOEM or BSEE may require you to bring the lease into compliance if your assignee or any subsequent assignee fails to perform any obligation under the lease, to the extent the obligation accrued before approval of your assignment. Until there is a BOEM-approved assignment of interest, you, as the assignor, remain liable for the performance of all lease obligations that accrued while you held record title interest, until all such obligations are fulfilled.

**§ 556.711 What is the effect of a record title holder's sublease of operating rights on the record title holder's liability?**

(a) A record title holder who subleases operating rights remains liable for all obligations of the lease, including those obligations accruing after BOEM's approval of the sublease, subject to § 556.604(e) and (f).

(b) Neither the sublease of operating rights, nor subsequent assignment of those rights by the original sublessee, nor by any subsequent assignee of the operating rights, alters in any manner the liability of the record title holder for nonmonetary obligations.

(c) Upon approval of the sublease of the operating rights, the sublessee and subsequent assignees of the operating rights become primarily liable for monetary obligations, but the record title holder remains secondarily liable for them, as prescribed in 30 U.S.C. 1712(a) and § 556.604(f)(2).

**§ 556.712 What is the effective date of a transfer?**

Any transfer is effective at 12:01 a.m. on the first day of the month following the date on which BOEM approves your request, unless you request an earlier effective date and BOEM approves that earlier date, but such earlier effective date, if prior to the date of BOEM's approval, does not relieve you of obligations accrued between that earlier effective date and the date of approval.

**§ 556.713 What is the effect of an assignment of a lease on an assignee's liability under the lease?**

As assignee, you and any subsequent assignees are liable for all obligations that accrue after the effective date of your assignment. As assignee, you must comply with all the terms and conditions of the lease and regulations issued under OCSLA, and in addition, you must remedy all existing environmental and operational problems on the lease, properly abandon all wells, and reclaim the site, as required under 30 CFR part 250.

**§ 556.714 As a restricted joint bidder, may I transfer an interest to another restricted joint bidder?**

(a) Where the proposed assignment or transfer is by a person who, at the time of acquisition of an interest in the lease, was on the List of Restricted Joint Bidders, and that assignment or transfer is of less than the entire interest held by the assignor or transferor and to a person or persons on the same List of Restricted Joint Bidders, the assignor or transferor must file, prior to the approval of the assignment, a copy of all agreements applicable to the acquisition of that lease or fractional interest, or a description of the timing and nature of the agreement(s) by which the assignor or transferor acquired the interest it now wishes to transfer.

(b) Such description of the timing and nature of the transfer agreement must be submitted together with a certified statement that attests to the truth and accuracy of any information reported concerning that agreement, subject to the penalties of 18 U.S.C. 1001.

(c) If you wish to transfer less than your entire interest to another restricted joint bidder, BOEM may request the opinion of the Attorney General before acting on your request.

(d) You may request that any submission to BOEM made pursuant to this part be treated confidentially. Please note such a request on your submission. BOEM will treat this request for confidentiality in accordance with the regulations at § 556.104 and the regulations at 43 CFR part 2.

**§ 556.715 Are there any interests I may transfer or record without BOEM approval?**

(a) You may create, transfer, or assign economic interests without BOEM approval. However, for record purposes, you must send BOEM a copy of each instrument creating or transferring such interests within 90 days after the last party executes the transfer instrument. For each lease affected, you must pay the service fee listed in § 556.106 with your documents submitted for record

purposes and your submission must include evidence of payment via pay.gov.

(b) For recordkeeping purposes, you may also submit other legal documents to BOEM for transactions that do not require BOEM approval. If you submit such documents for record purposes not required by this part, you must pay the service fee listed in § 556.106 with your document submissions for each lease affected. Your submission must include evidence of payment via pay.gov.

**§ 556.716 What must I do with respect to the designation of operator on a lease when a transfer of record title is submitted?**

(a) If a transfer of ownership of the record title interest only changes the percentage ownership of the record title, no new parties or new aliquots are involved in the transaction, and no change of designated operator is made, you will not need to submit a new designation of operator form.

(b) In all cases other than that in paragraph (a) of this section, you must submit new designation of operator forms in accordance with § 550.143 of this chapter. In the event that you are transferring multiple record title interests, you must comply with this requirement for each interest that does not fall within paragraph (a) of this section.

**Subpart H—Transferring All or Part of the Operating Rights in a Lease**

**§ 556.800 As an operating rights owner, may I assign all or part of my operating rights interest?**

An operating rights owner may assign all or part of its operating rights interests, subject to BOEM approval. Each instrument that transfers an interest must describe, by officially designated aliquot parts and depth levels, the interest proposed to be transferred.

**§ 556.801 How do I seek approval of an assignment of my operating rights?**

(a) The Regional Director will provide the form to document the assignment of an operating rights interest. You must request approval of each assignment of operating rights and submit to BOEM two originals of each instrument that transfers ownership of operating rights within 90 days after the last party executes the transfer instrument. You must pay the service fee listed in § 556.106 with your request and your submission must include evidence of payment via pay.gov.

(b) A new operating rights owner must file a designation of operator, in accordance with § 550.143, along with

the request for the approval of the assignment.

(c) If an operating rights owner assigns an undivided ownership interest in its operating rights, that assignment creates a joint ownership in the operating rights.

(d) Before BOEM approves a sublease or re-assignment of operating rights, BOEM may consult with and consider the views of the Attorney General.

**§ 556.802 When would BOEM disapprove the assignment of all or part of my operating rights interest?**

BOEM may disapprove an assignment of all or part of your operating rights interest:

(a) When the transferor or transferee has outstanding or unsatisfied obligations under this chapter or 30 CFR chapter II or XII;

(b) When a transferor attempts a transfer that is not acceptable as to form or content (e.g., not on standard form, containing incorrect legal description, not executed in accordance with corporate governance, transferee does not meet the requirements of § 556.401, etc.); or

(c) When the transfer does not conform to these regulations, or any other applicable laws or regulations (e.g., departmental debarment rules).

**§ 556.803 What if I want to assign operating rights interests in more than one lease at the same time, but to different parties?**

You may not assign operating rights interests in more than one lease to different parties using the same instrument. If you want to transfer operating rights interests in more than one lease at the same time, you must submit two originally executed forms for each transfer. Each request for a transfer of operating rights interest must be accompanied by a cover letter executed by one of the parties to the transfer (or an authorized agent thereof) and evidence of payment via pay.gov.

**§ 556.804 What if I want to assign my operating rights interest in a lease to multiple parties?**

You may assign your operating rights interest in one lease to multiple parties using the same instrument. That instrument must be submitted in duplicate originals, accompanied by a cover letter executed by one of the parties to the transfer (or an authorized agent thereof). In such a multiple transfer of interests using a single instrument, a separate fee applies to each individual transfer of interest and evidence of payment via pay.gov must accompany the instrument.

**§ 556.805 What is the effect of an operating rights owner's assignment of operating rights on the assignor's liability?**

An operating rights owner (who does not hold record title) who assigns the operating rights remains liable for all obligations of the lease that accrued during the period in which the assignor owned the operating rights, up to the effective date of the assignment, including decommissioning obligations that accrued during that period. BOEM's approval of the assignment does not alter that liability. Even after assignment, BOEM or BSEE may require the assignor to bring the lease into compliance if the assignee or any subsequent assignee fails to perform any obligation under the lease, to the extent the obligation accrued before approval of the assignment.

**§ 556.806 What is the effective date of an assignment of operating rights?**

An assignment is effective at 12:01 a.m. on the first day of the month following the date on which BOEM approves your request, unless you request an earlier effective date and BOEM approves that earlier date. Such an earlier effective date, if prior to the date of BOEM's approval, does not relieve you of obligations accrued between that earlier effective date and the date of approval.

**§ 556.807 What is the effect of an assignment of operating rights on an assignee's liability?**

As assignee, you and any subsequent assignees are liable for all obligations that accrue after the effective date of your assignment. As assignee, you must comply with all the terms and conditions of the lease and regulations issued under OCSLA. In addition, you must remedy all existing environmental and operational problems on the lease, properly abandon all wells, and reclaim the site, as required under 30 CFR part 250.

**§ 556.808 As an operating rights owner, are there any interests I may assign without BOEM approval?**

(a) You may create, transfer, or assign economic interests without BOEM approval. However, for record purposes, you must send BOEM a copy of each instrument creating or transferring such interests within 90 days after the last party executes the transfer instrument. For each lease affected, you must pay the service fee listed in § 556.106 with your documents submitted for record purposes, and your submission must include evidence of payment via pay.gov.

(b) For record keeping purposes, you may also submit other legal documents

to BOEM for transactions that do not require BOEM approval. If you submit such documents for record purposes that are not required by these regulations, for each lease affected, you must pay the service fee listed in § 556.106 with your document submissions, and your submission must include evidence of payment via pay.gov.

#### **§ 556.809 [Reserved]**

#### **§ 556.810 What must I do with respect to the designation of operator on a lease when a transfer of operating rights ownership is submitted?**

(a) If a transfer of ownership of operating rights only changes the percentage ownership; no new parties, new aliquots, or new depths are involved in the transaction; and no change of designated operator is made, you will not need to submit a new designation of operator form.

(b) In all cases other than that in paragraph (a) of this section, you must submit new designation of operator forms, in accordance with § 550.143 of this chapter. In the event that you are transferring multiple operating rights interests, you must comply with this requirement for each interest that does not fall within paragraph (a) of this section.

#### **Subpart I—Bonding or Other Financial Assurance**

#### **§ 556.900 Bond requirements for an oil and gas or sulfur lease.**

This section establishes bond requirements for the lessee of an OCS oil and gas or sulfur lease.

(a) Before BOEM will issue a new lease or approve the assignment of an existing lease to you as lessee, you or another record title owner for the lease must:

- (1) Maintain with the Regional Director a \$50,000 lease bond that guarantees compliance with all the terms and conditions of the lease; or
  - (2) Maintain a \$300,000 area-wide bond that guarantees compliance with all the terms and conditions of all your oil and gas and sulfur leases in the area where the lease is located; or
  - (3) Maintain a lease or area-wide bond in the amount required in § 556.901(a) or (b).
- (b) For the purpose of this section, there are three areas. The three areas are:
- (1) The Gulf of Mexico and the area offshore the Atlantic Coast;
  - (2) The area offshore the Pacific Coast States of California, Oregon, Washington, and Hawaii; and
  - (3) The area offshore the Coast of Alaska.

(c) The requirement to maintain a lease bond (or substitute security instrument) under paragraph (a)(1) of this section and § 556.901(a) and (b) may be satisfied if your operator or an operating rights owner provides a lease bond in the required amount that guarantees compliance with all the terms and conditions of the lease. Your operator or an operating rights owner may use an areawide bond under this paragraph to satisfy your bond obligation.

(d) If a surety makes payment to the United States under a bond or alternative form of security maintained under this section, the surety's remaining liability under the bond or alternative form of security is reduced by the amount of that payment. See paragraph (e) of this section for the requirement to replace the reduced bond coverage.

(e) If the value of your surety bond or alternative security is reduced because of a default or for any other reason, you must provide additional bond coverage sufficient to meet the security required under this subpart within 6 months, or such shorter period of time as the Regional Director may direct.

(f) You may pledge United States Department of the Treasury (Treasury) securities instead of a bond. The Treasury securities you pledge must be negotiable for an amount of cash equal to the value of the bond they replace.

(1) If you pledge Treasury securities under this paragraph (f), you must monitor their value. If their market value falls below the level of bond coverage required under this subpart, you must pledge additional Treasury securities to raise the value of the securities pledged to the required amount.

(2) If you pledge Treasury securities, you must include authority for the Regional Director to sell them and use the proceeds in the event that the Regional Director determines that you fail to satisfy any lease obligation.

(g) You may pledge alternative types of security instruments instead of providing a bond if the Regional Director determines that the alternative security protects the interests of the United States to the same extent as the required bond.

(1) If you pledge an alternative type of security under this paragraph, you must monitor the security's value. If its market value falls below the level of bond coverage required under this subpart, you must pledge additional securities to raise the value of the securities pledged to the required amount.

(2) If you pledge an alternative type of security, you must include authority for the Regional Director to sell the security and use the proceeds when the Regional Director determines that you failed to satisfy any lease obligation.

(h) If you fail to replace a deficient bond or to provide additional bond coverage upon demand, the Regional Director may:

- (1) Assess penalties under part 550, subpart N of this chapter;
- (2) Suspend production and other operations on your leases in accordance with 30 CFR 250.173; and
- (3) Initiate action to cancel your lease.

#### **§ 556.901 Additional bonds.**

(a) This paragraph explains what bonds you must provide before lease exploration activities commence.

(1)(i) You must furnish the Regional Director a \$200,000 bond that guarantees compliance with all the terms and conditions of the lease by the earliest of:

(A) The date you submit a proposed exploration plan (EP) for approval; or

(B) The date you submit a request for approval of the assignment of a lease on which an EP has been approved.

(ii) The Regional Director may authorize you to submit the \$200,000 lease exploration bond after you submit an EP, but before approval of drilling activities under the EP.

(iii) You may satisfy the bond requirement of this paragraph (a) by providing a new bond or by increasing the amount of your existing bond.

(2) A \$200,000 lease exploration bond pursuant to paragraph (a)(1) of this section need not be submitted and maintained if the lessee either:

(i) Furnishes and maintains an areawide bond in the sum of \$1 million issued by a qualified surety and conditioned on compliance with all the terms and conditions of oil and gas and sulfur leases held by the lessee on the OCS for the area in which the lease is situated; or

(ii) Furnishes and maintains a bond pursuant to paragraph (b)(2) of this section.

(b) This paragraph explains what bonds you (the lessee) must provide before lease development and production activities commence.

(1)(i) You must furnish the Regional Director a \$500,000 bond that guarantees compliance with all the terms and conditions of the lease by the earliest of:

(A) The date you submit a proposed development and production plan (DPP) or development operations coordination document (DOCD) for approval; or

(B) The date you submit a request for approval of the assignment of a lease on



which a DPP or DOCD has been approved.

(ii) The Regional Director may authorize you to submit the \$500,000 lease development bond after you submit a DPP or DOCD, but before he/she approves the installation of a platform or the commencement of drilling activities under the DPP or DOCD.

(iii) You may satisfy the bond requirement of this paragraph by providing a new bond or by increasing the amount of your existing bond.

(2) You need not submit and maintain a \$500,000 lease development bond pursuant to paragraph (b)(1) of this section if you furnish and maintain an areawide bond in the sum of \$3 million issued by a qualified surety and conditioned on compliance with all the terms and conditions of oil and gas and sulfur leases you hold on the OCS for the area in which the lease is located.

(c) If you can demonstrate to the satisfaction of the authorized officer that you can satisfy your decommissioning obligations for less than the amount of lease bond coverage required under paragraph (b)(1) of this section, the authorized officer may accept a lease surety bond in an amount less than the prescribed amount, but not less than the amount of the cost for decommissioning.

(d) The Regional Director may determine that additional security (*i.e.*, security above the amounts prescribed in § 556.900(a) and paragraphs (a) and (b) of this section) is necessary to ensure compliance with the obligations under your lease, the regulations in this chapter, and the regulations in 30 CFR chapters II and XII.

(1) The Regional Director's determination will be based on his/her evaluation of your ability to carry out present and future financial obligations demonstrated by:

(i) Financial capacity substantially in excess of existing and anticipated lease and other obligations, as evidenced by audited financial statements (including auditor's certificate, balance sheet, and profit and loss sheet);

(ii) Projected financial strength significantly in excess of existing and future lease obligations based on the estimated value of your existing OCS lease production and proven reserves for future production;

(iii) Business stability based on five years of continuous operation and production of oil and gas or sulfur in the OCS or in the onshore oil and gas industry;

(iv) Reliability in meeting obligations based on:

(A) Credit rating; or

(B) Trade references, including names and addresses of other lessees, drilling contractors, and suppliers with whom you have dealt; and

(v) Record of compliance with laws, regulations, and lease terms.

(2) You may satisfy the Regional Director's demand for additional security by increasing the amount of your existing bond or by providing additional bond or bonds.

(e) The Regional Director will determine the amount of additional bond required to guarantee compliance. The Regional Director will consider potential underpayment of royalty and cumulative decommissioning obligations.

(f) If your cumulative potential obligations and liabilities either increase or decrease, the Regional Director may adjust the amount of additional bond required.

(1) If the Regional Director proposes an adjustment, the Regional Director will:

(i) Notify you and the surety of any proposed adjustment to the amount of bond required; and

(ii) Give you an opportunity to submit written or oral comment on the adjustment.

(2) If you request a reduction of the amount of additional bond required, you must submit evidence to the Regional Director demonstrating that the projected amount of royalties due the Government and the estimated costs of decommissioning are less than the required bond amount. If the Regional Director finds that the evidence you submit is convincing, the Regional Director may reduce the amount of additional bond required.

#### **§ 556.902 General requirements for bonds.**

(a) Any bond or other security that you, as lessee, operating rights owner or operator, provide under this part must:

(1) Be payable upon demand to the Regional Director;

(2) Guarantee compliance with all of your obligations under the lease, regulations in this chapter, and regulations under 30 CFR chapters II and XII; and

(3) Guarantee compliance with the obligations of all lessees, operating rights owners and operators on the lease.

(b) All bonds and pledges you furnish under this part must be on a form or in a form approved by the Director. Surety bonds must be issued by a surety that the Treasury certifies as an acceptable surety on Federal bonds and that is listed in the current Treasury Circular No. 570. You may obtain a copy of the current Treasury Circular No. 570 from

the Surety Bond Branch, Financial Management Service, Department of the Treasury, East-West Highway, Hyattsville, MD 20782.

(c) You and a qualified surety must execute your bond. When either party is a corporation, an authorized official for the party must sign the bond and attest to it by an imprint of the corporate seal.

(d) Bonds must be non-cancellable, except as provided in § 556.906 of this part. Bonds must continue in full force and effect even though an event occurs that could diminish, terminate, or cancel a surety obligation under State surety law.

(e) Lease bonds must be:

(1) A surety bond;

(2) Treasury securities as provided in § 556.900(f);

(3) Another form of security approved by the Regional Director; or

(4) A combination of these security methods.

(f) You may submit a bond to the Regional Director executed on a form approved under paragraph (b) of this section that you have reproduced or generated by use of a computer. If you do, and if the document omits terms or conditions contained on the form approved by the Director, the bond you submit will be deemed to contain the omitted terms and conditions.

#### **§ 556.903 Lapse of bond.**

(a) If your surety becomes bankrupt, insolvent, or has its charter or license suspended or revoked, any bond coverage from that surety terminates immediately. In that event, you must promptly provide a new bond in the amount required under §§ 556.900 and 556.901 to the Regional Director and advise the Regional Director of the lapse in your previous bond.

(b) You must notify the Regional Director of any action filed alleging that you, your surety, or your guarantor are insolvent or bankrupt. You must notify the Regional Director within 72 hours of learning of such an action. All bonds must require the surety to provide this information to you and directly to BOEM.

#### **§ 556.904 Lease-specific abandonment accounts.**

(a) The Regional Director may authorize you to establish a lease-specific abandonment account in a federally insured institution in lieu of the bond required under § 556.901(d). The account must provide that, except as provided in paragraph (a)(3) of this section, funds may not be withdrawn without the written approval of the Regional Director.

(1) Funds in a lease-specific abandonment account must be payable



upon demand to BOEM and pledged to meet your decommissioning obligations.

(2) You must fully fund the lease-specific abandonment account to cover all decommissioning costs as estimated by BOEM within the timeframe the Regional Director prescribes.

(3) You must provide binding instructions under which the institution managing the account is to purchase Treasury securities pledged to BOEM under paragraph (d) of this section.

(b) Any interest paid on funds in a lease-specific abandonment account will be treated as other funds in the account unless the Regional Director authorizes in writing the payment of interest to the party who deposits the funds.

(c) The Regional Director may allow you to pledge Treasury securities that are made payable upon demand to the Regional Director to satisfy your obligation to make payments into a lease-specific abandonment account.

(d) Before the amount of funds in a lease-specific abandonment account equals the maximum insurable amount as determined by the Federal Deposit Insurance Corporation or the Federal Savings and Loan Insurance Corporation, the institution managing the account must use the funds in the account to purchase Treasury securities pledged to BOEM under paragraph (c) of this section. The institution managing the lease specific-abandonment account will join with the Regional Director to establish a Federal Reserve Circular 154 account to hold these Treasury securities, unless the Regional Director authorizes the managing institution to retain the pledged Treasury securities in a separate trust account. You may obtain a copy of the current Treasury Circular No. 154 from the Surety Bond Branch, Financial Management Service, Department of the Treasury, East-West Highway, Hyattsville, MD 20782.

(e) The Regional Director may require you to create an overriding royalty or

production payment obligation for the benefit of a lease-specific account pledged for the decommissioning of a lease. The required obligation may be associated with oil and gas or sulfur production from a lease other than the lease bonded through the lease-specific abandonment account.

#### **§ 556.905 Using a third-party guarantee instead of a bond.**

(a) *When the Regional Director may accept a third-party guarantee.* The Regional Director may accept a third-party guarantee instead of an additional bond under § 556.901(d) if:

(1) The guarantee meets the criteria in paragraph (c) of this section;

(2) The guarantee includes the terms specified in paragraph (d) of this section;

(3) The guarantor's total outstanding and proposed guarantees do not exceed 25 percent of its unencumbered net worth in the United States; and

(4) The guarantor submits an indemnity agreement meeting the criteria in paragraph (e) of this section.

(b) *What to do if your guarantor becomes unqualified.* If, during the life of your third-party guarantee, your guarantor no longer meets the criteria of paragraphs (a)(3) and (c)(3) of this section, you must:

(1) Notify the Regional Director immediately; and

(2) Cease production until you comply with the bond coverage requirements of this subpart.

(c) *Criteria for acceptable guarantees.* If you propose to furnish a third party's guarantee, that guarantee must ensure compliance with all lessees' lease obligations, the obligations of all operating rights owners, and the obligations of all operators on the lease. The Regional Director will base acceptance of your third-party guarantee on the following criteria:

(1) The period of time that your third-party guarantor (guarantor) has been in

continuous operation as a business entity where:

(i) Continuous operation is the time that your guarantor conducts business immediately before you post the guarantee; and

(ii) Continuous operation excludes periods of interruption in operations that are beyond your guarantor's control and that do not affect your guarantor's likelihood of remaining in business during exploration, development, production, and decommissioning.

(2) Financial information available in the public record or submitted by your guarantor, on your guarantor's own initiative, in sufficient detail to show to the Regional Director's satisfaction that your guarantor is qualified based on:

(i) Your guarantor's current rating for its most recent bond issuance by either Moody's Investor Service or Standard and Poor's Corporation;

(ii) Your guarantor's net worth, taking into account liabilities under its guarantee of compliance with all the terms and conditions of your lease, the regulations in this chapter and 30 CFR chapters II and XII, and your guarantor's other guarantees;

(iii) Your guarantor's ratio of current assets to current liabilities, taking into account liabilities under its guarantee of compliance with all the terms and conditions of your lease, the regulations in this chapter and 30 CFR chapters II and XII, and your guarantor's other guarantees; and

(iv) Your guarantor's unencumbered fixed assets in the United States.

(3) When the information required by paragraph (c) of this section is not publicly available, your guarantor may submit the information in the following table. Your guarantor must update the information annually within 90 days of the end of the fiscal year or by the date prescribed by the Regional Director.

The guarantor should submit	That
(i) Financial statements for the most recently completed fiscal year,	Include a report by an independent certified public accountant containing the accountant's audit opinion or review opinion of the statements. The report must be prepared in conformance with generally accepted accounting principles and contain no adverse opinion.
(ii) Financial statements for completed quarters in the current fiscal year, and	Your guarantor's financial officer certifies to be correct.
(iii) Additional information as requested by the Regional Director.	Your guarantor's financial officer certifies to be correct.

(d) *Provisions required in all third-party guarantees.* Your third-party guarantee must contain each of the following provisions.

(1) If you, your operator, or an operating rights owner fails to comply

with any lease term or regulation, your guarantor must either:

(i) Take corrective action; or,

(ii) Be liable under the indemnity agreement to provide, within 7 calendar

days, sufficient funds for the Regional Director to complete corrective action.

(2) If your guarantor complies with paragraph (d)(1) of this section, this compliance will not reduce its liability.

(3) If your guarantor wishes to terminate the period of liability under its guarantee, it must:

(i) Notify you and the Regional Director at least 90 days before the proposed termination date;

(ii) Obtain the Regional Director's approval for the termination of the period of liability for all or a specified portion of your guarantor's guarantee; and

(iii) Remain liable for all work and workmanship performed during the period that your guarantor's guarantee is in effect.

(4) You must provide a suitable replacement security instrument before the termination of the period of liability under your third-party guarantee.

(e) *Required criteria for indemnity agreements.* If the Regional Director approves your third-party guarantee, the guarantor must submit an indemnity agreement.

(1) The indemnity agreement must be executed by your guarantor and all persons and parties bound by the agreement.

(2) The indemnity agreement must bind each person and party executing the agreement jointly and severally.

(3) When a person or party bound by the indemnity agreement is a corporate entity, two corporate officers who are authorized to bind the corporation must sign the indemnity agreement.

(4) Your guarantor and the other corporate entities bound by the indemnity agreement must provide the Regional Director copies of:

(i) The authorization of the signatory corporate officials to bind their respective corporations;

(ii) An affidavit certifying that the agreement is valid under all applicable laws; and

(iii) Each corporation's corporate authorization to execute the indemnity agreement.

(5) If your third-party guarantor or another party bound by the indemnity agreement is a partnership, joint venture, or syndicate, the indemnity agreement must:

(i) Bind each partner or party who has a beneficial interest in your guarantor; and

(ii) Provide that, upon demand by the Regional Director under your third-party guarantee, each partner is jointly and severally liable for compliance with all terms and conditions of your lease.

(6) When forfeiture is called for under § 556.907, the indemnity agreement must provide that your guarantor will either:

(i) Bring your lease into compliance; or

(ii) Provide, within 7 calendar days, sufficient funds to permit the Regional Director to complete corrective action.

(7) The indemnity agreement must contain a confession of judgment. It must provide that, if the Regional Director determines that you, your operator, or an operating rights owner is in default of the lease, the guarantor:

(i) Will not challenge the determination; and

(ii) Will remedy the default.

(8) Each indemnity agreement is deemed to contain all terms and conditions contained in this paragraph (e), even if the guarantor has omitted them.

#### **§ 556.906 Termination of the period of liability and cancellation of a bond.**

This section defines the terms and conditions under which BOEM will terminate the period of liability of a bond or cancel a bond. Terminating the period of liability of a bond ends the period during which obligations continue to accrue, but does not relieve the surety of the responsibility for obligations that accrued during the period of liability. Canceling a bond relieves the surety of all liability. The liabilities that accrue during a period of liability include obligations that started to accrue prior to the beginning of the period of liability and had not been met, and obligations that begin accruing during the period of liability.

(a) When you or the surety under your bond requests termination:

(1) The Regional Director will terminate the period of liability under

your bond within 90 days after BOEM receives the request; and

(2) If you intend to continue operations, or have not met all decommissioning obligations, you must provide a replacement bond of an equivalent amount.

(b) If you provide a replacement bond, the Regional Director will cancel your previous bond and the surety that provided your previous bond will not retain any liability, provided that:

(1) The new bond is equal to or greater than the bond that was terminated, or you provide an alternative form of security, and the Regional Director determines that the alternative form of security provides a level of security equal to or greater than that provided for by the bond that was terminated;

(2) For a base bond submitted under § 556.900(a) or under § 556.901(a) or (b), the surety issuing the new bond agrees to assume all outstanding liabilities that accrued during the period of liability that was terminated; and

(3) For additional bonds submitted under § 556.901(d), the surety issuing the new additional bond agrees to assume that portion of the outstanding liabilities that accrued during the period of liability that was terminated and that the Regional Director determines may exceed the coverage of the base bond, and of which the Regional Director notifies the provider of the bond.

(c) This paragraph applies if the period of liability is terminated for a bond, but the bond is not replaced by a bond of an equivalent amount. The surety that provided your terminated bond will continue to be responsible for accrued obligations:

(1) Until the obligations are satisfied; and

(2) For additional periods of time in accordance with paragraph (d) of this section.

(d) When your lease expires or is terminated, the surety that issued a bond will continue to be responsible, and the Regional Director will retain other forms of security as shown in the following table:

For the following type of bond	The period of liability will end	Your bond will be cancelled
(1) Base bonds submitted under § 556.900(a), § 556.901(a), or (b).	When the Regional Director determines that you have met all of your obligations under the lease,	Seven years after the termination of the lease, 6 years after completion of all bonded obligations, or at the conclusion of any appeals or litigation related to your bonded obligation, whichever is the latest. The Regional Director will reduce the amount of your bond or return a portion of your security if the Regional Director determines that you need less than the full amount of the base bond to meet any possible future problems.

For the following type of bond	The period of liability will end	Your bond will be cancelled
(2) Additional bonds submitted under § 556.901(d).	When the Regional Director determines that you have met all your obligations covered by the additional bond,	When you meet your bonded obligations, unless the Regional Director: (i) Determines that the future potential liability resulting from any undetected problem is greater than the amount of the base bond; and (ii) Notifies the provider of the bond that the Regional Director will wait 7 years before cancelling all or a part of the bond (or longer period as necessary to complete any appeals or judicial litigation related to your bonding obligation).

(e) For all bonds, the Regional Director may reinstate your bond as if no cancellation or release had occurred if:

(1) A person makes a payment under the lease and the payment is rescinded or must be repaid by the recipient because the person making the payment is insolvent, bankrupt, subject to reorganization, or placed in receivership; or

(2) The responsible party represents to BOEM that it has discharged its obligations under the lease, and the representation was materially false when the bond was canceled or released.

#### **§ 556.907 Forfeiture of bonds and/or other securities.**

This section explains how a bond or other security may be forfeited.

(a) The Regional Director will call for forfeiture of all or part of the bond, other form of security, or guarantee you provide under this part if:

(1) You (the party who provided the bond) refuse, or the Regional Director determines that you are unable to comply with any term or condition of your lease; or

(2) You default on one of the conditions under which the Regional Director accepts your bond, third-party guarantee, and/or other form of security.

(b) The Regional Director may pursue forfeiture of your bond without first making demands for performance against any lessee, operating rights owner, or other person authorized to perform lease obligations.

(c) The Regional Director will:

(1) Notify you, the surety on your bond or other form of security, and any third-party guarantor of a determination to call for forfeiture of the bond, security, or guarantee under this section.

(i) This notice will be in writing, and will provide the reason for the forfeiture and the amount to be forfeited.

(ii) The Regional Director must base the amount he/she determines is forfeited upon his/her estimate of the total cost of corrective action to bring your lease into compliance.

(2) Advise you, your third-party guarantor, and any surety that you, your

guarantor, and any surety may avoid forfeiture if, within five working days:

(i) You agree to, and demonstrate that you will bring your lease into compliance within the timeframe that the Regional Director prescribes;

(ii) Your third-party guarantor agrees to and demonstrates that it will complete the corrective action to bring your lease into compliance within the timeframe that the Regional Director prescribes; or

(iii) Your surety agrees to and demonstrates that it will bring your lease into compliance within the timeframe that the Regional Director prescribes, even if the cost of compliance exceeds the face amount of the bond or other surety instrument.

(d) If the Regional Director finds you are in default, he/she may cause the forfeiture of any bonds and other security deposited as your guarantee of compliance with the terms and conditions of your lease and the regulations in this chapter and 30 CFR chapters II and XII.

(e) If the Regional Director determines that your bond and/or other security is forfeited, the Regional Director will:

(1) Collect the forfeited amount; and

(2) Use the funds collected to bring your leases into compliance and to correct any default.

(f) If the amount the Regional Director collects under your bond and other security is insufficient to pay the full cost of corrective actions he/she may:

(1) Take or direct action to obtain full compliance with your lease and the regulations in this chapter; and

(2) Recover from you, any co-lessee, operating rights owner, and/or any third-party guarantor responsible under this subpart all costs in excess of the amount he/she collects under your forfeited bond and other security.

(g) The amount that the Regional Director collects under your forfeited bond and other security may exceed the costs of taking the corrective actions required to obtain full compliance with the terms and conditions of your lease and the regulations in this chapter and 30 CFR chapters II and XII. In this case, the Regional Director will return the excess funds to the party from whom they were collected.

#### **Subpart J—Bonus or Royalty Credits for Exchange of Certain Leases**

##### **§ 556.1000 Leases formerly eligible for a bonus or royalty credit.**

Bonus or royalty credits were available to lessees with leases:

(a) In effect on December 20, 2006, and located in:

(1) The Eastern Planning Area and within 125 miles of the coastline of the State of Florida; or,

(2) The Central Planning Area and within the Desoto Canyon OPD, the Destin Dome OPD, or the Pensacola OPD and within 100 miles of the coastline of the State of Florida.

(b) The deadline for applying for such a bonus or royalty credit was October 14, 2010; therefore, lessees may no longer apply for such credits.

#### **Subpart K—Ending a Lease**

##### **§ 556.1100 How does a lease expire?**

(a) Your oil and gas lease will automatically expire at the end of its primary term unless you have taken action, as set forth in § 556.601, to maintain the lease beyond the primary term.

(b) Your sulfur lease will automatically expire at the end of its primary term unless you have taken action, as set forth in § 556.603, to maintain the lease beyond the primary term.

##### **§ 556.1101 May I relinquish my lease or an aliquot part thereof?**

(a) A record title owner may relinquish a lease or an aliquot part of a lease if all record title owners of a lease or any aliquot part(s) of the lease file three original copies of a request to relinquish with BOEM on Form BOEM-0152, entitled, "Relinquishment of Federal Oil and Gas Lease." No filing fee is required.

(b) A relinquishment will be subject to the continued obligation of the record title owner and the surety to make all payments due, including any accrued rentals, royalties and deferred bonuses, and to abandon all wells and condition or remove all platforms and other facilities on the land to be relinquished to the satisfaction of the Director.

(c) The effective date of the relinquishment is the date on which the relinquishment is filed with the proper BOEM regional office.

**§ 556.1102 Under what circumstances will BOEM cancel my lease?**

(a) BOEM may cancel your non-producing lease if you fail to comply with any provision of OCSLA, the lease, or applicable regulations if the failure continues for 30 days after mailing of notice to your post office address of record by registered mail and you have not requested and been granted any additional time within which to correct the failure. Such cancellation is subject to judicial review under section 23 of OCSLA (43 U.S.C. 1349).

(b) Your producing lease may be cancelled if you fail to comply with any provision of OCSLA, the lease, or applicable regulations. The Secretary will cancel a producing lease after the judicial proceedings required under section 5(d) of OCSLA (43 U.S.C. 1334(d)).

(c) BOEM may cancel your lease if it determines that the lease was obtained by fraud or misrepresentation. You will have notice and an opportunity to be heard before BOEM cancels your lease.

(d) BOEM may cancel your lease at any time if it determines, after a hearing, that continued activity will probably cause serious harm or damage to life (including fish and other aquatic life), property, any mineral, national security or defense, or the marine, coastal, or human environment; that the threat of harm or damage will not disappear or decrease to an acceptable level within a reasonable period of time; and the advantages of cancellation outweigh the advantages of continuing the lease.

(e) BOEM may cancel your lease at any time after operations under the lease have been suspended or temporarily prohibited by the Department continuously for a period of five years pursuant to paragraph (d) of this section, absent your request for a shorter period.

(f) If, upon demand, you fail to provide a bond, or alternative type of security instrument acceptable to BOEM, the Regional Director may assess penalties or cancel your lease in accordance with part 550, subpart N of this chapter;

(g) Title 30, part 550, subpart A of the CFR provides the procedures for lease cancellation and compensation, if applicable.

**Subpart L—Leases Maintained Under Section 6 of OCSLA**

**§ 556.1200 Effect of regulations on lease.**

(a) All regulations in this part, insofar as they are applicable, will supersede the provisions of any lease that is maintained under section 6(a) of the Act. However, the provisions of a lease relating to area, minerals, rentals, royalties (subject to sections 6(a)(8) and (9) of the Act), and term (subject to section 6(a)(10) of the Act and, as to sulfur, subject to section 6(b)(2) of the Act) will continue in effect, and, in the event of any conflict or inconsistency, will take precedence over these regulations.

(b) A lease maintained under section 6(a) of the Act is also subject to all operating and conservation regulations applicable to the OCS. In addition, the regulations relating to geophysical and geological exploratory operations and to pipeline ROW(s) are applicable, to the extent that those regulations are not contrary to or inconsistent with the lease provisions relating to area, minerals, rentals, royalties and term. The lessee must comply with any provision of the lease as validated, the subject matter of which is not covered in the regulations in this part.

**§ 556.1201 Section 6(a) leases and leases other than those for oil, gas, or sulfur.**

The existence of an oil and gas lease maintained under section 6(a) of the Act precludes only the issuance in the same area of an oil and gas lease under OCSLA, but does not preclude the issuance of other types of leases under OCSLA. However, no other lease may authorize or permit the lessee thereunder unreasonably to interfere with or endanger operations under the existing lease. The United States will not grant any sulfur leases on any area that is included in a lease covering sulfur under section 6(b) of the Act.

**Subpart M—Environmental Studies**

**§ 556.1300 Environmental studies.**

(a) The Director will conduct a study or studies of any area or region included in any oil and gas lease sale or other lease in order to establish information needed for assessment and management of impacts on the human, marine and coastal environments which may be affected by OCS oil and gas or other mineral activities in such area or region. The purposes of such studies will include, to the extent practicable, analyses of the impacts of pollutants introduced into the environments and impacts of offshore activities on the seabed and affected coastal areas.

(b) Studies will be planned and carried out in cooperation with the affected States and interested parties and, to the extent possible, will not duplicate studies done under other laws. Where appropriate, the Director will, to the maximum extent practicable, coordinate with the National Oceanic and Atmospheric Administration (NOAA) in executing its environmental studies responsibilities. The Director may also make agreements for the coordination with, or the use of the services or resources of, any other Federal, State or local government agency in the conduct of such studies.

(c) Any study of an area or region required by paragraph (a) of this section for a lease sale will be commenced not later than six months prior to holding a lease sale for that area. The Director may use information collected in any prior study. The Director may initiate studies for an area or region not identified in the leasing program.

(d) After the leasing and developing of any area or region, the Director will conduct such studies as are deemed necessary to establish additional information and will monitor the human, marine and coastal environments of such area or region in a manner designed to provide information, which can be compared with the results of studies conducted prior to OCS oil and gas development. This will be done to identify any significant changes in the quality and productivity of such environments, to establish trends in the area studies, and to design experiments identifying the causes of such changes. Findings from such studies will be used to recommend modifications in practices that are employed to mitigate the effects of OCS activities and to enhance the data/information base for predicting impacts which might result from a single lease sale or cumulative OCS activities.

(e) Information available or collected by the studies program will, to the extent practicable, be provided in a form and in a timeframe that can be used in the decision-making process associated with a specific leasing action or with longer term OCS minerals management responsibilities.

**PART 559—[REMOVED]**

■ 8. Under the authority of section 5(a) of OCSLA (43 U.S.C. 1334(a)), remove part 559.

**PART 560—OUTER CONTINENTAL SHELF OIL AND GAS LEASING**

■ 9. The authority citation for part 560 continues to read as follows:

**Authority:** Section 104, Public Law 97–451, 96 Stat. 2451 (30 U.S.C. 1714), Public Law 109–432, Div C, Title I, 120 Stat. 3000; 30 U.S.C. 1751; 31 U.S.C. 9701; 43 U.S.C. 1334; 33 U.S.C. 2704, 2716; E.O. 12777, as amended; 43 U.S.C. 1331 *et seq.*, 43 U.S.C. 1337.

■ 10. Revise the Table of Contents for 30 CFR part 560 to read as follows:

#### **Subpart A—General Provisions**

560.100 Authority  
560.100 What is the purpose of this part?  
560.102 What definitions apply to this part?  
560.103 What is BOEM's authority to collect information?

#### **Subpart B—Bidding Systems**

##### **General Provisions**

560.200 What is the purpose of this subpart?  
560.201 What definitions apply to this subpart?  
560.202 What bidding systems may BOEM use?  
560.203 What conditions apply to the bidding systems that BOEM uses?

##### **Eligible Leases**

560.210 How do royalty suspension volumes apply to eligible leases?  
560.211 When does an eligible lease qualify for a royalty suspension volume?  
560.212 How does BOEM assign and monitor royalty suspension volumes for eligible leases?  
560.213 How long will a royalty suspension volume for an eligible lease be effective?  
560.214 How do I measure natural gas production on my eligible lease?

##### **Royalty Suspensions (RS) Leases**

560.220 How does royalty suspension apply to leases issued in a sale held after November 2000?  
560.221 When does a lease issued in a sale held after November 2000 get a royalty suspension?  
560.222 How long will a royalty suspension volume be effective for a lease issued in a sale held after November 2000?  
560.223 How do I measure natural gas production for a lease issued in a sale held after November 2000?  
560.224 How will royalty suspension apply if BOEM assigns a lease issued in a sale held after November 2000 to a field that has a pre-Act lease?

##### **Bidding System Selection Criteria**

560.230 What criteria does BOEM use for selecting bidding systems and bidding system components?

##### **Subpart C—Operating Allowances**

560.300 Operating allowances.

##### **Subpart D—[Reserved]**

##### **Subpart E—Electronic Filings**

560.500 Electronic document and data transmissions.  
560.501 How long will the confidentiality of electronic document and data transmissions be maintained?  
560.502 Are electronically filed document transmissions legally binding?

#### **Subpart B—Bidding Systems**

■ 11. Redesignate §§ 560.101, 560.102, 560.110 and 560.111 as §§ 560.200, 560.201, 560.202 and 560.203, respectively.  
■ 12. Redesignate §§ 560.112, 560.113, 560.114, 560.115 and 560.116 as §§ 560.210, 560.211, 560.212, 560.213 and 560.214, respectively.  
■ 13. Redesignate §§ 560.120, 560.121, 560.122, 560.123 and 560.124 as §§ 560.220, 560.221, 560.222, 560.223 and 560.224, respectively.  
■ 14. Redesignate § 560.130 as § 560.230.

#### **Subpart A—General Provisions**

■ 15. Add § 560.100 as follows:

##### **§ 560.100 Authority.**

(a) The Outer Continental Shelf Lands Act (OCSLA) (43 U.S.C. 1334) (“Outer Continental Shelf Lands Act Amendments of 1978”).

(b) The Federal Oil and Gas Royalty Management Act, as amended (FOGRMA) (30 U.S.C. 1711), including the Federal Oil and Gas Royalty Simplification and Fairness Act of 1996, (30 U.S.C. 1701 note).

(c) The Independent Offices Appropriations Act of 1952 (31 U.S.C. 9701).

(d) Public Law 89–554, 1966 (5 U.S.C. 301).

##### **§ 560.1 [Redesignated as § 560.101]**

■ 16. Redesignate § 560.1 as § 560.101.  
■ 17. Redesignate § 560.2 as § 560.102, and revise redesignated § 560.2 to read as follows:

##### **§ 560.102 What definitions apply to this part?**

(a) Terms used in this part have the meaning given in the Act and as defined in this part.

(b) The following definitions apply to this part:

*Area or region* means the geographic area or region over which the BOEM authorized officer has jurisdiction, unless the context in which those words are used indicates that a different meaning is intended.

*BOEM* means Bureau of Ocean Energy Management.

*Designated official* means a representative of DOI subject to the direction and supervisory authority of the Directors, BOEM, and the appropriate Regional Manager of the BOEM authorized and empowered to supervise and direct all oil and gas operations and to perform other duties prescribed in this chapter.

*Director* means Director, BOEM, DOI.

*DOI* means the Department of the Interior, including the Secretary of the Interior, or his or her delegate.

*Federal lease* means an agreement which, for consideration, including, but not limited to, bonuses, rents or royalties conferred, and covenants to be observed, authorizes a person to explore for, or develop, or produce (or to do any or all of these) oil and gas, coal, oil shale, tar sands, and geothermal resources on lands or interests in lands under Federal jurisdiction.

*Gas or Natural Gas* means a mixture of hydrocarbons and varying quantities of non-hydrocarbons that exist in the gaseous phase.

*Oil* means a mixture of hydrocarbons that exists in a liquid or gaseous phase in an underground reservoir and which remains or becomes liquid at atmospheric pressure after passing through surface separating facilities, including condensate recovered by means other than a manufacturing process.

*Outer Continental Shelf (OCS)* means all submerged lands lying seaward and outside of the area of lands beneath navigable waters as defined in the Submerged Lands Act (43 U.S.C. 1301–1315) and of which the subsoil and seabed appertain to the United States and are subject to its jurisdiction and control.

*OCSLA* means the Outer Continental Shelf Lands Act, as amended (Act of August 7, 1953, Ch. 345, 67 Stat. 462, 43 U.S.C. 1331–1356a, as amended by Pub. L. 95–372, 92 Stat. 629).

*Person* means a natural person, where so designated, or an entity, such as a partnership, association, State, political subdivision of a State or territory, or a private, public, or municipal corporation.

*We* means the Bureau of Ocean Energy Management (BOEM).

*You* means the lessee or operating rights owner.

##### **§ 560.3 [Redesignated as § 560.103]**

■ 18. Redesignate § 560.3 as § 560.103.  
■ 19. Add a new subpart C to read as follows:

#### **Subpart C—Operating Allowances**

##### **§ 560.300 Operating allowances.**

Notwithstanding any other provision in the regulations in this part, BOEM may issue a lease containing an operating allowance when so specified in the final notice of sale and the lease. The allowance amount or formula will be specified in the final notice of sale and in the lease.

**Subpart D—[Removed and Reserved]**

- 20. Remove and reserve subpart D.
- 21. Add a new subpart E to read as follows:

**Subpart E—Electronic Filings**

560.500 Electronic document and data transmissions.

560.501 How long will the confidentiality of electronic document and data transmissions be maintained?

560.502 Are electronically filed document transmissions legally binding?

**Subpart E—Electronic Filings****§ 560.500 Electronic document and data transmissions.**

(a) BOEM may notify you that it will allow or request you to submit the following information electronically through BOEM's secure electronic filing system, through an alternate secure electronic filing system supported and maintained by the Department, or through some other electronic filing system that BOEM has approved for this purpose:

(1) Any document(s) or information described in the Qualifications section of part 556 of this chapter, as specified in subpart E. Such information would include, but not be limited to, the official name of the qualifying person, its legal and business address or addresses, its legal form and status, and the names and contact information of a person or organization authorized to act on the person's behalf.

(2) Any document(s) or information required to obtain BOEM's approval of an assignment or sublease, including any form or instrument that creates or transfers ownership of a lease interest.

(3) Any document(s) or information required to obtain BOEM's approval of your relinquishment of all, or any aliquot part of your lease, as specified in § 556.1101 of this chapter.

(4) Any document(s) creating, transferring or assigning economic interests, as specified in §§ 556.715 and 556.808 of this chapter.

(5) Any document(s) related to a bond, U.S. Treasury note or other security provided to BOEM, which is required to guarantee your compliance with terms and conditions of a lease.

(6) Any document(s) or information necessary to bid for an OCS lease.

(7) Any forms, document(s) or information necessary to determine worst case oil-spill discharge volume(s), or to provide evidence demonstrating oil spill financial responsibility, or to guarantee such financial responsibility or to comply with any other requirements of the Oil Spill Financial Responsibility Program, as described in part 553 of this chapter.

(b) BOEM reserves the right to require the electronic filing of any document(s) or information addressed in paragraph (a)(5) of this section upon a 90-day notice published in the **Federal Register**; if BOEM mandates that you transmit such document(s) or

information electronically, the **Federal Register** notice will specify the filing details necessary to comply with this regulation.

(c) In the event BOEM sends documents to you in a secure electronic format, you may either return the document(s) in an electronic format utilizing the same secure transmission mechanism or print the document(s) and return them.

(d) BOEM may electronically acknowledge, approve, sign, or execute any document(s) referenced in this section.

**§ 560.501 How long will the confidentiality of electronic document and data transmissions be maintained?**

The confidentiality of any electronically submitted information will be maintained for the same proprietary term that would apply to the corresponding non-electronic confidential submission, pursuant to § 556.104(b) of this chapter.

**§ 560.502 Are electronically filed document transmissions legally binding?**

Any document or information referenced in § 560.500 which is submitted to BOEM through a secure electronic filing system that is approved by BOEM will be legally binding, without the need for a paper copy thereof.

[FR Doc. 2016-06513 Filed 3-29-16; 8:45 am]

**BILLING CODE 4310-MR-P**



# FEDERAL REGISTER

---

Vol. 81

Wednesday,

No. 61

March 30, 2016

---

## Part IV

## Department of Transportation

---

Federal Aviation Administration

14 CFR Part 60

Flight Simulation Training Device Qualification Standards for Extended Envelope and Adverse Weather Event Training Tasks; Final Rule

**DEPARTMENT OF TRANSPORTATION****Federal Aviation Administration****14 CFR Part 60**

[Docket No.: FAA–2014–0391; Amdt. No. 60–4]

RIN 2120–AK08

**Flight Simulation Training Device  
Qualification Standards for Extended  
Envelope and Adverse Weather Event  
Training Tasks**

**AGENCY:** Federal Aviation  
Administration (FAA), DOT.

**ACTION:** Final rule.

**SUMMARY:** The FAA has determined this rule is necessary to amend the Qualification Performance Standards for flight simulation training devices (FSTDs) for the primary purpose of improving existing technical standards and introducing new technical standards for full stall and stick pusher maneuvers, upset recognition and recovery maneuvers, maneuvers conducted in airborne icing conditions, takeoff and landing maneuvers in gusting crosswinds, and bounced landing recovery maneuvers. These new and improved technical standards are intended to fully define FSTD fidelity requirements for conducting new flight training tasks introduced through recent changes to the air carrier training requirements, as well as to address various National Transportation Safety Board (NTSB) and Aviation Rulemaking Committee recommendations. This final rule also updates the FSTD technical standards to better align with the current international FSTD evaluation guidance and introduces a new FSTD level that expands the number of qualified flight training tasks in a fixed-base flight training device. These changes will ensure that the training and testing environment is accurate and realistic, will codify existing practice, and will provide greater harmonization with international guidance for simulation. The amendments will not apply to previously qualified FSTDs with the exception of the FSTD Directive, which codifies the new FSTD technical standards for specific training tasks.

**DATES:** Effective May 31, 2016. The compliance date of FSTD Directive No. 2 is March 12, 2019. After this date, any FSTD being used to conduct specific training tasks as defined in FSTD Directive No. 2 must be evaluated and qualified in accordance with the Directive.

**ADDRESSES:** For information on where to obtain copies of rulemaking documents and other information related to this final rule, see “How To Obtain Additional Information” in the **SUPPLEMENTARY INFORMATION** section of this document.

**FOR FURTHER INFORMATION CONTACT:** For technical questions concerning this action, contact Larry McDonald, Air Transportation Division/National Simulator Program Branch, AFS–205, Federal Aviation Administration, P.O. Box 20636, Atlanta, GA 30320; telephone (404) 474–5620; email [larry.e.mcdonald@faa.gov](mailto:larry.e.mcdonald@faa.gov).

**SUPPLEMENTARY INFORMATION:**

**Authority for This Rulemaking**

The Federal Aviation Administration’s (FAA’s) authority to issue rules on aviation safety is found in Title 49 of the United States Code. Subtitle I, Section 106(f) describes the authority of the FAA Administrator. Subtitle VII, Aviation Programs, describes in more detail the scope of the agency’s authority.

This rulemaking is promulgated under the authority described in 49 U.S.C. 44701(a)(5), which requires the Administrator to promulgate regulations and minimum standards for other practices, methods, and procedures necessary for safety in air commerce and national security. This amendment to the regulation is within the scope of that authority because it prescribes an accepted method for testing and evaluating flight simulation training devices used to train and evaluate flightcrew members.

In addition, the Airline Safety and Federal Aviation Administration Extension Act of 2010 (Pub. L. 111–216) specifically required the FAA to conduct rulemaking to ensure that all flightcrew members receive flight training in recognizing and avoiding stalls, recovering from stalls, and recognizing and avoiding upset of an aircraft, as well as the proper techniques to recover from upset. This rulemaking is within the scope of the authority in Public Law 111–216 and is necessary to fully implement the training requirements recently adopted in the Qualification, Service, and Use of Crewmembers and Aircraft Dispatchers final rule (Crewmember and Aircraft Dispatcher Training final rule), RIN 2120–AJ00. See 78 FR 67800 (Nov. 12, 2013).

**List of Abbreviations and Acronyms  
Frequently Used in This Document**

AC Advisory Circular  
AOA Angle of Attack

ARC Aviation Rulemaking Committee  
AURTA Airplane Upset Recovery Training Aid  
FFS Full Flight Simulator  
FTD Flight Training Device  
FSTD Flight Simulation Training Device  
ICATEE International Committee on Aviation Training in Extended Envelopes  
LOCART Loss of Control Avoidance and Recovery Training Working Group  
NPRM Notice of Proposed Rulemaking  
QPS Qualification Performance Standards  
SOC Statement of Compliance  
SNPRM Supplemental Notice of Proposed Rulemaking  
SPAW ARC Stick Pusher and Adverse Weather Event Training Aviation Rulemaking Committee  
UPRT Upset Prevention and Recovery Training

**Table of Contents**

I. Overview of Final Rule	
II. Background	
A. Statement of the Problem	
B. NTSB Recommendations	
C. Airline Safety and Federal Aviation Administration Extension Act of 2010 (Pub. L. 111–216) and the Crewmember and Aircraft Dispatcher Training Final Rule	
D. Summary of the NPRM	
E. Differences Between the NPRM and the Final Rule	
F. Related Actions	
III. Discussion of Public Comments and Final Rule	
A. Evaluation Requirements for Full Stall Training	
1. Aerodynamic Modeling Range	
a. Aerodynamic Modeling Beyond the Stall AOA	
b. Definition of the Stall AOA	
2. Envelope Protected Aircraft	
a. Model Validity Ranges and Associated Objective Testing	
b. Validation of Stall Characteristics Using Flight Test Data	
c. Required AOA Range for Normal Mode Objective Testing	
3. Data Sources for Model Development and Validation	
a. Define Best Available Data	
b. Post-Stall “Type Representative” Modeling	
c. Use of Flight Test Data and Availability	
4. Qualification on FSTD Levels Other Than Level C or Level D	
5. Motion Cueing System Limitations	
6. Subject Matter Expert (SME) Pilot Evaluation and Qualifications	
a. SME Qualifications and Experience	
b. Model Validation Conducted by the Data Provider	
c. NSPM Process for Evaluating and Accepting an SME Pilot	
7. Alignment With the ICAO 9625, Edition 4, on Stall and Stick Pusher Requirements	
8. Requirements for Previously Qualified FSTDs	
a. Stall Buffet Objective Testing	
b. FSTD Directive No. 2 and Grandfather Rights	
9. Applicability of Stall and Upset Prevention and Recovery Training	



- (UPRT) Requirements on Newly Qualified FSTDs
10. General Comments on Stall Requirements
- a. Testing and Checking of Stall Maneuvers
- b. Interim FSTD Qualification for Stall Training
- c. Aerodynamic Modeling Considerations
- B. Evaluation Requirements for UPRT
1. UPRT Qualification on Lower Level FSTDs.
2. Record and Playback Requirements for UPRT
3. Instructor Operating Station (IOS) Requirements
4. Aerodynamic Source Data and Range of the FSTD Validation Envelope
- a. FSTD Validation Envelope and Training Maneuvers
- b. Expansion of the FSTD Validation Envelope Using Existing Flight Test Data
5. General Comments on UPRT
- a. FSTD Qualification and FAA Oversight
- b. Maintenance Concerns
- C. Evaluation Requirements for Engine and Airframe Icing Training
1. Objective Demonstration Testing
- a. Objective Demonstration Testing for Previously Qualified FSTDs
- b. Icing Effects and Recognition Cues
2. Requirements for Lower Level FTDs
3. Existing Engine and Airframe Icing Requirements in Part 60
4. Applicability in Training Programs
5. Data Sources and Tuning of Ice Accretion Models
- D. Evaluation Requirements for Takeoff and Landing in Gusting Crosswinds
1. Applicability on Lower Level FSTDs
2. Gusting Crosswind Profile Data Sources
3. Maximum Demonstrated Crosswind
4. Requirements for Previously Qualified FSTDs
- E. Evaluation Requirements for Bounced Landing Recovery Training
1. Applicability to Lower Level FSTDs
2. Bounced Landing Modeling and Evaluation
- a. Nosewheel Exceedances
- b. Use of Existing Ground Reaction Models
3. Alignment With Training Requirements
4. Requirements for Previously Qualified FSTDs
- F. Alignment With the ICAO 9625 FSTD Evaluation Document
1. Partial Alignment With the ICAO 9625 Document
2. New Requirements Introduced by the Proposed ICAO Alignment
- a. Visual System Field of View
- b. Visual System Lightpoint Brightness Testing
- c. Transport Delay Testing
- d. Motion Cueing Fidelity Test
- e. Sound Directionality Requirement
3. Alignment With the Recently Published ICAO 9625, Edition 4 Document
4. Integration of ICAO Requirements With the Part 60 Table Structure
5. Deviation From the Part 60 QPS Using the ICAO 9625 Document
6. Level 7 FTD Requirements and Usage in Training
- G. General Comments
1. Compliance Period for Previously Qualified FSTDs
2. Alternative Source Data for Level 5 FTDs
3. Objective Testing for Continuing Qualification
4. Windshear Qualification Requirements
5. Miscellaneous Comments
- a. Approved Location for Objective and Subjective Testing
- b. Increase the Training Credit for Time in a Simulator
- H. Economic Evaluation
1. Cost of Aerodynamic Modeling and Implementation
2. Cost of Instructor Operation Station (IOS) Replacement
3. Affected FSTDs and Sponsors
4. Cost and Benefits of ICAO Alignment
- IV. Regulatory Notices and Analyses
- A. Regulatory Evaluation
- B. Regulatory Flexibility Determination
- C. International Trade Impact Assessment
- D. Unfunded Mandates Assessment
- E. Paperwork Reduction Act
- F. International Compatibility and Cooperation
- G. Environmental Analysis
- H. Regulations Affecting Intrastate Aviation in Alaska
- V. Executive Order Determinations
- A. Executive Order 13123, Federalism
- B. Executive Order 13211, Regulations that Significantly Affect Energy Supply, Distribution, or Use
- VI. How To Obtain Additional Information
- A. Rulemaking Documents
- B. Comments Submitted to the Docket
- C. Small Business Regulatory Enforcement Fairness Act
- I. Overview of Final Rule**
- This rulemaking defines simulator fidelity requirements for new training tasks to be conducted in Level A through D full flight simulators (FFS) that were mandated for air carrier training programs by Public Law 111–216 and incorporated into 14 CFR part

121. It also addresses the potential lack of simulator fidelity as identified in several NTSB safety recommendations. This final rule establishes new and updated FSTD technical evaluation standards for full stall and stick pusher maneuvers, upset prevention and recovery maneuvers, flight in airborne icing conditions, takeoff and landing maneuvers in gusting crosswinds, and bounced landing recovery maneuvers. This final rule also partially aligns the technical standards for Level C and D (fixed wing) FSTDs that are defined in 14 CFR part 60 with the current international FSTD evaluation guidelines published in the International Civil Aviation Organization (ICAO) document 9625, Edition 4, *Manual of Criteria for the Qualification of Flight Simulation Training Devices*.

This final rule will affect sponsors of previously qualified FSTDs if the devices will be used to conduct the specific training tasks defined in FSTD Directive No. 2. The FSTD sponsor has the discretion to determine if a device needs to be qualified based on whether it will be used for training the defined tasks in FSTD Directive No. 2. Additionally, because many of the technical FSTD evaluation standards in the final rule will become minimum requirements for some newly qualified FSTDs, this final rule will also affect sponsors of Level 7, Level C, and Level D FSTDs that are initially qualified after the effective date of the final rule. In addition to FSTD sponsors, this final rule will also affect data providers, FSTD manufacturers, and other entities that provide products and support to FSTD sponsors in the qualification of FSTDs for training. This final rule does not affect aviation training devices that are evaluated and approved for use outside of 14 CFR part 60.

A general summary of the applicability, compliance dates, and processes used to qualify FSTDs as defined in this rule are included in the following table:

Issue	Rule requirements
How does a sponsor determine if a previously qualified FSTD must be evaluated and qualified for stall, UPRT, engine and airframe icing, bounced landing recovery, and gusting crosswind training tasks as defined in FSTD Directive No. 2?	<p>A previously qualified FSTD that will be used to obtain training, testing, or checking credit in an FAA approved flight training program, regardless of operational rule part, must be evaluated and qualified for the following maneuvers:</p> <p>Full Stall: Training maneuvers in the recognition cues and recovery procedures from a fully stalled flight condition (including recovery from a stick pusher activation) at angles of attack beyond the activation of the stall warning system.</p>

Issue	Rule requirements
How does a sponsor obtain qualification for stall, UPRT, icing, bounced landing recovery, or takeoff and landing in gusting crosswinds on a previously qualified FSTD?	<p>UPRT: Upset recovery maneuvers and unusual attitude maneuvers that are intended to exceed the parameters of an aircraft upset as defined in the Airplane Upset Recovery Training Aid (pitch attitudes greater than 25 degrees nose up; pitch attitudes greater than 10 degrees nose down, and bank angles greater than 45 degrees).</p> <p>Engine and Airframe Icing: Flight training maneuvers that demonstrate the recognition cues and effects of engine and airframe ice accretion.</p> <p>Takeoff and Landing in Gusting Crosswinds.</p> <p>Bounced Landing Recovery Training.</p> <p>FSTD Directive No. 2 contains all of the evaluation requirements for the qualification of these individual tasks on previously qualified FSTDs. FSTD sponsors will conduct the evaluations and modifications as described in the Directive and submit any required Statements of Compliance and objective testing results to the National Simulator Program (NSP) using the standard FSTD modification/notification process. The NSP will issue additional FSTD qualification for these tasks once compliance with the applicable sections of the Directive are verified and any necessary FSTD evaluations have been conducted.</p>
How do you determine what portions of the updated qualification performance standards (QPS) appendices are applicable to previously qualified FSTDs?	As described in § 60.17(a), unless specified by an FSTD Directive, previously qualified (grandfathered) FSTDs will retain their original qualification basis under which they were originally evaluated, regardless of sponsor. All retroactive evaluation requirements for previously qualified FSTDs in this final rule are fully described in FSTD Directive No. 2.
What are the compliance dates associated with this final rule for previously qualified FSTDs?	After March 12, 2019, any FSTD being used to conduct the specific training maneuvers (as described in FSTD Directive No. 2) in an FAA approved training program must be issued additional FSTD qualification in accordance with the Directive.
How do you determine what changes in this final rule are applicable to new FSTDs that will be initially qualified after the final rule becomes effective?	<p>With the exception of the full stall evaluation requirements, all FSTDs that are initially qualified or upgraded in qualification level after the effective date of the final rule must meet all new standards in this final rule as applicable for the particular FSTD qualification level requested.</p> <p>The qualification of full stall training tasks will be optional as requested by the sponsor to support FAA approved training being conducted in the FSTD. The qualification of full stall training tasks will be included as part of the list of qualified tasks on the FSTD's Statement of Qualification (SOQ).</p>
What is the compliance date associated with this final rule for new FSTDs that will be initially qualified after the rule becomes effective?	In general, all changes to the part 60 QPS will be effective for all FSTDs that are initially qualified after the effective date of the final rule except as permitted by § 60.15(c).
What is the process to qualify an FSTD using another standard in lieu of the part 60 QPS as permitted by the deviation authority in § 60.15?	Requests for deviation from the part 60 QPS are made to the National Simulator Program Manager (NSPM) and must include justification that demonstrates an equivalent level of safety as compared to the FSTD evaluation requirements of the part 60 QPS. Approved deviations and the supporting evaluation standards will become a part of the permanent qualification basis of the FSTD.

The FAA estimates that it will cost \$72.7 million to make the necessary modifications to previously qualified FSTDs which will enable training required by the new Crewmember and Aircraft Dispatcher Training final rule. The training cost for the Crewmember and Aircraft Dispatcher Training final rule provides rental revenue to

simulator sponsors which will fully compensate them for their FSTD modification expenses. These simulator revenues were accounted for as costs of the additional training and were fully justified by the benefits in that final rule. The FAA estimates it will cost \$1.3 million for the evaluation and modification of engine and airframe

icing models which will enhance existing training requirements. If these modifications prevent only one severe injury the benefits will exceed the costs. The estimated cost of \$6.9 million to align standards with ICAO will result in improved safety and cost savings.

The costs and benefits of this rule are presented in the table below.

		Present value at a 7% rate	Present value at a 3% rate
FSTD Modifications for New Training Requirements:			
Cost .....	\$72,716,590	\$63,610,049	\$68,562,049
Benefits .....	Rational simulator owner will choose to comply.		
Icing provisions:			
Cost .....	\$1,256,250	\$1,098,926	\$1,184,476

		Present value at a 7% rate	Present value at a 3% rate
Benefits .....	Only one prevented severe injury valued at \$2.5 million makes the icing benefits exceed the costs.		
Aligning Standards with ICAO: Cost .....	\$6,875,000	\$5,356,979	\$6,132,690
Benefits .....	Improved safety and cost savings.		
Total Cost .....	\$80,847,840	\$70,065,954	\$75,879,215

## II. Background

### A. Statement of the Problem

In order to mitigate aircraft loss of control accidents and to comply with the requirements of Public Law 111–216, the FAA has issued new and revised flight training requirements in the Crewmember and Aircraft Dispatcher Training final rule for flight maneuvers such as full stall and upset recovery training. In support of this effort, the FAA participated in a number of collaborative industry and government working groups that examined loss of control training requirements and the flight simulation training device (FSTD) fidelity needed to support such training. These working groups included the International Committee on Aviation Training in Extended Envelopes (ICATEE), the Industry Stall and Stick Pusher Working Group, the Stick Pusher and Adverse Weather Event Training Aviation Rulemaking Committee (SPAW ARC), and the Loss of Control Avoidance and Recovery Training (LOCART) Working Group.

Through participation in these working groups and in consideration of the formal recommendations received from the SPAW ARC, the FAA determined that many existing FSTDs that could be used by air carriers to conduct such training may not adequately represent the simulated aircraft for the required training tasks. Additionally, the FAA evaluated several recent air carrier accidents and associated NTSB accident reports and determined that low FSTD fidelity or the lack of ability for an FSTD to adequately conduct certain training tasks may have been a contributing factor in these accidents.<sup>1</sup> A potential lack of simulator fidelity could contribute to inaccurate or incomplete training on new training tasks that are

required by the Crewmember and Aircraft Dispatcher Training final rule, which could lead to a safety risk.

Furthermore, since the initial publication of the part 60 final rule in 2008, the international FSTD qualification guidance published in the ICAO 9625 document has been updated to incorporate general improvements to new aircraft and simulation technology and the introduction of new FSTD levels that better align FSTD fidelity with required training tasks. The ICAO 9625 document is an internationally recognized set of FSTD evaluation guidelines that was developed by government and industry experts on flight simulation training and technology and has been used as a basis for national regulation and guidance material for FSTD evaluation in many countries. Internationally aligned FSTD standards facilitate cost savings for FSTD operators because they can reduce the number of different FSTD designs, as well as reduce the amount of redundant supporting documentation that are required to meet multiple national regulations and standards for FSTD qualification.

This final rule was developed using recommendations from the SPAW ARC<sup>2</sup> and the international FSTD qualification guidelines that are published in ICAO 9625, Edition 3 and the newly published ICAO 9625, Edition 4.<sup>3</sup> The requirements in this final rule are primarily directed at improving the fidelity of FSTDs that will be used in air carrier pilot training to conduct extended envelope training tasks, but will also have an added benefit of improving the fidelity of all FSTDs initially qualified after the final rule becomes effective.

### B. National Transportation Safety Board (NTSB) Recommendations

This proposal will incorporate changes into part 60 that address, at

least in part, the following NTSB Safety Recommendations through improved FSTD evaluation standards to support required training tasks:

1. Stall training and/or stick pusher training (Recommendations A–10–22, A–10–23, A–97–47, A–07–3, and A–10–24);
2. Upset Recognition and recovery training (Recommendations A–04–62 and A–96–120);
3. Engine and airframe icing training (Recommendations A–11–46 and A–11–47)
4. Takeoff and landing training in gusting crosswind conditions (Recommendations A–10–110 and A–10–111); and
5. Bounced landing training (Recommendations A–00–93 and A–11–69).

### C. Airline Safety and Federal Aviation Administration Extension Act of 2010 (Pub. L. 111–216) and the Crewmember and Aircraft Dispatcher Training Final Rule

On August 1, 2010, President Obama signed into law Public Law 111–216. In addition to extending the FAA's authorization, Public Law 111–216 included provisions to improve airline safety and pilot training. Specifically, section 208 of Public Law 111–216, Implementation of NTSB Flight Crewmember Training Recommendations, pertains directly to this rulemaking in that stall training and upset recovery training were mandated for part 121 air carrier flightcrew members.

On November 12, 2013, the FAA published the Crewmember and Aircraft Dispatcher Training final rule, adding the training tasks required by Public Law 111–216 that specifically target extended envelope training, recovery from bounced landings, enhanced runway safety training, and enhanced training on crosswind takeoffs and landings with gusts, which further requires that these maneuvers be completed in an FSTD. As a result, revisions to all part 121 training programs will be necessary prior to March 12, 2019 and the revisions to part

<sup>1</sup> Some of these accidents include the 1996 Airborne Express DC–8–63 loss of control accident, the 2001 American Airlines flight 587 A300 loss of control accident, the 2009 Colgan Air flight 3407 DHC–8–400 loss of control accident, and the 2008 Continental flight 1404 Boeing 737–500 runway excursion accident.

<sup>2</sup> A copy of the SPAW ARC final report has been placed in the docket for this rulemaking.

<sup>3</sup> International Civil Aviation Organization (ICAO) publications can be located on their public internet site at: <http://www.icao.int/>.

60 in this final rule are required to ensure FSTDs are properly evaluated in order to fully implement the flight training required in the Crewmember and Aircraft Dispatcher Training final rule.

*D. Summary of the Notice of Proposed Rulemaking (NPRM)*

On July 10, 2014, the FAA published an NPRM (79 FR 39461), proposing changes to the flight simulation training device (FSTD) technical evaluation standards. The primary purpose of the NPRM was to establish and update FSTD technical evaluation standards to address new training tasks required by the Crewmember and Dispatcher Training final rule, including full stall training, upset prevention and recovery training, and other new training tasks. Additionally, the NPRM proposed the incorporation of FSTD evaluation criteria as defined in the International Civil Aviation Organization (ICAO) 9625, *Manual of Criteria for the Qualification of Flight Simulation Training Devices* (Edition 3) document. Significant changes to the part 60 qualification performance standards (QPS) were proposed in the following areas:

1. *Full Stall Evaluation:* Minimum requirements were introduced to include aerodynamic modeling of a full stall and stick pusher activation (where equipped) up to ten degrees of angle of attack (AOA) beyond the stall AOA, subject matter expert (SME) pilot evaluation of the FSTD's stall characteristics, and improved objective testing to validate the FSTD's performance and handling qualities in the stall maneuver.

2. *Upset Recognition and Recovery:* New requirements were proposed for the qualification of upset recognition and recovery training tasks including the evaluation of a minimum set of upset recovery maneuvers against the defined FSTD validation envelope, providing a means to record and playback upset recovery maneuvers

conducted in the FSTD, and providing the instructor with a minimum set of feedback tools on the instructor operating station (IOS) that gives information on the FSTD's expected fidelity, aircraft operational limitations, and student flight control inputs.

3. *Engine and Airframe Icing:* Modifications were proposed to the existing part 60 Level C and Level D FSTD qualification requirements for engine and airframe icing. The proposed amendments included requirements for ice accretion models based upon aircraft original equipment manufacturer (OEM) data or other analytical methods that incorporate the aerodynamic effects of icing as well as objective tests on the FSTD that demonstrate the effects of icing.

4. *Takeoff and Landing in Gusting Crosswinds:* New amendments were proposed that would require that realistic gusting crosswind profiles must be available to the instructor and the profiles must be tuned in intensity and variation to require pilot intervention to avoid runway departure during takeoff or landing roll. A Statement of Compliance (SOC) would be required to describe the source data used to develop the crosswind profiles.

5. *Bounced Landing Recovery:* New requirements were proposed to complement existing part 60 ground reaction requirements to support bounced landing recovery training. The updated requirements added that the effects of a bounced landing must be modeled and evaluated and include the effects of nosewheel exceedances and tail strike where appropriate.

6. *ICAO 9625 Alignment:* In the NPRM, the FAA proposed alignment with the updated ICAO 9625, Edition 3, FSTD evaluation document for similar FSTD levels that are defined in the part 60 QPS (Appendices A and B). This included incorporating updated technical standards for Level C and Level D FSTDs to align with that of the ICAO Type VII FSTD and creating a new high fidelity fixed-base flight training

device (the Level 7 FTD) that is based upon the similar Type V device as defined in the ICAO document. This alignment also included adopting the ICAO language and numbering format for some of the technical requirements tables as well as integrating the existing legacy part 60 FSTD levels into these tables to maintain continuity with the current part 60 defined hierarchy of FSTD levels.

In general, the proposed amendments to the part 60 QPS would only be applicable to FSTDs that are initially qualified or upgraded in qualification level after the final rule becomes effective. Because many previously qualified FSTDs will likely be used to accomplish the training tasks required by the Crewmember and Dispatcher Training final rule, the FAA also proposed an FSTD Directive in order to retroactively apply evaluation requirements for those previously qualified FSTDs that will be used to conduct certain training tasks, including full stall, upset prevention and recovery training, engine and airframe icing, takeoff and landing in gusting crosswinds, and bounced landing recovery training.

On September 16, 2014, the FAA extended the comment period of the NPRM for an additional 90 days (79 FR 55407). The comment period closed on January 6, 2015. The FAA received approximately 675 individual comments in response to the NPRM. Commenters included air carriers, simulator training providers, FSTD data providers, FSTD manufacturers, the NTSB, labor organizations, trade associations, aircraft manufacturers, and individuals.

*E. Differences Between the NPRM and the Final Rule*

As a result of the comments received on the NPRM, the FAA made several changes to the final rule. A summary of significant changes as a result of comments are highlighted in the following table:

Issue	Significant changes
Full Stall Evaluation .....	<p>(a) Improved the definition of the stall AOA for the purposes of defining the required aerodynamic modeling range. Clarifies specific issues concerning stick pusher equipped aircraft and envelope protected aircraft.</p> <p>(b) Made clarifications concerning acceptable source data for stall aerodynamic models. Clarified that data sources other than the aircraft manufacturer may be acceptable if they meet the modeling and SME pilot evaluation requirements.</p> <p>(c) Improved the qualification requirements for subject matter expert (SME) pilots that subjectively evaluate the stall model. Adds deviation authority if an acceptable SME pilot cannot be located. Allows for SME evaluation to be conducted on an engineering or development simulator where objective proof-of-match test cases are provided that verifies the model implementation on the FSTD.</p> <p>(d) Removed the proposed requirement for all newly qualified FSTDs to be evaluated and qualified for full stall training tasks. Full stall qualification will only be required for FSTDs that will be used to conduct this training as requested by the FSTD sponsor.</p>

Issue	Significant changes
Upset Prevention and Recovery Training (UPRT) Evaluation.	<p>(e) (Previously qualified FSTDs) Removed the proposed objective testing requirements for stall maneuvers where validation data may not exist for some older FSTD data packages (cruise and turning flight stall). These conditions will still require aerodynamic modeling and subjective evaluation by a SME pilot.</p> <p>(a) Removed the proposed minimum FSTD evaluation requirements for Level A and Level B FSTDs.</p> <p>(b) Removed the proposed specific requirements for features and malfunctions necessary to drive upset scenarios.</p> <p>(c) Removed the proposed requirement for audio and video record/playback functionality.</p> <p>(d) Improved the definition of required instructor operating station (IOS) parameters and feedback mechanisms. Allows for methods other than graphical displays to be used where the required parameters are provided to support the training program.</p> <p>(e) Expands the definition of UPRT to include unusual attitude training in which scenarios are introduced that are intended to exceed the defined parameters of an aircraft upset. This change better differentiates UPRT from the existing part 60 unusual attitude evaluation requirement in Table A1B.</p>
Engine and Airframe Icing Evaluation.	<p>(a) Clarified that specific icing effects are only required to be introduced where such effects are representative of the particular aircraft being simulated.</p> <p>(b) Revised the existing part 60 engine and airframe icing special effects test (Table A3F) to remove references to gross weight increments and to better align with the updated requirements.</p> <p>(c) Clarified that flight test data is not necessarily required for the development of icing models. Engineering and analytical methods may be used to develop representative icing models.</p> <p>(d) Added provisions to allow for supplemental tuning of icing models using an SME pilot assessment.</p>
Gusting Crosswind Evaluation.	<p>(a) Removed references to the windshear training aid for gusting crosswind model development. Recommend use of gusting crosswind profiles provided by the FAA in guidance material.</p> <p>(b) Removed the proposed minimum qualification requirement for Level A and Level B FSTDs.</p>
Bounced Landing Recovery Evaluation.	<p>(a) Removed the proposed ground reaction requirement to compute nosewheel exceedances.</p> <p>(b) Clarified the requirements to emphasize the effects and indications of ground contact due to landing in an abnormal aircraft attitude and that aircraft dynamics in a bounced landing recovery maneuver are already adequately covered in the existing part 60 rule.</p>
Alignment with the ICAO 9625 Document.	<p>(a) Restored the general requirements table (Tables A1A and B1A) format, numbering system, and content to the existing part 60 versions. Appended the proposed ICAO 9625 (Edition 3) requirements from the NPRM into their applicable sections.</p> <p>(b) Restored the existing part 60 visual system field of view (180°x40°) and system geometry requirements for Level C and Level D FSTDs.</p> <p>(c) Adopted the less restrictive visual system lightpoint brightness tolerance (5.8 ft.-lamberts) from the updated ICAO 9625, Edition 4, document.</p> <p>(d) Adopted the less restrictive transport delay tolerances (100 ms for instrument and motion system response; 120 ms for visual system response) from the updated ICAO 9625, Edition 4, document.</p> <p>(e) Modified the objective motion cueing test (OMCT) description to not require testing for continuing qualification evaluations, removed minimum tolerances, and further moved much of the technical test details into guidance material.</p> <p>(f) Aligned language where practical for similar stall, UPRT, and icing requirements from the ICAO 9625, Edition 4, document.</p> <p>(g) Added deviation authority for the FAA to accept alternate FSTD evaluation standards where no adverse impact to the fidelity of the FSTD can be demonstrated.</p> <p>(h) Reorganized the flight training device (FTD) requirements in Appendix B to restore the existing part 60 table structure and better separate requirements for the new Level 7 FTD and the legacy part 60 FTD levels.</p> <p>(i) Clarified the Level 7 FTD's minimum qualified training tasks in Table B1B to better align with the ICAO 9625 guidelines.</p> <p>(j) Removed minimum requirements for extended envelope training tasks for the Level 7 FTD that are not included in the ICAO 9625, Edition 4 document for the Type V device.</p>

#### F. Related Actions

As a result of information gathered from various working groups, the FAA has taken action on loss of control training and simulator fidelity deficiencies by issuing the following voluntary guidance material:

1. FAA Safety Alert for Operators (SAFO 10012)—Possible Misinterpretation of the Practical Test Standards (PTS) Language “Minimal Loss of Altitude.” The purpose of this alert bulletin is to clarify the meaning of the approach to stall evaluation criteria as it relates to “minimal loss of altitude” in the Airline Transport Pilot PTS;
2. FAA Information for Operators Bulletin (InFO 10010)—Enhanced Upset Recovery Training. This information

bulletin recommends the incorporation of the material in the AURTA into flightcrew training. The AURTA contains guidance for upset recovery training programs for air carrier flightcrews, as well as the evaluation guidance for FSTDs used in such training;

3. FAA Information for Operators Bulletin (InFO 15004)—Use of Windshear Models in FAA Qualified Flight Simulation Training Devices (FSTDs);
4. FAA National Simulator Program (NSP) Guidance Bulletin No. 11–04—FSTD Modeling and Evaluation Recommendations for Engine and Airframe Icing;
5. FAA National Simulator Program (NSP) Guidance Bulletin No. 11–05—

FSTD Evaluation Recommendations for Upset Recovery Training Maneuvers;

6. FAA National Simulator Program (NSP) Guidance Bulletin No. 14–01—FSTD Evaluation Guidelines for Full Stall Training Maneuvers;

7. AC 120–109A—Stall and Stick Pusher Training;

8. AC 120–111—Upset Prevention and Recovery Training; and

9. Airline Transport Pilot Practical Test Standards (Change 4).

Portions of the above guidance material provide FSTD operators with recommended evaluation methods to improve FSTD fidelity for selected training tasks. To ensure that all FSTDs used to conduct such training are evaluated and modified to a consistent standard, the applicable part 60

technical requirements must be modified as described in this final rule.

### III. Discussion of Public Comments and Final Rule

#### A. Evaluation Requirements for Full Stall Training Tasks

The existing FSTD evaluation requirements for stall maneuvers are generally limited to the evaluation of stall speeds with little emphasis on the actual aircraft performance and handling characteristics as the aircraft exceeds the stall warning AOA. As a result, FSTDs used for such training may not provide the necessary cues and associated performance degradation needed to train flight crews in the recognition of an impending stall as well as training the techniques needed to recover from a stalled flight condition. In the NPRM, the FAA proposed updated general requirements, objective testing requirements, and functions and subjective testing requirements for the evaluation of full stall training maneuvers to support air carrier training as required in the Crewmember and Aircraft Dispatcher Training final rule.

##### 1. Aerodynamic Modeling Range

###### a. Aerodynamic Modeling Beyond the Stall AOA

In order to support the required training objectives, the proposal included requirements for the modeling and evaluation of the FSTD's stall characteristics up to 10 degrees beyond the stall AOA.

CAE, Inc. (CAE) commented that the 10 degrees beyond the stall AOA requirement should be further reviewed, since application of the recovery should immediately lead to a reduction in AOA and therefore is inappropriate to relate the requirement to the 10 degrees beyond the stall AOA. CAE recommended that the 10 degree requirement be removed where rationale is provided for the upper limit of AOA modeling in the required SOC.

The NTSB is generally supportive of the modeling requirements, citing that a peak AOA growth of about 10 degrees beyond the stall is typical for most incidents and accidents it has investigated. However, it did note that stick pusher response dynamics could cause a higher AOA overshoot and this dynamic behavior is a "critical cue to a stall, which pilots must be trained to recognize." The NTSB also noted in its comments that the Colgan flight 3407 accident resulted in an AOA that extended to 13 degrees beyond the stall

AOA.<sup>4</sup> In addition, the NTSB stated that the required aerodynamic modeling for aircraft equipped with a stick pusher should not be limited to that of the stick pusher activation and that the aerodynamic modeling range include the flight dynamics that may occur where a pilot resists the stick pusher in training.

The FAA disagrees with CAE that the 10 degree requirement be removed in select cases. The 10 degree AOA range was initially recommended by the SPAW ARC as necessary to accomplish full stall training. Furthermore, this 10 degree AOA range is currently a recommended practice for simulator aerodynamic modeling in the International Air Transport Association (IATA) Flight Simulation Training Device Design and Performance Data Requirements document<sup>5</sup> and has been a recommended practice since the second edition of the IATA document that was published in 1986. Finally, the FAA notes that an unpublished simulator investigation conducted by ICATEE in conjunction with NASA on their Enhanced Upset Recovery model showed that the 10 degree AOA range should be sufficient to capture most overshoots in AOA during various stall recovery maneuvers.

The FAA agrees with the NTSB that pilots can benefit from experiencing the aircraft dynamics involved in a stick pusher activation and recovery maneuver in training. The FAA has reviewed the NTSB accident reports and supporting data on two loss of control accidents in which pilots resisted the activation of a stick pusher and encountered an aerodynamic stall. In the Pinnacle Airlines Flight 3701 accident, the initial stick pusher activation occurred at approximately 10.5 degrees AOA at the start of the aircraft upset and the AOA subsequently oscillated from approximately -6 degrees to +14 degrees over three successive stick pusher activations with some instability evident in the roll axis.<sup>6</sup> Only until just before the fourth activation of the stick

pusher system (approximately eleven seconds after the initial stick pusher activation) did the AOA exceed the proposed aerodynamic modeling range (of 10 degrees beyond the stall AOA) for FSTD evaluation purposes.<sup>7</sup>

In the Colgan 3407 accident, aerodynamic stall occurred before the stick pusher activation<sup>8</sup> at approximately 14 degrees AOA which included an initial roll off to about 50 degrees of bank angle. After the initial stick pusher activation at about 17.5 degrees AOA, the subsequent AOA overshoot remained within 24 degrees as the aircraft rolled through 100 degrees of bank angle in the opposite direction of the initial roll off. The peak AOA value of approximately 27 degrees (10 degrees of AOA beyond the stick pusher activation where stall identification should have occurred) was not recorded until after multiple incorrect column responses by the pilot against the stick pusher over a time period of 30 seconds after the pilot's initial incorrect response to the stall warning.

The FAA considered the comments and based on a review of industry recommendations and best practices, has determined that aerodynamic modeling to at least 10 degrees beyond the stall AOA is necessary so that the modeling does not abruptly end should the pilot overshoot the stall recognition and recovery in training. The FAA recognizes that the 10 degree AOA range may not be sufficient to capture all of the flight dynamics involved with multiple severe divergent pitch oscillations where the pilot repeatedly resists a stick pusher system; however, training should not normally be allowed to continue significantly beyond the point where a trainee initially resists the stick pusher before recognizing the stall identification cues and executing the recovery procedures. As demonstrated by the AOA oscillations experienced in the Colgan and Pinnacle accidents, the FAA has determined that aerodynamic modeling to 10 degrees beyond the stall AOA should be sufficient to capture aircraft dynamics in instances where a pilot initially resists the stick pusher activation in training. The data from these accidents suggests that the 10 degree AOA aerodynamic modeling requirement would adequately cover an

<sup>4</sup> See NTSB accident report, Loss of Control on Approach, Continental Connection Flight 3407, February 12, 2009, NTSB Accident Report, NTSB/AAR-10/01; page 87, "After the stall, the AOA oscillated between 10 deg and 27 deg . . . ."

<sup>5</sup> International Air Transport Association (IATA) Flight Simulation Training Device Design and Performance Data Requirements Document, 7th Edition (2009), sections 3.1.1.2 and 3.1.1.3 addresses stall entry and recovery as well as required angle of attack ranges for supporting data.

<sup>6</sup> See NTSB accident report, Crash of Pinnacle Airlines Flight 3701, October 14, 2004, NTSB Accident Report, NTSB/AAR-07/01 and supporting flight data recorder factual report on the NTSB public docket (NTSB accident identification number DCA05MA003).

<sup>7</sup> For this aircraft, since the aerodynamic stall occurs after the stick pusher is designed to activate, the stall identification is provided by the stick pusher system activation and aerodynamic modeling would be required up to at least 20.5 degrees AOA for this configuration.

<sup>8</sup> According to the NTSB accident report, the stick pusher on this aircraft is designed to activate after the aerodynamic stall.

AOA range that includes several seconds of inappropriate pilot responses to a stick pusher activation. The FAA has determined this range is sufficient to meet the training objective of teaching a pilot to not resist a stick pusher system activation.

#### b. Definition of the Stall AOA

In the NPRM, the FAA defined the required aerodynamic model validity range for full stall qualification as 10 degrees of AOA beyond the stall/critical AOA and not as a function of when the stall identification cues are present.

Airbus commented that the definition of stall or full stall should emphasize “heavy buffet” as an important cue. Airbus further cited the ICAO 9625, Edition 4, document<sup>9</sup> states that a stalled flight condition may be recognized by continuous stall warning activation accompanied by at least one of the following: (1) Buffeting, which could be heavy at times; (2) lack of pitch authority and/or roll control; or (3) inability to arrest the descent rate.

The FAA concurs with Airbus’ comment that heavy buffet can be an important cue of a stall. The FAA has further considered the definition of stall as described in the ICAO 9625 document to determine an appropriate definition for stall with respect to the modeling requirements necessary to support the training objectives. The FAA does not fully agree, however, with the ICAO 9625 definition of stall; specifically the criteria of “lack of pitch authority and/or roll control” to define the stall since the part 25 airplane certification requirements state that the pilot must be able to control the aircraft in pitch and roll up to the stall. While control effectiveness can be reduced, it would be incorrect to say that it is lacking for certified airplanes.

Two fundamental objectives of the stall training requirements are to train pilots to recognize the cues of an impending stall as well as to reinforce to pilots that the stall recovery procedures learned during stall prevention training are the same recovery procedures needed to recover from an unintentional full stall. To determine the extent of FSTD aerodynamic modeling necessary to conduct this training, the stall identification AOA must be defined as the point in which the pilot should recognize that the aircraft has stalled and that the stall recovery procedures must be initiated. The FAA has considered both the aircraft certification

(part 25) definition of a “clear and distinctive” indication of a stall, as well as the ICAO 9625, Edition 4, stall definition. In order to provide a more consistent definition of the stall AOA to ensure that the required aerodynamic modeling range covers potential overshoots in AOA during stall training, the FAA has amended the final rule to better define stall identification:

- i. No further increase in pitch occurs when the pitch control is held on the aft stop for 2 seconds, leading to an inability to arrest descent rate;
- ii. An uncommanded nose down pitch that cannot be readily arrested, which may be accompanied by an uncommanded rolling motion;
- iii. Buffeting of a magnitude and severity that is a strong and effective deterrent to further increase in AOA; and
- iv. The activation of a stick pusher.

Since AOA awareness is a fundamental element of stall training, the instructor must be provided with feedback at the IOS concerning the aircraft’s current AOA as well as the stall identification AOA. This feedback will not only provide the instructor with additional awareness concerning the aircraft’s current AOA and proximity to the stall, but will also assist the instructor in determining when the aircraft has stalled and that the stall recognition cues have been provided as necessary to support the training objectives. In the final rule, the FAA has amended the IOS feedback requirements for upset prevention and recovery training to include AOA and stall identification AOA parameters.

The FAA further notes that the stall identification cues exhibited by an aircraft can, and often do, vary depending upon the aircraft’s configuration (e.g. weight, center of gravity, and flap setting) and how the stall is entered (turning flight or wings level stall entry). Where differing stall identification cues are present on the aircraft, the FSTD’s aerodynamic model should be capable of providing these cues and variation of stall characteristics for training purposes. The FAA also points out that, while this requirement was implied in the stall model evaluation requirements in the NPRM, ICAO 9625, Edition 4, further clarifies this issue with additional language which states that “. . . the model should be capable of capturing the variations seen in the stall characteristics of the aeroplane (e.g., the presence or absence of a pitch break).” The FAA has determined that the ability to show these variations would be valuable in training and has included

similar clarifying language in Table A1A, section 2.m. of the final rule.

#### 2. Envelope Protected Aircraft

##### a. Model Validity Ranges and Associated Objective Testing

In the NPRM, the FAA included provisions that did not specifically require objective validation testing at an AOA beyond the activation of a stall identification (stick pusher) system through recovery. The primary purpose of including this provision was to not require the collection of flight test validation data at an AOA that could result in an unrecoverable and dangerous stalled flight condition.

Empresa Brasileira de Aeronautica S.A. (Embraer), Airbus, and an individual commenter questioned why computer controlled aircraft with stall envelope protection systems are treated differently from aircraft equipped with stick pusher systems with respect to model validity ranges and associated objective testing. Delta Airlines, Inc. (Delta) further questioned whether such modeling and testing will be required for an Airbus A350 aircraft that has part 25 special conditions on stall testing for airplane certification.

The FAA notes that Public Law 111–216 and the Crewmember and Aircraft Dispatcher Training final rule require training to be conducted to a stall. The primary purpose for the training is to provide flight crews with experience in recognizing the cues of an impending stall, as well as reinforcing the recovery techniques learned in stall prevention training. To expose flight crews to these stall identification cues, envelope protections systems must typically be disabled in training. Unlike most envelope protection systems, stick pushers are typically installed to either compensate for an inability of the aircraft to meet the part 25 stalling definitions in § 25.201 or the stall characteristics requirements in § 25.203. Where a stick pusher is installed to meet the stall identification requirements of § 25.201, the activation of the stick pusher provides the pilot with a clear and distinctive indication to cease any further increase in AOA. This “clear and distinctive” indication of a stall is necessary to accomplish the training objectives and simply reaching the AOA limits of the envelope protection or “alpha floor” on an envelope protected aircraft will not provide the stall recognition cues that a pilot needs to learn to prevent and recover from a full stall in the event that the envelope protection systems fail. The accident and incident record contains multiple instances of stall envelope protection

<sup>9</sup> See section III.F.3 concerning changes made to address the recently published ICAO 9625, Edition 4 document.

system failures in the past, some of which progressed into a full stall situation where recognition cues of the stall were not identified by the flight crews.<sup>10</sup>

The FAA further notes that the FSTD qualification requirement for objective and subjective testing of the stall is not new with this rulemaking. The part 60 standard published in 2008 contains both objective and subjective testing of the stall to include the “g-break” and is required for computer controlled aircraft in a non-normal operational mode.<sup>11</sup> Furthermore, the FAA’s FSTD qualification standards dating back to AC 121–14C (1980) have also had both objective and subjective testing requirements for stall.<sup>12</sup> As a result, virtually all of the currently qualified Level C and Level D FSTDs for transport category aircraft have objective testing already in place for stall maneuvers in their FAA approved Master Qualification Test Guide (MQTG) and most of these objective tests are validated against flight test data collected up to and including the stall. The FAA finds that reducing these requirements would not support the full stall training requirements in the Crewmember and Aircraft Dispatcher Training final rule and therefore maintains that the requirements set forth in this final rule are necessary.

#### b. Validation of Stall Characteristics Using Flight Test Data

In the NPRM, the FAA proposed objective testing of stall characteristics for computer controlled aircraft in both normal mode and non-normal mode flight conditions up to the full stall through recovery to normal flight.

Embraer commented that during the developmental flight test campaign, full aerodynamic stalls that are considered

hazardous or impractical can only be done if the aircraft is equipped with additional safety features, such as a tail parachute or other equivalent device, and those features obviously change the aircraft behavior during stall recovery if they are employed. Additionally, Embraer emphasized that for safety reasons in the certification flight test campaign, depending upon the aircraft’s aerodynamic characteristics during stalls; full aerodynamic stall flight tests are not done in control states in which the stall protection system is not available. Embraer recommended that flight testing for validation should not be required for objective testing in non-normal control states where the stall protection system is not available.

As previously stated, the non-normal control mode objective testing to a full stall has been required in the existing part 60 stall characteristics objective tests as well as in previous FSTD evaluation standards dating back several years and the FAA has not significantly changed this requirement in this rulemaking. The FAA agrees with Embraer that aerodynamic stall flight testing may be hazardous or impractical to conduct in some circumstances (on both envelope protected and non-envelope protected aircraft) and this rulemaking has not specifically required additional flight test validation data to be collected at an AOA beyond where it is reasonably safe to do so.

As described in the NPRM, the FAA has included allowances for aerodynamic stall models to be developed and validated using engineering and analytical methods. While the FAA agrees with the commenter that some airplane certification flight test data collected in a stall maneuver may not be suitable for simulator modeling and validation purposes (such as where a tail parachute has been deployed as mentioned by the commenter), other flight testing conducted to investigate the stall characteristics of the airplane during the aircraft certification program may be used to develop engineering simulator models. Where significant safety issues would prevent flight testing at an AOA beyond the activation of a stall protection system, engineering simulator validation data will be acceptable for FSTD objective testing purposes. The FAA has made amendments in the final rule to make this clarification.

#### c. Required AOA Range for Normal Mode Objective Testing

In the NPRM, the FAA did not specify a particular AOA range to support the normal mode testing requirements for

stall characteristics on computer controlled aircraft.

Delta and Airlines for America (A4A) requested clarification on what will be the required AOA range for objective testing on aircraft with highly automated systems where the aircraft does not reach aerodynamic stall in “normal control state.”

The FAA has not specified a particular AOA range to support the normal mode testing requirements in this final rule, as this will be a subset of the AOA range required for non-normal mode testing. Public Law 111–216 and part 121, subparts N and O, require training for recoveries from stalls and stick pusher activations, if equipped. In order to conduct stall recovery training, the protections of an envelope-protected aircraft must be disabled. As such, aerodynamics outside of the envelope protections up to ten degrees beyond the stall AOA must be considered to allow for stall recovery training in the event the envelope protections fail.

#### 3. Data Sources for Model Development and Validation

##### a. Define Best Available Data

In the NPRM, the FAA proposed that where limited data is available to model and validate the stall characteristics of the aircraft, the data provider is expected to develop a stall model through analytical methods and the utilization of the “best available data”.

Bihrl Applied Research (Bihrl), A4A, and an anonymous commenter stated that the term, “best available data” (with regards to the aerodynamic data used to model and validate the stall model) is ambiguous and open to interpretation. American Airlines (American), FlightSafety International (FlightSafety), A4A, JetBlue Airways (JetBlue), and Delta further requested clarification from the FAA on whether a “non-OEM” provided source of data would be acceptable to the FAA to meet the representative stall model requirements.

The FAA notes that there is not a specific requirement currently in part 60, nor has a new requirement been introduced in this final rule that mandates FSTD sponsors use the original equipment [aircraft] manufacturer’s (OEM) data to develop and validate the aerodynamic and flight control models in qualified FSTDs. As described in § 60.13(b), “The validation data package may contain flight test data from a source in addition to or independent of the aircraft manufacturer’s data in support of an FSTD qualification . . .” There are

<sup>10</sup> One such example is the June 2009 crash of Air France flight 447, an Airbus A330–203 that experienced failure of the high angle of attack (stall) protection system due to the loss of airspeed data as a result of pitot probe blockage. See “Final report on the accident on 1 June 2009 to the Airbus A330–203 registered F–GZCP operated by Air France flight AF 447 Rio de Janeiro—Paris”; Bureau d’Enquêtes et d’Analyses (BEA); Paris, France. Another example is the December 2014 crash of Indonesia Air Asia flight 8501, an Airbus A320–216, where flightcrew actions to correct a malfunctioning flight augmentation system resulted in the loss of stall protection. See “Aircraft Accident Investigation Report; PT. Indonesia Air Asia; Airbus A320–216; PK–AXC”; Komite Nasional Keselamatan Transportasi (KNKT), Republic of Indonesia 2015.

<sup>11</sup> See 14 CFR part 60 (2008), Appendix A, Table A2A, test 2.c.8 (Stall Characteristics) and Table A3A, test 6.a. (High angle of attack, approach to stalls, stall warning, buffet, and g-break . . . ).

<sup>12</sup> Advisory Circular (AC) 121–14C (1980), “Aircraft Simulator and Visual System Evaluation and Approval”.



numerous FSTDs that have been qualified up through Level D where the FSTD manufacturer or other third party data provider has instrumented and flight tested an aircraft in order to collect flight test data to develop and validate their own aerodynamic and flight control models to support FSTD evaluation and qualification.

The FAA has considered the issues involved with requiring aircraft OEM data to develop and validate stall models for the purpose of conducting full stall training. While flight test data collected by the aircraft manufacturer will generally be the preferred source of data to model and validate FSTDs for training, the FAA has determined that “non-OEM” sources of aerodynamic data must be considered for the following reasons:

i. Restricting the development of stall models to that of the airplane manufacturers could impose a high cost on the FSTD sponsors and may not be possible in some instances where the airplane manufacturer does not support a simulator data package or is no longer in existence;

ii. Recommendations by the SPAW ARC, ICATEE, and other working groups have supported the use of analytically developed “type representative” stall models for training purposes; and

iii. An FAA simulator study<sup>13</sup> has supported the SPAW ARC’s findings and found that analytically derived “type representative” stall models that are developed by third party data sources and thoroughly evaluated by a SME pilot can be effectively used to support stall training tasks in a simulator.

For these reasons, the FAA finds that it would not be practical to require FSTD sponsors to use an aircraft manufacturer’s high AOA/stall model to meet the requirements of this final rule and other source data may be acceptable. Furthermore, Boeing, A4A, and an anonymous commenter stated that “flight test data should be noted as the preferred source of data, if available, with other data sources to be used if acceptable to the FAA.” The FAA concurs with this statement. To manage unknown risks, an aircraft manufacturer provided stall model developed with flight test data will generally be the preferred source of data; however, the FAA has concluded that there is not sufficient evidence to warrant mandating a particular source of data for

model development. The FAA acknowledges that the term, “best available data” is ambiguous and has removed that language in the final rule.

#### b. Post Stall “Type Representative” Modeling

In the NPRM, FAA indicated that flight crews should be provided with practical experience in recognizing a full stall should the stall warning system become ineffective. To support this objective, the FSTD must provide critical aircraft type-specific stall recognition cues to enable the crew to recognize the onset of a stalled flight condition. Where data limitations and aircraft behavior may prevent conducting precise objective validation of post-stall behavior in the FSTD, the FAA included provisions in the proposal for “type representative” modeling and validation. To distinguish between the objectively validated “type specific” pre-stall modeling and post-stall modeling that may be developed through engineering analysis and SME pilot evaluation, the FAA used the term “type representative” in the NPRM.

Delta, FlightSafety, and A4A requested that the FAA better define the term, “type representative” with regards to post stall model fidelity.

In defining the FSTD fidelity requirements for full stall behavior, the FAA considered the primary training objectives for such training. The first objective of stall training is to provide flight crews with practical experience in recognizing a full stall should the stall warning system become ineffective (either through malfunction or human error). To support this objective, the FSTD must provide critical aircraft “type specific” recognition cues of an impending stall. Examples include cues such as reduced lateral/directional stability, deterrent stall buffet, and reduced pitch control if the particular aircraft has these cues.

The second objective of stall training is to reinforce to flight crews that the recovery procedures learned during stall prevention training are the same procedures needed to recover from a full stall. From an aerodynamic modeling standpoint, this presents a more significant challenge for two reasons. First, aircraft behavior in an aerodynamic stall may not be stable and is often sensitive to initial conditions, which creates the impression of non-repeatable chaotic behavior. Second, because this occurs in a flight regime with reduced stability, there can be practical limitations on the amount of flight test data that can be safely collected for simulator modeling and validation purposes. It is for these

reasons that objectively validated “type specific” behavior at an AOA beyond the aerodynamic stall may not be a reasonable goal for defining fidelity in a training simulator.

The FAA has determined that the primary training objective for stall training is to have a pilot learn the proper stall recovery procedure in response to the variety of stall cues that a particular aircraft presents. Owing to the reduced stability, unsteady aerodynamics, and surface and rigging variations that occur with use, an aircraft will respond differently from stall to stall. However, the physics of what can happen in a stall are known, accepting that they can differ from aircraft to aircraft. The FAA has concluded that if a pilot can demonstrate applying the stall recovery technique for the general characteristics of what might occur for an aircraft type, the precise characteristics are not required. That is, if an airplane typically rolls 10 degrees left or 20 degrees right in a stall does not matter as long as the pilot does not incorrectly apply the stall recovery technique by responding to that roll before reducing AOA. What is important is to present roll if an aircraft has rolling tendencies to ensure that a pilot responds properly.

In order to avoid confusion with other uses of the word “representative” with respect to simulator fidelity, and to remain consistent with the ICAO 9625 definitions, the FAA has changed the description of the post-stall fidelity requirements to “sufficiently exemplar of the airplane being simulated to allow successful completion of the stall entry and recovery training tasks.” For the purposes of stall maneuver evaluation, the term “exemplar” is defined as a level of fidelity that is type-specific of the simulated airplane to the extent that the training objectives can be satisfactorily accomplished.

#### c. Use of Flight Test Data and Availability

In consideration of the recommendations of the SPAW ARC as well as the results of the FAA stall study, the FAA proposed that the necessary levels of simulator fidelity (including type specific pre-stall behavior and type representative post-stall behavior) can be achieved through a combination of engineering analysis, SME pilot assessment, and improved pre-stall objective testing through the use of existing stall flight test data that is already required by part 60 and

<sup>13</sup> Schroeder, J.A., Burki-Cohen, J., Shikany, D.A., Gingras, D.R., & Desrochers, P. (2014). An Evaluation of Several Stall Models for Commercial Transport Training. *AIAA Modeling and Simulation Technologies Conference*.

previous simulator standards.<sup>14</sup> Furthermore, the FAA proposed additional objective testing requirements for stall characteristics to include turning flight stall and high altitude cruise stall. In the proposal, these tests were also included in the FSTD Directive as applicable to previously qualified FSTDs.

Dassault Aviation (Dassault) commented on the availability of full stall flight tests and that flight test points may not be available for some conditions where aircraft certification does not require them. Dassault further commented that corresponding flight test points might be implemented in the devices where partial data is available; however, no extension or extrapolation should be considered as type representative because this might lead to a very different behavior. An anonymous commenter made similar comments in that “unless there is a source of flight test data in every possible combination of conditions that might exist in a full stall, a demonstration of recovery techniques in a given set of conditions is the only plausible solution.”

FlightSafety further questioned whether there would be a release from liability should a stall model developed through engineering judgment and analytical methods prove to be inadequate.

As stated in previous sections, the FSTD qualification standards have had objective testing requirements for flight maneuvers up to and including full stall since 1980, so nearly all currently qualified full flight simulators (FFS) already have full stall flight test points that are used for simulator validation purposes. For previously qualified FSTDs, this data could be used to further improve existing stall models to meet the requirements of this final rule. The FAA does recognize, as Dassault points out, that additional flight test validation data may not readily exist to validate the new stall maneuvers introduced in the objective testing requirements (e.g., cruise stall and turning flight stall). To address this concern, the FAA has amended the FSTD Directive for previously qualified FSTDs to remove the objective testing requirements for both the cruise condition and the turning flight stall condition and replaced them with subjective evaluation by an SME pilot. The remaining required objective testing stall characteristics tests (second

segment climb and approach or landing conditions) are already required under the existing part 60 rule and should have existing validation data that can be used to meet the new objective testing requirements. Where limitations exist in the stall aerodynamic model due to the lack of data or reliable analytical methods, the data provider may declare these limitations as part of the required aerodynamic modeling SOC for the purposes of restricting the FSTD to certain stall maneuvers.

In response to FlightSafety's comment, the FAA notes that engineering judgment and analytical methods are used extensively in other areas of a simulation model besides stall and these models are used for training in conditions and situations that vary from the flight conditions used to validate the model. This practice has proven satisfactory, as known physical principles are used by FSTD manufacturers and data providers to represent the training conditions that vary from the flight-validated conditions. The FAA issues standards for FSTD evaluation, but generally does not prescribe specific methods for developing simulation models. The FAA does not have the authority to declare a release from liability.

#### 4. Qualification on FSTD Levels Other Than Level C and Level D

In the NPRM, the FAA proposed modifications to the Level A and Level B stall qualification requirements to include stick pusher system force objective testing and updated objective and subjective testing requirements for the approach to stall flight conditions for newly qualified FSTDs.

Boeing, Delta, and A4A commented that while the FAA proposed modifications to the Level A and Level B stall qualification requirements, the Crewmember and Aircraft Dispatcher Training final rule does not permit such training in these devices and therefore these requirements should be removed. Delta and Boeing had additional comments concerning new requirements proposed for the “approach to stall” objective tests on Level A and Level B simulators (including additional configurations, tolerances, and subjective testing of the autoflight/stall protection systems) with one commenter stating that there is no apparent explanation why the approach to stall characteristics objective test has changed for Level A and Level B simulators and it should remain unchanged to be consistent with the ICAO 9625 document.

The FAA concurs with the commenters in that § 121.423 requires

extended envelope training be conducted in a Level C or Level D simulator and has removed the associated minimum requirements for full stall on Level A and Level B simulators. However, the FAA notes that such devices are qualified to conduct stall prevention training at AOA's below that of the activation of the stall warning system and improving the validation of these FSTDs in the approach to stall flight condition would be beneficial to this training. Where new testing requirements were proposed for Level C and Level D simulators for AOA's below the activation of the stall warning system, these testing requirements were carried over to Level A and Level B simulators to provide better validation of the simulator to conduct stall prevention training tasks. The FAA further notes that these requirements for Level A and Level B simulators are not retroactive requirements defined in the FSTD Directive and will only be required for Level A and Level B simulators that are initially qualified after this final rule becomes effective. The FAA does not believe these changes for Level A and Level B FSTDs will have an impact on the alignment with the ICAO document since the Level A and Level B FSTD levels in part 60 have no equivalent ICAO device level.

#### 5. Motion Cueing System Limitations

In the NPRM, the FAA included provisions to allow the FSTD manufacturer to limit the maximum buffet based on “motion platform capabilities and limitations” (see Table A2A, Entry No. 2.c.8). A similar provision was also included in the ICAO 9625, Edition 4.

The FAA received several comments that the FSTD sponsors, in addition to the device manufacturers, should be allowed to limit maximum buffet based upon motion platform capabilities and limitations. Furthermore, Delta, Boeing, FlightSafety, A4A, JetBlue, and United Parcel Service (UPS) commented that FSTD sponsors should have the ability to tune down or otherwise reduce motion vibrations due to maintenance and reliability aspects, personnel safety, and limitations of other simulator components, such as visual display systems and other hardware onboard the simulator. Boeing additionally commented that other simulator systems, such as the visual system, may also limit the buffet levels.

With regards to reducing or otherwise limiting motion vibrations that are within the motion platform's capabilities and limitations, the FAA has determined not to include specific

<sup>14</sup> 14 CFR part 60 (2008) currently requires stall characteristics objective testing that extends to the full stall and “g-break”. Similar requirements exist for grandfathered simulator standards dating back to AC 121-14C (1980).

provisions to allow for arbitrary reductions in stall buffet from the levels that are evaluated through SME pilot assessment or objective testing. On many aircraft, the stall buffet is an important cue of an impending stall and, in some cases, may be the only distinctive cue a pilot will receive before or during an actual stall. In an FAA stall study on its B737–800 simulator<sup>15</sup> in which the magnitude of the stall buffet cues had been modified and increased significantly, all ten of the participating test pilots who had stalled the B737 noted the importance of accurately presenting the strong buffet cues as a stall progresses. Furthermore, the importance of stall buffet in training has been emphasized numerous times by the various working groups that provided recommendations to the FAA on stall training and associated simulator fidelity. As such, the FAA has determined that to accomplish the intended training objectives to provide flight crews with accurate recognition cues of an impending stall, the stall buffet characteristics should be provided in the FSTD at a level that is representative of the aircraft as evaluated by an SME pilot.

Furthermore, as cited in A4A's and American's comments, Schroeder did acknowledge in his paper that buffet levels are sometimes reduced in a simulator to extend component life; however, no such reduction in stall buffet was implemented for this experiment. In fact, overall buffet gains were increased by a factor of 2.5 in the simulator with no adverse effects noted after the completion of the five week experiment.<sup>16</sup>

The FAA acknowledges that the potential exists for increased maintenance and reliability issues due to the repeated exposure of the FSTD to stall buffet. The FAA concurs with Boeing's comment in that other simulator systems (e.g., visual systems) may limit the maximum buffet levels that are possible in a simulator and the FAA has made changes in the final rule to reflect this. Particularly with visual display systems, notch filters are

frequently employed to reduce the vibration output of the motion platform at or around a resonant frequency that would cause damage to visual system components such as a Mylar mirror. These methods have been employed in the past and will continue to be permissible to protect the simulator and its occupants from known system limitations where damage is likely to occur or occupant safety may be compromised.

Furthermore, given that these standards may be applied to previously qualified FSTDs where the original FSTD manufacturer may not be accomplishing and evaluating the modifications of the FSTD, the FAA agrees with the commenters that the ability to limit the maximum buffet due to motion platform and other simulator system capabilities and limitations should be extended to the FSTD sponsor. The FAA has amended the final rule to allow for the FSTD manufacturer or the FSTD sponsor to limit the maximum motion buffet levels as described in this section.

#### 6. Subject Matter Expert Pilot Evaluation and Qualification

##### a. SME Qualifications and Experience

In the NPRM the FAA proposed that the SME pilot who conducts the subject evaluation of the FSTD's stall characteristics must have “. . . acceptable supporting documentation and/or direct experience of the stall characteristics of the aircraft being simulated” and have “knowledge of the training requirements to conduct the stall training tasks.” The additional requirements proposed in Attachment 7 of the NPRM further stated that the SME pilot must have experience in conducting stalls in the type of aircraft being simulated and, where not available, experience in an aircraft with similar stall characteristics.

The FAA received several comments concerning the experience and qualification requirements for SME pilots. American, A4A, Delta, and FlightSafety requested clarification on whether the required SME must be a pilot who has flown a full stall in the airplane or a pilot who only has knowledge of training requirements to conduct the stall tasks. Delta and A4A also questioned whether there are any other SME experience requirements beyond conducting stalls in the aircraft being simulated, or in an aircraft with similar stall characteristics. A4A, Delta, and FlightSafety, further requested clarification on whether an SME pilot can gain the necessary stall experience in an audited engineering simulator or

on another Level D FFS that has already been qualified for stall maneuvers.

The FAA maintains that the subjective evaluation of the aerodynamic stall model is a critical component in ensuring that the FSTD's stall characteristics are representative of the aircraft and support the training objectives. The FAA further maintains that for such a subjective assessment to have credibility, the pilot must have direct experience in conducting stall maneuvers in the aircraft being simulated or in a similar aircraft that is expected to share the same general stall characteristics.

The FAA acknowledges that the SME requirements in the NPRM were not clearly defined and has revised Attachment 7 of Appendix A of the final rule to better define these requirements. In particular, rather than just stating the stall experience must be in the “type of aircraft being simulated”, the FAA clarified this by stating that the experience must be “. . . direct experience in conducting stall maneuvers in an airplane that shares a common type rating with the simulated aircraft.” In instances where the stall experience is in a different make, model, and series of aircraft within a common type rating, the FAA clarified that differences in aircraft specific stall recognition cues and handling characteristics must be addressed using available documentation such as aircraft operating manuals, aircraft manufacturer flight test reports, or other documentation that describes the stall characteristics of the aircraft.

Particularly for aircraft that are no longer in production, the FAA recognizes that there may be practical limits in finding SME pilots with the required experience to conduct the stall model evaluations. In instances where an acceptable SME cannot be reasonably located, the FAA has included deviation authority in the final rule for a sponsor to propose alternate methods in conducting the SME pilot evaluation of an FSTD's stall model.

In response to the comments concerning whether the SME pilot is required to have experience in the stall characteristics of the aircraft or knowledge of the training requirements to conduct the stall training tasks, the FAA has determined that the SME pilot must have both aircraft experience and knowledge of the training requirements, with the exceptions on experience as noted previously. While an important element of the subjective assessment is the comparison of the FSTD's performance against that of the aircraft, knowledge of the training tasks to be conducted in the FSTD should be

<sup>15</sup> Schroeder, J.A., Burki-Cohen, J., Shikany, D.A., Gingras, D.R., & Desrochers, P. (2014). An Evaluation of Several Stall Models for Commercial Transport Training. AIAA Modeling and Simulation Technologies Conference.

<sup>16</sup> The FAA's CAE simulator was operated for an average of 8 hours per day for five weeks to conduct approximately 700 stall maneuvers which had significant buffet levels. The FAA estimated that this simulator was exposed to approximately 67 total minutes of stall buffet over this five week period of time, which is comparable to what a typical part 121 carrier's simulator may be exposed to over an entire year under the new training rule. There were no reports of equipment damage after the completion of the experiment.

considered when conducting these evaluations. The recognition cues and handling qualities of an airplane can change significantly as a function of the aircraft configuration and how the stall is entered. To ensure the model can support the training objectives as well as to communicate any known or potential deficiencies in the model, the SME pilot conducting this subjective evaluation should focus the evaluation on those general aircraft configurations and stall entry methods that will likely be used in training. The FAA has clarified this language in the SME pilot evaluation requirements in Attachment 7.

The FAA has considered whether an SME pilot can gain experience in an audited engineering simulator or another Level D FFS that has been qualified for full stall maneuvers and has concerns that the effectiveness of an SME pilot evaluation may be diminished when making such comparisons from simulator to simulator without an objective measure to ensure that the aerodynamic model from the engineering simulator has been properly implemented on the training simulator. For these reasons, the FAA maintains that the SME pilot conducting the subjective evaluation of the FSTD or associated stall model must have direct experience of the stall in the aircraft. A pilot cannot gain the necessary aircraft experience required to be a SME in an engineering simulator or another FFS that has been qualified for full stalls.

#### b. Model Validation Conducted by the Data Provider

Boeing and Airbus commented that in lieu of an SME pilot evaluation being conducted on the individual FSTDs for initial and recurrent evaluations, the model validation with the SME pilot can be conducted by the data provider where objective stall data is provided to validate the individual FSTDs. Delta and A4A made similar comments. The FAA agrees with the commenters and notes that provisions to conduct the SME pilot evaluation on an engineering simulator were included in the proposal in Attachment 7 to Appendix A. The FAA maintains that where objective proof of match tests are provided to verify the models have been properly implemented on the training FSTD (including stall characteristics and stall buffet objective testing), the FAA will accept an SOC from the data provider that confirms the integrated stall model has been evaluated by an SME pilot on an engineering simulator or other simulator acceptable to the FAA. Furthermore, there is no intent to require that this SME evaluation be

conducted annually, and the SOC that confirms this SME assessment has taken place will remain valid as long as the stall model remains unmodified.

#### c. NSPM Process for Evaluating and Accepting an SME Pilot

In the NPRM, the FAA proposed that an SOC be provided to the FAA that confirms that the FSTD has been evaluated by an SME pilot. This requirement was proposed to apply to both newly qualified FSTDs as well as previously qualified FSTDs that are evaluated under the requirements of FSTD Directive No. 2.

Delta and A4A requested clarification on this process that the NSPM follows to evaluate and accept an SME pilot.

As described in FSTD Directive No. 2 and Attachment 7 to Appendix A, the process for the qualification of stall maneuvers requires that the sponsor submit an SOC to the NSPM confirming that the FSTD has been evaluated by a SME pilot with the required experience. The NSPM will review this SOC to verify that the evaluating SME pilot has the required experience as specified in the rule before issuing additional qualification for full stall training tasks. Additionally, requests for deviation from the SME experience requirements as described in Attachment 7 should be submitted to the NSPM when requesting additional qualification for full stall training tasks. Where specific questions arise, the NSPM will contact the sponsor or data provider directly for clarification.

#### 7. Alignment With ICAO 9625, Edition 4, on Stall and Stick Pusher Requirements

The FAA's proposal for the stall and stick pusher requirements were primarily based upon the recommendations from the SPAW ARC, as well as other working groups such as ICATEE and the LOCART working group. After the FAA first initiated this rulemaking, the ICATEE recommendations that were considered by the FAA in developing the proposal were also considered by ICAO for updating the ICAO 9625 document to include FSTD evaluation standards for stall and upset prevention and recovery training.

The FAA received numerous comments that some of the general requirements and objective testing requirements in the proposal did not align with the ICAO 9625, Edition 4 requirements, which became available following the publication of the NPRM. A4A, Boeing, and an anonymous commenter indicated that the stick pusher requirements (Table A1A, Entry

No. 2.1.7.S) in the NPRM should be relocated to the flight controls section where they are more applicable. Boeing and A4A also commented that the stall buffet onset measurements in the stall characteristics objective tests (Table A2A, Entry No. 2.c.8) are based upon speed rather than AOA like ICAO 9625, Edition 4. Delta, A4A, and an anonymous commenter indicated that the control force tolerances in the stall characteristics test should be applicable only to aircraft with reversible flight control systems. Finally, A4A and Boeing commented that the required test conditions for the stall buffet motion characteristics test (test 3.f.8 in Table A2A of the NPRM) do not include the same conditions as ICAO 9625, Edition 4.

The FAA was unable to fully participate in the ICAO deliberations due to ex parte concerns as the agency was engaged in this rulemaking proceeding. The FAA has had an opportunity to review the final release of the ICAO 9625, Edition 4, document and has found that only minor differences exist with regards to the stall qualification requirements as compared to the final rule. As such, in order to maintain alignment with the ICAO document as identified by the commenters, the FAA has incorporated the ICAO language into the final rule to the maximum extent possible. The FAA has amended the final rule by adopting much of the ICAO language for high AOA/stall modeling minimum requirements (Table A1A, Entry No. 2.m. in the final rule) as well as the stall characteristics objective test tolerances and flight conditions (Table A2A, Entry No. 2.c.8.a in the final rule).

The FAA did not, however, amend the required conditions for the stall buffet tests to align with the ICAO 9625 standard. As recommended by the SPAW ARC report, stall buffet evaluation should include a broader range of flight conditions than what is currently evaluated. The FAA has determined that the inclusion of the second segment climb condition is important to evaluate the differences in stall buffet vibrations at high power settings, particularly for turboprop airplanes. As a result, the FAA has maintained this as a required condition for the stall buffet characteristic vibrations test (Table A2A, Entry No. 3.f.5).

While the FAA has aligned a majority of the general requirements and the objective testing requirements with the ICAO document, specific differences must be maintained in the final rule to address comments received on the proposal as well as retroactive FSTD

evaluation requirements that are required to support the mandated training for United States (U.S.) air carriers.

#### 8. Requirements for Previously Qualified FSTDs

##### a. Stall Buffet Objective Testing

In the proposal, the retroactive requirements for previously qualified FSTDs, as described in FSTD Directive No. 2., did not include objective testing for stall buffets.

Boeing, Delta, A4A, and an anonymous commenter stated that the general requirement and objective testing requirements (Table A1A and Table A2A, respectively) for stall buffet vibration measurement state that these tests are required for all FSTDs qualified for stall training tasks. This is in conflict with the proposed FSTD Directive No. 2, which specifically states that stall buffet objective vibration testing is not required for previously qualified FSTDs.

In recognizing the potentially high cost of gathering additional flight test validation data for stall buffets, the FAA did not include this requirement in the proposed FSTD Directive No. 2 retroactive requirements for previously qualified FSTDs. Since changes to the QPS tables are not typically applicable to previously qualified FSTDs, changes to Table A1A or Table A2A are not necessary since all of the retroactive requirements are defined in FSTD Directive No. 2. The FAA has added language in FSTD Directive No. 2 in the final rule to clarify the retroactive testing requirements.

##### b. FSTD Directive No. 2 and Grandfather Rights

In FSTD Directive No. 2, previously qualified FSTDs that will be used to conduct full stall, UPRT, and other specific training tasks will be required to meet certain sections of the general requirements, objective testing requirements, and subjective testing requirements of the updated QPS tables in order to obtain qualification for these training tasks.

A4A requested clarification on whether FSTDs that are “upgraded” to provide extended envelope training would also have to comply with the proposed ICAO alignment requirements as well (such as the new visual display system requirements). American and A4A further noted that some sections within the QPS tables appear to have been mistakenly applied to all simulators instead of those qualified after the effective date of the final rule.

The FAA notes that the only new QPS requirements applicable for previously

qualified FSTDs are those that are described in FSTD Directive No. 2. As described in § 60.17 and paragraph 13 of Appendix A, previously qualified FSTDs will continue to hold grandfather rights and the changes to the QPS tables will not generally be applicable to previously qualified devices unless specifically stated in an FSTD Directive. The FAA has reviewed FSTD Directive No. 2 and made amendments in the final rule to clarify which sections of the QPS appendices will be applicable to previously qualified devices.

The FAA further notes that an “upgrade,” as defined by part 60, is an “improvement or enhancement of an FSTD for the purpose of achieving a higher qualification level.” FSTDs that are upgraded in qualification level will generally have to comply with the standard that is in effect at the time of the upgrade. It is important to note, however, that compliance with FSTD Directive No. 2 does not require a change in qualification level and is not considered an “upgrade” under part 60. As a result, the other changes made to the QPS appendices, including the general changes made to align with the ICAO document, will not be applicable to previously qualified FSTDs unless upgrading in FSTD qualification level.

#### 9. Applicability of Stall and UPRT Requirements on Newly Qualified FSTDs

In the NPRM, the FAA proposed that the minimum requirements for the evaluation of full stall maneuvers and UPRT maneuvers would be applicable for all fixed wing Level C and Level D FSTDs that are initially qualified after the final rule becomes effective.

Dassault commented that while UPRT and full stall training will become mandatory for part 121 operators, it is not clear if this applies to part 135 and part 91 operators as well. Dassault further questioned whether the objective testing requirements for full stall maneuvers would be required for an FSTD that will not be used for full stall training. Finally, Dassault commented that they would prefer the requirements to be applied to new or modified aircraft types instead of new FSTDs since this would allow collecting necessary data at the time of the type certification flight tests.

CAE made similar comments that point out that the FSTD Directive (for previously qualified devices) is only applicable for those FSTDs that will be used to conduct such (UPRT and stall) training, however, the requirements in the QPS appendices are mandatory for newly qualified FSTDs regardless of whether they are used in an air carrier

or a non-air carrier training program. CAE recommended that operators of newly qualified FSTDs (that are initially qualified after the final rule becomes effective) who are not subject to the Crewmember and Aircraft Dispatcher Training final rule should also be given the same option on whether or not to invest in the additional features that support extended envelope and other tasks as required under the final rule. CAE further stated that this would provide an option to those operators who may have multiple devices to limit such updates to certain equipment that will be utilized to conduct such training.

FAA agrees with the commenters that the requirement for FSTD modifications and data collection should not be imposed on sponsors who will not use those FSTDs to conduct full stall training and have no mandate to conduct such training. Similar to the FSTD Directive for previously qualified FSTDs, the FAA has amended the final rule to make the qualification of full stall maneuvers optional for newly qualified FSTDs. This will allow flexibility for operators to decide how many FSTDs need to be evaluated for full stall maneuvers to support training requirements.

FAA has, however, maintained the minimum requirements for UPRT evaluation on newly qualified Level C and Level D FFSs. The FAA has estimated that the addition of such IOS feedback tools to support UPRT would add little to no incremental cost to that of a newly qualified FSTD and will enhance instructor awareness in support of the existing part 60 unusual attitude qualification requirement.<sup>17</sup>

In order to ensure that only FFSs that are evaluated and qualified for stall training tasks are used for such training, compliance with the stall and UPRT evaluation requirements will be tracked by the FAA through modifications to the FSTD’s Statement of Qualification (SOQ).

#### 10. General Comments on Stall Requirements

##### a. Testing and Checking of Stall Maneuvers

Boeing commented that stall training beyond the stick shaker activation does not require testing or checking in part 121 and references made to testing and checking in FSTD Directive No. 2 should be removed.

<sup>17</sup> 14 CFR part 60, Appendix A, Table A1B, Entry No. 3.f., “Recovery From Unusual Attitudes”. This minimum qualification requirement covers maneuvers that are “within the normal flight envelope supported by applicable simulation validation data.”

FAA agrees with Boeing's comment and has modified the language in FSTD Directive No. 2 accordingly.

**b. Interim FSTD Qualification for Stall Training**

A4A commented that the FSTD Directive (for previously qualified FSTDs) requires evaluation by the NSPM for additional qualification and should allow a draft SOQ to be issued until the next scheduled evaluation.

FAA notes that FSTD Directive No. 2 does not require an update to the FSTD's permanent SOQ before stall training can be conducted in an FAA approved training program. A positive response from the NSPM to the FSTD modification notification confirming that the requirements of the Directive have been met will, in most cases, serve as an interim update to the FSTD's SOQ until the next scheduled FSTD evaluation. In some instances, however, additional FSTD evaluations conducted by the FAA may be required before the modified FSTD is placed into service. FAA has added clarifying language to the FSTD Directive that this response will serve as interim FSTD qualification for stall training tasks until the next scheduled FSTD evaluation where additional FSTD evaluations conducted by the FAA have been determined to not be required.

**c. Aerodynamic Modeling Considerations**

Frasca International (Frasca) commented that AOA rate is a significant contributor to stall behavior and should be considered as part of the requirement for aerodynamic stall modeling. FAA agrees with Frasca's comment and has added AOA rate to the list of aerodynamic modeling considerations in Attachment 7.

**B. Evaluation Requirements for Upset Prevention and Recovery Training Tasks**

In order to support UPRT that was introduced in the Crewmember and Aircraft Dispatcher Training final rule, the FAA proposed new FSTD evaluation requirements for these training tasks. The proposed requirements were based upon recommendations from the LOCART and ICATEE working groups as well as from the guidance in the Airplane Upset Recovery Training Aid (AURTA), and included new standards to better define the FSTD's aerodynamic validation envelope. The proposal also included requirements to improve the feedback at the instructor operating station (IOS) concerning the FSTD validation envelope limits, aircraft operational limits, and flight control inputs by the trainee.

**1. UPRT Qualification on Lower Level FSTDs**

In the NPRM, the FAA proposed minimum qualification requirements for full stall and UPRT in the newly defined Level 7 flight training device (FTD) (Table B1A of Appendix B).

TRU Simulation and A4A commented that the proposal requires extended envelope modeling for the Level 7 FTD, but the part 121 training requirements have a minimum requirement that this training must be conducted in a Level C or higher simulator. In addition, A4A commented that this is inconsistent with ICAO 9625, Edition 4, where UPRT training is only qualified on a Type VII device. Finally, Air Line Pilots Association, International (ALPA) commented that training could be negatively impacted if allowed to be conducted on a Level A or Level B FFS as the proposal states and this is inconsistent with the recommendations of the SPAW ARC.

FAA agrees with A4A and TRU Simulation regarding UPRT qualification on a Level 7 FTD. This was an error in the proposal and the FAA has amended the final rule to remove minimum qualification requirements for both full stall and UPRT on the Level 7 FTD.

The FAA has reconsidered the qualification of Level A and Level B FFSs for UPRT tasks that involve no bank angle excursions, such as nose-high or nose-low upsets, as defined in the NPRM, and amended the final rule by removing references to full stall and UPRT evaluation requirements for Level A and Level B FFSs in the FSTD Directive.

The FAA notes that the primary differences between the Level A and Level B minimum qualification requirements compared to the Level C and Level D qualification requirements are generally limited to ground reaction modeling, visual system field of view requirements, and minimum motion cueing requirements. The ground reaction modeling requirements have no impact on UPRT or stall training given that training is typically conducted well outside of ground effect. There are significant differences in the motion cueing abilities between Level A and Level B FFSs versus Level C and Level D FFSs that impact the ability for effective full stall and upset training to be conducted in the lower level devices. Level A and Level B FFSs have a 3 degree-of-freedom (DOF) motion cueing system compared to the 6-DOF motion cueing requirement for Level C and Level D FFSs. Typically, a 3-DOF motion cueing system includes motion

cues in the pitch, roll, and heave axes.<sup>18</sup> For wings-level maneuvers, such as the nose-high or nose-low upsets, the dominant motion cues during the stimulation of such an upset will typically be limited to the pitch and heave axis with little activity in the other axes. Because there may be considerable variation in how each pilot responds to an upset in training, other cues may be introduced during the recovery maneuver that are outside of the capability of a Level A or Level B FFS. Furthermore, a wings-level stall entry may result in considerable lateral-directional accelerations on airplanes that are unstable at the stall. These cues will generally be outside the capability for a Level A or Level B FFS with a 3-DOF motion cueing platform to reproduce; therefore, evaluation of full stall and upset in these devices would not be appropriate in most cases.

FAA adds that while the qualification of extended envelope training tasks will generally be applicable only to Level C and Level D simulators, operators of other FFSs have the option to apply for FAA consideration of a deviation from the use of a Level C or Level D simulator for extended envelope training tasks as described in § 121.423(e). Since the approval of such a deviation will be linked to the training program and the alternate means that are proposed to achieve the required learning objectives, approvals to deviate from the Level C or higher requirements in § 121.423 will have to be reviewed on a case-by-case basis under the deviation authority.

**2. Record and Playback Requirements for UPRT**

In its proposal, the FAA included minimum requirements for a means to record and playback audio and video as well as a means to record and playback certain parameters for the qualification of UPRT maneuvers.

American, Boeing, Delta, A4A, FedEx, JetBlue, and an anonymous commenter stated that the requirement for record and playback functionality is outside the scope of the part 60 rule and does not provide additional benefits to the training scenario. While the commenters generally agreed with having parameters available to the instructor during the scenario, such as the aerodynamic validation envelope and the aircraft operational limits, the recording and playback of parameters, particularly the recording and playback of audio and video, should be left to the discretion of the operator. Both ALPA and A4A further commented that there are union and collective bargaining agreements to

<sup>18</sup> See 14 CFR part 60, Table A1A, entry 5.b.

consider with videotaping flight crews in training. Additionally, several commenters noted that there is a high cost burden with requiring the audio and video playback functionality and the requirement should be removed.

The FAA has reconsidered the instructor feedback requirements and agrees with the commenters that effective UPRT can be conducted without audio and video playback capabilities or with the use of an instructor off-board debriefing system located outside of the simulator for the purposes of replaying the training scenario after its conclusion. While the use of off-board debriefing tools and audio/video playback may enhance such training, the FAA recognizes that operators can still conduct effective training without them and has amended the final rule to remove the audio and video record and playback requirements.

### 3. Instructor Operating Station (IOS) Requirements

In the NPRM, the FAA proposed minimum requirements for a feedback mechanism, located on the IOS and available to the instructor, that provides a minimum set of parameters to display to determine expected FSTD fidelity, aircraft structural/performance limitations, and student flight control inputs. The FAA provided example IOS feedback displays in the information section of Attachment 7 to Appendix A. The proposal also included requirements for features or malfunctions to support the training of crew awareness, recognition, and recovery from an aircraft upset.

American and A4A commented that the UPRT requirements for upset “awareness” and “recognition” features and/or malfunctions are outside of the scope of the rule and emphasis should be placed on recovery from an upset. JetBlue made similar comments on this topic. Boeing further commented that how the training requirements are met should be at the discretion of the training program and is not pertinent to FSTD qualification. Since these features are not prescribed, they should appear in the information/notes column and not in the requirements column of Table A1A. Frasca additionally questioned what would be some examples of relevant data sources with respect to externally driven upset scenarios.

Regarding the IOS requirement to display “Cl-max”, A4A, Boeing, and an anonymous commenter stated that “Cl-max” is not an explicit output of most aerodynamic models and is not available for plotting on the IOS display. Similar comments concerning the use of

“Cl-max” as an example of a limit were made by the NTSB. Boeing and FlightSafety also recommended changing the IOS feedback requirement from showing “aircraft structural/performance limitations” to showing “aircraft operating limits”. FlightSafety further commented that aircraft structural and performance limitations are not likely to be known or provided to simulator manufacturers or operators. Delta commented that as an alternative to the record and playback functionality, enhancing existing IOS functionality to include “FSTD crash” and freeze when g-load or control input parameters are exceeded would provide immediate information to the instructor. UPS made similar comments in that a flag could be added to the IOS for envelope excursion and a maximum load indication and that other feedback mechanisms are cost prohibitive and not needed.

The FAA agrees with the commenters in that mandating specific features and malfunctions to drive upset scenarios is generally outside the scope of part 60 and has removed these requirements in the final rule. The FAA further notes that specific guidance material on developing UPRT scenarios has been published as part of Advisory Circular (AC) 120–111, Upset Prevention and Recovery Training.

The FAA maintains that minimum feedback requirements have been found necessary to provide meaningful information to the instructor in training and evaluating pilots in UPRT maneuvers. The FAA recognizes that FSTD sponsors and operators may have other means to display this information and the example IOS displays provided in Attachment 7 are included in an information section as guidance material and are intended to be examples that could be used if desired. Digital or discrete IOS feedback mechanisms may prove to be acceptable for some or all parameters as Delta and UPS have suggested and, consequently, the FAA has not mandated a particular solution. The FAA has amended the final rule to allow FSTD sponsors the discretion to determine a feedback mechanism design that provides the required parameters needed for UPRT and supports their particular training programs and FSTD capabilities.

The FAA has further amended the final rule to remove the “structural/performance limitations” terminology and replaced it with “aircraft operational limitations” as suggested by the commenters. Additionally, the FAA has removed the feedback parameter, “Cl-max” as suggested by the commenters and replaced it with “stall

speed” and “stall identification angle of attack” since these are more useful parameters for instructors to directly provide feedback to crew members when conducting UPRT and stall maneuvers.

### 4. Aerodynamic Source Data and Range of the FSTD Validation Envelope

#### a. FSTD Validation Envelope and Training Maneuvers

In the NPRM, the FAA proposed requirements to define the limits of the FSTD’s validation envelope and test the FSTD against a minimum set of standard upset recovery maneuvers as defined in the AURTA.

Boeing, A4A, and an anonymous commenter stated that the term “extended envelope” in the general requirements is redundant because “modeling to the extent necessary. . . .” defines the requirement adequately. Boeing further commented that this phrase is a misnomer and implies that the flight model may need to be extended. For some upset recovery training, the existing model may be sufficient to support the training needs. A4A made similar comments stating that its experience has shown that the current data appears to be sufficient for conducting upset recovery training.

Airbus further commented that the evaluation of the FSTD should take into consideration the training practices recommended by the aircraft OEM. An anonymous commenter additionally stated that it is imperative that the validation limits are defined by the aerodynamic data provider since they are the only credible source for these limits.

FAA agrees that the term, “extended envelope” may be redundant in this particular context and has amended the final rule accordingly. The FAA recognizes that many aerodynamic models on existing FSTDs may currently be capable of conducting UPRT maneuvers within their AOA versus sideslip validation envelope with no need to be extended further as the commenters suggest. However, the range of validation envelopes can vary significantly between FSTDs as a function of the extent of flight test data, wind tunnel data, and other data used to develop the model. Since those validation envelopes have not been transmitted by the data providers to the FSTD operators in most cases, the FAA has determined that the comments are unsupported and have concluded that operators need to obtain the validation envelopes and ensure that their training maneuvers remain within them.



The FAA agrees with Airbus in that the evaluation of the FSTD should consider the training that will be conducted in the device. However, this rulemaking only addresses FSTD qualification standards and the FSTD evaluation requirements were primarily developed to support training as required by the Crewmember and Aircraft Dispatcher Training final rule and public law. In developing the FSTD evaluation standards for UPRT, the SPAW ARC recommendations, as well as the AURTA recommendations, were reviewed to define a standard set of upset recovery maneuvers that were needed to minimally qualify an FSTD for such training. This set of maneuvers is considered to be the minimum required for FSTD qualification that will provide a baseline evaluation of the FSTD's capabilities to conduct UPRT, but in no way limits an FSTD sponsor's decisions concerning which upset recovery maneuvers they incorporate into their training programs.

The FAA further notes that the qualification requirements for UPRT in this final rule exceeds the current part 60 FSTD qualification requirement for "recoveries from unusual attitudes" which limits maneuvers to "within the normal flight envelope supported by applicable simulation validation data."<sup>19</sup> If a training provider, regardless of operational rule part, performs unusual attitude training<sup>20</sup> maneuvers that exceed the parameters that define an aircraft upset, that FSTD must be evaluated and qualified for UPRT. The FAA does not believe this will impose an additional cost burden on sponsors of previously qualified FSTDs since UPRT qualification is only required if the training provider chooses to conduct unusual attitude training that exceeds the defined upset conditions.

The FAA generally agrees that the validation limits are best defined by the aerodynamic data provider and has provided clarification in Attachment 7 in Appendix A of the final rule; however, there may be instances where the original aerodynamic data provider cannot directly provide this information (the original data provider is either no longer in business or no longer supports the model) and the FSTD sponsor must determine the validation envelope using data supplied with the original aerodynamic data package. The FSTD sponsor will be required to define such

aerodynamic data sources in the required SOC.

#### b. Expansion of the FSTD Validation Envelope Using Existing Flight Test Data

In the existing part 60 rule, the objective testing requirements found in Attachment 2 of Appendix A requires that testing be conducted in weights and centers of gravity (CG) conditions that are typical of normal operations. Furthermore, where such testing is conducted at one extreme weight or CG condition, a second test must be provided at "mid-conditions" or as close as possible to the other extreme condition.

Airbus and Boeing commented that the existing part 60 requirement for objective testing to be predominately conducted in mid-weight/mid-CG flight conditions is outdated and a wider coverage of the alpha/beta (*e.g.*, AOA versus sideslip) envelope may be accomplished using critical flight conditions testing during aircraft certification at extreme weight and CG combinations. Boeing additionally stated that while the current regulation supports this, it requires testing at the opposite extreme conditions which increases the burden on the sponsor. Airbus additionally commented that there is no need to have a global requirement for this because the weight/CG requirements can be specified for each test where relevant. CAE made similar comments on this issue.

FAA agrees with the commenters and supports allowing flexibility in providing the best range of data to support not only extended envelope training, but all training conducted in an FSTD. Where weight and CG configuration is critical for validating a particular flight maneuver (such as in some of the takeoff objective tests), those conditions are described as a test requirement for that particular test. In general, the FAA recognizes that weight and CG effects on the aerodynamic model are well known and requiring redundant test conditions at varying weight and CG ranges has questionable benefit for FSTD validation in some required objective tests. The FAA has amended the final rule as recommended by the commenters to allow for greater flexibility in determining appropriate weight and CG conditions for some of the required objective tests that do not have specific requirements contained within Table A2A.

#### 5. General Comments on UPRT

##### a. FSTD Qualification and FAA Oversight

ALPA commented that while they support the requirements associated with the simulator providing feedback to the instructors and evaluators, they believe that only simulators that can perform all aspects of the new training required in the Crewmember and Aircraft Dispatcher Training final rule should be qualified. In addition, ALPA further stated that since the proposed rule only requires FSTD evaluation for those FSTDs used to conduct the additional training tasks, a robust oversight system will be needed to ensure that only the simulators qualified for this training are used in the required training.

In developing the proposed requirements in the NPRM, the FAA considered the economic costs and benefits of mandating FSTD modifications and evaluations to support training requirements. With the considerable cost in the implementation of new aerodynamic stall models on previously qualified FSTDs, the FAA could not justify imposing this cost on FSTD sponsors who currently do not have a mandate to conduct such training. Furthermore, the FAA determined that some FSTD sponsors that do have a training mandate for stall and UPRT may realize some cost savings by not having to qualify all of their FSTDs where the training can be accomplished on a lesser number of devices. Finally, with the large number of FSTDs that will require evaluation to meet the part 121 compliance date of March 2019, this may provide some practical relief in having to qualify all FSTDs within a relatively short amount of time.

The FAA appreciates ALPA's concern for proper FAA oversight to ensure that the FSTDs are evaluated and qualified before extended envelope training is conducted. The FAA notes that an oversight system to track FSTD qualifications is already in place with the list of qualified tasks that is currently required on the part 60 required SOQ for all FAA qualified FSTDs.<sup>21</sup> In the final rule, the FAA maintained the requirement in FSTD Directive No. 2 that the individual training tasks are to be reflected on the FSTD's SOQ once qualified. The FSTD's SOQ will then serve as a tracking mechanism to ensure the FSTD has been properly evaluated and qualified by the FAA NSP to conduct the individual training tasks. Furthermore, the FAA

<sup>19</sup> 14 CFR part 60, Appendix A, Table A1B, Entry No. 3.f., "Recovery From Unusual Attitudes".

<sup>20</sup> Unusual attitude training is required training for an instrument rating, an airline transport pilot certificate, and an aircraft type rating.

<sup>21</sup> See § 60.17(b)



will coordinate internally with Principal Operations Inspectors (POIs) to ensure that only FSTDs that are qualified in accordance with FSTD Directive No. 2 are approved for use in training those specific tasks as part of an FAA approved training program.

#### b. Maintenance Concerns

A4A commented that further testing is needed to ensure that the reliability and availability of FSTDs due to maintenance issues is unchanged with the addition of UPRT training.

The potential for stall vibrations to cause FSTD maintenance issues has been acknowledged and discussed in a previous section on stall buffet. The FAA acknowledges that conducting UPRT maneuvers in an FSTD can produce significant motion system excursions, however, the FAA is not aware of any evidence that the addition of general UPRT maneuvers will introduce significant maintenance issues that would affect the overall reliability and availability of an FSTD beyond what is normally seen in existing training. As with motion system tuning in general, the FAA expects that FSTD sponsors will employ limits and protections within their motion system hardware and software that will protect the FSTD from dangerous excursions that could damage the FSTD's equipment or injure its occupants. The exposure to stall buffet likely has the greatest potential for affecting an FSTD's reliability and the FAA has addressed this issue in the stall requirements sections.

#### C. Evaluation Requirements for Engine and Airframe Icing Training Tasks

In the NPRM, the FAA proposed changes to the general requirements for engine and airframe icing qualification as well as adding a new objective demonstration test for ice accretion effects for newly qualified FSTDs. The changes were based upon new icing requirements in the ICAO 9625 document, as well as recommendations made by the SPAW ARC, and were intended to improve upon the existing engine and airframe icing requirements in part 60. The proposed changes focused on requirements for improved ice accretion models that represent the aerodynamic effects of icing rather than estimating icing effects through gross weight increments.

#### 1. Objective Demonstration Testing

##### a. Objective Demonstration Testing for Previously Qualified FSTDs

In the proposal, the FAA introduced new objective testing requirements for the demonstration of icing effects on

Level C and Level D FFSs. The objective tests are intended to demonstrate that the aerodynamic effects of ice accretion are present in the simulation with the icing model active as compared to the simulation where no ice is present. Due to the potential cost impact for previously qualified FSTDs, these tests were not retroactively required in FSTD Directive No. 2.

Boeing commented that the objective demonstration test for engine and airframe icing is not required in FSTD Directive No. 2 (for previously qualified FSTDs) and recommended that text should be added to Table A2A (Entry No. 2.i.) to clarify that this test is not required for previously qualified FSTDs.

FAA agrees with Boeing in that this demonstration test for engine and airframe icing is not required for previously qualified FSTDs and has added clarifying language in FSTD Directive No. 2. As with comments in previous sections concerning stall buffet testing, previously qualified FSTDs will maintain grandfather rights and the modifications to Table A2A will generally not be applicable to previously qualified FSTDs unless specified in an FSTD Directive. As a result, FAA has not added additional text in Table A2A concerning previously qualified FSTDs because it will be adequately addressed in the FSTD Directive.

##### b. Icing Effects and Recognition Cues

In the proposed icing effects objective demonstration test, the FAA included specific icing effects that may be present and evaluated as applicable to the particular airplane type. This list included both aerodynamic effects of ice accretion as well as engine effects that may also be present with the icing model activated in the simulation.

Boeing commented that the objective demonstration test for icing includes engine effects, but the general requirement for icing does not specifically identify engine effects and this should be removed from the objective testing requirement. An anonymous commenter stated that it may be necessary to show engine effects and airframe effects of icing separately because the test will not differentiate between thrust losses and drag increases. Another anonymous commenter pointed out that changes in control effectiveness and control forces are limited mainly to reversible systems on certain airframe configurations and the FSTD should only introduce these changes when they are representative of the specific make and model of aircraft. Additionally, an anonymous commenter stated that there is "very little guidance

on what engine icing effects should be represented and most manufacturers state there are little effects on engine indications for current turbofans. Based upon the data we do have for engine inlet icing, the effects are often very subtle, yet the requirements seem to ask for something more dramatic. If we modify our icing models to favor dramatic effects, do we risk training pilots to miss looking for the subtle indications?"

Concerning Boeing's comment, the general requirement for engine and airframe icing (Table A1A, Entry No. 2.j.) does include modeling the effects of icing on the engine, where appropriate, as does the current requirement in part 60. While the information section in the demonstration test does state "aerodynamic parameters," the intent of the test is to demonstrate the effects of the icing model integrated into the simulation. If the sponsor designated icing model used for the demonstration test has an effect on relevant engine parameters (such as thrust reduction or other effects), these effects should also be shown as part of the test. FAA has amended the test details in the table to clarify this. Other icing models that may be optionally developed by the FSTD sponsor to train recognition of engine effects due to icing will not require separate objective demonstration testing.

The FAA agrees that icing effects should only be introduced where representative of the specific make and model of aircraft and has clarified this in Table A2A (test 2.i.) and Attachment 7 of the final rule. The FAA does not intend for a simulator operator to artificially insert dramatic icing effects that are not representative of the aircraft. While the FAA is aware that the cues of ice accretion can vary significantly depending upon the nature of the icing event and the aircraft's characteristics, the icing models developed for simulation and training purposes should support the general recognition of icing cues that are typical for the aircraft being simulated.

#### 2. Requirements for Lower Level FTDs

In the NPRM, the FAA proposed general requirements and objective demonstration testing for engine and airframe icing as part of the new Level 7 FTD requirements in Appendix B.

TRU Simulation commented that in the proposal for ICAO 9625, Edition 4, only a Type VII is allowed for use in UPRT and this item (icing) is identified as only being required on devices where UPRT will be trained. TRU Simulation requested that the FAA confirm applicability on a Level 7 FTD and

remove the requirement if not. TRU Simulation and A4A further commented that the objective demonstration test for icing is not required for an ICAO 9625 Type V device and should be removed from the Level 7 FTD requirements. TRU Simulation and A4A additionally commented that a new requirement for Level 6 FTD was introduced to have the anti-icing system operate with appropriate effects upon ice formation on airframe, engines, and instrument sensors.

FAA reviewed ICAO 9625 Edition 4 and found that the general requirement for the modeling of icing (Appendix A, Entry No. 2.1.S.e.) is a minimum requirement for an ICAO 9625 Type V device and has therefore maintained this requirement for the FAA Level 7 FTD. FAA confirms that the objective demonstration testing for icing is not required for an ICAO 9625 Type V device and therefore has removed this requirement for the FAA Level 7 FTD in Table B2A to maintain consistency with the ICAO document.

Regarding the addition of anti-icing effects to a Level 6 FTD, FAA has removed the ICAO numbering system in the general requirements table that was published with the NPRM and restored the existing part 60 requirements for Level 6 FTDs. The FAA notes, however, that the existing part 60 functions and subjective testing requirements for Level 6 FTDs includes “operations during icing conditions” and “effects of airframe/engine icing” in Table B3A of Appendix B. The FAA has not changed these requirements in the final rule.

### 3. Existing Engine and Airframe Icing Requirements in Part 60

In the existing part 60, the subjective evaluation requirements in Appendix A includes a table of special effects (Table A3F) that contains additional requirements for the qualification of engine and airframe icing. In the NPRM, the FAA maintained this table with no changes to it.

Boeing, A4A, and NTSB commented that the requirements for icing evaluation in Table A3F (special effects) include the evaluation of increased gross weight due to ice accumulation. The commenters noted that the pilot has no means to recognize if the simulated aircraft's weight has increased and an increased gross weight due to ice accumulation is typically an insignificant effect of icing. Boeing further commented that this test requires a “nominal altitude and cruise airspeed and is likely to result in a flight condition where icing does not occur for large commercial transport category airplanes. This flight condition will also

likely result in trimming at a low AOA where the effects of ice, even with the anti-ice system deactivated, are small (a few tenths change in pitch attitude or a few percent change in thrust to maintain level flight). In the lower AOA range, the aerodynamic effects of ice are relatively small. For large commercial transports one might expect to see a few tenths of a degree change in pitch attitude or a few percent change in thrust to maintain level flight with the addition of ice. This proposed new test will likely result in generating unnecessary questions when the expected (larger) results are not seen.”

FAA agrees with the commenters and has removed references to increased gross weight in the final rule as that table entry for icing special effects (Table A3F, Entry No. 2) was inadvertently retained in the proposal. Furthermore, the FAA has amended this table to remove the “nominal altitude and cruise airspeed” requirement and made additional changes to better align this section with the general requirements for engine and airframe icing in Table A1A, Entry No. 2.j.

### 4. Applicability in Training Programs

In the NPRM, the proposed updated requirements for engine and airframe icing were applied to all Level C and Level D FFSs, regardless of the type of aircraft or operator. This is consistent with the engine and airframe icing requirements in the existing part 60 and previous FSTD evaluation standards. The FAA notes that “engine and airframe icing” simulation is not a new FSTD qualification requirement that was introduced by this rulemaking. In fact, the “effects of airframe icing” has been a minimum FSTD qualification requirement for Level D (Phase III) FFSs since the publication of AC 121–14C, Aircraft Simulator and Visual System Evaluation and Approval, published in 1980. Similarly, the “effects of airframe and engine icing” is currently an FSTD qualification requirement in the existing part 60 rule (published in 2008) for Level C and Level D FFSs.

Delta commented that the de-icing and anti-icing systems are very effective on turbojet airplanes. The accidents referenced in NTSB reports are turboprops with significantly less performance available. Delta added there are no useful training objectives to be taught to pilots of commercial turbojet airplanes in icing conditions. A4A commented that stall ice effects are not required by Public Law 111–216 or the Crewmember and Aircraft Dispatcher Training final rule and should be deleted from this final rule. Delta, A4A, and FlightSafety further

questioned whether the FAA has a specific list of airframes that are impacted by icing or are vulnerable to a specific type of ice accretion.

The FAA points out that Section 208(b)(1) of Public Law 111–216 addressed increasing the familiarity of flight crewmembers with, and improving the response of flight crewmembers to icing conditions. However, irrespective of statutory direction, the FAA believes the understanding of the effects of icing on aircraft performance is essential for professional crewmembers particularly as it relates to stall AOA.

The FAA agrees with Delta that de-icing and anti-icing systems are generally very effective on turbojet airplanes. However, every airplane is susceptible to icing to some extent and therefore, there are useful training objectives to be taught to pilots of turbojet aircraft. While the FAA recognizes that turboprop airplanes are generally more susceptible to ice accretion, accidents and incidents on turbojet aircraft have occurred in the past. In the case of the Circuit City Cessna 560 (a turbojet aircraft) accident in Pueblo, Colorado on February 16, 2005,<sup>22</sup> the flight crew did not comply with de-icing procedures during approach which led to an aerodynamic stall from which they did not recover. While it is unknown if the crew recognized the effects of icing before the aerodynamic stall occurred, enhanced simulator training on de-icing and/or anti-icing procedures with representative effects of ice accretion may have increased their awareness that ice accretion was occurring.

With respect to engines, while turboprop and propeller aircraft engines are generally more susceptible to the effects of ice accretion than turbojet engines, power loss events due to core icing have been known to occur on multiple models of aircraft and engines (including large turbojet aircraft). In research conducted in 2009, it was found that engine power loss events due to ice accretion were occurring at a rate of about one event every 4 months.<sup>23</sup> While these events often occurred in conditions that pilots considered benign with no airframe ice accreted, there were recognition cues present and it was noted that each engine appeared to

<sup>22</sup> Crash During Approach to Landing; Circuit City Stores, Inc.; Cessna Citation 560, Pueblo, Colorado, February 16, 2005. Accident Report NTSB/AAR–07/02. National Transportation Safety Board.

<sup>23</sup> Mason, J., “Current Perspectives on Jet Engine Power Loss in Ice Crystal Conditions: Engine Icing,” Presentation at 2008 AIAA Atmospheric and Space Environments, June 23rd, 2009.

have a different manifestation of the icing event. While this final rule does not require specific engine icing models such as these, providing flight crews with representative cues of engine icing, where present during a typical in-flight ice accretion event, could aid in its recognition during line operations.

The FAA has not prescribed specific types of ice accretion models to be implemented in the final rule. The intent is to provide flight crews with representative recognition cues of ice accretion for the aircraft being simulated. Where the accident and incident record indicates that a particular airframe may be susceptible to a particular type of ice accretion, the simulation of the cues associated with that type of icing should be considered when developing a representative icing model. While the accident record has some general examples of this (such as supercooled large droplet icing or tailplane icing on some aircraft), the aircraft manufacturer will likely be the best source of information as to a particular type of icing scenario that may enhance training in recognizing and exiting icing conditions for that aircraft.

#### 5. Data Sources and Tuning of Ice Accretion Models

In the proposal, the FAA introduced updated engine and airframe icing requirements that included a requirement to use “aircraft OEM data or other acceptable analytical methods” to develop ice accretion models.

An anonymous commenter stated that the cost of purchasing icing data, if it exists, could be prohibitive. Due to the availability of SME’s who have flown the subject aircraft in icing conditions, the requirement should allow SME pilot validation of icing models. Both A4A and CAE made similar comments that some SME pilot tuning and validation of icing models should be allowed in the requirements.

Dassault further commented that flight test data obtained through the aircraft certification process is limited with larger amounts of ice accretion. Engineering tests might be conducted in those conditions; however, Dassault claimed it would be unable to provide an SOC because there is no flight test data to support it.

The FAA maintains that icing models may be developed using analytical or other engineering methods, incorporating flight test data where available. This process may include supplemental SME pilot assessment to tune and subjectively validate the models. Furthermore, the objective demonstration test does not require the

use of flight test data or other data to validate the model. The demonstration test is for the purpose of demonstrating that the expected icing recognition cues are present as compared to the simulation with no ice present. The FAA has added clarifying language in Table A1A and Attachment 7.

The FAA agrees with Dassault that flight test data gathered during the aircraft certification process will generally be limited to ice shape testing conducted to demonstrate performance limits. Like the current part 60 requirements for the simulation of airframe and engine icing, engineering and analytical methods may be used to develop representative icing models that support the intended training objectives. While the use of flight test data would certainly assist in developing such models, engineering analysis supported with subjective assessment and tuning of the icing models for the expected recognition cues will be acceptable in lieu of flight test developed models and should not be as costly.

#### *D. Evaluation Requirements for Takeoff and Landing in Gusting Crosswinds*

In order to support the new gusting crosswind training requirements in the Crewmember and Aircraft Dispatcher Training final rule, the FAA proposed new minimum requirements for Levels A, B, C, and D FFSs to include the programming of realistic gusting crosswind profiles. The FAA notes that in the existing part 60 and previous FSTD evaluation standards, there is no requirement for any FSTD to simulate gusting crosswinds. These proposed requirements also included updated ground handling characteristics to be evaluated with crosswinds and gusting crosswinds up to the aircraft’s maximum demonstrated crosswind component. The FAA further included guidance material in the information section of the proposal that recommended the use of the Windshear Training Aid or other acceptable source data in the development of the gusting crosswind profiles.

#### 1. Applicability on Lower Level FSTDs

In the proposal, FSTD evaluation requirements for gusting crosswind profiles were made applicable for all FFS levels in Appendix A as well as the Level 7 FTD defined in Appendix B.

TRU Simulation and A4A commented that a new gusting crosswind requirement was added for the Level 7 FTD and questioned whether this was appropriate for a Level 7 FTD. Boeing additionally commented that the requirement for gusting crosswinds are proposed for Levels A, B, C, and D FFSs,

but crosswind takeoff and landing tasks are not minimum requirements for Level A simulators in Table A1B. Finally, A4A and Delta commented that gusting crosswind requirements have been added for both Level A and B simulators, but should be removed due to lack of alignment with the ICAO 9625 FSTD device type categories.

With regards to the Level 7 FTD, FAA has examined the ICAO 9625 requirements for the Type V device and found that instructor control of “surface wind speed, direction, and gusts” is a minimum requirement for this device level (see ICAO 9625, Appendix A, section 11.4.R,G). In order to maintain consistency and alignment with the similar ICAO device, FAA has maintained this requirement in the general requirements and functions and subjective testing tables for the Level 7 FTD, but removed the more detailed requirement for realistic gusting crosswind profiles and the associated SOC that was proposed in the NPRM.

FAA agrees with Boeing’s comment concerning the qualification of the Level A simulator for takeoff and landing tasks and has removed this requirement in the final rule. Additionally, due to the lack of required side force motion cueing in a Level B simulator that would enhance the simulation of a realistic and dynamic gusting crosswind scenario, the FAA has also removed this minimum requirement for Level B simulators in the final rule.

#### 2. Gusting Crosswind Profile Data Sources

In the NPRM, the FAA proposed requirements for FSTD sponsors to develop a realistic gusting crosswind profile for use in training. The FAA was not prescriptive in this requirement and only required that the profile be “realistic” and “tuned in intensity and variation to require pilot intervention to avoid runway departure during takeoff or landing roll.” The FAA additionally provided guidance in the information column of the proposal recommending the use of the Windshear Training Aid or other acceptable data sources to develop the gusting crosswind profiles.

The FAA received several comments concerning the data sources needed to develop realistic gusting crosswind profiles to meet the rule requirements. American, JetBlue, and A4A commented that FAA should provide an appropriate gusting crosswind model as recommended by the NTSB in its safety recommendation. Boeing commented that the Windshear Training Aid does not provide the necessary data to effectively model gusting crosswinds. Delta and A4A further commented that

the FAA should define “other acceptable source data” to help sponsors be consistent in programming the gusting crosswind scenarios. Additionally, A4A commented that the FAA should permit carriers to use crosswinds with gust data from multiple sources because doing so will provide flexibility, more compliance options, and reduce compliance burdens. Finally, an anonymous commenter stated that all references in the NPRM to “gusting crosswinds” lack definition of what is considered a “gust”. “Without a definition such as “10 percent increase over steady state wind speed for x seconds, repeated randomly”, this is an entirely subjective condition and as such is subject to every inspector’s idea of what a wind gust should or could be. If the FAA cannot provide subjective guidance similar to the Windshear Training Aid, which does not provide adequate information for this scenario, the gusting crosswind scenarios should be treated as ‘demonstration only’ and not for training credit.”

While the FAA would generally agree that a defined wind gust model could provide standardization for FSTD qualification purposes, such a generic model may not be realistic unless tuned for the particular aircraft and training scenario. Similar to the Windshear Training Aid’s windshear profiles, subjective tuning would be required to adjust the model as a function of the aircraft type/configuration and ambient conditions to provide the cues and aircraft performance needed to accomplish the training objectives. In the proposal, the FAA required that such wind gust models be “realistic” and have been “tuned in intensity and variation to require pilot intervention to avoid runway departure.” Like many other areas in the simulator qualification standards, this allows for the FSTD sponsor to develop solutions that meet the needs of their particular training program without the FAA prescribing a specific solution. While realistic baseline wind gust models may be derived from aircraft operational data, meteorological data, or other data, a certain amount of subjective tuning will be required in many cases to ensure the gusts are adequate enough to require pilot intervention to avoid runway departure or otherwise do not exceed the crosswind capabilities of the simulated aircraft and supporting aerodynamic and ground model data. Due to the wide range of aircraft and associated crosswind capabilities, the FAA has found that specifying a certain gust characteristic for FSTD

qualification would not be practical and has maintained the requirements as proposed.

In response to the NTSB safety recommendation<sup>24</sup> and commenters’ requests for an FAA developed gusting crosswind model, the FAA conducted an analysis of the extracted wind data from the Continental (CO) 1404 accident<sup>25</sup> and developed two wind gust models that may be used by FSTD sponsors to meet the requirements for a realistic gusting crosswind model. The first model was developed using the CO 1404 accident data to closely replicate the wind gust that was experienced by the flight crew in that accident. While this model was tested by FAA on a Boeing B737–800 simulator and was found to provide a subjectively acceptable training scenario, it is expected that the model will need to be tuned by the sponsor for different aircraft and operator specific training scenarios.

A second model was developed using a simplified linear estimation of the CO 1404 accident data using maximum wind rates of change as referenced in the Windshear Training Aid and the Joint Airport Weather Studies (JAWS)<sup>26</sup>. Similar to the continuous wind gust model, this model may also require tuning by the sponsor for different aircraft and operator specific training scenarios.

FAA recognizes that sponsors may desire to implement their own wind models that may be more suitable for their particular training programs and has not mandated the above described wind gust models as a condition of FSTD qualification. These models will be provided with the final rule as guidance material in a National Simulator Program (NSP) Guidance Bulletin and may be used as one method to develop realistic gusting crosswind profiles to satisfy the requirements of the rule. As suggested by A4A, this will provide operators with flexibility to develop other wind gust models from multiple sources to meet the FSTD qualification requirements.

### 3. Maximum Demonstrated Crosswind

In the proposal, the FAA included general requirements for Level C and Level D FFSs that included ground

handling characteristics for crosswinds and gusting crosswinds up to the aircraft’s maximum demonstrated crosswind component.

Delta and A4A requested clarification if the maximum demonstrated crosswind value includes the gusting component, or is the intent to require the gusting component in addition to the maximum demonstrated crosswind value.

The FAA has not prescribed a specific wind magnitude and direction to be implemented in the gusting crosswind model requirements. The wind gust models that will be provided by the FAA in guidance material were designed to allow for tuning of the gust characteristics as needed for the particular training scenarios (such as steady state wind conditions and runway direction) and aircraft type being simulated. The tuning of gust models should be conducted in consideration of the maximum crosswind capabilities of the aircraft in order to provide operationally realistic scenarios that are survivable in training. The specific aircraft crosswind capabilities, to include the addition of gust factors, are determined by the aircraft OEM. If this information is not clear in the aircraft flight manual, the FSTD sponsor should consult with the aircraft OEM. Additionally, the FSTD sponsor should coordinate with the data provider to ensure that gust models do not exceed the capabilities of the simulator’s aerodynamic and ground models. The FAA has added information material in Table A1A (entry no. 2.d.3) to the final rule for clarification.

### 4. Requirements for Previously Qualified FSTDs

In the proposal, the updated ground handling and ground reaction requirements in Table A1A included information that stated “tests required” for these particular sections. The FAA notes that this text was derived from the similar sections in the ICAO 9625 document as part of the alignment process.

Delta and A4A pointed out that the general requirement for gusting crosswind (Table A1A, Entry No. 3.1.S in the NPRM) states “tests required” and requested clarification if additional objective testing is required under the FSTD Directive for previously qualified FSTDs.

In the final rule, since the FAA restored the existing part 60 format for the general requirements table as compared to the ICAO format in the proposal (including sections for ground reaction and ground handling

<sup>24</sup> NTSB safety recommendation no. A–10–110.

<sup>25</sup> Runway Side Excursion During Attempted Takeoff in Strong and Gustly Crosswind Conditions, Continental Flight 1404, December 20, 2008, NTSB Final Report, NTSB/AAR–10/04.

<sup>26</sup> The maximum wind rates published in the Windshear Training Aid are based upon the Joint Airport Weather Studies (JAWS) and were calculated from accident flight data recorder and Doppler radar measurements of microburst events.

characteristics), the text for “tests required” was removed from the ground handling requirements in Table A1A, Entry No. 2.d.3. in the final rule. No additional objective testing for ground reaction and ground handling characteristics was intended for previously qualified FSTDs in FSTD Directive No. 2. The FAA further notes that all required objective testing is fully described in Table A2A, making any such “tests required” notations in the information column redundant.

#### *E. Evaluation Requirements for Bounced Landing Recovery Training Tasks*

In the proposal, the FAA included updated FSTD evaluation requirements for ground reaction characteristics to support the bounced landing recovery training task that is required in the Crewmember and Aircraft Dispatcher Training final rule. The new requirements included ground reaction modeling to simulate the effects of a bounced or skipped landing as well as the indications of a tail strike or nosewheel exceedances as appropriate for the simulated aircraft and conditions.

##### 1. Applicability to Lower Level FSTDs

In the proposal, the new requirements for bounced landing recovery evaluation were included for Level C and Level D FSTDs in Appendix A as well as for the new Level 7 FTD in Appendix B.

TRU Simulation and A4A commented that the bounced landing requirements were added for the Level 7 FTD and questioned whether it was appropriate for this device.

Given the Crewmember and Aircraft Dispatcher Training final rule requirement that a Level C or higher FSTD be used to conduct bounced landing recovery training tasks, the FAA has removed the additional FSTD evaluation requirements in the final rule for bounced landing recovery from the Level 7 FTD minimum requirements in Appendix B.

##### 2. Bounced Landing Modeling and Evaluation

###### a. Nosewheel Exceedances

As part of the bounced landing recovery requirements in the proposal, the FAA included requirements to include indications of a tail strike and nosewheel exceedances.

Boeing commented that the requirement for “nosewheel exceedances” needs to be more clearly defined (e.g., limit, yield, or ultimate loads) and suggested changing the rule text to read “effects and indications of ground contact. . .”. An anonymous commenter further stated that

calculation of structural loads on the nose gear is not a common feature in current FSTDs. Any nose first landing is considered abnormal and could be flagged on the IOS.

The FAA agrees with the commenters and has removed the nosewheel exceedances requirement from the final rule as it is not necessary to accomplish the training objectives for bounced landing recovery training tasks. This language was replaced with “the effects and indications of ground contact due to landing in an abnormal aircraft attitude . . .” since information on aircraft attitude during the landing and go-around sequence will be more useful to the instructor in evaluating bounced landing recovery training tasks.

###### b. Use of Existing Ground Reaction Modeling

In the NPRM, the FAA proposed that ground reaction modeling must simulate “. . . the effects of a bounced or skipped landing (to include indications of a tail strike or nosewheel exceedances) as appropriate for the simulated aircraft and conditions”.

Delta and A4A commented that the existing part 60 requires verification of ground reaction and ground effects by minimum unstuck speed, ground effects, and takeoff and landing performance objective tests. An SOC from the data provider and an affirmation that the model has been implemented correctly should be adequate. There is no need for additional subjective verification by a qualified pilot. A4A further commented that at least one data provider has implied that their current data and model meets the proposed requirements. CAE commented that the strut system simulation (damper/spring) and its geometry are already properly modeled and should provide the appropriate forces and moments during a bounce.

As described in the proposal, the FAA agrees with the commenters that much of the aerodynamic and ground reaction modeling is currently required and validated in several required objective tests for FSTD qualification. As such, the FAA has not required any additional objective testing for the qualification of bounced landing recovery training tasks in this final rule. In order to support bounced landing recovery training, the FSTD must have the ability to provide the instructor with the effects and indications of ground contact as a result of the FSTD being landed or conducting a go-around at an improper aircraft attitude. In addition to pitch attitude information, other parameters such as indications of nosewheel contact and indications of a tailstrike would provide

useful information to the instructor in evaluating a bounced landing recovery maneuver. FAA agrees with the commenters that the use of a qualified SME pilot to evaluate these indications may be of limited value because they may not have any direct experience in the indications of a tailstrike in the airplane to base such an evaluation on. The FAA does recognize, however, that a tailstrike and other indications of ground contact can be computed in software using the geometric dimensions of the airplane and these indications will provide the instructor with additional feedback to assist in determining whether the aircraft landed in or a go-around was attempted in an unusual aircraft attitude. These indications and the ability of the modified FSTD to perform the intended training tasks are what should be evaluated by the sponsor’s designated pilot as described in the FSTD Directive and § 60.16(a)(1).

The FAA has reviewed the current part 60 ground reaction and ground handling requirements along with associated objective testing that are already required for Level B through Level D FFSs and has determined that adequate requirements already exist in part 60 to evaluate and validate the aircraft dynamics necessary to support bounced landing recovery training tasks.<sup>27</sup> In order to improve the instructor’s evaluation of an abnormal aircraft attitude during the bounced landing recovery maneuver, the FAA has amended the current ground reaction requirement for Level B through Level D FFSs to include appropriate effects during bounced or skipped landings, including the effects and indications of ground contact due to landing in an abnormal aircraft attitude.

##### 3. Alignment With Training Requirements

As noted in the NPRM, the FSTD evaluation requirements for bounced landing recovery maneuvers were introduced both to support new requirements in the Crewmember and Aircraft Dispatcher Training final rule as well as to address comments concerning potential deficiencies in FSTD fidelity in this flight regime.

An anonymous commenter stated that “there is no bounced landing training task listed in Table A1B (Table of Tasks v. Simulator Level). It is agreed that a

<sup>27</sup> In addition to objective testing requirements for maneuvers such as takeoff, landing, minimum unstuck speed, and ground effect, the current part 60 ground reaction general requirements (Table A1A, Entry No. 2.d.2.) already requires ground reaction modeling that generally supports bounced landing recovery training.

Level D simulation should produce a bounced landing if appropriate, however that does not translate into a training requirement. There is currently no approved pilot training program that includes bounced landing. At most, it could be a required demonstration element, but it should not be a required training maneuver.”

A4A commented that Boeing has already addressed the bounced landing recognition and recovery procedure in their operating manuals and in recurrent simulator training and that the FAA should review simulator data it currently receives to determine if recurrent training programs implemented due to the NTSB recommendations were effective. A4A and JetBlue further commented that “the training final rule limits new training requirements to recovery from bounced landing because carrier training programs currently include bounced landing training as recommended in FAA’s InFO 08029 . . . simulator modeling for this final rule should be limited to enhancement to train recovery methods; it should avoid introducing elements that might induce negative training associated with ‘teaching to bounce’.” In addition, CAE made similar comments concerning the potential of a transfer of negative training in introducing a bounced condition during landing.

The FAA notes that bounced landing recovery is a training requirement for air carriers under § 121.423. While the minimum qualified task list in Table A1B does not specifically list bounced landing tasks, the final rule will require an amendment to the FSTD’s SOQ that the FSTD has been evaluated for bounced landing recovery training tasks. As addressed in the Crewmember and Aircraft Dispatcher Training final rule, the FAA is aware of the incorporation of bounced landing recovery training by operators in response to the FAA’s InFO and SAFO bulletins. To support the new training requirements in § 121.423 for bounced landing recovery training, the FSTD qualification standards were revised in this rule to ensure the FSTDs used to conduct such training have been properly evaluated for the training tasks.

The FAA agrees with commenters in that the purpose of bounced landing recovery training is to train bounced landing recovery methods and not to teach a pilot how to bounce the aircraft. While the simulation should support the ability to reproduce a bounce where the flight conditions dictate, the primary objective of training is to train recovery techniques should the landing result in an inadvertent bounce. The FAA agrees with the commenters in that these

recovery techniques can be taught without stimulating an actual bounce during the landing sequence and rather “calling a bounce” to initiate the recovery maneuver. The FAA has amended the final rule to emphasize that the FSTD evaluation requirements are on the aircraft dynamics resulting from the bounced landing recovery and not in stimulating a bounce during the landing sequence.

The FAA further emphasizes that the FSTD evaluation requirements in the final rule that support bounced landing recovery training tasks are essentially a consolidation of existing requirements within part 60<sup>28</sup> and will further support the instructor evaluation of other landing training tasks where the simulator may be inadvertently landed in an abnormal aircraft attitude.

#### 4. Requirements for Previously Qualified FSTDs

Delta, FlightSafety, and A4A pointed out that the general requirement for ground reaction modeling (Table A1A, Entry No. 3.1.S in the NPRM) states “tests required” and requested clarification if additional objective testing is required under the FSTD Directive for previously qualified FSTDs.

In the final rule, since the FAA restored the existing part 60 format for the general requirements table as compared to the ICAO format in the proposal (including sections for ground reaction and ground handling characteristics), the text for “tests required” was removed from the ground reaction requirements in Table A1A, Entry No. 2.d.2. No additional objective testing for ground reaction and ground handling characteristics was intended for previously qualified FSTDs in FSTD Directive No. 2. The FAA further notes that all required objective testing is fully described in Table A2A, making any such “tests required” notations in the information column redundant.

#### F. Alignment With the ICAO 9625 International FSTD Evaluation Document

In order to promote harmonization of FSTD evaluation standards with that of other national aviation authorities, the FAA proposed alignment of the part 60 Qualification Performance Standards (QPS) with the latest international FSTD evaluation guidance in the ICAO 9625, Edition 3, document. Unlike previous alignment efforts the FAA undertook

with earlier versions of the ICAO 9625 document that only contained one level of FSTD, this alignment effort proved to be more complex because the Edition 3 document contained many other FSTD levels that do not share an equivalent fidelity level in part 60 and other FAA training regulations and guidance material. Furthermore, since the main purpose of this rulemaking was to define new FSTD evaluation standards for new training tasks introduced by the Crewmember and Aircraft Dispatcher Training final rule, practical time limits prevented the FAA from conducting the significant updates to other regulations and guidance material to support a complete change in the existing hierarchy of FSTD levels. For these reasons, a full alignment with all of the FSTD levels in the ICAO 9625 document was not proposed with this rulemaking and only portions of the technical guidance material from ICAO were incorporated where practical.

#### 1. Partial Alignment With the ICAO 9625 Document

For reasons cited above, the FAA did not propose complete alignment with ICAO 9625, Edition 3. In lieu of conducting a full alignment, the FAA proposed partial alignment with the ICAO document where significant overlap existed between the FAA FSTD fidelity levels in the part 60 QPS and the ICAO document. This included alignment of the part 60 Level C and D FFS evaluation standards with that of the highest level of ICAO device (the Type VII device) as well as adding a new Level 7 FTD to align with the ICAO Type V device.

FAA received several general comments concerning the proposed partial alignment with the ICAO 9625 FSTD evaluation guidance document. A4A commented that the “incorporation of 9625 is not required to meet §§ 121.423 and 121.434. We are not opposed to harmonizing part 60 with the international standards but this piecemeal approach to incorporating the ICAO STD does not provide additional benefits for flight training”. A4A further stated that “the FAA should consider incorporating ICAO 9625 as the standard for flight training in its entirety. Until this approach for part 121 training can be adopted, incorporating pieces of the standard into part 60 is only providing additional burden without benefit.” American and Alaska Airlines made similar comments that there is no training value in adopting the ICAO standard as presented and recommended that the FAA should not adopt the ICAO standard unless doing so in its entirety. ALPA generally

<sup>28</sup> See 14 CFR part 60 (2008), Appendix A: Table A1A, Entry No. 2.d.2 (ground reaction modeling); and Table A3D (motion system effects), Entry no. 7 (main and nose gear touchdown cues), and Entry No. 13 (tail strikes and engine pod strikes).

supported the incorporation of the ICAO 9625 guidance into part 60, but expressed concern regarding the introduction of a fixed-base (non-motion) FTD for flightcrew training. Also, ICAO generally supported the incorporation of the ICAO 9625 document and further noted that the fourth edition of the ICAO 9625 document was recently published on the ICAO internet site for regulatory authorities.

The FAA notes that the primary purpose of this rulemaking was to update the FSTD evaluation standards to address the new extended envelope training introduced by the Crewmember and Aircraft Dispatcher Training final rule. Because the FAA and industry were integrally involved in the development of the ICAO 9625 FSTD evaluation guidance material, and much of the current part 60 and grandfathered FSTD standards are based upon previous versions of the ICAO 9625 document, the FAA proposed updating the current part 60 standard for certain FSTD levels that overlapped with similar FSTD levels defined in the ICAO 9625 document. Unlike previous versions of the ICAO 9625 document, ICAO 9625, Edition 3, introduced several new FSTD levels that have no direct equivalent in the part 60 rule. Because of the time critical nature of the extended envelope training requirements, it was determined that redefining all of the FAA FSTD levels to align with the ICAO document would not be practical because of the numerous other training rules and guidance material that would be affected if we made significant changes to the part 60 qualification standards and FSTD level definitions.

The benefits of general ICAO alignment are not readily quantifiable since they primarily focus on improving the overall simulation environment and not on specific safety issues. From an international harmonization standpoint, FSTD manufacturers and data providers can benefit from developing FSTDs and supporting data packages that meet a single internationally recognized standard. Despite statements made by one commenter concerning “illusory benefits from internationally aligned FSTD standards,” the FAA believes there is anecdotal evidence that supports the benefits of international harmonization. Based upon past experience with the previous international alignment efforts, the FAA points out that over 250 FSTDs (including FSTDs qualified by A4A air carriers) were voluntarily qualified against the more stringent ICAO 9625, Edition 2, JAR-STD 1A, Amendment

3,<sup>29</sup> and Draft AC 120-40C internationally harmonized standards during the 1995 to 2008 timeframe before part 60 became effective in 2008.

Due to the time critical nature of the extended envelope training requirements, complete alignment with the ICAO 9625 document was not considered in this rulemaking. Most of the device levels defined in ICAO are not within the scope of part 60 (all but two FSTD levels in ICAO 9625 are for generic or representative devices that are not defined in part 60) and would require significant rulemaking and policy changes outside of part 60 to address a new hierarchy of device levels. The FAA considers the ICAO alignment conducted in this rulemaking as a significant step in maintaining harmonization with the international FSTD evaluation standards and will continue to look for opportunities to further expand the alignment with the ICAO 9625 document where practical.

## 2. New Requirements Introduced by the Proposed ICAO Alignment

Several commenters pointed out that some of the new requirements introduced in the proposed ICAO 9625 alignment would add to the cost of a new Level C or Level D FFS with no demonstrated value to training. The FAA partially agrees with the commenters in that it is difficult to quantify specific safety benefits from some of the new and updated standards introduced as a result of the ICAO alignment. Most of these changes in the ICAO alignment target the improvement of objective testing tolerances, the incorporation of testing requirements for new technology that is not currently addressed in the simulator standards, and improvement of the overall simulation environment.

### a. Visual System Field of View

A4A, JetBlue, Delta, and an anonymous commenter stated that the increased visual system field of view requirement from 180 degree  $\times$  40 degree in the existing part 60 general requirements to 200 degree  $\times$  40 degree in the proposal would introduce significant cost to a new simulator and has no demonstrated benefit to crew training. In addition, A4A and JetBlue further commented that the justification for this proposal is harmonizing with ICAO standards; there is no statutory or regulatory requirement or NTSB recommendation on this topic. The increased field of view for newly

qualified FSTDs does not demonstrate any improved training value; the existing field of view has been used successfully in training programs worldwide for well over a decade. Increasing the field by 10 degrees on each side would add no value in taxiing or on the circling approach and there is no data or industry trend to indicate that pilots are experiencing difficulty performing these maneuvers using the current systems. Most part 121 air carriers train to Visual Flight Rules (VFR) minimums for a circling approach and in fact most flight schools that offer Airline Transport Pilot qualification courses now require only demonstration at a VFR level. A simulator field of view expansion to 200 degrees would not change practices at other facilities.

Concerning the cost of this new requirement, A4A further commented that the expense associated with this field of view expansion would add an estimated 20 to 30 percent to the cost of a visual system for the purchasing of a newly qualified FSTD, depending on the manufacturer. In most cases this would require the addition of at least one and possibly two image generators, very similar to helicopter simulators. In addition, changing the field of view standard for newly qualified FSTDs will prevent carriers from obtaining existing simulators that reside outside the United States (U.S.) that have a 180 degree field of view, and have not yet been qualified in the U.S. This would force carriers to purchase new simulators instead of purchasing used simulators; it will cost more and impose less efficient training options.

The FAA concurs with the commenters in that little evidence suggests that increasing the visual system field of view requirements to 200 degrees (horizontal) will have a quantifiable safety benefit. In order to avoid incurring significant additional cost as a result of the ICAO 9625 alignment as identified by the commenters, the visual system field of view requirements will remain at the existing part 60 requirement of 180 degrees  $\times$  40 degrees for Level C and Level D FFSs in the final rule.

### b. Visual System Lightpoint Brightness Testing

In the NPRM, the FAA proposed the addition of a new objective visual lightpoint brightness test as part of the ICAO 9625 alignment. The addition of this test addresses inherent system limitations in fixed matrix visual display systems (such as LCD systems) and their ability to display lightpoints as compared to older calligraphic display systems. American, A4A, and an

<sup>29</sup>JAR-STD 1A was a publication by the Joint Aviation Authorities that provided FSTD qualification standards for European countries.



anonymous commenter stated that the tolerance for this test should be reduced from the 8.8 foot-lamberts as proposed in the NPRM to 5.8 foot-lamberts as proposed in the updated ICAO 9625, Edition 4, document because it has no technical advantage and is not achievable with current technology over long periods of time. CAE further stated that this requirement cannot currently be met with light emitting diode (LED) based visual projectors and this issue has been subsequently addressed in ICAO 9625, Edition 4. Similar comments were made by TRU Simulation. Frasca commented that, with regards to the surface brightness test, a modern display system cannot boost the brightness for light points only. If the system just meets the display brightness requirement, it will not pass the light point brightness requirement. This would only be possible using calligraphic projectors, which are no longer in regular use for simulation.

The FAA concurs with the commenters and has reviewed the updated ICAO 9625, Edition 4, document as suggested. In that document, the light point brightness test tolerance has been amended to be less restrictive (5.8 foot-lamberts) as compared to the Edition 3 document due to the inherent limitations of solid state illuminators (such as LEDs). In these types of systems, the benefit of improved temporal stability justifies the inherently lower brightness that an LED can produce as compared to a standard lamp illuminator. To support the alignment of the part 60 technical requirements with the ICAO document, as well as to address the commenters concerns, the FAA has amended this objective test (Table A2A and Table B2A, Entry No. 4.a.7.) in the final rule as recommended by the commenters.

#### c. Transport Delay Testing

In the NPRM, the FAA proposed to reduce the transport delay tolerances from 150 millisecond (ms) to a more restrictive 100 ms tolerance for the purposes of aligning with ICAO 9625, Edition 3 as well as improving the overall simulation environment with faster simulation induced response times. The FAA received many comments on this issue which generally recommended that the FAA should not adopt these tighter tolerances. Boeing, FedEx, Delta, A4A, and American commented that while ICAO 9625 Edition 3 recommends a more restrictive tolerance than what is currently in part 60, there appears to be no evidence that timing below 150 ms provides better crew training. Boeing further

commented that those values have been hard to achieve in industry, costing substantial amounts of money to meet this requirement. A4A further commented that “the FAA should not change the transport delay standard because there have been no reports of pilot induced oscillation due to a throughput (transport) delay tolerance being too high. The current transport delay tolerance of 150 ms has proven to be adequate for all Level D FSTDs with no known problems to date. The tolerance has no impact on safety and is a technical limitation of the software and hardware. Carriers have operated with the 150 ms for decades with no measurable degradation in training. In addition, the ICAO standard is being revised and will change in 2015; an FAA change to 100 ms will result in misaligned U.S. and ICAO standards starting next year. Therefore, to require adjustment of the delay to 100 ms would provide no additional benefit to pilot training and it is recommended that 150 ms tolerance be retained.” Frasca, American, Boeing, and CAE made similar comments concerning the less restrictive 120 ms tolerance that has been amended in ICAO 9625, Edition 4.

While the FAA would concur that it is difficult to quantify transfer of training benefits with transport delay tolerances reduced to lower than 150 ms, it has been well established through multiple research studies that transport delay in simulation can significantly affect pilot performance. The FAA maintains that the proposed 100 ms tolerance is not a significant technical limitation of simulators and has, in fact, been a minimum FSTD qualification requirement for helicopter simulators since 1994.<sup>30</sup> Furthermore, the FAA conducted a random sampling of currently qualified FSTDs that were initially evaluated within the past 10 years and found that 44 percent of these FSTDs would have met the ICAO 9625, Edition 3, tolerance of 100 ms and 83 percent of these FSTDs would have met the ICAO 9625, Edition 4, tolerances (100 ms for motion/instrument and 120 ms for visual system response) with no modification.<sup>31</sup> These numbers generally support the commenters’ concerns that the 100 ms transport delay

tolerance in the NPRM may not be easily attainable with current technology that is implemented on previously qualified fixed wing FSTDs.

To address these concerns and to maintain consistency with the international guidance material, the FAA has amended the final rule to incorporate the updated ICAO 9625, Edition 4, transport delay tolerances of 100 ms for motion system/instrument response and 120 ms for visual system response as recommended by many commenters.

#### d. Objective Motion Cueing Fidelity Test

As part of the ICAO 9625 alignment proposed in the NPRM, the FAA included objective motion cueing fidelity testing (OMCT) as a minimum requirement for FSTD qualification.

The FAA received several comments on the adoption of the ICAO 9625 OMCT test. American commented that the OMCT in the ICAO 9625 document is still a work in progress with some testing details that are still under consideration as more experience is gained with conducting the test. American further questioned what source data was used to define the motion fidelity tolerances that are associated with the test as well as the lack of a time-domain test that was supposed to complement the frequency-domain test in the ICAO document. Additionally, American stated that the purpose of including an incomplete set of tests in the ICAO standard is to collect data and that a final rule is not appropriate vehicle to ‘gather data’. Finally, American recommended against replacing the existing motion cueing signature (MCPS) tests with the OMCT, however, if it were to be adopted in the final rule, it should be limited to an SOC issued by the training device manufacturer stating compliance. A4A and JetBlue made similar comments opposing the adoption of the proposed OMCT.

The FAA agrees that the proposed OMCT from ICAO 9625, Edition 3, primarily consisted of a testing method with no specific fidelity standard applied to the test results. The FAA further notes that the recently published ICAO 9625, Edition 4, document has improved the OMCT method and has added recommended tolerances to the test results that were based upon “. . . the statistical results of reliable OMCT measurements of eight Level D or Type VII FSTDs.” The FAA maintains that a significant weakness in today’s FSTD evaluation standards is the lack of a consistent method to measure and apply motion cueing in crew training

<sup>30</sup> See Advisory Circular (AC) 120–63, “Helicopter Simulator Qualification” (1994); Appendix 2, test 5.a.; and 14 CFR part 60 (2008), Appendix C, Table C2A, test 4.a.2.

<sup>31</sup> The FAA conducted a random sampling of transport delay test results from the Master Qualification Test Guides (MQTGs) of 18 currently qualified FSTDs that were initially evaluated within the past 10 years. Eight out of the 18 FSTDs would have met the 100 ms transport delay tolerance for all axes. Fifteen of the 18 FSTDs would have met the 100/120 ms tolerance.



simulators. An industry-led group developed the objective motion cueing test, and it represents a marked improvement over today's subjective-only assessments. While the FAA concurs that a specific fidelity requirement needs development, applying the OMCT and comparing the results against representative responses will promote useful standardization and improvement of overall motion cueing.

To address the commenters concerns, the FAA has amended the final rule so as to not require OMCT results in the MQTG for annual continuing qualification evaluation purposes. Instead, OMCT results will only be required once during the initial qualification of the FSTD and included in an SOC from the FSTD manufacturer. Furthermore, the FAA will not require a specific tolerance to be met for this test and only require that the FSTD manufacturer use the OMCT to document the overall performance of the motion system and use its results to aid in the tuning of the motion cueing algorithms. Finally, because the technical details of this testing method are multifaceted and not suitable for inclusion in the final rule's text, the FAA will issue guidance material with the final rule on how to apply the OMCT to meet the part 60 requirements.

#### e. Sound Directionality Requirement

A4A commented that the directional sound requirements (incorporated from the ICAO 9625 document) are not cost/benefit justified and are not required to meet any existing or proposed training requirement.

The FAA notes that the requirement for "sound directionality" was introduced as part of the ICAO 9625 alignment proposed in the NPRM.<sup>32</sup> After review of this requirement, the FAA will maintain the proposed requirement in the final rule. FAA has found that it is essentially a codification of existing practice where FSTDs are subjectively evaluated for flight maneuvers, including engine failures and other malfunctions, which would result in directionally representative

sound cueing in the FSTD. FAA further notes that the accident record has documented instances where flight crews have inadvertently shut down the wrong engine while diagnosing an engine malfunction in flight. This additional sound cueing in the simulator may enhance training in recognizing and verifying the cues of an actual engine failure in flight.

#### 3. Alignment With the Recently Published ICAO 9625, Edition 4, Document

Concurrent with the development of the part 60 NPRM, an international working group was convened to review and update the ICAO 9625, Edition 3, document to incorporate FSTD evaluation requirements to address full stall training, UPRT, and icing. This working group was essentially operating in parallel with the part 60 rulemaking effort and used a similar set of recommendations issued from the ICATEE working group to incorporate FSTD evaluation standards into the ICAO 9625 document. In addition to the changes made to support UPRT and stall evaluation, this working group also made general changes to the ICAO 9625 document that addressed known issues with the Edition 3 document. These included changes that addressed technological improvements, changes that updated various test tolerances which were relieving in nature, as well as editorial changes to correct or clarify the requirements in the Edition 3 document. Since the FAA proposed alignment with ICAO 9625, Edition 3, many of the known issues identified with that document were also present in the NPRM.

The FAA received several comments, including various comments from A4A, Boeing, CAE, Frasca, ICAO, and TRU Simulation that recommended the use of the draft ICAO 9625, Edition 4, document in order to correct specific problems introduced from ICAO 9625, Edition 3, into the NPRM. Several commenters also recommended aligning the FAA requirements for the extended envelope training tasks with that of the

updated ICAO document. Many of these comments have been discussed in previous sections of this document.

Since the publication of the NPRM and subsequent close of the comment period, ICAO has published the final version of the ICAO 9625, Edition 4, document. The FAA has reviewed its contents for potential incorporation of the changes into the final rule as recommended by several commenters and has found that the changes made to the ICAO document in the Edition 4 release were relatively limited in scope and have some overlap with the requirements published in the NPRM in the following areas:

1. Introduced "extended envelope" FSTD evaluation requirements for full stall, UPRT, and airframe icing.

2. Changes to testing requirements and tolerances to improve and correct issues in ICAO 9625, Edition 3, including transport delay testing tolerances, visual lightpoint brightness tolerances, objective motion cueing testing tolerances, and other changes that were generally less restrictive.

3. Other editorial and technical changes to improve the document and clarify existing requirements.

The FAA agrees with the commenters that alignment with the latest edition of the ICAO 9625 document would be desirable, particularly with evaluation requirements that have been found to be problematic in ICAO 9625, Edition 3. The FAA has incorporated many of these changes into the final rule; however, some differences were maintained to address public comments to the NPRM, as well as to address FAA specific training requirements and FSTD grandfathering rights. Where the more restrictive requirements were introduced in ICAO 9625, Edition 4, that were not included in the NPRM for public comment, the FAA included these in the final rule within non-regulatory "information" sections as recommended practices. The following table summarizes the sections that were modified in the final rule to incorporate changes made in ICAO 9625, Edition 4:

Change	ICAO 9625 Section	Final rule entry No.	Comments
<b>General Requirements</b>			
<b>Appendix A (ICAO)/Table A1A</b>			
Icing effects .....	2.1.S.e .....	2.j .....	Alignment of language with the equivalent ICAO section.

<sup>32</sup> ICAO 9625 (Edition 3), Part II, Appendix A, section 6.5.R requires that "sound should be directionally representative."

Change	ICAO 9625 Section	Final rule entry No.	Comments
High Angle of Attack Modeling .....	2.1.S.f .....	2.m .....	Alignment of language with the equivalent ICAO section.
Stick Pusher Systems .....	2.1.S.g .....	3.f .....	Alignment of language with the equivalent ICAO section.
Stall Buffet Sounds .....	5.1.S.b .....	7.c .....	Added to information column as recommended practice.
Stall Buffet Motion Effects .....	8.3.R(8) .....	5.e.1 .....	Added to information column as recommended practice.
(Buffet as first indication of stall or lack of stall buffet).			
Stall Buffet Amplitude and Frequency Content .....	8.4.R(5) .....	8. (Table A3D) ..	Added to information column as recommended practice.
UPRT .....	13.2.1.S .....	2.n .....	Alignment of language with the equivalent ICAO section.
Transport Delay .....	13.2.2.S .....		
	13.8.S .....	2.g.2 .....	Updates transport delay tolerance to less restrictive values.

## Objective Testing

## Appendix B (ICAO)/Table A2A

Static Flight Control Checks .....	2.a. ....	2.a. ....	Moved test description text to ensure it is not improperly applied to dynamic control checks.
Stick Pusher Calibration .....	2.a.10 .....	2.a.10 .....	Alignment with equivalent ICAO test.
Stall Characteristics .....	2.c.8.a .....	2.c.8.a .....	Alignment with equivalent ICAO test.
Approach to Stall Characteristics .....	2.c.8.b .....	2.c.8.b .....	Alignment with equivalent ICAO test.
Engine and Airframe icing effects demonstrations ..	2.i. ....	2.i. ....	Alignment with equivalent ICAO test.
Stall Buffet .....	3.f.5 .....	3.f.5 .....	Alignment with equivalent ICAO test. (FAA retained three test conditions).
Visual Lightpoint Brightness .....	4.a.7 .....	4.a.7 .....	Updates tolerance to less restrictive value.
Transport Delay .....	6.a.1 .....	6.a.1 .....	Updates tolerance to less restrictive value.

## Other

Visual Model—Airport Clutter .....	2.a.12.c (Appendix C). ....	2.a.12.c (Table A3B). ....	Specific “gate clutter” requirement changed to “airport clutter”.
Additional FSTD Evaluations Requirements for Stall, Upset Recovery, and Icing.	Attachment P ....	Attachment 7 (Appendix A).	Alignment with equivalent ICAO language.

## 4. Integration of ICAO Requirements With the Part 60 Table Structure

The FAA received several comments concerning the integration of the ICAO requirements within the tables of the part 60 QPS appendices. Several commenters pointed out that while there were requirements introduced into the tables for the purpose of aligning with the ICAO equivalent FSTD levels, many of these requirements were carried over to lower level FSTDs that were not specifically targeted in the alignment (e.g., Level A and Level B FFSs that do not have an ICAO equivalent device). These differences were most apparent in the general requirements tables (Table A1A and Table B1A) where the ICAO format, language, and numbering system significantly differs from the existing part 60 format. Additionally, A4A commented that the incorporation of the ICAO format extends the overall structure of the document, is not value added, and creates repeated requirements.

The FAA agrees with the commenters in that the integration of the ICAO numbering system into some of the part

60 tables resulted in some overlapping requirements with FSTD levels that were not subject to the alignment. The main reason for this overlap was to avoid the addition of redundant table entries for the aligned Level C and Level D devices and the non-aligned Level A and Level B devices in cases where they substantially share the same requirement. Other changes were carried over to the Level A and Level B requirements simply because the requirements represented existing practice, and the FAA found it unlikely that a new FSTD would be initially qualified that could not meet these requirements. For example, one commenter noted that the requirement in Table A3B for taxiway edge lights to be of a correct color was a new requirement introduced for a Level A and Level B FFS. While this is a new requirement as compared to the current part 60, the FAA finds it very unlikely that any new FSTD would be initially qualified with a visual display system that could not produce taxiway edge lights of the correct color.

To address the commenters concerns as well as to reduce the overall

complexity of the general requirements tables, the FAA has reverted back to the existing part 60 structure and format in the final rule for the general requirements tables in Appendix A and Appendix B (Tables A1A and A1B). Where specific changes were proposed in the ICAO alignment process, corresponding changes were made to the existing sections within the current part 60 general requirements tables for the appropriate FSTD levels. This will eliminate unintentional carryover of requirements into the other FSTD levels that were not subject to the proposed ICAO alignment.

Additionally, the FAA has examined other tables impacted by the ICAO alignment and has corrected other specific testing requirements as identified by the commenters that were unintentionally carried over to FSTD levels not subject to the ICAO alignment.

Finally, to address comments concerning the integration of the functions and subjective testing tables for all FTD levels in Appendix B, the FAA has separated the Level 7 FTD requirements into different tables and

restored the functions and subjective testing tables for Levels 4, 5, and 6 FTDs back to their original format and contents in the final rule. This change will address commenters concerns and provide a clear distinction between the new Level 7 FTD requirements and the other FTD levels. The reorganized tables will be renumbered as follows in the final rule:

Tables of Functions and Subjective Testing

Table B3A (Level 6 FTD)  
Table B3B (Level 5 FTD)  
Table B3C (Level 4 FTD)  
Table B3D (Level 7 FTD)

Level 7 FTD Specific Tables

Table B3E (Airport Modeling Requirements)  
Table B3F (Sound System)  
Table B3G (IOS Requirements)

5. Deviation From the Part 60 QPS Using the ICAO 9625 Document

CAE commented that the FAA should “consider the adoption of the ICAO 9625 document technical standards through Incorporation by Reference as allowed by statute and in accordance with 1 CFR part 51, and allow for the qualification of devices using the ICAO technical standard as an Alternate Means of Compliance (AMOC).” An individual commenter recommended that since the “fast track” process for part 60 QPS revisions has never come to fruition, the FAA should conduct separate rulemaking to remove the part 60 QPS appendices and replace them with an industry consensus standard.

The FAA notes that due to the high level of interest in this rulemaking with regards to supporting other significant rulemaking work and Public Law, it was determined that it would not be appropriate for the FAA to use the streamlined process as described by the commenter<sup>33</sup> and this particular part 60 rulemaking would have to proceed in accordance with the agency’s normal rulemaking procedures. While the FAA agrees with the commenter that using a voluntary consensus standard may allow for faster changes to the FSTD evaluation standards, the incorporation of a consensus standard would be outside of the scope of this rulemaking. The FAA will consider this topic for future rulemaking as suggested by the commenter.

Regarding CAE’s comment concerning the use of the ICAO 9625 document as

an AMOC to the part 60 standards, the FAA agrees that allowing the use of other technical FSTD evaluation standards (such as ICAO 9625 or other FSTD evaluation standards issued by a national aviation authority) to initially qualify a new FSTD may allow for a more refined approach to incorporating future changes to the FSTD technical standards. The FAA agrees that where updated internationally recognized FSTD evaluation standards have been published and have been determined to provide an equivalent or higher level of safety (*e.g.* does not adversely impact the fidelity of the device) as compared to the part 60 standards, the voluntary use of these standards to initially qualify new FSTDs should be considered. Particularly with updates to the ICAO 9625 document, deliberations on changes to this document are conducted through international working groups with representation from many sectors of the training and simulation industry, including FSTD manufacturers, air carriers, training providers, aircraft manufacturers, government agencies, and other organizations. In addition to making changes to the FSTD evaluation standards that address safety related issues, other changes are made to improve the overall FSTD evaluation process, as well as addressing new simulation and aircraft technology that has not been adequately addressed in the existing standards.

Furthermore, the ability for the FAA to recognize equivalent FSTD evaluation standards issued by ICAO and national aviation authorities will support the qualification of FSTDs located in other countries and promote existing bilateral agreements which may result in cost savings for FSTD sponsors, manufacturers, and data providers. Particularly with FSTDs that are qualified by multiple national aviation authorities, the ability to recognize an equivalent international standard can reduce redundant testing requirements and documentation that would otherwise be needed to demonstrate compliance with multiple international standards. The FAA additionally points out that a similar process was successfully used prior to the initial publication of part 60 in 2008 where over 250 FSTDs were initially qualified on a voluntary basis using updated international FSTD evaluation standards (including ICAO and European FSTD evaluation standards) in lieu of the then current FAA evaluation standards in Advisory Circular (AC) 120–40B.

Where such new and updated standards are available, potential safety benefits, as well as cost savings, can be

quickly realized through the recognition of new standards ahead of the formal rulemaking process. As with most of the past updates to the international standards, there are significant delays of months and even years in integrating updated ICAO standards into regulation. This results in a continuous lag between advances in simulation technology and the regulatory standards.

In order for the agency to be more responsive to changes in the international FSTD evaluation criteria as well as to provide additional options to sponsors of FSTDs that are qualified by multiple national aviation authorities, the FAA has included deviation authority in § 60.15(c) of the final rule to accept FSTD evaluation standards (such as ICAO 9625 or other FSTD evaluation standards issued by a national aviation authority). Such deviations must demonstrate that there will be no adverse impact to the fidelity or the capabilities of the FSTD as compared to the part 60 QPS. Deviations may be granted to an FSTD sponsor or to an FSTD manufacturer for application on multiple FSTDs. Where an FSTD has been initially qualified under the deviation authority, the evaluation standard will become a part of the FSTD’s permanent qualification basis and recorded in the FSTD’s MQTG and SOQ. The FAA will issue guidance material with this final rule in the form of an NSP guidance bulletin that explains the process for submitting and reviewing deviation requests under § 60.15(c).

6. Level 7 FTD Requirements and Usage in Training

As part of the ICAO 9625 alignment process, the FAA introduced a new FSTD level to the fixed wing FSTD evaluation standards in the NPRM. This FSTD level was based upon the ICAO 9625 Type V device and was intended to define requirements for a high fidelity, fixed-base FTD that could be used to conduct additional introductory training tasks beyond what the Level 6 FTD is currently qualified to do. Furthermore, the addition of this FTD level to the fixed wing standards in part 60 Appendix B would align with the current Level 7 helicopter FTD evaluation requirements that are already in Appendix D of part 60.

Boeing commented that the Level 7 FTD requirements exceed those for Level A and Level B FFSSs. The Level 7 FTD will offer no additional training credit and appears to have no additional benefit to the industry. CAE further commented that while the Level 7 FTD is introduced and is based upon the ICAO Type V device, the applicable

<sup>33</sup> This streamlined process delegates the authority for final review and issuance of the part 60 QPS documents from the FAA Administrator to the Director of the Flight Standards Service (see 71 FR 63392).

flight crew licensing regulations should include provisions for training credits for this device.

The FAA notes that the corresponding “Tasks vs. Simulator/FTD Level” tables (Tables A1A and B1B) define the particular tasks that a particular FSTD level is qualified to conduct. Table B1B was updated in the NPRM to include the Level 7 FTD and adds several tasks that Level A and Level B FFSs are not currently qualified to conduct. The addition of this FSTD level was based upon the ICAO recommendations to create a high fidelity, fixed-base FTD in which introductory training could be conducted in lieu of a higher cost FFS. The part 60 FSTD qualification standards do not currently define such a high fidelity FTD<sup>34</sup> and the addition of the Level 7 FTD fills this gap. The FAA agrees with Boeing and CAE in that the FSTD qualification standards do not fully address the allowable training credit for this new FTD level and the FAA is currently reviewing supporting training guidance material to make corresponding updates to address this new FSTD level.

Furthermore, the FAA notes that a similar device level was introduced for helicopter training (a helicopter Level 7 FTD) with the initial publication of part 60 in 2008. The FAA has qualified several of these Level 7 helicopter FTDs since the initial publication of part 60 and these devices continue to be used within operator’s training programs.

ALPA commented that while they support the incorporation of the ICAO 9625, Edition 3, guidance, they are concerned with the intention to increase use of non-motion devices at the expense of more realistic training in higher fidelity devices with motion. In addition, ALPA stated that they are “concerned with the stated rationale for adopting the ICAO Doc 9625, Edition 3 Type V simulator guidance. The NPRM indicates this guidance will be used to introduce a new Level VII simulator for the purposes of increasing the opportunities to utilize fixed base, non-motion simulators. Some use of fixed based simulators is appropriate. However, the higher the simulator fidelity is, and the more realistic the training environment is, the better the transfer of learning to actual flight will be.”

ALPA went on to state that the “highest-level flight simulators need to be used to the maximum extent possible. It is imperative that all end-

level evaluations be conducted in full flight simulators (FFS) with six degree of freedom motion cues. Maneuver-based validation points required by airline-specific AQP documentation must be conducted in a FFS with six degree of freedom motion cues also. In addition, these FFSs should be used extensively in advance of evaluations and validation points to provide significant opportunity to prepare.”

The FAA notes that the concept of the Level 7 FTD was based primarily upon the recommendations made in the ICAO 9625 document. In this document, through the work of an industry and government working group, it was determined that the introduction of many training tasks could be conducted in a high fidelity, fixed-base FTD where the continuation and completion of that training task (training to proficiency) is conducted in a FFS with motion cueing. The FAA shares the commenter’s concerns regarding the use of FFSs for end-level evaluations and in advance of evaluations and validations points. In the proposal, the FAA attempted to capture this ICAO concept in the “Table of Tasks v. FTD Level” (Table B1B), which defines the minimum qualified tasks for a specific FSTD level. The FAA has made additional amendments in the final rule to better define the differences in “training” and “training to proficiency” in Table B1B to maintain consistency with ICAO 9625.

Finally, the FAA notes that the part 60 FSTD qualification standards only define what training tasks an FSTD is qualified to conduct and does not define how the FSTD will be approved for use in a training program. The FAA is currently reviewing supporting training guidance material and will take these comments into consideration when making corresponding updates to address this new FSTD level.

#### G. General Comments

##### 1. Compliance Period for Previously Qualified FSTDs

In the proposal, the FAA requested comment on the proposed three year compliance period for previously qualified FSTDs as described in the FSTD Directive. This request was to determine if the three year compliance period was adequate to conduct the necessary modifications to FSTDs in consideration of the March 2019 compliance date for the extended envelope provisions in the Crewmember and Aircraft Dispatcher Training final rule.

Delta, American, and A4A commented that the three year compliance date proposed in FSTD

Directive No. 2 should be aligned with the air carrier training rule’s compliance date of March 12, 2019, for the extended envelope training provisions. Delta and A4A additionally commented that there would not be enough lead time to develop supplemental data for legacy aircraft within the proposed three year compliance period and recommended that the compliance period be changed to a firm date of March 12, 2019, to align with the air carrier training rule. American and A4A also recommended that the due date of the FSTD Directive be 90 days prior to March 12, 2019, for incorporation and review by the local training authority.

The FAA agrees with the commenters in that the compliance period of the FSTD Directive should be changed to a firm date that aligns to the Crewmember and Aircraft Dispatcher Training final rule compliance date of March 12, 2019, and has made this change in the final rule. The FAA is aware that some aircraft manufacturers and third party data providers have already made substantial progress in the development of simulator data packages to meet the requirements of the proposed FSTD Directive and additional data packages will likely become available for many FSTD sponsors soon after the publication date of this final rule. Finally, it was not the intent of the FAA that all FSTDs must be modified and evaluated by the compliance dates proposed in this rule. As described in the proposal, only those FSTDs that will be used to conduct certain training tasks will require compliance with the FSTD Directive. This should provide FSTD sponsors with some flexibility in determining which FSTDs to modify as well as determining a timeline for the FSTD modifications that meets their training requirements.

##### 2. Alternative Data Sources for Level 5 FTDs

TRU Simulation and A4A commented that the authorized performance range tables for Level 5 FTDs in Appendix B (Table B2B, B2C, B2D, and B2E) are incorrect for the change force maneuvers. For each maneuver, the stick force directions are reversed from the direction as needed to maintain airspeed as described. This error exists in the current part 60 and exists for all sets of aircraft. TRU Simulation and A4A further commented that the alternative data source tables for Level 5 FTDs are invaluable, especially when flight test data is difficult to come by. However, there are no data tables published in the current part 60 for turbofan/turbojet aircraft. These are the aircraft where such tables would have

<sup>34</sup> The current Level 6 FTD as defined in part 60 is not validated for most ground maneuvers (including takeoff and landing tasks) and does not require a visual system.

the biggest positive impact, since the flight test data gathering is the most expensive for those aircraft. Following the release of Change 1 (of part 60), there was a statement made that the only reason they were not included in Change 1 was that there was no time to prepare them.

The FAA concurs with the commenters and has amended the authorized performance range tables in Appendix B in the final rule to correct the stated errors in Tables B2B, B2C, B2D, and B2E. While the FAA agrees with the commenters that such additional alternative source data for turbofan/turbojet aircraft could provide for less expensive data collection and validation of Level 5 FTDs, the FAA did not propose modifications to these tables and making significant additions and modifications to these tables would be out of scope for this rulemaking.

### 3. Objective Testing for Continuing Qualification

CAE commented that the requirement for the objective test sequence that is part of the quarterly inspections requires that all of the objective tests as defined in the applicable QPS are included in the content of the complete annual evaluation. There are certain tests, however, such as visual geometry and motion frequency domain tests, that primarily serve to confirm or baseline the system performance at the initial evaluation. These tests are significantly time consuming to run and require special resources and equipment and do not necessarily provide value or benefit as part of the quarterly test sequence.

The FAA agrees with the commenter in that some tests specified in the table of objective tests may be time consuming and require special equipment to run on an annual basis as part of the quarterly test sequence. Concerning the objective motion cueing test as stated by the commenter, the FAA concurs that it would not be reasonable to conduct this test on an annual basis and has amended the final rule to only require this test be run at the initial evaluation.

With regards to the visual geometry test, the FAA has found that there is some benefit to verifying that the FSTD's visual system geometry has not been changed over time. As with the currently accepted practice for visual geometry testing, the FAA has not required FSTD sponsors to verify the visual system geometry on an annual basis using a theodolite since this requires special equipment and resources that most sponsors do not have. In lieu of conducting such detailed visual geometry testing on

continuing qualification evaluations, provisions were added in the NPRM (Attachment 2, paragraph 18) that were consistent with the ICAO requirements allowing for the use of a "hand-held optical checking device" to check that the relative positioning is maintained. Due to this comment and other comments concerning the complexity of the visual system geometry test as well as the fact that the ICAO visual system geometry test was specified assuming a 200 × 40 degree field of view system, the FAA has maintained the existing part 60 existing visual geometry test in the final rule. The FAA has further added clarifying language in the test requirement (Table A2A, test 4.a.2) that allows for methods to quickly check the visual system geometry for continuing qualification evaluations.

### 4. Windshear Qualification Requirements

In the proposal, the FAA amended the windshear qualification requirements as a result of recommendations received from the SPAW ARC concerning improvements to windshear training. These proposed changes included requirements for complex windshear models to be available on the FSTD, the addition of realistic levels of turbulence associated with windshear, and requiring that all IOS selectable windshear profiles have a method to ensure the FSTD is properly configured for the selected windshear profile.

With regards to the updated windshear qualification requirements, A4A, Boeing, and an anonymous commenter stated that the proposal requires all required windshear models to be selectable and clearly labeled on the IOS. Additionally, they pointed out that all IOS selectable windshear models must employ a method, such as a simulator preset, to ensure that the FFS is properly configured for use in training. This method must address variables such as windshear intensity, aircraft configurations (weights, flap settings, etc.), and ambient conditions to ensure that the proper windshear recognition cues and training objectives are present as originally qualified. The commenters went on to state that this implies that all windshear training scenarios will have to be evaluated for some specific condition that is not specified and that this is a far reaching requirement and should be removed. The commenters suggested that a more definitive requirement to have a method to repeatedly establish a survivable and a non-survivable windshear scenario would make more sense and meet the desired requirement.

The FAA notes that this particular proposed change to the windshear qualification requirements was made to ensure that the windshear models which are available on the IOS are properly set up for use in training as recommended by the SPAW ARC. Specifically, the SPAW ARC recommended that all required windshear models should be selectable and clearly labeled on the IOS. The SPAW ARC determined that the labeling of available windshear models is not standardized in many FSTDs and instructors may lack the necessary information to ensure that the windshear recognition cues in a particular training scenario will occur as desired.

While the FAA agrees that the use of presets in the simulator should be at the discretion of the sponsor, there should be a method employed by the operator to ensure repeatability of the windshear training profiles if the instructor has the ability to change basic parameters of the aircraft or conditions that would affect the outcome of the windshear maneuver (e.g. aircraft gross weight, ambient conditions, etc.). As described in the Windshear Training Aid, most windshear profiles are tuned to produce specific recognition cues and performance characteristics for consistent training scenarios. If the basic aircraft configuration and ambient conditions are changed, the instructor cannot be guaranteed that the windshear recognition cues and performance during the escape maneuver will be present as originally evaluated and qualified. Since this rulemaking was originally proposed, the FAA has issued guidance material<sup>35</sup> to operators recommending the use of simulator presets or providing instructor guidance to ensure that windshear profiles are set up correctly in training. The FAA believes that the publication of this guidance material will sufficiently address this issue and has amended this section in the final rule, as suggested by the commenters, to recommend that a method to ensure the repeatability of the windshear required survivable and non-survivable scenarios be employed in the FSTD.

### 5. Miscellaneous Comments

#### a. Approved Location for Objective and Subjective Testing

With regards to the changes proposed for § 60.15(e), Delta, A4A, and an anonymous commenter noted that while

<sup>35</sup> Information for Operators (InFO) Number 15004, "Use of Windshear Models in FAA Qualified Flight Simulation Training Devices", published March 13, 2015.

the NPRM states that the subjective tests that form the basis for the statements described in paragraph (b) of this section and the objective tests referenced in paragraph (f) of this section must be accomplished at the FSTD's permanent location, except as provided for in the applicable QPS, we recommend changing FSTD's "permanent location" to FSTD's "sponsor designated facility" as an FSTD may be moved from one location to another over time. Frasca further commented that current FAA guidance allows for objective testing to be run at the FSTD manufacturer's facility as an option for submitting the required qualification test guide (QTG) prior to the initial evaluation.

The FAA concurs with the commenters and has amended the final rule to state that this testing "must be accomplished at the sponsor's training facility or other sponsor designated location where training will take place, except as provided for in the applicable QPS." With regards to Frasca's comment, the ability to submit QTG test results conducted at the manufacturer's facility is defined in the applicable QPS (see Appendix A, paragraph 11.h.) and has not changed in this rulemaking. The submission of QTG test results in this manner will remain acceptable as described in the applicable QPS.

#### b. Increasing the Credit for Time in a Simulator

An individual commented that general aviation needs more extensive use of simulators rather than less. Reducing the number of hours a simulator can be used towards a private or instrument rating is bad for aviation and the flying community. Letters of authorization should increase the usage of simulator training allowed.

The FAA notes that this rulemaking has not reduced the number of hours that a FSTD can be used for a private pilot or instrument rating. The FAA believes the commenter is referring to training devices not covered under part 60. Those devices are referred to as aviation training devices. An approved aviation training device, if determined to meet the standards in AC 61-136A,<sup>36</sup> will receive a letter of authorization from the FAA, which specifies the amount of credit a pilot may take for training time in that specific device towards a pilot certificate or rating. Revising the amount of credit a pilot can take for training in any aviation training

device or FSTD is outside the scope of this rulemaking.

#### H. Economic Evaluation

In July 2014, the FAA conducted a preliminary regulatory evaluation to estimate the costs and benefits of the provisions proposed in the NPRM. This regulatory evaluation was posted on the public docket with the NPRM. The agency received several comments on the NPRM from air carriers, FSTD manufacturers, and trade associations.

##### 1. Cost of Aerodynamic Modeling and Implementation

An individual commenter questioned whether the FAA factored in the costs associated with the acquisition of OEM data needed to comply with the new requirements; the costs associated with obtaining licenses for third party implementation of data; and the costs associated with the loss of FFS utilization/revenue for the changes, design, implementation, installation, validation and actual FAA qualification activities. American, Delta, JetBlue, and A4A made similar comments on the basis of the simulator modification costs and how the FAA can provide an estimate if data licensing pricing and implementation costs are unknown. American and A4A additionally commented that the FAA needs to provide their assumptions used for the cost analysis. In addition, A4A further commented that the cost estimate for implementation of UPRT is not realistic, is understated, and will depend upon the host and software architecture of the device being updated. A4A also stated that once more definitive data is developed the FAA should prepare a supplemental regulatory impact analysis (RIA) to update the cost estimate for upgrading FSTDs and provide more detail on the assumptions used in the analysis.

The FAA notes that in the preliminary RIA, the estimated cost of aerodynamic model development included all modifications needed to meet the standards proposed for full stall, UPRT, and icing evaluation. This cost was estimated on a per model basis for grandfathered FSTDs and was further broken down into "complex" and "simple" projects that were based upon the likelihood that existing data was available to support the necessary modifications. This cost was estimated based upon feedback from an industry questionnaire which estimated the cost of a "complex" model development at \$100,000 and a "simple" model development at \$60,000. Since many FSTDs share a common aerodynamic model developed by a common source,

it was assumed that the costs of aerodynamic model development would be distributed amongst the purchasers of the model. Section II.d. of the RIA that was published with the NPRM, fully explained the agency's assumptions and rationale used to develop the cost estimates.

With regards to implementation costs, the FAA calculated this separately from the aerodynamic model development costs on a per unit basis since implementation costs would impact individual FSTDs and not be distributed amongst several FSTDs. The FAA estimated the per unit costs as \$77,307 per FSTD to include implementation costs, lost productivity/revenue, SME pilot testing, and hardware modifications. This estimate includes 45 hours of lost training time at \$500 per hour to conduct these activities. This estimate was based upon the responses from an industry questionnaire and is fully explained in the RIA that was placed on the public docket with the NPRM. The FAA did not receive any cost estimates in the public comments concerning additional licensing fees for the implementation of data by a third party.

An individual commenter further questioned the cost basis for the icing modifications and that the summary is not based on any factual, verifiable analysis. The commenter further stated that assumptions are made that icing upgrades can be accomplished at the same time as non-icing upgrades and that there is no basis in fact for this statement and because of that, the costs are artificially low. A4A and American made similar comments concerning the cost of the required modifications for icing.

The FAA notes that the costs for the aerodynamic modeling development necessary for both the full stall requirements and the icing requirements were estimated based upon the responses from an industry questionnaire. Since most simulators for transport category aircraft currently use icing models that are supplied by a common source as that of the aerodynamic model, the FAA assumed the updated models for both full stall and icing would likely be developed concurrently by the data provider and subsequently installed by the FSTD sponsors as a package in most cases. The agency's rationale for the breakdown of aerodynamic modeling costs for both stall and icing are described in the regulatory evaluation that was published with the NPRM.

In response to these comments, the FAA has revised its cost estimates for the final rule to include additional

<sup>36</sup> Advisory Circular (AC) 61-136A, FAA Approval of Aviation Training Devices and Their Use for Training and Experience (2014).

information gathered from air carriers, FSTD manufacturers, and data providers to better estimate the cost of this rule. One aircraft OEM simulator data provider has indicated that the estimated cost of an enhanced stall model would be in the area of \$25,000 per FSTD. Furthermore, this data provider stated that in order to support the installation of an enhanced stall model, FSTDs running certain versions of their data package would need to be brought up to the latest revision or blockpoint before this installation can take place. The FAA also obtained a cost estimate from a third party provider to implement its model on FSTDs.

As a result of this additional information as well as further analysis conducted on FAA FSTD qualification records, the FAA was able to group the FSTDs into seven different categories. The groups were based upon the estimated cost components to implement the modifications needed to meet the requirements of FSTD Directive No. 2. The estimated costs are separated by various factors such as the anticipated source of the aerodynamic data, whether the FSTD will need a standard data revision before further modifications can occur, whether the FSTD could potentially need a significant hardware update, and other factors that might affect the overall cost to meet the requirements of this final rule. This refined granularity for categorizing the FSTDs as well as the estimated cost for each category of FSTD is fully explained in the final RIA that is published with this final rule.

## 2. Cost of Instructor Operation Station (IOS) Replacement

American commented that the cost to bring an FSTD into compliance with FSTD Directive No. 2 is low by many orders of magnitude. Older simulators will need new IOSs since many FSTDs cannot support the required graphics capabilities and would have to be replaced. American further commented that they have a rough estimate from one vendor that it will cost \$250,000 alone for IOS update/replacement. A4A made similar comments that older simulators would need IOS replacement at an estimated cost of \$250,000 in order to meet the instructor feedback mechanism requirements for UPRT. A4A further commented that this underestimated cost is a concern because there is no benefit to this element of the proposal as there are other methods available to provide instructors with the information necessary to evaluate a pilot's skills during simulator sessions that are used successfully today. The record and

playback function should be left as an option available to FSTD customers, but it should be removed from this proposed rule.

The FAA notes that the requirements for UPRT in the proposal and in the final rule do not specifically require the use of graphical displays to provide the necessary feedback. The FAA provided some example displays in Attachment 7 of Appendix A, but these examples are within an "information" section as recommendations, but are not regulatory. The FAA acknowledges that the instructor feedback that is necessary for UPRT could potentially be accomplished using methods other than graphical displays (such as numerical or discrete feedback at the IOS) and the agency has not been overly prescriptive in the final rule that requires a single solution. The FAA further notes that the requirement for video and audio recording and playback has been removed in the final rule as discussed in previous sections and this should provide some cost relief in meeting the requirements for UPRT. Finally, the FAA agrees with American and A4A in that there are a small number of older simulators still in operation which may have IOS display systems that cannot meet the requirements for UPRT without extensive modification or replacement. The FAA has made adjustments to the final RIA to account for the additional cost of replacing old IOS display systems for some older FSTDs.

## 3. Affected FSTDs and Sponsors

American commented that "... the FAA indicates cost savings by Sponsors not modifying all FSTDs, just part of the fleet. This is not an option for [American] and we believe all sponsors. This would impose scheduling complexity. Cost and other factors should be reviewed in the context of modifying all part 121 flight simulators. It is not feasible to only modify part of a simulator fleet and efficiently schedule crews. Our plan is to modify all FSTDs in our fleet. This will drive the costs higher with increase data licenses, implementation costs, and training impact. This does not provide additional cost relief for the sponsors." Similar comments were made by A4A. An individual commenter stated that it appears that the effect on the industry could include a larger number of Level C and Level D FFSs than the 322 cited in the RIA and asked if the FAA calculated total costs if all currently FAA qualified Level C and Level D devices were to comply with FSTD Directive No. 2. This commenter further questioned whether the FAA calculated

the cost to a sponsor if an FFS were to not comply with FSTD Directive No. 2.

The FAA notes that the cost estimates for FSTD Directive No. 2 included the cost to update and evaluate all Level C and Level D FFSs that could potentially be used to meet the part 121 extended envelope training requirements. The FAA assumed that all part 121 Level C and Level D FFSs would require updating and did not include any cost reductions in the RIA. These assumptions and the associated rationale were fully described in the RIA that was published with the NPRM.

The FAA further notes that the costs for previously qualified FSTDs were derived solely from the proposed FSTD Directive for full stall, upset recovery, icing, bounced landing recovery, and gusting crosswind FSTD evaluation requirements in the NPRM. Compliance with this Directive is only required for sponsors of FSTDs that will be used to deliver such training. The only operators required to conduct such training are air carriers operating under part 121. The estimated 322 FSTDs were derived from those currently qualified FSTDs that simulate an aircraft that is likely to be used in a U.S. part 121 air carrier's training program. Since the NPRM was published, the number of FSTDs that could be impacted by the air carrier training requirements has increased from 322 to 335 FSTDs. We assumed that the cost of modifying the previously qualified FSTDs that are not used in part 121 training are not a cost of this rule because these operators are not required to conduct such training for these particular tasks. If a sponsor chooses not to offer the training defined in the FSTD Directive, there are no additional requirements or costs imposed by this rule for previously qualified FSTDs.

American and A4A commented that the provisions included in the NPRM for Level A and Level B FFSs have no applied cost savings for sponsors since there are no Level A or Level B FFSs for part 121 sponsors.

The FAA notes that as of the close of the comment period of the NPRM, one Level A and one Level B FFS are still in operation and actively sponsored by part 121 operators. No cost savings were applied in the RIA for Level A and Level B FFSs as stated by the commenters.

Frasca commented that the NPRM stated that only sponsors are affected by this rule and FSTD sponsors are air carriers who own simulators to train their pilots or training centers that own simulators and sell simulator training time. Frasca went on to state that this statement assumes only part 119 and part 142 organizations, implying part



141 sponsors were not considered in the analysis. The FAA should consider reevaluating the analysis of small entities taking into consideration part 141 organizations that sponsor FSTDs. CAE further commented that FSTD manufacturers, aircraft OEMs and other data providers are also affected by these requirements.

The FAA acknowledges CAE's comment in that other entities beyond the FSTD sponsor may be indirectly affected by this rule; however, the part 60 requirements apply to FSTD sponsors and not directly to the FSTD manufacturers and data providers. The FAA concurs with Frasca's comment in that all affected FSTD sponsors should be considered in the cost analysis of the rule. The FAA points out that the cost estimates in the RIA considered all FSTDs and sponsors that may be affected by this rulemaking, regardless of the certificate held by the sponsor.<sup>37</sup> For previously qualified FSTDs that will have to meet the requirements of FSTD Directive No. 2 to conduct extended envelope training tasks, these estimates were based upon an analysis of FSTDs that could potentially be used in part 121 training programs to meet the air carrier training requirements, regardless of the sponsor's operating certificate. For newly qualified Level C and Level D FFSs that will be required to meet the updated requirements that were aligned with the ICAO 9625 document, this estimate was conducted using historical data on all new Level C and Level D FFSs that the FAA has initially qualified within the last 10 years. The specific impact on small entities was fully explained and accounted for in the RIA.

#### 4. Costs and Benefits of ICAO Alignment

A4A commented that, in the NPRM, the FAA states that "Internationally aligned FSTD standards facilitate cost savings for FSTD operators because they effectively reduce the number of different FSTD designs that are required." A4A further stated that "We can find no simulator manufacturer information in the docket to substantiate this statement. The FAA should explain and provide the basis for this statement. Based on past experience, the A4A believes that simulator manufacturers will continue to differentiate their product features instead of adopting one design due to aligned standards. Unless simulator manufacturers can provide product pricing information that proves otherwise, there will be no savings for

purchasers of FSTDs as a result of the alignment proposed in this rule. A final or supplemental RIA must therefore eliminate reference to or quantification of illusory benefits from internationally-aligned FSTD standards."

The FAA notes that while the NPRM and RIA references qualitative benefits and potential cost savings due to internationally aligned FSTD evaluation standards, there were no quantified benefits included in the preliminary or final RIA. The FAA acknowledges that there will be a small cost associated with updating the part 60 FSTD evaluation standards to the latest ICAO 9625 document. In the RIA that was published with the NPRM, the FAA estimated the cost of compliance to initially qualify a new FSTD under the proposed standards that were aligned with ICAO 9625, Edition 3. Based upon the responses to a questionnaire that was distributed to industry for the purposes of determining these costs, the FAA estimated the recurring and non-recurring cost of compliance with the internationally aligned standards to be approximately \$30,431.82 per FSTD. Considering that the cost of a new Level C or Level D FSTD can range from \$8 million or more, the incremental cost of compliance with the internationally aligned standards will represent less than 0.5 percent of the cost of a new FSTD. Furthermore, as a result of the comments received on the NPRM as discussed in previous sections, the FAA has removed and/or modified some of the more costly requirements in the final rule which were introduced by the ICAO alignment (e.g., the visual field-of-view requirement and the transport delay requirement). This will further reduce the estimated incremental cost of ICAO alignment that was estimated in the NPRM. The final rule estimate does not include these potential cost savings and therefore likely over estimates costs.

The FAA maintains that alignment with updated international FSTD evaluation standards benefits industry in a number of ways. Because updates made to the ICAO document are typically conducted by working groups with a significant amount of industry participation, many of those changes are made to correct problems with the existing standards that result in requirements that are sometimes less restrictive, deal with new technology that is not adequately addressed in existing standards, and clarifies requirements that are ambiguous in nature and left to subjective assessment. For example, in the current part 60, objective tests that are validated against engineering simulation data are generally required to meet tighter

tolerances than that of objective tests that are validated against flight test data.<sup>38</sup> Due to practical issues with evaluating FSTDs against such tighter tolerances, ICAO 9625, Edition 3, provided relief to this requirement which now allows up to 40 percent of flight test tolerances to be used to evaluate engineering simulation validated objective tests. This is a less restrictive requirement that corrected an issue that was found to be problematic by FSTD sponsors, FSTD manufacturers, data providers, and regulators. As a result of the ICAO alignment, corresponding changes were proposed for the part 60 QPS. Several other examples exist in the ICAO 9625 alignment where less restrictive objective test tolerances were proposed or new objective evaluation requirements were introduced to replace subjective assessments (e.g., standards for liquid crystal display (LCD) or liquid crystal on silicon (LCoS) visual display systems). In many cases, objective tolerances are preferable to industry because they eliminate the inherent variance amongst inspectors and evaluators when conducting a subjective assessment.

Additionally, international alignment can reduce redundant testing requirements and documentation for sponsors of FSTDs that are qualified by multiple national aviation authorities. A long standing requirement for the qualification of FSTDs by the FAA and many other national aviation authorities is the development of a MQTG which documents that the FSTD meets the evaluation requirements and any required objective testing of the FSTD as compared to flight test or other validation data. Where FSTDs are qualified by different countries and national aviation authorities under different standards, the FSTD sponsor is sometimes required to create redundant documentation and conduct additional testing to meet each individual qualification standard. This usually results in complex differences matrices and, in some cases, completely different MQTG documents for each qualifying authority. Where standards are aligned on an international basis, this redundant documentation and testing burden can be significantly reduced. Furthermore, because much of the flight test data needed to validate the individual objective test cases is supplied by common data sources, the burden on the simulation data providers can

<sup>37</sup> § 60.7(a) requires that an FSTD sponsors holds or is an applicant for a certificate under part 119, 141, or 142.

<sup>38</sup> 14 CFR part 60, Appendix A, Attachment 2, paragraph 11 "Validation Test Tolerances" recommends that 20% of the corresponding flight test tolerances should be used.



potentially be reduced through a reduction of flight test data collection needed to meet the requirements of multiple different FSTD evaluation standards.

Finally, as mentioned previously in this document, the FAA believes that a large portion of industry looks favorably on international alignment and has demonstrated a willingness to adopt such standards in the past. Since the publication of ICAO 9625, Edition 3, in 2009, the FAA has received numerous inquiries and requests from many sectors of the industry (including air carriers, trade associations, FSTD manufacturers, and FSTD data providers) requesting the adoption of this updated document. Prior to this rulemaking, previous versions of the FAA and European FSTD evaluation standards were developed and aligned with previous versions of the ICAO 9625 document. This included the FAA's (draft) AC 120-40C which was aligned with the ICAO 9625, Edition 1, document as well as the existing (2008) part 60 standard, which was aligned with the ICAO 9625, Edition 2, document. Further demonstrating industry's desire to maintain alignment with the latest international FSTD evaluation standards, during the time period between 1995 and 2010 before the initial part 60 rule became effective, industry requested and the FAA qualified over 250 FSTDs using more

stringent internationally aligned FSTD evaluation standards on a completely voluntary basis.<sup>39</sup> The FAA believes this is strongly indicative that many sectors of the industry have found benefits in using internationally aligned FSTD evaluation standards to initially qualify new FSTDs.

#### IV. Regulatory Notices and Analyses

##### A. Regulatory Evaluation

Changes to Federal regulations must undergo several economic analyses. First, Executive Order 12866 and Executive Order 13563 direct that each Federal agency shall propose or adopt a regulation only upon a reasoned determination that the benefits of the intended regulation justify its costs. Second, the Regulatory Flexibility Act of 1980 (Pub. L. 96-354) requires agencies to analyze the economic impact of regulatory changes on small entities. Third, the Trade Agreements Act (Pub. L. 96-39) prohibits agencies from setting standards that create unnecessary obstacles to the foreign commerce of the United States. In developing U.S. standards, this Trade Act requires agencies to consider international standards and, where appropriate, that they be the basis of U.S. standards. Fourth, the Unfunded Mandates Reform Act of 1995 (Pub. L. 104-4) requires agencies to prepare a written assessment of the costs, benefits, and other effects of proposed or final

rules that include a Federal mandate likely to result in the expenditure by State, local, or tribal governments, in the aggregate, or by the private sector, of \$100 million or more annually (adjusted for inflation with base year of 1995). This portion of the preamble summarizes the FAA's analysis of the economic impacts of this final rule. We suggest readers seeking greater detail read the full regulatory evaluation, a copy of which we have placed in the docket for this rulemaking.

In conducting these analyses, the FAA has determined that this final rule: (1) Has benefits that justify its costs, (2) is not an economically "significant regulatory action" as defined in section 3(f) of Executive Order 12866, (3) is not "significant" as defined in DOT's Regulatory Policies and Procedures; (4) will not have a significant economic impact on a substantial number of small entities; (5) will not create unnecessary obstacles to the foreign commerce of the United States; and (6) will not impose an unfunded mandate on state, local, or tribal governments, or on the private sector by exceeding the threshold identified above. These analyses are summarized below.

##### Total Benefits and Costs of This Rule

The table below summarizes the estimated costs and benefits of this proposal.

		Present value at a 7% rate	Present value at a 3% rate
FSTD Modifications for New Training Requirements:			
Cost .....	\$72,716,590	\$63,610,049	\$68,562,049
Benefits .....	Rational simulator owner will choose to comply.		
Icing provisions:			
Cost .....	\$1,256,250	\$1,098,926	\$1,184,476
Benefits .....	Only one prevented severe injury valued at \$2.5 million makes the icing benefits exceed the costs.		
Aligning Standards with ICAO:			
Cost .....	\$6,875,000	\$5,356,979	\$6,132,690
Benefits .....	Improved safety and cost savings		
Total Cost .....	\$80,847,840	\$70,065,954	\$75,879,215

#### Costs

Within each of the estimates we estimated three separate sets of costs, and later in the document provide

separate benefit bases. These three sets include:

*Modifications of Previously Qualified FSTDs for New Training Requirements.* The first set of costs will be incurred to make the necessary modifications to the

FSTDs to enable training required by the new Crewmember and Aircraft Dispatcher Training final rule. A potential lack of full flight simulator (FFS) fidelity could contribute to inaccurate or incomplete training for

<sup>39</sup> Before part 60 was initially published, the FAA authorized the use of other FSTD evaluation standards as an alternate means of compliance to AC 120-40B. The FAA initially qualified 166

FSTDs against the (draft) AC 120-40C and the ICAO 9625 (edition 2) documents. Another 90 FSTDs were initially qualified under the European JAR STD-1A (amendment 3) standard which was also

substantially harmonized with the ICAO 9625 (edition 2) document.

“extended envelope” training tasks in the new training rule, therefore FSTDs will require evaluation and modification as defined in the FSTD Directive of this part 60 final rule.

**Icing Provisions.** The second set of costs will be incurred for the evaluation and modification of engine and airframe icing models which will enhance existing training requirements for operations using anti-icing/de-icing equipment. This improvement is based on NTSB safety recommendations, recommendations from the International Committee on Aviation Training in Extended Envelopes (ICATEE) and the Stick Pusher and Adverse Weather Event Training Aviation Rulemaking Committee (SPAW ARC), and it aligns with the updated International Civil Aviation Organization (ICAO) 9625 standards. Most of the models that will be installed to update STDs for new training requirements will meet the icing requirements as well. However, the FAA estimates about 15 percent of all of the FSTDs may need additional icing updates to be compliant with the final rule and we estimate the costs of these additional updates.

**Aligning Standards with ICAO.** Lastly there are a set of changes to the part 60 Qualification Performance Standards (QPS) appendices which will align the FSTD standards for some FSTD levels with those of the latest ICAO FSTD

evaluation guidance. This last set of changes will only apply to newly qualified FSTDs.

Assumptions:

A. Estimates are in 2012 \$.

B. The estimated number of previously qualified FSTDs that will potentially be affected by the rule (335) includes all FSTDs that are capable of providing training for part 121 operations and as such are likely to be an overestimate of the number of FSTDs that will be affected by this rule, as some devices may not be used for the training.

C. As in the NPRM Regulatory Impact Analysis for newly qualified FSTDs, we expect minimal incremental cost to meet the standards for the new tasks in the Crewmember and Aircraft Dispatcher Training final rule and the standards for icing.

**Who is Potentially Affected by This Rule?**

Sponsors of flight simulation training devices.

**Changes to Costs From the NPRM to the Final Rule**

The FAA made two major changes in the final rule that might be cost relieving, although the FAA did not include these cost savings in the estimated costs.

A. Removal of audio/video record and playback capability requirement;

B. Removal/adjustment of the visual system field of view (FOV) and the transport delay requirements.

The FAA has also revised its cost estimates for the final rule to include additional information gathered from air carriers, FSTD manufacturers, and data providers to better estimate the cost of this rule. One aircraft OEM simulator data provider has indicated that the estimated cost of an enhanced stall model would be in the area of \$25,000 per FSTD. Furthermore, this data provider stated that in order to support the installation of an enhanced stall model, FSTDs running certain versions of their data package would need to be brought up to the latest revision or blockpoint before this installation can take place. The FAA also obtained a cost estimate from a third party provider to implement its model on FSTDs. As a result of this additional information and data and comments received, the FAA has updated its cost estimates for the final rule. Details on the analysis can be found in the Regulatory Impact Analysis accompanying this final rule.

The table below shows the estimates derived during the NPRM phase, and the final rule updated cost estimate from data obtained after NPRM publication. The table indicates the three separate sets of costs incurred over a ten year period.

	NPRM Estimate	Final rule cost estimate	NPRM Present value at a 7% rate	Final rule cost estimate present value at a 7% rate	NPRM Present value at a 3% rate	Final rule cost estimate present value at a 3% rate
FSTD modifications for New Training Requirements:						
Cost .....	\$45,215,480	\$72,716,590	\$32,286,867	\$63,610,049	\$39,014,931	\$68,562,049
Icing provisions:						
Cost .....	468,000	1,256,250	334,183	1,098,926	403,822	1,184,476
Aligning Standards with ICAO:						
Cost .....	6,695,000	6,875,000	4,273,464	5,356,979	5,473,924	6,132,690
Total Cost .....	52,378,480	80,847,840	36,894,514	70,065,954	44,892,676	75,879,215

#### Benefits of This Rule

##### Modifying FSTDs To Support the Crewmember and Aircraft Dispatcher Training Final Rule

The best way to understand the benefits of this final rule is to view them in conjunction with the new Crewmember and Aircraft Dispatcher Training final rule. In that rule, the cost/benefit analysis assumed that the new extended envelope training tasks would be conducted in a FSTD capable of producing the flight characteristics of an

aircraft in a stall or upset condition. The Crewmember and Aircraft Dispatcher Training final rule estimated a \$500 hourly FSTD rental rate that included all modifications expected to be required by this final rule. Alternative sensitivity analyses used \$550 and \$600 hourly FSTD rates to reflect the possibility of additional costs for the modifications. The costs generated by either hourly rate were justified and captured by the benefits of that rule.

This final rule takes the next step to develop qualification standards for

updating these FSTDs to ensure the extended envelope training provided is conducted in a realistic, accurate training environment. These modifications require FSTD owners<sup>40</sup> to purchase and install updated data packages, the costs of which are a cost of this rule. Revenues received by FSTD owners for providing a modified FSTD required by the new training tasks are

<sup>40</sup> We use the term owner here and elsewhere rather than sponsor because in isolated instances the FSTD sponsor may not be the owner of the device.

costs previously accounted for in the Crewmember and Aircraft Dispatcher Training final rule and justified by the benefits of that rule. This revenue over time exceeds the cost of this final rule.

The part 60 standards and FSTD modification expense supporting the new training is \$72.7 million (\$63.6 million in present value at 7 percent) and has been fully justified by the new Crewmember and Aircraft Dispatcher Training final rule.

#### Icing Provisions

The second area for benefits is for the icing update. Although this update is not in response to a new training requirement, it will enhance existing training requirements for operations involving anti-icing/de-icing equipment and further address NTSB, <sup>41</sup> <sup>42</sup> ICATEE and SPAW ARC recommendations to the FAA. It also aligns with the updated ICAO 9625 standards. These costs are minor at approximately \$1.3 million dollars and are expected to comprise a small percentage of the total cost of compliance with the FSTD Directive. One avoided severe injury would justify the minor costs of complying with these icing requirements. We received no comments on this benefit discussed in the proposed rule.

#### Aligning Standards With ICAO

Lastly, we have not quantified benefits of aligning part 60 qualification standards with ICAO guidance, but we expect aligned FSTD standards to contribute to improved safety as they are developed by a broad coalition of experts with a combined pool of knowledge and experience. The FAA expects more realistic training to result from these changes. The changes are expected to improve overall FSTD fidelity by enhancing the evaluation standards for visual display resolution, system transport delay, sound direction, and motion cueing.

Furthermore, internationally aligned FSTD standards for FSTD sponsors can reduce the redundant testing and documentation that are required to meet multiple national regulations and standards for FSTD qualification, potentially resulting in cost savings.

The addition of the Level 7 FTD through the ICAO alignment will provide training providers with more options that do not exist today to conduct training at lower cost. If the sponsor chooses to qualify a level 7 FTD, it is because they expect the

benefits to exceed the costs. We have not quantified these costs and benefits.

#### B. Regulatory Flexibility Determination

The Regulatory Flexibility Act of 1980 (Pub. L. 96–354) (RFA) establishes “as a principle of regulatory issuance that agencies shall endeavor, consistent with the objectives of the rule and of applicable statutes, to fit regulatory and informational requirements to the scale of the businesses, organizations, and governmental jurisdictions subject to regulation. To achieve this principle, agencies are required to solicit and consider flexible regulatory proposals and to explain the rationale for their actions to assure that such proposals are given serious consideration.” The RFA covers a wide-range of small entities, including small businesses, not-for-profit organizations, and small governmental jurisdictions.

Agencies must perform a review to determine whether a rule will have a significant economic impact on a substantial number of small entities. If the agency determines that it will, the agency must prepare a regulatory flexibility analysis as described in the RFA.

However, if an agency determines that a rule is not expected to have a significant economic impact on a substantial number of small entities, section 605(b) of the RFA provides that the head of the agency may so certify and a regulatory flexibility analysis is not required. The certification must include a statement providing the factual basis for this determination, and the reasoning should be clear. The FAA made such a certification for the initial regulatory flexibility analysis, received no comments, and provides the factual basis below for such a determination in this final regulatory flexibility analysis.

#### Description and Estimate of the Number of Small Entities

Only FSTD sponsors are affected by this rule. FSTD sponsors are air carriers that own FSTDs to train their pilots or training centers that own FSTDs and sell FSTD training time. To identify FSTD sponsors that could be affected retroactively by the FSTD directive,<sup>43</sup> the FAA subjected the 876 FSTDs with an active qualification by the FAA to qualifying criteria designed to eliminate FSTDs not likely to be used in a part 121 training program for the applicable

training tasks (*i.e.*, stall training, upset recovery training, etc.). The remaining list of 335 FSTDs (included in Appendix A of the regulatory evaluation), were sponsored by the 29 companies presented in the table below.

FSTD Sponsor	# of FSTDs
A.T.S. Inc. ....	1
ABX Air, Inc. ....	2
AIMS Community College ....	1
Airbus ....	6
Alaska Airlines ....	4
Allegiant Airlines ....	1
American Airlines ....	50
Atlas Air, Inc. ....	3
Boeing Training and Flight Services ....	42
CAE SimuFlite Inc. ....	9
Compass Airlines, LLC ....	1
Delta Air Lines, Inc. ....	27
Embry Riddle Aeronautical Univ. ....	1
Endeavor Air ....	2
ExpressJet Airlines, Inc. ....	3
Federal Express Corp. ....	19
FlightSafety International ....	69
Global One Training Group, LLC ....	1
Hawaiian Airlines, Inc. ....	1
JetBlue Airways ....	6
Kalitta Air, LLC ....	2
Pan Am International Flight Academy ....	26
Sierra Academy of Aeronautics ....	2
Southwest Airlines ....	10
Spirit Airlines, Inc. ....	3
Strategic Simulation Solutions L.L.C. ....	3
Sun Country Airlines ....	1
United Airlines ....	31
United Parcel Service ....	8
<b>Total</b> .....	<b>335</b>

To determine which of the 29 organizations listed in the previous table are small entities, the FAA consulted the U.S. Small Business Administration Table of Small Business Size Standards Matched to North American Industry Classification System Codes.<sup>44</sup> For flight training (NAICS Code 611512) the threshold for small business is revenue of \$25.5 million or less. The size standard for scheduled passenger air transportation (NAICS Code 481111) and scheduled freight air transportation (NAICS Code 481112) and non-scheduled charter passenger air transportation (NAICS Code 481211) is 1,500 employees. After consulting the World Aviation Directory, and other on-line sources, for employees and annual revenues, the FAA identified eight companies that are qualified as small entities. In this

<sup>41</sup> NTSB recommendations A–11–46 and A–11–47 address engine and airframe icing.

<sup>42</sup> [www.nts.gov](http://www.nts.gov).

<sup>43</sup> Part 60 contains grandfather rights for previously qualified FSTD so the FAA would invoke an FSTD Directive to require modification of previously qualified devices. The FSTD Directive process has provisions for mandating modifications to FSTDs retroactively for safety of flight reasons. See 14 CFR part 60, § 60.23(b).

<sup>44</sup> [http://www.sba.gov/sites/default/files/files/Size\\_Standards\\_Table.pdf](http://www.sba.gov/sites/default/files/files/Size_Standards_Table.pdf).

instance, the FAA considers eight a substantial number of small entities.

#### Economic Impact

The economic impact of this rule applies differently to previously qualified FSTD sponsors than it would to newly qualified FSTD sponsors. Below is a summary of the two separate analyses performed. One determines the impact of the final rule on small entities that will have to update their previously qualified devices and the other analysis determines the impact on those that would have to purchase a newly qualified device.

#### Economic Impact of Upgrading Previously Qualified FSTDs

Five of the eight small entities are training providers. They are expected to offer this new required training as there would be increased demand for training time in their FSTDs because in addition to current requirements for training, all part 121 PICs and SICs must have two hours of additional training in the first year and additional training time in the future. The FAA found that costs that will be incurred by these small entities in order to train pilots in the tasks required by the new training rule, range from \$122,300 to \$335,842<sup>45</sup> per FSTD and can be recovered by renting the FSTD for 245 hours<sup>46</sup> to 672 hours.<sup>47</sup> To recover modification costs within one year the training company would have to rent the most expensive modified FSTD for 7 two-hour sessions per week (14 hours/week) and 2 hour two-hour sessions per week (4 hours/week) in the case of the least expensive modification. In fact, the owners of these FSTDs will have guaranteed revenue for the life of the airplane used in part 121 operations. Therefore, the rule provides additional profit and would not impose a significant economic impact on these companies. Further, if the training company does not expect to recoup its costs in a reasonable amount of time for a particular FSTD it has the option not to offer the new part 121 training in that FSTD. Therefore, it will not have to incur the modification cost for that device.

<sup>45</sup> There are higher estimated per FSTD costs to update the FSTDs to meet the new training requirements, but these higher costs are for FSTDs owned by large entities.

<sup>46</sup> (\$122,300 divided by \$500 = 245 hours, resulting in 123 two hour sets—(245/2). If the training company offered 2 two hour sets per week it would recover its costs within a year (123/52 = 2).

<sup>47</sup> (\$335,842/\$500 = 672 hours, resulting in 336 two hour sets—(672/2). If the training company offered 6 two hour sets per week it would recover its costs within a year (336/52 = 6).

Three of the companies identified as small businesses are part 121 air carriers. They have to comply with the Crewmember and Aircraft Dispatcher Training final rule by training their pilots in FSTDs that meet the standards of this part 60 rule. The additional pilot training cost in a modified FSTD was accounted for and justified in that training final rule. This part 60 rule simply specifies how the FSTDs need to be modified such that the new training will be in compliance with the Crewmember and Aircraft Dispatcher Training final rule. These part 121 operators have two options. They can purchase training time for their pilots at a qualified training center. Alternatively they could choose to comply with the FSTD Directive by modifying their own FSTDs to train their pilots for the new training tasks. For these operators who already own FSTDs, the cost of complying with the FSTD Directive is estimated to be less than the cost of renting time at a training center to comply with the new requirements. Therefore, we expect that they will choose to modify their devices because it will be less costly to offer training in-house than to send pilots out to training centers. The cost to train pilots in the tasks required by the training rule is a cost of the training rule and not this rule. Thus, the rule will not impose a significant economic impact on these companies, because by modifying their FSTDs these operators will lower their costs.

An estimated 50 of the FSTDs (15 percent) may require additional modifications to comply with the icing requirements of the final rule. We do not know how many are small businesses however the estimated cost of these additional icing modifications (\$25,000) are less than 0.3 percent of the estimated \$10 million cost of a FSTD, which is not a significant impact.

#### Economics of Newly Qualified Devices

It is unknown how many sponsors of newly qualified FSTDs in the future may qualify as small entities, but we expect it will be a substantial number as it could include some or all of the eight identified above. The FAA expects the final rule requirements that address the new training tasks and modify the icing FSTD requirements to be included in future training packages, the revenues obtained from training will exceed the costs, and the cost will be minimal for a newly qualified FSTD. The requirement to align with ICAO guidance however, will result in some cost. The FAA does not know who in the future will be purchasing and qualifying FSTDs after the rule becomes

effective. The FAA estimates that the incremental cost per newly qualified FSTD will be approximately \$33,000. This is less than 0.5 percent of the cost of a new FSTD, which generally costs \$10 million or more. Therefore we do not believe the final rule will have a significant economic impact on a substantial number of small entities that purchase newly qualified FSTDs after the rule is in effect.

Thus this final rule is expected to impact a substantial number of small entities, but not impose a significant negative economic impact. We made a similar determination in the initial regulatory flexibility analysis and received no comments. Therefore, as provided in section 605(b), the head of the FAA certifies that this rulemaking will not result in a significant economic impact on a substantial number of small entities.

#### C. International Trade Impact Assessment

The Trade Agreements Act of 1979 (Pub. L. 96–39), as amended by the Uruguay Round Agreements Act (Pub. L. 103–465), prohibits Federal agencies from establishing standards or engaging in related activities that create unnecessary obstacles to the foreign commerce of the United States. Pursuant to these Acts, the establishment of standards is not considered an unnecessary obstacle to the foreign commerce of the United States, so long as the standard has a legitimate domestic objective, such as the protection of safety, and does not operate in a manner that excludes imports that meet this objective. The statute also requires consideration of international standards and, where appropriate, that they be the basis for U.S. standards. The FAA has assessed the potential effect of this final rule and determined that the rule will provide improved safety training and will use international standards as its basis and does not create unnecessary obstacles to the foreign commerce of the United States, and the purpose of this rule is the protection of safety.

#### D. Unfunded Mandates Assessment

Title II of the Unfunded Mandates Reform Act of 1995 (Public Law 104–4) requires each Federal agency to prepare a written statement assessing the effects of any Federal mandate in a proposed or final agency rule that may result in an expenditure of \$100 million or more (in 1995 dollars) in any one year by State, local, and tribal governments, in the aggregate, or by the private sector; such a mandate is deemed to be a “significant regulatory action.” The FAA currently

uses an inflation-adjusted value of \$155.0 million in lieu of \$100 million.

#### *E. Paperwork Reduction Act*

The Paperwork Reduction Act of 1995 (44 U.S.C. 3507(d)) requires that the FAA consider the impact of paperwork and other information collection burdens imposed on the public. According to the 1995 amendments to the Paperwork Reduction Act (5 CFR 1320.8(b)(2)(vi)), an agency may not collect or sponsor the collection of information, nor may it impose an information collection requirement unless it displays a currently valid Office of Management and Budget (OMB) control number.

This final rule will impose the following amended information collection requirements. As required by the Paperwork Reduction Act of 1995 (44 U.S.C. 3507(d)), the FAA has submitted these information collection amendments to OMB for its review. Notice of OMB approval for this information collection will be published in a future **Federal Register** document.

**Summary:** As a result of this final rule, an increase in the currently approved information collection requirements<sup>48</sup> will be imposed on Sponsors of previously qualified FSTDs that require modification for the qualification of certain training tasks as defined in FSTD Directive No. 2. These Sponsors will be required to report FSTD modifications to the FAA as described in §§ 60.23 and 60.16, which would result in a one-time information collection. Additionally, because compliance with the FSTD Directive (for previously qualified FSTDs) and the new QPS requirements (for newly qualified FSTDs) will increase the overall amount of objective testing necessary to maintain FSTD qualification under § 60.19, a slight increase in annual information collection will be required to document such testing.

Additionally, the FAA added deviation authority to § 60.15(c)(5) in the final rule to allow for an FSTD sponsor to deviate from the technical requirements in the part 60 QPS. For FSTD sponsors requesting such a deviation, this will impose a small amount of additional information collection burden.

**Public comments:** The FAA did not receive any substantive comments on the amended information collection requirements as a result of this final rule.

**Use:** For previously qualified FSTDs, the information collection will be used to determine that the requirements of the FSTD Directive have been met. The FAA will use this information to issue amended SOQs for those FSTDs that have been found to meet those requirements and also to determine if the FSTDs annual inspection and maintenance requirements have been met as currently required by part 60.

For FSTD sponsors requesting a deviation as described in § 60.15(c)(5), the information collection will be used to evaluate and track the approval of deviations to support the initial evaluation of FSTDs.

**Respondents (including number of):** The additional information collection burden in this proposal is limited to those FSTD Sponsors that will require specific FSTD qualification for certain training tasks as defined in FSTD Directive 2. Approximately 335 previously qualified FSTDs<sup>49</sup> may require evaluation as described in the FSTD Directive to support the Crewmember and Aircraft Dispatcher Training final rule. The number of respondents would be limited to those Sponsors that maintain FSTDs which may require additional qualification in accordance with the FSTD Directive. Currently, there are 29 FSTD sponsors that may request additional FSTD qualification to support the training requirements in the Crewmember and Aircraft Dispatcher Training final rule.

**Frequency:** This additional information collection would include both a one-time event to report FSTD modifications as required by the FSTD Directive as well as a slight increase to the annual part 60 information collection requirements.

**Annual Burden Estimate:** The FAA estimates that for each additional qualified task required in accordance with FSTD Directive No. 2, the one-time information collection burden to each FSTD Sponsor would be approximately 0.85 hours per FSTD for each additional qualified task.<sup>50</sup> Assuming all five of the additional qualified tasks would be required for each of the estimated 335 FSTDs (including qualification for full stall training, upset recovery training, airborne icing training, takeoff and

landing in gusting crosswinds, and bounced landing training), the cumulative one-time information collection burden would be approximately 1,424 hours. This collection burden would be distributed over a time period of approximately 3 years. This 3 year time period represents the compliance period of the proposed FSTD Directive.

The one-time information collection burden to the Federal government is estimated at approximately 0.6 hours per FSTD for each qualified task to include Aerospace Engineer review and preparation of an FAA response.<sup>51</sup> Assuming all five of the additional qualified tasks will be required for each of the estimated 335 FSTDs, the cumulative one-time information collection burden to the Federal government will be approximately 1,005 hours. The modification of the FSTD's SOQ would be incorporated with the FSTD's next scheduled evaluation, so this will not impose additional burden.

Because the number of objective tests required to maintain FSTD qualification would increase slightly with this proposal, the annual information collection burden would also increase under the FSTD inspection and maintenance requirements of § 60.19. This additional information collection burden is estimated by increasing the average number of required objective tests for Level C and Level D FFSs by four tests.<sup>52</sup> For the estimated 335 FSTDs that may be affected by the FSTD Directive, this will result in an additional 134 hours of annual information collection burden to FSTD Sponsors. This additional collection burden is based upon 0.1 hours<sup>53</sup> per test for a simulator technician to document as required by § 60.19. The additional information collection burden to the Federal government will also increase by approximately 45 hours<sup>54</sup> due to the additional tests that may be sampled and reviewed by the

<sup>51</sup> The 0.6 hour burden on the Federal government is also derived from the existing Part 60 Paperwork Reduction Act supporting statement (OMB-2120-0680), Table 5 (§ 60.16).

<sup>52</sup> For previously qualified FSTDs, the requirements of FSTD Directive No. 2 will add a maximum of four additional objective test cases to the existing requirements.

<sup>53</sup> The 0.1 hour burden is derived from the existing Part 60 Paperwork Reduction Act supporting statement (OMB-2120-0680), Table 6 (§ 60.19) and includes estimated time for the FSTD Sponsor's staff to document the completion of required annual objective testing.

<sup>54</sup> This information collection burden is based upon 0.1 hours per test required for FAA personnel to review. These four additional tests are subject to the approximately 33% of which may be spot checked by FAA personnel on site during a continuing qualification evaluation.

<sup>48</sup> Office of Management and Budget (OMB) control number 2120-0680.

<sup>49</sup> The FAA estimated this from the number of previously qualified FSTDs that simulate aircraft which are currently used in U.S. part 121 air carrier operations. This number of FSTDs has increased from 322 to 335 since the publication of the NPRM.

<sup>50</sup> The 0.85 hour burden is derived from the existing Part 60 Paperwork Reduction Act supporting statement (OMB-2120-0680), Table 5 (§ 60.16) and includes estimated time for the FSTD Sponsor's staff to draft and send the letter as well as estimated time for updating the approved MQTG with new test results.

FAA during continuing qualification evaluations.

For new FSTDs qualified after the proposal becomes effective, the changes to the QPS appendices proposed to align with ICAO 9625 as well as the new requirements for the evaluation of stall and icing training maneuvers would result in an estimated average increase

of four objective tests<sup>55</sup> that would require annual documentation as described in § 60.19. For the estimated 23 new<sup>56</sup> Level C and Level D FFSs that may be initially qualified annually by the FAA, this will result in an additional 9 hours of annual information collection burden to FSTD Sponsors and an additional 3 hours of

annual information collection burden to the Federal government. For newly qualified FSTDs, this proposal does not increase the frequency of reporting for FSTD sponsors.

The total additional information collection burden for FSTD sponsors as a result of this final rule is summarized in the following tables:

§ 60.16 Private sector burden (One-time cost)	Hours per notification	Hours	Hourly rate	Cost
Additional Tasks/Modifications.				
Number of notifications—1675.				
Management Rep hours to draft letter .....	0.5	838	\$73.74	\$61,794
Management Rep hours to make/insert MQTG change .....	0.25	419	73.74	30,897
Clerk hours to prepare/mail letter .....	0.1	168	29.70	4,990
Total .....		1425		97,681

§ 60.19 Private sector burden (Annual cost)	Hours	Hourly rate	Cost
Simulator technician (FSTD Directive No. 2) .....	134	\$42.39	\$5,680
Simulator technician (ICAO Alignment) .....	9	42.39	382
Total .....	143	42.39	6,062

The total additional information collection burden for the Federal

government as a result of this final rule is summarized in the following tables:

§ 60.16 Federal burden (One-time cost)	Hours per notification	Hours	Hourly rate	Cost
Number of Notifications—1675.				
Engineer/Pilot (equivalent of GS14, Step 1) .....	0.5	838	\$65.96	\$55,274
Clerk (equivalent of GS10, Step 1) .....	0.1	168	35.64	5,988
Total .....		1006		61,262

§ 60.19 Federal burden (Annual cost)	Hours	Hourly rate	Cost
Federal Aviation Safety Inspector Review (FSTD Directive No. 2) .....	45	\$65.96	\$2,968
Federal Aviation Safety Inspector Review (ICAO Alignment) .....	3	65.96	198
Total .....	48	65.96	3,166

Additionally, as a result of public comments filed in response to the NPRM for this rule, the FAA added deviation authority to § 60.15(c)(5). The primary purpose for including this deviation authority is to allow for FSTD sponsors to initially qualify a new FSTD using internationally recognized FSTD evaluation standards, including those issued by the ICAO or another national aviation authority. This will improve international harmonization of FSTD evaluation standards as well as reduce redundant FSTD qualification documentation in instances where an FSTD is qualified by multiple national

aviation authorities or evaluated under a bilateral agreement. Because an FSTD sponsor will have to submit a request to the FAA for the approval of a deviation, there will be an information collection burden for those FSTD sponsors or manufacturers that choose to request deviation authority. Since such deviations will generally be applicable only to those FSTDs that are undergoing an initial evaluation, and the total number of initial FSTD evaluations the FAA conducts averages around 50 per year, the burden for this information collection is expected to be very small. Furthermore, it is expected that most of

these deviations will be submitted by FSTD manufacturers for the initial evaluation of multiple FSTDs as provisioned for in the deviation authority section of the final rule. As a result, the number of deviation requests received by the FAA will be mainly limited to a few FSTD manufacturers and will result in a negligible information collection burden.

#### F. International Compatibility and Cooperation

(1) In keeping with United States (U.S.) obligations under the Convention on International Civil Aviation, it is FAA policy to conform to International

<sup>55</sup> These four additional tests were estimated through comparison between the current and proposed list of objective tests required for qualification (Table A2A). Note that the total

number of tests can vary between FSTDs as a function of aircraft type, test implementation, and the employment of certain technologies that would require additional testing.

<sup>56</sup> Based upon internal records review, the FAA calculated the number of newly qualified fixed-wing Level C and Level D FSTDs at approximately 23 per year over a ten year period.

Civil Aviation Organization (ICAO) Standards and Recommended Practices to the maximum extent practicable. The FAA has determined that there are no ICAO Standards and Recommended Practices that correspond to these proposed regulations.

(2) Executive Order (EO) 13609, Promoting International Regulatory Cooperation, (77 FR 26413, May 4, 2012) promotes international regulatory cooperation to meet shared challenges involving health, safety, labor, security, environmental, and other issues and reduce, eliminate, or prevent unnecessary differences in regulatory requirements. The FAA has analyzed this action under the policy and agency responsibilities of Executive Order 13609, Promoting International Regulatory Cooperation. The agency has determined that this action would reduce differences between U.S. aviation standards and those of other civil aviation authorities by aligning the part 60 FSTD qualification standards with that of the latest international FSTD qualification guidance document (ICAO 9625) for equivalent FSTD levels.

(3) Harmonization. The FSTD evaluation standards that have been codified in this final rule were the result of numerous recommendations received from working groups that the FAA participated in on a collaborative basis. Many of these working groups had significant international presence from both industry and international regulatory authorities. Furthermore, much of the foundation of this final rule has been based upon the guidance material developed by the International Civil Aviation Organization which provides such material to promote international harmonization on aviation safety issues.

#### G. Environmental Analysis

FAA Order 1050.1F identifies FAA actions that are categorically excluded from preparation of an environmental assessment or environmental impact statement under the National Environmental Policy Act in the absence of extraordinary circumstances. The FAA has determined this rulemaking action qualifies for the categorical exclusion identified in paragraph 5–6.6.(f) and involves no extraordinary circumstances.

### V. Executive Order Determinations

#### A. Executive Order 13132, Federalism

The FAA has analyzed this final rule under the principles and criteria of Executive Order 13132, Federalism. The agency determined that this action will not have a substantial direct effect on

the States, or the relationship between the Federal Government and the States, or on the distribution of power and responsibilities among the various levels of government, and, therefore, does not have Federalism implications.

#### B. Executive Order 13211, Regulations that Significantly Affect Energy Supply, Distribution, or Use

The FAA analyzed this final rule under Executive Order 13211, Actions Concerning Regulations that Significantly Affect Energy Supply, Distribution, or Use (May 18, 2001). The agency has determined that it is not a “significant energy action” under the executive order and it is not likely to have a significant adverse effect on the supply, distribution, or use of energy.

### VI. How To Obtain Additional Information

#### A. Rulemaking Documents

An electronic copy of a rulemaking document may be obtained by using the Internet—

1. Search the Federal eRulemaking Portal (<http://www.regulations.gov>);
2. Visit the FAA’s Regulations and Policies Web page at [http://www.faa.gov/regulations\\_policies/](http://www.faa.gov/regulations_policies/) or
3. Access the Government Printing Office’s Web page at <http://www.gpo.gov/fdsys/>.

Copies may also be obtained by sending a request (identified by notice, amendment, or docket number of this rulemaking) to the Federal Aviation Administration, Office of Rulemaking, ARM–1, 800 Independence Avenue SW., Washington, DC 20591, or by calling (202) 267–9680.

#### B. Comments Submitted to the Docket

Comments received may be viewed by going to <http://www.regulations.gov> and following the online instructions to search the docket number for this action. Anyone is able to search the electronic form of all comments received into any of the FAA’s dockets by the name of the individual submitting the comment (or signing the comment, if submitted on behalf of an association, business, labor union, etc.).

#### C. Small Business Regulatory Enforcement Fairness Act

The Small Business Regulatory Enforcement Fairness Act (SBREFA) of 1996 requires FAA to comply with small entity requests for information or advice about compliance with statutes and regulations within its jurisdiction. A small entity with questions regarding this document, may contact its local FAA official, or the person listed under the **FOR FURTHER INFORMATION CONTACT**

heading at the beginning of the preamble. To find out more about SBREFA on the Internet, visit [http://www.faa.gov/regulations\\_policies/rulemaking/sbre\\_act/](http://www.faa.gov/regulations_policies/rulemaking/sbre_act/).

### List of Subjects in 14 CFR Part 60

Air Carriers, Aircraft, Aviation safety, Reporting and recordkeeping requirements, Safety Transportation.

### The Amendment

For the reasons set forth in the preamble, amend part 60 of title 14 of the Code of Federal Regulations as follows:

### PART 60—FLIGHT SIMULATION TRAINING DEVICE INITIAL AND CONTINUING QUALIFICATION AND USE

- 1. The authority citation for part 60 is revised to read as follows:

**Authority:** 49 U.S.C. 106(f), 106(g), 40113, and 44701; Pub. L. 111–216, 124 Stat. 2348 (49 U.S.C. 44701 note)

- 2. Amend § 60.15 by adding paragraph (c)(5), revising paragraph (e), and adding paragraph (g)(7) to read as follows:

#### § 60.15 Initial Qualification requirements.

\* \* \* \* \*

(c) \* \* \*

(5) An FSTD sponsor or FSTD manufacturer may submit a request to the Administrator for approval of a deviation from the QPS requirements as defined in Appendix A through Appendix D of this part.

(i) Requests for deviation must be submitted in a form and manner acceptable to the Administrator and must provide sufficient justification that the deviation meets or exceeds the testing requirements and tolerances as specified in the part 60 QPS or will otherwise not adversely affect the fidelity and capability of the FSTDs evaluated and qualified under the deviation.

(ii) The Administrator may consider deviation from the minimum requirements tables, the objective testing tables, the functions and subjective testing tables, and other supporting tables and requirements in the part 60 QPS.

(iii) Deviations may be issued to an FSTD manufacturer for the initial qualification of multiple FSTDs, subject to terms and limitations as determined by Administrator. Approved deviations will become a part of the permanent qualification basis of the individual FSTD and will be noted in the FSTD’s Statement of Qualification.

(iv) If the FAA publishes a change to the existing part 60 standards as

described in paragraph (c)(1) of this section or issues an FSTD Directive as described in § 60.23(b), which conflicts with or supersedes an approved deviation, the Administrator may terminate or revise a grant of deviation authority issued under this paragraph.

(e) The subjective tests that form the basis for the statements described in paragraph (b) of this section and the objective tests referenced in paragraph (f) of this section must be accomplished at the sponsor's training facility or other sponsor designated location where training will take place, except as provided for in the applicable QPS.

(g) A statement referencing any deviations that have been granted and included in the permanent qualification basis of the FSTD.

■ 3. Amend § 60.17 by revising paragraph (a) to read as follows:

**§ 60.17 Previously qualified FSTDs.**

(a) Unless otherwise specified by an FSTD Directive, further referenced in the applicable QPS, or as specified in paragraph (e) of this section, an FSTD qualified before May 31, 2016 will retain its qualification basis as long as it continues to meet the standards, including the objective test results recorded in the MQTG and subjective tests, under which it was originally evaluated, regardless of sponsor. The sponsor of such an FSTD must comply with the other applicable provisions of this part.

■ 4. Amend § 60.19 by revising paragraphs (b)(4) through (6) to read as follows:

**§ 60.19 Inspection, continuing qualification evaluation, and maintenance requirements.**

(b) The frequency of NSPM-conducted continuing qualification evaluations for each FSTD will be established by the NSPM and specified in the Statement of Qualification.

(5) Continuing qualification evaluations conducted in the 3 calendar months before or after the calendar month in which these continuing qualification evaluations are required will be considered to have been conducted in the calendar month in which they were required.

(6) No sponsor may use or allow the use of or offer the use of an FSTD for flight crewmember training or

evaluation or for obtaining flight experience for the flight crewmember to meet any requirement of this chapter unless the FSTD has passed an NSPM-conducted continuing qualification evaluation within the time frame specified in the Statement of Qualification or within the grace period as described in paragraph (b)(5) of this section.

■ 5. Amend § 60.23 by revising paragraph (a)(2) to read as follows:

**§ 60.23 Modifications to FSTDs.**

(2) Changes are made to either software or hardware that are intended to impact flight or ground dynamics; changes are made that impact performance or handling characteristics of the FSTD (including motion, visual, control loading, or sound systems for those FSTD levels requiring sound tests and measurements); or changes are made to the MQTG. Changes to the MQTG which do not affect required objective testing results or validation data approved during the initial evaluation of the FSTD are not considered modifications under this section.

■ 6. Amend Appendix A by:

- A. Revising paragraph 1.b.;
- B. Revising paragraph 1.d.(22);
- C. Revising paragraph 1.d.(25);
- D. Revising paragraph 1.d.(26);
- E. Revising paragraph 11.b.(2);
- F. Removing and reserving paragraph 11.e.(2);
- G. Revising paragraph 11.h;
- H. Revising paragraph 13.b; and
- I. Revising paragraph 13.d.

The revisions read as follows:

**Appendix A to Part 60—Qualification Performance Standards for Airplane Full Flight Simulators**

**1. Introduction.**

b. Questions regarding the contents of this publication should be sent to the U.S. Department of Transportation, Federal Aviation Administration, Flight Standards Service, National Simulator Program Staff, AFS-205, P.O. Box 20636, Atlanta, Georgia, 30320. Telephone contact numbers for the NSP are: phone, 404-474-5620; fax, 404-474-5656. The NSP Internet Web site address is: <http://www.faa.gov/about/initiatives/ntp/>. On this Web site you will find an NSP personnel list with telephone and email contact information for each NSP staff member, a list of qualified flight simulation devices, advisory circulars (ACs), a description of the qualification process, NSP policy, and an NSP "In-Works" section. Also

linked from this site are additional information sources, handbook bulletins, frequently asked questions, a listing and text of the Federal Aviation Regulations, Flight Standards Inspector's handbooks, and other FAA links.

(22) International Air Transport Association document, "Flight Simulation Training Device Design and Performance Data Requirements," as amended.

(25) International Civil Aviation Organization (ICAO) Manual of Criteria for the Qualification of Flight Simulation Training Devices, as amended.

(26) Aeroplane Flight Simulation Training Device Evaluation Handbook, Volume I, as amended and Volume II, as amended, The Royal Aeronautical Society, London, UK.

**11. Initial (and Upgrade) Qualification Requirements (§ 60.15).**

(2) Unless otherwise authorized through prior coordination with the NSPM, a confirmation that the sponsor will forward to the NSPM the statement described in § 60.15(b) in such time as to be received no later than 5 business days prior to the scheduled evaluation and may be forwarded to the NSPM via traditional or electronic means.

h. The sponsor may elect to complete the QTG objective and subjective tests at the manufacturer's facility or at the sponsor's training facility (or other sponsor designated location where training will take place). If the tests are conducted at the manufacturer's facility, the sponsor must repeat at least one-third of the tests at the sponsor's training facility in order to substantiate FFS performance. The QTG must be clearly annotated to indicate when and where each test was accomplished. Tests conducted at the manufacturer's facility and at the sponsor's designated training facility must be conducted after the FFS is assembled with systems and sub-systems functional and operating in an interactive manner. The test results must be submitted to the NSPM.

**13. Previously Qualified FFSs (§ 60.17).**

b. Simulators qualified prior to May 31, 2016, are not required to meet the general simulation requirements, the objective test requirements or the subjective test requirements of attachments 1, 2, and 3 of this appendix as long as the simulator continues to meet the test requirements contained in the MQTG developed under the original qualification basis.

d. Simulators qualified prior to May 31, 2016, may be updated. If an evaluation is deemed appropriate or necessary by the NSPM after such an update, the evaluation will not require an evaluation to standards



beyond those against which the simulator was originally qualified.

\* \* \* \* \*

■ 7. Amend Attachment 1 to Appendix A:

■ A. By revising Table A1A;

■ B. In Table A1B, “Table of Tasks vs. Simulator Level by:

■ i. Revising text of entry 3.b.;

■ ii. Adding entry 3.b.1;

■ iii. Adding entry 3.b.2; and

■ iv. Adding entry 3.g..

The revisions and additions read as follows:

**Appendix A to Part 60—Qualification Performance Standards for Airplane Full Flight Simulators**

\* \* \* \* \*

**Attachment 1 to Appendix A to Part 60—GENERAL SIMULATOR REQUIREMENTS**

\* \* \* \* \*

Table A1A – Minimum Simulator Requirements							
QPS REQUIREMENTS						INFORMATION	
Entry Number	General Simulator Requirements	Simulator Levels				Notes	
		A	B	C	D		
1. General Flight Deck Configuration.							
1.a.	<p>The simulator must have a flight deck that is a replica of the airplane simulated with controls, equipment, observable flight deck indicators, circuit breakers, and bulkheads properly located, functionally accurate and replicating the airplane. The direction of movement of controls and switches must be identical to the airplane. Pilot seats must allow the occupant to achieve the design “eye position” established for the airplane being simulated. Equipment for the operation of the flight deck windows must be included, but the actual windows need not be operable. Additional equipment such as fire axes, extinguishers, and spare light bulbs must be available in the FFS but may be relocated to a suitable location as near as practical to the original position. Fire axes, landing gear pins, and any similar purpose instruments need only be represented in silhouette.</p> <p>The use of electronically displayed images with physical overlay or masking for simulator instruments and/or instrument panels is acceptable provided:</p> <ul style="list-style-type: none"><li>(1) All instruments and instrument panel layouts are dimensionally correct with differences, if any, being imperceptible to the pilot;</li><li>(2) Instruments replicate those of the airplane including full instrument functionality and embedded logic;</li><li>(3) Instruments displayed are free of quantization (stepping);</li><li>(4) Instrument display characteristics replicate those of the airplane including: resolution, colors, luminance, brightness, fonts, fill patterns, line styles and symbology;</li><li>(5) Overlay or masking, including bezels and bugs, as applicable, replicates the airplane panel(s);</li><li>(6) Instrument controls and switches replicate and operate with the same technique, effort, travel and in the same direction as those in the airplane;</li><li>(7) Instrument lighting replicates that of the airplane and is operated from</li></ul>	X	X	X	X	For simulator purposes, the flight deck consists of all that space forward of a cross section of the flight deck at the most extreme aft setting of the pilots' seats, including additional required crewmember duty stations and those required bulkheads aft of the pilot seats. For clarification, bulkheads containing only items such as landing gear pin storage compartments, fire axes and extinguishers, spare light bulbs, and aircraft document pouches are not considered essential and may be omitted.	

	the FSTD control for that lighting and, if applicable, is at a level commensurate with other lighting operated by that same control; and  (8) As applicable, instruments must have faceplates that replicate those in the airplane; and  Level C and Level D only; (1) The display image of any three dimensional instrument, such as an electro-mechanical instrument, should appear to have the same three dimensional depth as the replicated instrument. The appearance of the simulated instrument, when viewed from the principle operator's angle, should replicate that of the actual airplane instrument. Any instrument reading inaccuracy due to viewing angle and parallax present in the actual airplane instrument should be duplicated in the simulated instrument display image. Viewing angle error and parallax must be minimized on shared instruments such and engine displays and standby indicators.			X	X	
1.b.	Those circuit breakers that affect procedures or result in observable flight deck indications must be properly located and functionally accurate.	X	X	X	X	
<b>2. Programming.</b>						
2.a.	A flight dynamics model that accounts for various combinations of drag and thrust normally encountered in flight must correspond to actual flight conditions, including the effect of change in airplane attitude, thrust, drag, altitude, temperature, gross weight, moments of inertia, center of gravity location, and configuration.  An SOC is required.  For Level C and Level D simulators, the effects of pitch attitude and of fuel slosh on the aircraft center of gravity must be simulated.	X	X	X	X	The SOC should include a range of tabulated target values to enable a demonstration of the mass properties model to be conducted from the instructor's station. The data at a minimum should contain 3 weight conditions including zero fuel weight and maximum taxi weight with a least 2 different combinations of zero fuel weight, fuel weight and

						payload for each condition.
<b>2.b.</b>	The simulator must have the computer capacity, accuracy, resolution, and dynamic response needed to meet the qualification level sought.  An SOC is required.	<b>X</b>	<b>X</b>	<b>X</b>	<b>X</b>	
<b>2.c.</b>	Surface operations must be represented to the extent that allows turns within the confines of the runway and adequate controls on the landing and roll-out from a crosswind approach to a landing.	<b>X</b>				
<b>2.d.</b>	Ground handling and aerodynamic programming must include the following:					
<b>2.d.1.</b>	Ground effect.		<b>X</b>	<b>X</b>	<b>X</b>	Ground effect includes modeling that accounts for roundout, flare, touchdown, lift, drag, pitching moment, trim, and power while in ground effect.
<b>2.d.2.</b>	Ground reaction.  Ground reaction modeling must produce the appropriate effects during bounced or skipped landings, including the effects and indications of ground contact due to landing in an abnormal aircraft attitude (e.g. tailstrike or nosewheel contact). An SOC is required.		<b>X</b>	<b>X</b>	<b>X</b>	Ground reaction includes modeling that accounts for strut deflections, tire friction, and side forces. This is the reaction of the airplane upon contact with the runway during landing, and may differ with changes in factors such as gross weight, airspeed, or rate of descent on touchdown.
<b>2.d.3.</b>	Ground handling characteristics, including aerodynamic and ground reaction modeling including steering inputs, operations with crosswind, braking, thrust reversing, deceleration, and turning radius.		<b>X</b>	<b>X</b>	<b>X</b>	In developing gust models for use in training, the FSTD sponsor should coordinate with the data provider to ensure that

	<p>Aerodynamic and ground reaction modeling to support training in crosswinds and gusting crosswinds up to the aircraft's maximum demonstrated crosswind component. Realistic gusting crosswind profiles must be available to the instructors that have been tuned in intensity and variation to require pilot intervention to avoid runway departure during takeoff or landing roll.</p> <p>An SOC is required describing source data used to construct gusting crosswind profiles.</p>			X	X	the gust models do not exceed the capabilities of the aerodynamic and ground models.
2.e.	<p>If the aircraft being simulated is one of the aircraft listed in § 121.358, Low-altitude windshear system equipment requirements, the simulator must employ windshear models that provide training for recognition of windshear phenomena and the execution of recovery procedures. Models must be available to the instructor/evaluator for the following critical phases of flight:</p> <ul style="list-style-type: none"> <li>(1) Prior to takeoff rotation;</li> <li>(2) At liftoff;</li> <li>(3) During initial climb; and</li> <li>(4) On final approach, below 500 ft AGL.</li> </ul> <p>The QTG must reference the FAA Windshear Training Aid or present alternate airplane related data, including the implementation method(s) used. If the alternate method is selected, wind models from the Royal Aerospace Establishment (RAE), the Joint Airport Weather Studies (JAWS) Project and other recognized sources may be implemented, but must be supported and properly referenced in the QTG. Only those simulators meeting these requirements may be used to satisfy the training requirements of part 121 pertaining to a certificate holder's approved low-altitude windshear flight training program as described in § 121.409.</p> <p>The addition of realistic levels of turbulence associated with each required windshear profile must be available and selectable to the instructor.</p>			X	X	<p>If desired, Level A and B simulators may qualify for windshear training by meeting these standards; see Attachment 5 of this appendix. Windshear models may consist of independent variable winds in multiple simultaneous components. The FAA Windshear Training Aid presents one acceptable means of compliance with simulator wind model requirements.</p> <p>The simulator should employ a method to ensure the required survivable and non-survivable windshear scenarios are repeatable in the training environment.</p>

	In addition to the four basic windshear models required for qualification, at least two additional “complex” windshear models must be available to the instructor which represent the complexity of actual windshear encounters. These models must be available in the takeoff and landing configurations and must consist of independent variable winds in multiple simultaneous components. The Windshear Training Aid provides two such example “complex” windshear models that may be used to satisfy this requirement.					
<b>2.f.</b>	The simulator must provide for manual and automatic testing of simulator hardware and software programming to determine compliance with simulator objective tests as prescribed in Attachment 2 of this appendix.  An SOC is required.			<b>X</b>	<b>X</b>	Automatic “flagging” of out-of-tolerance situations is encouraged.
<b>2.g.</b>	Relative responses of the motion system, visual system, and flight deck instruments, measured by latency tests or transport delay tests. Motion onset should occur before the start of the visual scene change (the start of the scan of the first video field containing different information) but must occur before the end of the scan of that video field. Instrument response may not occur prior to motion onset. Test results must be within the following limits:					The intent is to verify that the simulator provides instrument, motion, and visual cues that are, within the stated time delays, like the airplane responses. For airplane response, acceleration in the appropriate, corresponding rotational axis is preferred.
<b>2.g.1.</b>	300 milliseconds of the airplane response.	<b>X</b>	<b>X</b>			
<b>2.g.2.</b>	100 milliseconds of the airplane response (motion and instrument cues) 120 milliseconds of the airplane response (visual system cues)			<b>X</b>	<b>X</b>	
<b>2.h.</b>	The simulator must accurately reproduce the following runway conditions: (1) Dry; (2) Wet; (3) Icy; (4) Patchy Wet; (5) Patchy Icy; and			<b>X</b>	<b>X</b>	

	(6) Wet on Rubber Residue in Touchdown Zone;  An SOC is required.					
<b>2.i.</b>	The simulator must simulate: (1) brake and tire failure dynamics, including antiskid failure; and (2) decreased brake efficiency due to high brake temperatures, if applicable.  An SOC is required			<b>X</b>	<b>X</b>	Simulator pitch, side loading, and directional control characteristics should be representative of the airplane.
<b>2.j.</b>	Engine and Airframe Icing Modeling that includes the effects of icing, where appropriate, on the airframe, aerodynamics, and the engine(s). Icing models must simulate the aerodynamic degradation effects of ice accretion on the airplane lifting surfaces including loss of lift, decrease in stall angle of attack, change in pitching moment, decrease in control effectiveness, and changes in control forces in addition to any overall increase in drag. Aircraft systems (such as the stall protection system and autoflight system) must respond properly to ice accretion consistent with the simulated aircraft.  Aircraft OEM data or other acceptable analytical methods must be utilized to develop ice accretion models. Acceptable analytical methods may include wind tunnel analysis and/or engineering analysis of the aerodynamic effects of icing on the lifting surfaces coupled with tuning and supplemental subjective assessment by a subject matter expert pilot.  SOC and tests required. See objective testing requirements (Attachment 2, test 2.i.).			<b>X</b>	<b>X</b>	SOC should be provided describing the effects which provide training in the specific skills required for recognition of icing phenomena and execution of recovery. The SOC should describe the source data and any analytical methods used to develop ice accretion models including verification that these effects have been tested.  Icing effects simulation models are only required for those airplanes authorized for operations in icing conditions.  See Attachment 7 of this Appendix for further guidance material.
<b>2.k.</b>	The aerodynamic modeling in the simulator must include:				<b>X</b>	See Attachment 2 of this

	<p>(1) Low-altitude level-flight ground effect;</p> <p>(2) Mach effect at high altitude;</p> <p>(3) Normal and reverse dynamic thrust effect on control surfaces;</p> <p>(4) Aeroelastic representations; and</p> <p>(5) Nonlinearities due to sideslip.</p> <p>An SOC is required and must include references to computations of aeroelastic representations and of nonlinearities due to sideslip.</p>					appendix, paragraph 5, for further information on ground effect.
2.l.	<p>The simulator must have aerodynamic and ground reaction modeling for the effects of reverse thrust on directional control, if applicable.</p> <p>An SOC is required.</p>		X	X	X	
2.m.	<p>High Angle of Attack Modeling</p> <p>Aerodynamic stall modeling that includes degradation in static/dynamic lateral-directional stability, degradation in control response (pitch, roll, and yaw), uncommanded roll response or roll-off requiring significant control deflection to counter, apparent randomness or non-repeatability, changes in pitch stability, Mach effects, and stall buffet, as appropriate to the aircraft type.</p> <p>The aerodynamic model must incorporate an angle of attack and sideslip range to support the training tasks. At a minimum, the model must support an angle of attack range to ten degrees beyond the stall identification angle of attack. The stall identification angle of attack is defined as the point where the behavior of the airplane gives the pilot a clear and distinctive indication through the inherent flight characteristics or the characteristics resulting from the operation of a stall identification device (e.g., a stick pusher) that the airplane has stalled.</p> <p>The model must be capable of capturing the variations seen in the stall characteristics of the airplane (e.g., the presence or absence of a pitch break,</p>			X	X	<p>The requirements in this section only apply to those FSTDs that are qualified for full stall training tasks. Sponsors may elect to not qualify an FSTD for full stall training tasks; however, the FSTD’s qualification will be restricted to approach to stall training tasks that terminate at the activation of the stall warning system.</p> <p>Specific guidance should be available to the instructor which clearly communicates the flight configurations and stall maneuvers that have been evaluated in the FSTD for use</p>



	<p>deterrent buffet, or other indications of a stall where present on the aircraft). The aerodynamic modeling must support stall training maneuvers in the following flight conditions:</p> <ul style="list-style-type: none"> <li>(1) Stall entry at wings level (1g);</li> <li>(2) Stall entry in turning flight of at least 25° bank angle (accelerated stall);</li> <li>(3) Stall entry in a power-on condition (required only for propeller driven aircraft); and</li> <li>(4) Aircraft configurations of second segment climb, high altitude cruise (near performance limited condition), and approach or landing.</li> </ul> <p>A Statement of Compliance (SOC) is required which describes the aerodynamic modeling methods, validation, and checkout of the stall characteristics of the FSTD. The SOC must also include verification that the FSTD has been evaluated by a subject matter expert pilot acceptable to the FAA. See Attachment 7 of this Appendix for detailed requirements.</p> <p>Where known limitations exist in the aerodynamic model for particular stall maneuvers (such as aircraft configurations and stall entry methods), these limitations must be declared in the required SOC.</p> <p>FSTDs qualified for full stall training tasks must also meet the instructor operating station (IOS) requirements for upset prevention and recovery training (UPRT) tasks as described in section 2.n. of this table. See Attachment 7 of this Appendix for additional requirements.</p>					<p>in training.</p> <p>See Attachment 7 of this Appendix for additional guidance material.</p>
<b>2.n.</b>	<p>Upset Prevention and Recovery Training (UPRT).</p> <p>Aerodynamics Evaluation: The simulator must be evaluated for specific upset recovery maneuvers for the purpose of determining that the combination of angle of attack and sideslip does not exceed the range of flight test validated data or wind tunnel/analytical data while performing the recovery maneuver.</p>			<b>X</b>	<b>X</b>	<p>This section generally applies to the qualification of airplane upset recovery training maneuvers or unusual attitude training maneuvers that exceed</p>

	<p>The following minimum set of required upset recovery maneuvers must be evaluated in this manner and made available to the instructor/evaluator. Other upset recovery scenarios as developed by the FSTD sponsor must be evaluated in the same manner:</p> <ul style="list-style-type: none"> <li>(1) A nose-high, wings level aircraft upset;</li> <li>(2) A nose-low aircraft upset; and</li> <li>(3) A high bank angle aircraft upset.</li> </ul> <p>Upset Scenarios: IOS selectable dynamic airplane upsets must provide guidance to the instructor concerning the method used to drive the FSTD into an upset condition, including any malfunction or degradation in the FSTD's functionality required to initiate the upset. The unrealistic degradation of simulator functionality (such as degrading flight control effectiveness) to drive an airplane upset is generally not acceptable unless used purely as a tool for repositioning the FSTD with the pilot out of the loop.</p> <p>Instructor Operating System (IOS): The simulator must have a feedback mechanism in place to notify the instructor/evaluator when the simulator's validated aerodynamic envelope and aircraft operating limits have been exceeded during an upset recovery training task. This feedback mechanism must include:</p> <ul style="list-style-type: none"> <li>(1) FSTD validation envelope. This must be in the form of an alpha/beta envelope (or equivalent method) depicting the "confidence level" of the aerodynamic model depending on the degree of flight validation or source of predictive methods. The envelopes must provide the instructor real-time feedback on the simulation during a maneuver. There must be a minimum of a flaps up and flaps down envelope available;</li> <li>(2) Flight control inputs. This must enable the instructor to assess the</li> </ul>				<p>one or more of the following conditions:</p> <ul style="list-style-type: none"> <li>▪ Pitch attitude greater than 25 degrees, nose up</li> <li>▪ Pitch attitude greater than 10 degrees, nose down</li> <li>▪ Bank angle greater than 45 degrees</li> <li>▪ Flight at airspeeds inappropriate for conditions.</li> </ul> <p>FSTDs used to conduct upset recovery maneuvers at angles of attack above the stall warning system activation must meet the requirements for high angle of attack modeling as described in section 2.m.</p> <p>Special consideration should be given to the motion system response during upset prevention and recovery maneuvers. Notwithstanding the limitations of simulator motion, specific emphasis should be placed on tuning out motion system responses.</p>
--	--	--	--	--	---

	<p>pilot’s flight control displacements and forces (including fly-by-wire as appropriate); and</p> <p>(3) Airplane operational limits. This must display the aircraft operating limits during the maneuver as applicable for the configuration of the airplane.</p> <p>Statement of Compliance (SOC): An SOC is required that defines the source data used to construct the FSTD validation envelope. The SOC must also verify that each upset prevention and recovery feature programmed at the instructor station and the associated training maneuver has been evaluated by a suitably qualified pilot using methods described in this section. The statement must confirm that the recovery maneuver can be performed such that the FSTD does not exceed the FSTD validation envelope, or when exceeded, that it is within the realm of confidence in the simulation accuracy.</p>					<p>Consideration should be taken with flight envelope protected airplanes as artificially positioning the airplane to a specified attitude may incorrectly initialize flight control laws.</p> <p>See Attachment 7 of this Appendix for further guidance material.</p>
<b>3. Equipment Operation.</b>						
<b>3.a.</b>	<p>All relevant instrument indications involved in the simulation of the airplane must automatically respond to control movement or external disturbances to the simulated airplane; e.g., turbulence or windshear. Numerical values must be presented in the appropriate units.</p> <p>For Level C and Level D simulators, instrument indications must also respond to effects resulting from icing.</p>	<b>X</b>	<b>X</b>	<b>X</b>	<b>X</b>	
<b>3.b.</b>	<p>Communications, navigation, caution, and warning equipment must be installed and operate within the tolerances applicable for the airplane.</p> <p>Instructor control of internal and external navigational aids. Navigation aids must be usable within range or line-of-sight without restriction, as applicable to the geographic area.</p>	<b>X</b>	<b>X</b>	<b>X</b>	<b>X</b>	<p>See Attachment 3 of this appendix for further information regarding long-range navigation equipment.</p>
<b>3.b.1.</b>	<p>Complete navigation database for at least 3 airports with corresponding precision and non-precision approach procedures, including navigational</p>			<b>X</b>	<b>X</b>	

	database updates.					
<b>3.b.2.</b>	Complete navigation database for at least 1 airport with corresponding precision and non-precision approach procedures, including navigational database updates.	<b>X</b>	<b>X</b>			
<b>3.c.</b>	<p>Simulated airplane systems must operate as the airplane systems operate under normal, abnormal, and emergency operating conditions on the ground and in flight.</p> <p>Once activated, proper systems operation must result from system management by the crew member and not require any further input from the instructor's controls.</p>	<b>X</b>	<b>X</b>	<b>X</b>	<b>X</b>	<p>Airplane system operation should be predicated on, and traceable to, the system data supplied by the airplane manufacturer, original equipment manufacturer or alternative approved data for the airplane system or component.</p> <p>At a minimum, alternate approved data should validate the operation of all normal, abnormal, and emergency operating procedures and training tasks the FSTD is qualified to conduct.</p>
<b>3.d.</b>	<p>The simulator must provide pilot controls with control forces and control travel that correspond to the simulated airplane. The simulator must also react in the same manner as in the airplane under the same flight conditions.</p> <p>Control systems must replicate airplane operation for the normal and any non-normal modes including back-up systems and should reflect failures of associated systems.</p> <p>Appropriate cockpit indications and messages must be replicated.</p>	<b>X</b>	<b>X</b>	<b>X</b>	<b>X</b>	
<b>3.e.</b>	Simulator control feel dynamics must replicate the airplane. This must be			<b>X</b>	<b>X</b>	

	determined by comparing a recording of the control feel dynamics of the simulator to airplane measurements. For initial and upgrade qualification evaluations, the control dynamic characteristics must be measured and recorded directly from the flight deck controls, and must be accomplished in takeoff, cruise, and landing flight conditions and configurations.					
<b>3.f.</b>	<p>For aircraft equipped with a stick pusher system, control forces, displacement, and surface position must correspond to that of the airplane being simulated.</p> <p>A Statement of Compliance (SOC) is required verifying that the stick pusher system has been modeled, programmed, and validated using the aircraft manufacturer's design data or other acceptable data source. The SOC must address, at a minimum, stick pusher activation and cancellation logic as well as system dynamics, control displacement and forces as a result of the stick pusher activation.</p> <p>Tests required.</p>			<b>X</b>	<b>X</b>	<p>See Appendix A, Table A2A, test 2.a.10 (stick pusher system force calibration) for objective testing requirements.</p> <p>The requirements in this section only apply to those FSTDs that are qualified for full stall training tasks.</p>
<b>4. Instructor or Evaluator Facilities.</b>						
<b>4.a.</b>	In addition to the flight crewmember stations, the simulator must have at least two suitable seats for the instructor/check airman and FAA inspector. These seats must provide adequate vision to the pilot's panel and forward windows. All seats other than flight crew seats need not represent those found in the airplane, but must be adequately secured to the floor and equipped with similar positive restraint devices.	<b>X</b>	<b>X</b>	<b>X</b>	<b>X</b>	The NSPM will consider alternatives to this standard for additional seats based on unique flight deck configurations.
<b>4.b.</b>	The simulator must have controls that enable the instructor/evaluator to control all required system variables and insert all abnormal or emergency conditions into the simulated airplane systems as described in the sponsor's FAA-approved training program; or as described in the relevant operating manual as appropriate.	<b>X</b>	<b>X</b>	<b>X</b>	<b>X</b>	
<b>4.c.</b>	The simulator must have instructor controls for all environmental effects expected to be available at the IOS; e.g., clouds, visibility, icing,	<b>X</b>	<b>X</b>	<b>X</b>	<b>X</b>	

	precipitation, temperature, storm cells and microbursts, turbulence, and intermediate and high altitude wind speed and direction.					
<b>4.d.</b>	The simulator must provide the instructor or evaluator the ability to present ground and air hazards.			<b>X</b>	<b>X</b>	For example, another airplane crossing the active runway or converging airborne traffic.
<b>5. Motion System.</b>						
<b>5.a.</b>	The simulator must have motion (force) cues perceptible to the pilot that are representative of the motion in an airplane.	<b>X</b>	<b>X</b>	<b>X</b>	<b>X</b>	For example, touchdown cues should be a function of the rate of descent (RoD) of the simulated airplane.
<b>5.b.</b>	The simulator must have a motion (force cueing) system with a minimum of three degrees of freedom (at least pitch, roll, and heave).  An SOC is required.	<b>X</b>	<b>X</b>			
<b>5.c.</b>	The simulator must have a motion (force cueing) system that produces cues at least equivalent to those of a six-degrees-of-freedom, synergistic platform motion system (i.e., pitch, roll, yaw, heave, sway, and surge).  An SOC is required.			<b>X</b>	<b>X</b>	
<b>5.d.</b>	The simulator must provide for the recording of the motion system response time.  An SOC is required.	<b>X</b>	<b>X</b>	<b>X</b>	<b>X</b>	
<b>5.e.</b>	The simulator must provide motion effects programming to include:					
<b>5.e.1.</b>	(1) Thrust effect with brakes set; (2) Runway rumble, oleo deflections, effects of ground speed, uneven runway, centerline lights, and taxiway characteristics; (3) Buffets on the ground due to spoiler/speedbrake extension and thrust reversal; (4) Bumps associated with the landing gear;		<b>X</b>	<b>X</b>	<b>X</b>	If there are known flight conditions where buffet is the first indication of the stall, or where no stall buffet occurs, this characteristic should be included in the model.

	(5) Buffet during extension and retraction of landing gear; (6) Buffet in the air due to flap and spoiler/speedbrake extension; (7) Approach-to-stall buffet and stall buffet (where applicable); (8) Representative touchdown cues for main and nose gear; (9) Nosewheel scuffing, if applicable; (10) Mach and maneuver buffet; (11) Engine failures, malfunctions, and engine damage (12) Tail and pod strike;					
<b>5.e.2.</b>	(13) Taxiing effects such as lateral and directional cues resulting from steering and braking inputs; (14) Buffet due to atmospheric disturbances (e.g. buffets due to turbulence, gusting winds, storm cells, windshear, etc.) in three linear axes (isotropic); (15) Tire failure dynamics; and (16) Other significant vibrations, buffets and bumps that are not mentioned above (e.g. RAT), or checklist items such as motion effects due to pre-flight flight control inputs.			<b>X</b>	<b>X</b>	
<b>5.f.</b>	The simulator must provide characteristic motion vibrations that result from operation of the airplane if the vibration marks an event or airplane state that can be sensed in the flight deck.				<b>X</b>	The simulator should be programmed and instrumented in such a manner that the characteristic buffet modes can be measured and compared to airplane data.
<b>6. Visual System.</b>						
<b>6.a.</b>	The simulator must have a visual system providing an out-of-the-flight deck view.	<b>X</b>	<b>X</b>	<b>X</b>	<b>X</b>	
<b>6.b.</b>	The simulator must provide a continuous collimated field-of-view of at least 45° horizontally and 30° vertically per pilot seat or the number of degrees necessary to meet the visual ground segment requirement, whichever is greater. Both pilot seat visual systems must be operable simultaneously. The minimum horizontal field-of-view coverage must be plus and minus one-half	<b>X</b>	<b>X</b>			Additional field-of-view capability may be added at the sponsor's discretion provided the minimum fields of view are retained.

	( $\frac{1}{2}$ ) of the minimum continuous field-of-view requirement, centered on the zero degree azimuth line relative to the aircraft fuselage.  An SOC is required and must explain the system geometry measurements including system linearity and field-of-view.					
<b>6.c.</b>	(Reserved)					
<b>6.d.</b>	The simulator must provide a continuous collimated visual field-of-view of at least 176° horizontally and 36° vertically or the number of degrees necessary to meet the visual ground segment requirement, whichever is greater. The minimum horizontal field-of-view coverage must be plus and minus one-half ( $\frac{1}{2}$ ) of the minimum continuous field-of-view requirement, centered on the zero degree azimuth line relative to the aircraft fuselage.  An SOC is required and must explain the system geometry measurements including system linearity and field-of-view.			<b>X</b>	<b>X</b>	The horizontal field-of-view is traditionally described as a 180° field-of-view. However, the field-of-view is technically no less than 176°. Additional field-of-view capability may be added at the sponsor's discretion provided the minimum fields of view are retained.
<b>6.e.</b>	The visual system must be free from optical discontinuities and artifacts that create non-realistic cues.	<b>X</b>	<b>X</b>	<b>X</b>	<b>X</b>	Non-realistic cues might include image "swimming" and image "roll-off," that may lead a pilot to make incorrect assessments of speed, acceleration, or situational awareness.
<b>6.f.</b>	The simulator must have operational landing lights for night scenes. Where used, dusk (or twilight) scenes require operational landing lights.	<b>X</b>	<b>X</b>	<b>X</b>	<b>X</b>	
<b>6.g.</b>	The simulator must have instructor controls for the following:  (1) Visibility in statute miles (km) and runway visual range (RVR) in ft.(m); (2) Airport selection; and (3) Airport lighting.	<b>X</b>	<b>X</b>	<b>X</b>	<b>X</b>	



<b>6.h.</b>	The simulator must provide visual system compatibility with dynamic response programming.	<b>X</b>	<b>X</b>	<b>X</b>	<b>X</b>	
<b>6.i.</b>	The simulator must show that the segment of the ground visible from the simulator flight deck is the same as from the airplane flight deck (within established tolerances) when at the correct airspeed, in the landing configuration, at the appropriate height above the touchdown zone, and with appropriate visibility.	<b>X</b>	<b>X</b>	<b>X</b>	<b>X</b>	This will show the modeling accuracy of RVR, glideslope, and localizer for a given weight, configuration, and speed within the airplane's operational envelope for a normal approach and landing.
<b>6.j.</b>	The simulator must provide visual cues necessary to assess sink rates (provide depth perception) during takeoffs and landings, to include: (1) Surface on runways, taxiways, and ramps; and (2) Terrain features.		<b>X</b>	<b>X</b>	<b>X</b>	
<b>6.k.</b>	The simulator must provide for accurate portrayal of the visual environment relating to the simulator attitude.	<b>X</b>	<b>X</b>	<b>X</b>	<b>X</b>	Visual attitude vs. simulator attitude is a comparison of pitch and roll of the horizon as displayed in the visual scene compared to the display on the attitude indicator.
<b>6.l.</b>	The simulator must provide for quick confirmation of visual system color, RVR, focus, and intensity.  An SOC is required.			<b>X</b>	<b>X</b>	
<b>6.m.</b>	The simulator must be capable of producing at least 10 levels of occulting.			<b>X</b>	<b>X</b>	
<b>6.n.</b>	Night Visual Scenes. When used in training, testing, or checking activities, the simulator must provide night visual scenes with sufficient scene content to recognize the airport, the terrain, and major landmarks around the airport. The scene content must allow a pilot to successfully accomplish a visual landing. Scenes must include a definable horizon and typical terrain characteristics such as fields, roads and bodies of water and surfaces illuminated by airplane landing lights.	<b>X</b>	<b>X</b>	<b>X</b>	<b>X</b>	

6.o.	<p>Dusk (or Twilight) Visual Scenes. When used in training, testing, or checking activities, the simulator must provide dusk (or twilight) visual scenes with sufficient scene content to recognize the airport, the terrain, and major landmarks around the airport. The scene content must allow a pilot to successfully accomplish a visual landing. Dusk (or twilight) scenes, as a minimum, must provide full color presentations of reduced ambient intensity, sufficient surfaces with appropriate textural cues that include self-illuminated objects such as road networks, ramp lighting and airport signage, to conduct a visual approach, landing and airport movement (taxi). Scenes must include a definable horizon and typical terrain characteristics such as fields, roads and bodies of water and surfaces illuminated by airplane landing lights. If provided, directional horizon lighting must have correct orientation and be consistent with surface shading effects. Total night or dusk (twilight) scene content must be comparable in detail to that produced by 10,000 visible textured surfaces and 15,000 visible lights with sufficient system capacity to display 16 simultaneously moving objects.</p> <p>An SOC is required.</p>			X	X	
6.p.	<p>Daylight Visual Scenes. The simulator must provide daylight visual scenes with sufficient scene content to recognize the airport, the terrain, and major landmarks around the airport. The scene content must allow a pilot to successfully accomplish a visual landing. Any ambient lighting must not “washout” the displayed visual scene. Total daylight scene content must be comparable in detail to that produced by 10,000 visible textured surfaces and 6,000 visible lights with sufficient system capacity to display 16 simultaneously moving objects. The visual display must be free of apparent and distracting quantization and other distracting visual effects while the simulator is in motion.</p> <p>An SOC is required.</p>			X	X	
6.q.	The simulator must provide operational visual scenes that portray physical			X	X	For example: short runways,

	relationships known to cause landing illusions to pilots.					landing approaches over water, uphill or downhill runways, rising terrain on the approach path, unique topographic features.
<b>6.r.</b>	The simulator must provide special weather representations of light, medium, and heavy precipitation near a thunderstorm on takeoff and during approach and landing. Representations need only be presented at and below an altitude of 2,000 ft. (610 m) above the airport surface and within 10 miles (16 km) of the airport.			<b>X</b>	<b>X</b>	
<b>6.s.</b>	The simulator must present visual scenes of wet and snow-covered runways, including runway lighting reflections for wet conditions, partially obscured lights for snow conditions, or suitable alternative effects.			<b>X</b>	<b>X</b>	
<b>6.t.</b>	The simulator must present realistic color and directionality of all airport lighting.			<b>X</b>	<b>X</b>	
<b>6.u.</b>	<p>The following weather effects as observed on the visual system must be simulated and respective instructor controls provided.</p> <ul style="list-style-type: none"> <li>(1) Multiple cloud layers with adjustable bases, tops, sky coverage and scud effect;</li> <li>(2) Storm cells activation and/or deactivation;</li> <li>(3) Visibility and runway visual range (RVR), including fog and patchy fog effect;</li> <li>(4) Effects on ownship external lighting;</li> <li>(5) Effects on airport lighting (including variable intensity and fog effects);</li> <li>(6) Surface contaminants (including wind blowing effect);</li> <li>(7) Variable precipitation effects (rain, hail, snow);</li> <li>(8) In-cloud airspeed effect; and</li> <li>(9) Gradual visibility changes entering and breaking out of cloud.</li> </ul>			<b>X</b>	<b>X</b>	<p>Scud effects are low, detached, and irregular clouds below a defined cloud layer.</p> <p>Atmospheric model should support representative effects of wake turbulence and mountain waves as needed to enhance UPRT training.</p> <p>The mountain wave model should support the atmospheric climb, descent, and roll rates which can be encountered in mountain wave and rotor conditions.</p>

6.v.	The simulator must provide visual effects for: (1) Light poles; (2) Raised edge lights as appropriate; and (3) Glow associated with approach lights in low visibility before physical lights are seen,			X	X	Visual effects for light poles and raised edge lights are for the purpose of providing additional depth perception during takeoff, landing, and taxi training tasks. Three dimensional modeling of the actual poles and stanchions is not required.
<b>7. Sound System.</b>						
7.a.	The simulator must provide flight deck sounds that result from pilot actions that correspond to those that occur in the airplane.	X	X	X	X	
7.b.	The volume control must have an indication of sound level setting which meets all qualification requirements.	X	X	X	X	For Level D simulators, this indication should be readily available to the instructor on or about the IOS and is the sound level setting required to meet the objective testing requirements as described in Table A2A of this Appendix.  For all other simulator levels, this indication is the sound level setting as evaluated during the simulator's initial evaluation.
7.c.	The simulator must accurately simulate the sound of precipitation, windshield wipers, and other significant airplane noises perceptible to the pilot during normal and abnormal operations, and include the sound of a crash (when the simulator is landed in an unusual attitude or in excess of the structural gear limitations); normal engine and thrust reversal sounds; and the sounds of flap,			X	X	For simulators qualified for full stall training tasks, sounds associated with stall buffet should be replicated if significant in the airplane.

	gear, and spoiler extension and retraction.  Sounds must be directionally representative.  A SOC is required.					
<b>7.d.</b>	The simulator must provide realistic amplitude and frequency of flight deck noises and sounds. Simulator performance must be recorded, compared to amplitude and frequency of the same sounds recorded in the airplane, and be made a part of the QTG. .				<b>X</b>	

* * * * *										
3. Inflight Maneuvers.										
* * * * *										
3.b.	High Angle of Attack Maneuvers									
3.b.1	Approaches to Stall					X	X	X	X	
3.b.2	Full Stall							X	X	Stall maneuvers at angles of attack above the activation of the stall warning system.  Required only for FSTDs qualified to conduct full stall training tasks as indicated on the Statement of Qualification.
* * * * *										
3.g.	Upset Prevention and Recovery Training (UPRT)							X	X	Upset recovery or unusual attitude training maneuvers within the FSTD’s validation envelope that are intended to exceed pitch attitudes greater than 25 degrees nose up; pitch attitudes greater than 10 degrees nose down, and bank angles greater than 45 degrees.
* * * * *										

■ 8. Amend Attachment 2 to Appendix A by revising:

■ A. Paragraph 2.e.;  
■ B. Table A2A;

■ C. Paragraph 6.b.;  
■ D. Paragraph 6.d.;

- E. Paragraph 11.a.(1);
- F. Paragraph 11.b.(5);
- G. Paragraph 12.a.;

The revisions read as follows:

**Appendix A to Part 60—Qualification  
Performance Standards for Airplane  
Full Flight Simulators**

\* \* \* \* \*

**Attachment 2 to Appendix A to Part 60—FFS  
OBJECTIVE TESTS**

\* \* \* \* \*

2. \* \* \*

\* \* \* \* \*

e. It is not acceptable to program the FFS so that the mathematical modeling is correct only at the validation test points. Unless otherwise noted, simulator tests must

represent airplane performance and handling qualities at operating weights and centers of gravity (CG) typical of normal operation. Simulator tests at extreme weight or CG conditions may be acceptable where required for concurrent aircraft certification testing. Tests of handling qualities must include validation of augmentation devices.

\* \* \* \* \*

1. Performance.									
1.a.	Taxi.								
1.a.1	Minimum radius turn.	±0.9 m (3 ft) or ±20% of airplane turn radius.	Ground.	Plot both main and nose gear loci and key engine parameter(s). Data for no brakes and the minimum thrust required to maintain a steady turn except for airplanes requiring asymmetric thrust or braking to achieve the minimum radius turn.		X	X	X	
1.a.2	Rate of turn versus nosewheel steering angle (NWA).	±10% or ±2°/s of turn rate.	Ground.	Record for a minimum of two speeds, greater than minimum turning radius speed with one at a typical taxi speed, and with a spread of at least 5 kt.		X	X	X	
1.b.	<b>Takeoff.</b>				<i>Note.— All airplane manufacturer commonly-used certificated take-off flap settings must be demonstrated at least once either in minimum unstick speed (1.b.3), normal take-off (1.b.4), critical engine failure on take-off (1.b.5) or crosswind take-off (1.b.6).</i>				
1.b.1	Ground acceleration time and distance.	±1.5 s or ±5% of time; and ±61 m (200 ft) or ±5% of distance.	Takeoff.	Acceleration time and distance must be recorded for a minimum of 80% of the total time from brake release to $V_r$ . Preliminary aircraft certification data may be used.	X	X	X	X	May be combined with normal takeoff (1.b.4.) or rejected takeoff (1.b.7.). Plotted data should be shown using appropriate scales for each portion of the maneuver.
1.b.2	Minimum control speed, ground ( $V_{mcg}$ ) using aerodynamic controls only per applicable airworthiness requirement or alternative engine inoperative test to demonstrate ground control characteristics.	±25% of maximum airplane lateral deviation reached or ±1.5 m (5 ft).  For airplanes with reversible flight control systems:  ±2.2 daN (5 lbf) or ±10% of rudder pedal force.	Takeoff.	Engine failure speed must be within ±1 kt of airplane engine failure speed. Engine thrust decay must be that resulting from the mathematical model for the engine applicable to the FSTD under test. If the modeled engine is not the same as the airplane manufacturer's flight test engine, a further test may be run with the same initial conditions using the thrust from the flight test data as the driving parameter.	X	X	X	X	If a $V_{mcg}$ test is not available, an acceptable alternative is a flight test snap engine deceleration to idle at a speed between $V_1$ and $V_1-10$ kt, followed by control of heading using aerodynamic control only and recovery should be achieved with the main gear on the ground.  To ensure only aerodynamic control, nosewheel steering should be disabled (i.e. castored) or the nosewheel held slightly off the ground.
1.b.3	Minimum unstick speed ( $V_{mu}$ ) or equivalent test to	±3 kt airspeed. ±1.5° pitch angle.	Takeoff.	Record time history data from 10 knots before start of rotation until at least 5 seconds after the occurrence of main gear lift-off.	X	X	X	X	$V_{mu}$ is defined as the minimum speed at which the



	demonstrate early rotation take-off characteristics.								last main landing gear leaves the ground. Main landing gear strut compression or equivalent air/ground signal should be recorded. If a $V_{mu}$ test is not available, alternative acceptable flight tests are a constant high-attitude takeoff run through main gear lift-off or an early rotation takeoff.  If either of these alternative solutions is selected, aft body contact/tail strike protection functionality, if present on the airplane, should be active.
1.b.4	Normal take-off.	±3 kt airspeed. ±1.5° pitch angle. ±1.5° AOA. ±6 m (20 ft) height.  For airplanes with reversible flight control systems:  ±2.2 daN (5 lbf) or ±10% of column force.	Takeoff.	Data required for near maximum certificated takeoff weight at mid center of gravity location and light takeoff weight at an aft center of gravity location. If the airplane has more than one certificated takeoff configuration, a different configuration must be used for each weight.  Record takeoff profile from brake release to at least 61 m (200 ft) AGL.	X	X	X	X	The test may be used for ground acceleration time and distance (1.b.1).  Plotted data should be shown using appropriate scales for each portion of the maneuver.
1.b.5	Critical engine failure on take-off.	±3 kt airspeed. ±1.5° pitch angle. ±1.5° AOA. ±6 m (20 ft) height. ±2° roll angle. ±2° side-slip angle. ±3° heading angle.  For airplanes with reversible flight control systems:	Takeoff.	Record takeoff profile to at least 61 m (200 ft) AGL.  Engine failure speed must be within ±3 kt of airplane data.  Test at near maximum takeoff weight.	X	X	X	X	

		±2.2 daN (5 lbf) or ±10% of column force;  ±1.3 daN (3 lbf) or ±10% of wheel force; and  ±2.2 daN (5 lbf) or ±10% of rudder pedal force.							
1.b.6	Crosswind takeoff.	± 3 kt airspeed.  ±1.5° pitch angle.  ±1.5° AOA.  ±6 m (20 ft) height.  ±2° roll angle.  ±2° side-slip angle.  ±3° heading angle.  Correct trends at ground speeds below 40 kt for rudder/pedal and heading angle.  For airplanes with reversible flight control systems:  ±2.2 daN (5 lbf) or ±10% of column force;  ±1.3 daN (3 lbf) or ±10% of wheel force; and  ±2.2 daN (5 lbf) or ±10% of rudder pedal force.	Takeoff.	Record takeoff profile from brake release to at least 61 m (200 ft) AGL.  This test requires test data, including wind profile, for a crosswind component of at least 60% of the airplane performance data value measured at 10 m (33 ft) above the runway.  Wind components must be provided as headwind and crosswind values with respect to the runway.	X	X	X	X	In those situations where a maximum crosswind or a maximum demonstrated crosswind is not known, contact the NSPM.
1.b.7.	Rejected Takeoff.	±5% of time or ±1.5 s.	Takeoff.	Record at mass near maximum takeoff weight.	X	X	X	X	Autobrakes will be used

		±7.5% of distance or ±76 m (250 ft).		Speed for reject must be at least 80% of $V_1$ .  Maximum braking effort, auto or manual.  Where a maximum braking demonstration is not available, an acceptable alternative is a test using approximately 80% braking and full reverse, if applicable.  Time and distance must be recorded from brake release to a full stop.					where applicable.
<b>1.b.8.</b>	Dynamic Engine Failure After Takeoff.	±2°/s or ±20% of body angular rates.	Takeoff.	Engine failure speed must be within ±3 kt of airplane data.  Engine failure may be a snap deceleration to idle.  Record hands-off from 5 s before engine failure to +5 s or 30° roll angle, whichever occurs first.  CCA: Test in Normal and Non-normal control state.			X	X	For safety considerations, airplane flight test may be performed out of ground effect at a safe altitude, but with correct airplane configuration and airspeed.
<b>1.c.</b>	<b>Climb.</b>								
<b>1.c.1.</b>	Normal Climb, all engines operating.	±3 kt airspeed.  ±0.5 m/s (100 ft/ min) or ±5% of rate of climb.	Clean.	Flight test data are preferred; however, airplane performance manual data are an acceptable alternative.  Record at nominal climb speed and mid initial climb altitude.  FSTD performance is to be recorded over an interval of at least 300 m (1 000 ft).	X	X	X	X	
<b>1.c.2.</b>	One-engine-inoperative 2nd segment climb.	±3 kt airspeed.  ±0.5 m/s (100 ft/ min) or ±5% of rate of climb, but not less than airplane performance data requirements.	2nd segment climb.	Flight test data is preferred; however, airplane performance manual data is an acceptable alternative.  Record at nominal climb speed.  FSTD performance is to be recorded over an interval of at least 300 m (1,000 ft).  Test at WAT (weight, altitude or temperature) limiting condition.	X	X	X	X	

1.c.3.	One Engine Inoperative En route Climb.	±10% time, ±10% distance, ±10% fuel used	Clean	Flight test data or airplane performance manual data may be used.  Test for at least a 1,550 m (5,000 ft) segment.			X	X	
1.c.4.	One Engine Inoperative Approach Climb for airplanes with icing accountability if provided in the airplane performance data for this phase of flight.	±3 kt airspeed.  ±0.5 m/s (100 ft/ min) or ±5% rate of climb, but not less than airplane performance data.	Approach	Flight test data or airplane performance manual data may be used.  FSTD performance to be recorded over an interval of at least 300 m (1,000 ft).  Test near maximum certificated landing weight as may be applicable to an approach in icing conditions.	X	X	X	X	Airplane should be configured with all anti-ice and de-ice systems operating normally, gear up and go-around flap.  All icing accountability considerations, in accordance with the airplane performance data for an approach in icing conditions, should be applied.
1.d.	<b>Cruise / Descent.</b>								
1.d.1.	Level flight acceleration	±5% Time	Cruise	Time required to increase airspeed a minimum of 50 kt, using maximum continuous thrust rating or equivalent.  For airplanes with a small operating speed range, speed change may be reduced to 80% of operational speed change.	X	X	X	X	
1.d.2.	Level flight deceleration.	±5% Time	Cruise	Time required to decrease airspeed a minimum of 50 kt, using idle power.  For airplanes with a small operating speed range, speed change may be reduced to 80% of operational speed change.	X	X	X	X	
1.d.3.	Cruise performance.	±.05 EPR or ±3% N1 or ±5% of torque.  ±5% of fuel flow.	Cruise.	The test may be a single snapshot showing instantaneous fuel flow, or a minimum of two consecutive snapshots with a spread of at least 3 minutes in steady flight.			X	X	
1.d.4.	Idle descent.	±3 kt airspeed.  ±1.0 m/s (200 ft/min) or ±5% of rate of descent.	Clean.	Idle power stabilized descent at normal descent speed at mid altitude.  FSTD performance to be recorded over an interval of at least 300 m (1,000 ft).	X	X	X	X	
1.d.5.	Emergency descent.	±5 kt airspeed.  ±1.5 m/s (300 ft/min) or ±5% of rate of descent.	As per airplane performance data.	FSTD performance to be recorded over an interval of at least 900 m (3,000 ft).	X	X	X	X	Stabilized descent to be conducted with speed brakes extended if applicable, at mid altitude and near V <sub>mo</sub> or according to emergency

									descent procedure.
1.e.	Stopping.								
1.e.1.	Deceleration time and distance, manual wheel brakes, dry runway, no reverse thrust.	±1.5 s or ±5% of time.  For distances up to 1,220 m (4, 000 ft), the smaller of ±61 m (200 ft) or ±10% of distance.  For distances greater than 1,220 m (4, 000 ft), ±5% of distance.	Landing.	Time and distance must be recorded for at least 80% of the total time from touchdown to a full stop.  Position of ground spoilers and brake system pressure must be plotted (if applicable).  Data required for medium and near maximum certificated landing mass.  Engineering data may be used for the medium mass condition.	X	X	X	X	
1.e.2.	Deceleration time and distance, reverse thrust, no wheel brakes, dry runway.	±1.5 s or ±5% of time; and  the smaller of ±61 m (200 ft) or ±10% of distance.	Landing	Time and distance must be recorded for at least 80% of the total time from initiation of reverse thrust to full thrust reverser minimum operating speed.  Position of ground spoilers must be plotted (if applicable).  Data required for medium and near maximum certificated landing mass.  Engineering data may be used for the medium mass condition.	X	X	X	X	
1.e.3.	Stopping distance, wheel brakes, wet runway.	±61 m (200 ft) or ±10% of distance.	Landing.	Either flight test or manufacturer's performance manual data must be used, where available.  Engineering data, based on dry runway flight test stopping distance and the effects of contaminated runway braking coefficients, are an acceptable alternative.			X	X	
1.e.4.	Stopping distance, wheel brakes, icy runway.	±61 m (200 ft) or ±10% of distance.	Landing.	Either flight test or manufacturer's performance manual data must be used, where available.  Engineering data, based on dry runway flight test stopping distance and the effects of contaminated runway braking coefficients, are an acceptable alternative.			X	X	
1.f.	Engines.								

1.f.1.	Acceleration.	$\pm 10\%$ Ti or $\pm 0.25$ s; and $\pm 10\%$ Tt or $\pm 0.25$ s.	Approach or landing	Total response is the incremental change in the critical engine parameter from idle power to go-around power.	X	X	X	X	See Appendix F of this part for definitions of T <sub>i</sub> and T <sub>t</sub> .
1.f.2.	Deceleration.	$\pm 10\%$ Ti or $\pm 0.25$ s; and $\pm 10\%$ Tt or $\pm 0.25$ s.	Ground	Total response is the incremental change in the critical engine parameter from maximum takeoff power to idle power.	X	X	X	X	See Appendix F of this part for definitions of T <sub>i</sub> and T <sub>t</sub> .
<b>2. Handling Qualities.</b>									
2.a.	<b>Static Control Tests.</b>								
	<p><i>Note 1 — Testing of position versus force is not applicable if forces are generated solely by use of airplane hardware in the FSTD.</i></p> <p><i>Note 2 — Pitch, roll and yaw controller position versus force or time should be measured at the control. An alternative method in lieu of external test fixtures at the flight controls would be to have recording and measuring instrumentation built into the FSTD. The force and position data from this instrumentation could be directly recorded and matched to the airplane data. Provided the instrumentation was verified by using external measuring equipment while conducting the static control checks, or equivalent means, and that evidence of the satisfactory comparison is included in the MQTG, the instrumentation could be used for both initial and recurrent evaluations for the measurement of all required control checks. Verification of the instrumentation by using external measuring equipment should be repeated if major modifications and/or repairs are made to the control loading system. Such a permanent installation could be used without any time being lost for the installation of external devices. Static and dynamic flight control tests should be accomplished at the same feel or impact pressures as the validation data where applicable.</i></p> <p><i>Note 3 — FSTD static control testing from the second set of pilot controls is only required if both sets of controls are not mechanically interconnected on the FSTD. A rationale is required from the data provider if a single set of data is applicable to both sides. If controls are mechanically interconnected in the FSTD, a single set of tests is sufficient.</i></p>								
2.a.1.a.	Pitch controller position versus force and surface position calibration.	$\pm 0.9$ daN (2 lbf) breakout. $\pm 2.2$ daN (5 lbf) or $\pm 10\%$ of force. $\pm 2^\circ$ elevator angle.	Ground.	Record results for an uninterrupted control sweep to the stops.	X	X	X	X	Test results should be validated with in-flight data from tests such as longitudinal static stability, stalls, etc.
2.a.1.b.	(Reserved)								
2.a.2.a.	Roll controller position versus force and surface position calibration.	$\pm 0.9$ daN (2 lbf) breakout. $\pm 1.3$ daN (3 lbf) or $\pm 10\%$ of force. $\pm 2^\circ$ aileron angle. $\pm 3^\circ$ spoiler angle.	Ground.	Record results for an uninterrupted control sweep to the stops.	X	X	X	X	Test results should be validated with in-flight data from tests such as engine-out trims, steady state side-slips, etc.
2.a.2.b.	(Reserved)								
2.a.3.a.	Rudder pedal position versus force and surface position	$\pm 2.2$ daN (5 lbf) breakout.	Ground.	Record results for an uninterrupted control sweep to the stops.	X	X	X	X	Test results should be validated with in-flight data from tests such as engine-out

	calibration.	±2.2 daN (5 lbf) or ±10% of force.  ±2° rudder angle.							trims, steady state side-slips, etc.
<b>2.a.3.b.</b>	<b>(Reserved)</b>								
<b>2.a.4.</b>	Nosewheel Steering Controller Force and Position Calibration.	±0.9 daN (2 lbf) breakout.  ±1.3 daN (3 lbf) or ±10% of force.  ±2° NWA.	Ground.	Record results of an uninterrupted control sweep to the stops.	<b>X</b>	<b>X</b>	<b>X</b>	<b>X</b>	
<b>2.a.5.</b>	Rudder Pedal Steering Calibration.	±2° NWA.	Ground.	Record results of an uninterrupted control sweep to the stops.	<b>X</b>	<b>X</b>	<b>X</b>	<b>X</b>	
<b>2.a.6.</b>	Pitch Trim Indicator vs. Surface Position Calibration.	±0.5° trim angle.	Ground.		<b>X</b>	<b>X</b>	<b>X</b>	<b>X</b>	The purpose of the test is to compare FSTD surface position and indicator against the flight control model computed value.
<b>2.a.7.</b>	Pitch Trim Rate.	±10% of trim rate (°/s) or  ±0.1°/s trim rate.	Ground and approach.	Trim rate to be checked at pilot primary induced trim rate (ground) and autopilot or pilot primary trim rate in-flight at go-around flight conditions.  For CCA, representative flight test conditions must be used.	<b>X</b>	<b>X</b>	<b>X</b>	<b>X</b>	
<b>2.a.8.</b>	Alignment of cockpit throttle lever versus selected engine parameter.	When matching engine parameters:  ±5° of TLA.  When matching detents:  ±3% N1 or ±0.3 EPR or ±3% torque, or equivalent.  Where the levers do not have angular travel, a tolerance of ±2 cm (±0.8 in) applies.	Ground.	Simultaneous recording for all engines. The tolerances apply against airplane data.  For airplanes with throttle detents, all detents to be presented and at least one position between detents/ endpoints (where practical). For airplanes without detents, end points and at least three other positions are to be presented.	<b>X</b>	<b>X</b>	<b>X</b>	<b>X</b>	Data from a test airplane or engineering test bench are acceptable, provided the correct engine controller (both hardware and software) is used.  In the case of propeller-driven airplanes, if an additional lever, usually referred to as the propeller lever, is present, it should also be checked. This test may be a series of snapshot tests.
<b>2.a.9.</b>	Brake pedal position versus force and	±2.2 daN (5 lbf) or	Ground.	Relate the hydraulic system pressure to pedal	<b>X</b>	<b>X</b>	<b>X</b>	<b>X</b>	FFS computer output results may be used to show

	brake system pressure calibration.	±10% of force.  ±1.0 MPa (150 psi) or ±10% of brake system pressure.		position in a ground static test.  Both left and right pedals must be checked.					compliance.
2.a.10	Stick Pusher System Force Calibration (if applicable)	±10% or ±5 lb (2.2 daN)) Stick/Column force	Ground or Flight	Test is intended to validate the stick/column transient forces as a result of a stick pusher system activation.  This test may be conducted in an on-ground condition through stimulation of the stall protection system in a manner that generates a stick pusher response that is representative of an in-flight condition.			X	X	Aircraft manufacturer design data may be utilized as validation data as determined acceptable by the NSPM.  Test requirement may be met through column force validation testing in conjunction with the Stall Characteristics test (2.c.8.a.).  This test is required only for FSTDs qualified to conduct full stall training tasks.
2.b.	<b>Dynamic Control Tests.</b>								
	<i>Note.— Tests 2.b.1, 2.b.2 and 2.b.3 are not applicable for FSTDs where the control forces are completely generated within the airplane controller unit installed in the FSTD. Power setting may be that required for level flight unless otherwise specified. See paragraph 4 of this attachment..</i>								
2.b.1.	Pitch Control.	<b>For underdamped systems:</b>  T(P <sub>0</sub> ) ±10% of P <sub>0</sub> or ±0.05 s.  T(P <sub>1</sub> ) ±20% of P <sub>1</sub> or ±0.05 s.  T(P <sub>2</sub> ) ±30% of P <sub>2</sub> or ±0.05 s.  T(P <sub>n</sub> ) ±10*(n+1)% of P <sub>n</sub> or ±0.05 s.  T(A <sub>n</sub> ) ±10% of A <sub>max</sub> , where A <sub>max</sub> is the largest amplitude or ±0.5% of the total control travel	Takeoff, Cruise, and Landing.	Data must be for normal control displacements in both directions (approximately 25% to 50% of full throw or approximately 25% to 50% of maximum allowable pitch controller deflection for flight conditions limited by the maneuvering load envelope).  Tolerances apply against the absolute values of each period (considered independently).			X	X	n = the sequential period of a full oscillation.  Refer to paragraph 4 of this Attachment.  For overdamped and critically damped systems, see Figure A2B of Appendix A for an illustration of the reference measurement.



		<p>(stop to stop).</p> <p><math>T(A_d) \pm 5\%</math> of <math>A_d</math> = residual band or <math>\pm 0.5\%</math> of the maximum control travel = residual band.</p> <p><math>\pm 1</math> significant overshoots (minimum of 1 significant overshoot).</p> <p>Steady state position within residual band.</p> <p><i>Note 1.— Tolerances should not be applied on period or amplitude after the last significant overshoot.</i></p> <p><i>Note 2.— Oscillations within the residual band are not considered significant and are not subject to tolerances.</i></p> <p><b>For overdamped and critically damped systems only</b>, the following tolerance applies: <math>T(P_0) \pm 10\%</math> of <math>P_0</math> or <math>\pm 0.05</math> s.</p>							
2.b.2.	Roll Control.	Same as 2.b.1.	Takeoff, Cruise, and Landing.	Data must be for normal control displacement (approximately 25% to 50% of full throw or approximately 25% to 50% of maximum allowable roll controller deflection for flight conditions limited by the maneuvering load envelope).			X	X	Refer to paragraph 4 of this Attachment.  For overdamped and critically damped systems, see Figure A2B of Appendix A for an illustration of the reference measurement.
2.b.3.	Yaw Control.	Same as 2.b.1.	Takeoff, Cruise, and	Data must be for normal control displacement			X	X	Refer to paragraph 4 of this

			Landing.	(approximately 25% to 50% of full throw).					Attachment.  For overdamped and critically damped systems, see Figure A2B of Appendix A for an illustration of the reference measurement.
<b>2.b.4.</b>	Small Control Inputs – Pitch.	$\pm 0.15^\circ/\text{s}$ body pitch rate or $\pm 20\%$ of peak body pitch rate applied throughout the time history.	Approach or Landing.	Control inputs must be typical of minor corrections made while established on an ILS approach (approximately 0.5 to $2^\circ/\text{s}$ pitch rate).  Test in both directions.  Show time history data from 5 s before until at least 5 s after initiation of control input.  If a single test is used to demonstrate both directions, there must be a minimum of 5 s before control reversal to the opposite direction.  CCA: Test in normal and non-normal control state.			X	X	
<b>2.b.5.</b>	Small Control Inputs – Roll.	$\pm 0.15^\circ/\text{s}$ body roll rate or $\pm 20\%$ of peak body roll rate applied throughout the time history.	Approach or landing.	Control inputs must be typical of minor corrections made while established on an ILS approach (approximately 0.5 to $2^\circ/\text{s}$ roll rate).  Test in one direction. For airplanes that exhibit non-symmetrical behavior, test in both directions.  Show time history data from 5 s before until at least 5 s after initiation of control input.  If a single test is used to demonstrate both directions, there must be a minimum of 5 s before control reversal to the opposite direction.  CCA: Test in normal and non-normal control state.			X	X	
<b>2.b.6.</b>	Small Control Inputs – Yaw.	$\pm 0.15^\circ/\text{s}$ body yaw rate or $\pm 20\%$ of peak body yaw rate applied throughout the time history.	Approach or landing.	Control inputs must be typical of minor corrections made while established on an ILS approach (approximately 0.5 to $2^\circ/\text{s}$ yaw rate).  Test in both directions.			X	X	

				<p>Show time history data from 5 s before until at least 5 s after initiation of control input.</p> <p>If a single test is used to demonstrate both directions, there must be a minimum of 5 s before control reversal to the opposite direction.</p> <p><b>CCA:</b> Test in normal and non-normal control state.</p>					
<b>2.c.</b>	<b>Longitudinal Control Tests.</b>								
	Power setting is that required for level flight unless otherwise specified.								
<b>2.c.1.</b>	Power Change Dynamics.	$\pm 3$ kt airspeed. $\pm 30$ m (100 ft) altitude. $\pm 1.5^\circ$ or $\pm 20\%$ of pitch angle.	Approach.	<p>Power change from thrust for approach or level flight to maximum continuous or go-around power.</p> <p>Time history of uncontrolled free response for a time increment equal to at least 5 s before initiation of the power change to the completion of the power change + 15 s.</p> <p><b>CCA:</b> Test in normal and non-normal control mode</p>	<b>X</b>	<b>X</b>	<b>X</b>	<b>X</b>	
<b>2.c.2.</b>	Flap/Slat Change Dynamics.	$\pm 3$ kt airspeed. $\pm 30$ m (100 ft) altitude. $\pm 1.5^\circ$ or $\pm 20\%$ of pitch angle.	Takeoff through initial flap retraction, and approach to landing.	<p>Time history of uncontrolled free response for a time increment equal to at least 5 s before initiation of the reconfiguration change to the completion of the reconfiguration change + 15 s.</p> <p><b>CCA:</b> Test in normal and non-normal control mode</p>	<b>X</b>	<b>X</b>	<b>X</b>	<b>X</b>	
<b>2.c.3.</b>	Spoiler/Speedbrake Change Dynamics.	$\pm 3$ kt airspeed. $\pm 30$ m (100 ft) altitude. $\pm 1.5^\circ$ or $\pm 20\%$ of pitch angle.	Cruise.	<p>Time history of uncontrolled free response for a time increment equal to at least 5 s before initiation of the configuration change to the completion of the configuration change + 15 s.</p> <p>Results required for both extension and retraction.</p> <p><b>CCA:</b> Test in normal and non-normal control mode</p>	<b>X</b>	<b>X</b>	<b>X</b>	<b>X</b>	
<b>2.c.4.</b>	Gear Change	$\pm 3$ kt airspeed.	Takeoff (retraction), and	Time history of uncontrolled free response for a	<b>X</b>	<b>X</b>	<b>X</b>	<b>X</b>	

	Dynamics.	<p>±30 m (100 ft) altitude.</p> <p>±1.5° or ±20% of pitch angle.</p>	Approach (extension).	<p>time increment equal to at least 5 s before initiation of the configuration change to the completion of the configuration change + 15 s.</p> <p>CCA: Test in normal and non-normal control mode</p>					
2.e.5.	Longitudinal Trim.	<p>±1° elevator angle.</p> <p>±0.5° stabilizer or trim surface angle.</p> <p>±1° pitch angle.</p> <p>±5% of net thrust or equivalent.</p>	Cruise, Approach, and Landing.	<p>Steady-state wings level trim with thrust for level flight. This test may be a series of snapshot tests.</p> <p>CCA: Test in normal or non-normal control mode, as applicable.</p>	X	X	X	X	
2.e.6.	Longitudinal Maneuvering Stability (Stick Force/g).	<p>±2.2 daN (5 lbf) or ±10% of pitch controller force.</p> <p>Alternative method:</p> <p>±1° or ±10% of the change of elevator angle.</p>	Cruise, Approach, and Landing.	<p>Continuous time history data or a series of snapshot tests may be used.</p> <p>Test up to approximately 30° of roll angle for approach and landing configurations. Test up to approximately 45° of roll angle for the cruise configuration.</p> <p>Force tolerance not applicable if forces are generated solely by the use of airplane hardware in the FSTD.</p> <p>Alternative method applies to airplanes which do not exhibit stick-force-per-g characteristics.</p> <p>CCA: Test in normal or non-normal control mode</p>	X	X	X	X	
2.e.7.	Longitudinal Static Stability.	<p>±2.2 daN (5 lbf) or ±10% of pitch controller force.</p> <p>Alternative method:</p> <p>±1° or ±10% of the change of elevator angle.</p>	Approach.	<p>Data for at least two speeds above and two speeds below trim speed. The speed range must be sufficient to demonstrate stick force versus speed characteristics.</p> <p>This test may be a series of snapshot tests.</p> <p>Force tolerance is not applicable if forces are generated solely by the use of airplane hardware in the FSTD.</p>	X	X	X	X	

				<p>Alternative method applies to airplanes which do not exhibit speed stability characteristics.</p> <p>CCA: Test in normal or non-normal control mode, as applicable.</p>					
2.c.8.a	Stall Characteristics	<p>±3 kt airspeed for stall warning and stall speeds.</p> <p>±2.0° angle of attack for buffet threshold of perception and initial buffet based upon Nz component.</p> <p>Control inputs must be plotted and demonstrate correct trend and magnitude.</p> <p>Approach to stall: ±2.0° pitch angle; ±2.0° angle of attack; and ±2.0° bank angle</p> <p>Stall warning up to stall: ±2.0° pitch angle; ±2.0° angle of attack; and Correct trend and magnitude for roll rate and yaw rate.</p> <p>Stall Break and Recovery: SOC Required (see Attachment 7)</p> <p>Additionally, for those simulators with reversible flight control systems or equipped with stick pusher</p>	Second Segment Climb, High Altitude Cruise (Near Performance Limited Condition), and Approach or Landing	<p>Each of the following stall entries must be demonstrated in at least one of the three flight conditions:</p> <ul style="list-style-type: none"> <li>Stall entry at wings level (1g)</li> <li>Stall entry in turning flight of at least 25° bank angle (accelerated stall)</li> <li>Stall entry in a power-on condition (required only for propeller driven aircraft)</li> </ul> <p>The cruise flight condition must be conducted in a flaps-up (clean) configuration. The second segment climb flight condition must use a different flap setting than the approach or landing flight condition.</p> <p>Record the stall warning signal and initial buffet, if applicable. Time history data must be recorded for full stall through recovery to normal flight. The stall warning signal must occur in the proper relation to buffet/stall. FSTDs of airplanes exhibiting a sudden pitch attitude change or “g break” must demonstrate this characteristic. FSTDs of airplanes exhibiting a roll off or loss of roll control authority must demonstrate this characteristic.</p> <p>Numerical tolerances are not applicable past the stall angle of attack, but must demonstrate correct trend through recovery. See Attachment 7 for additional requirements and information concerning data sources and required angle of attack ranges.</p> <p>CCA: Test in normal and non-normal control states. For CCA aircraft with stall envelope protection systems, the normal mode testing is only required to an angle of attack range necessary to demonstrate the correct operation of the system. These tests may be used to satisfy the required</p>			X	X	<p>Buffet threshold of perception should be based on 0.03 g peak to peak normal acceleration above the background noise at the pilot seat. Initial buffet to be based on normal acceleration at the pilot seat with a larger peak to peak value relative to buffet threshold of perception (some airframe manufacturers have used 0.1 g peak to peak). Demonstrate correct trend in growth of buffet amplitude from initial buffet to stall speed for normal and lateral acceleration.</p> <p>The FSTD sponsor/FSTD manufacturer may limit maximum buffet based on motion platform capability/limitations or other simulator system limitations.</p> <p>Tests may be conducted at centers of gravity and weights typically required for airplane certification stall testing.</p> <p>This test is required only for FSTDs qualified to conduct full stall training tasks.</p> <p>In instances where flight test validation data is limited due to safety of flight considerations, engineering simulator validation data may</p>

		systems: $\pm 10\%$ or $\pm 5$ lb (2.2 daN)) Stick/Column force (prior to the stall angle of attack).		(angle of attack) flight maneuver and envelope protection tests (test 2.h.6.). Non-normal control states must be tested through stall identification and recovery.				be used in lieu of flight test validation data for angles of attack that exceed the activation of a stall protection system or stick pusher system.  Where approved engineering simulation validation is used, the reduced engineering tolerances (as defined in paragraph 11 of this appendix) do not apply.
<b>2.c.8.b</b>	Approach to Stall Characteristics	$\pm 3$ kt airspeed for stall warning speeds.  $\pm 2.0^\circ$ angle of attack for initial buffet.  Control displacements and flight control surfaces must be plotted and demonstrate correct trend and magnitude.  $\pm 2.0^\circ$ pitch angle; $\pm 2.0^\circ$ angle of attack; and $\pm 2.0^\circ$ bank angle  Additionally, for those simulators with reversible flight control systems: $\pm 10\%$ or $\pm 5$ lb (2.2 daN)) Stick/Column force	Second Segment Climb, High Altitude Cruise (Near Performance Limited Condition), and Approach or Landing	Each of the following stall entries must be demonstrated in at least one of the three flight conditions: <ul style="list-style-type: none"> <li>Approach to stall entry at wings level (1g)</li> <li>Approach to stall entry in turning flight of at least <math>25^\circ</math> bank angle (accelerated stall)</li> <li>Approach to stall entry in a power-on condition (required only for propeller driven aircraft)</li> </ul> <p>The cruise flight condition must be conducted in a flaps-up (clean) configuration. The second segment climb flight condition must use a different flap setting than the approach or landing flight condition.</p> <p><b>CCA:</b> Test in Normal and Non-normal control states. For CCA aircraft with stall envelope protection systems, the normal mode testing is only required to an angle of attack range necessary to demonstrate the correct operation of the system. These tests may be used to satisfy the required (angle of attack) flight maneuver and envelope protection tests (test 2.h.6.).</p>	<b>X</b>	<b>X</b>		Tests may be conducted at centers of gravity and weights typically required for airplane certification stall testing.  Tolerances on stall buffet are not applicable where the first indication of the stall is the activation of the stall warning system (i.e. stick shaker).
<b>2.c.9.</b>	Phugoid Dynamics.	$\pm 10\%$ of period.  $\pm 10\%$ of time to one half or double amplitude or $\pm 0.02$ of damping ratio.	Cruise.	Test must include three full cycles or that necessary to determine time to one half or double amplitude, whichever is less.  <b>CCA:</b> Test in non-normal control mode.	<b>X</b>	<b>X</b>	<b>X</b>	<b>X</b>
<b>2.c.10</b>	Short Period Dynamics.	$\pm 1.5^\circ$ pitch angle or $\pm 2^\circ/\text{s}$ pitch rate.	Cruise.	<b>CCA:</b> Test in normal and non-normal control mode.	<b>X</b>	<b>X</b>	<b>X</b>	<b>X</b>

		±0.1 g normal acceleration							
2.c.11.	(Reserved)								
2.d.	<b>Lateral Directional Tests.</b>								
	Power setting is that required for level flight unless otherwise specified.								
2.d.1.	Minimum control speed, air ( $V_{mca}$ ) or landing ( $V_{mcl}$ ), per applicable airworthiness requirement or low speed engine-inoperative handling characteristics in the air.	±3 kt airspeed.	Takeoff or Landing (whichever is most critical in the airplane).	Takeoff thrust must be set on the operating engine(s).  Time history or snapshot data may be used.  CCA: Test in normal or non-normal control state, as applicable.	X	X	X	X	Minimum speed may be defined by a performance or control limit which prevents demonstration of $V_{mca}$ or $V_{mcl}$ in the conventional manner.
2.d.2.	Roll Response (Rate).	±2°/s or ±10% of roll rate.  For airplanes with reversible flight control systems:  ±1.3 daN (3 lbf) or ±10% of wheel force.	Cruise, and Approach or Landing.	Test with normal roll control displacement (approximately one-third of maximum roll controller travel).  This test may be combined with step input of flight deck roll controller test 2.d.3.	X	X	X	X	
2.d.3.	Step input of flight deck roll controller.	±2° or ±10% of roll angle.	Approach or Landing.	This test may be combined with roll response (rate) test 2.d.2.  CCA: Test in normal and non-normal control mode	X	X	X	X	With wings level, apply a step roll control input using approximately one-third of the roll controller travel. When reaching approximately 20° to 30° of bank, abruptly return the roll controller to neutral and allow approximately 10 seconds of airplane free response.
2.d.4.	Spiral Stability.	Correct trend and ±2° or ±10% of roll angle in 20 s.  If alternate test is used: correct trend and ±2° aileron angle.	Cruise, and Approach or Landing.	Airplane data averaged from multiple tests may be used.  Test for both directions. As an alternative test, show lateral control required to maintain a steady turn with a roll angle of approximately 30°.	X	X	X	X	

				<b>CCA:</b> Test in non-normal control mode.					
<b>2.d.5.</b>	Engine Inoperative Trim.	±1° rudder angle or ±1° tab angle or equivalent rudder pedal.  ±2° side-slip angle.	Second Segment Climb, and Approach or Landing.	This test may consist of snapshot tests.	<b>X</b>	<b>X</b>	<b>X</b>	<b>X</b>	Test should be performed in a manner similar to that for which a pilot is trained to trim an engine failure condition.  2nd segment climb test should be at takeoff thrust. Approach or landing test should be at thrust for level flight.
<b>2.d.6.</b>	Rudder Response.	±2°/s or ±10% of yaw rate.	Approach or Landing.	Test with stability augmentation on and off.  Test with a step input at approximately 25% of full rudder pedal throw.  <b>CCA:</b> Test in normal and non-normal control mode	<b>X</b>	<b>X</b>	<b>X</b>	<b>X</b>	
<b>2.d.7.</b>	Dutch Roll	±0.5 s or ±10% of period.  ±10% of time to one half or double amplitude or ±.02 of damping ratio.  ±1 s or ±20% of time difference between peaks of roll angle and side-slip angle.	Cruise, and Approach or Landing.	Test for at least six cycles with stability augmentation off.  <b>CCA:</b> Test in non-normal control mode.		<b>X</b>	<b>X</b>	<b>X</b>	
<b>2.d.8.</b>	Steady State Sideslip.	For a given rudder position:  ±2° roll angle;  ±1° side-slip angle;  ±2° or ±10% of aileron angle; and	Approach or Landing.	This test may be a series of snapshot tests using at least two rudder positions (in each direction for propeller-driven airplanes), one of which must be near maximum allowable rudder.	<b>X</b>	<b>X</b>	<b>X</b>	<b>X</b>	



		<p>±5° or ±10% of spoiler or equivalent roll controller position or force.</p> <p>For airplanes with reversible flight control systems:</p> <p>±1.3 daN (3 lbf) or ±10% of wheel force.</p> <p>±2.2 daN (5 lbf) or ±10% of rudder pedal force.</p>							
2.e.	Landings.								
2.e.1.	Normal Landing.	<p>±3 kt airspeed.</p> <p>±1.5° pitch angle.</p> <p>±1.5° AOA.</p> <p>±3 m (10 ft) or ±10% of height.</p> <p>For airplanes with reversible flight control systems:</p> <p>±2.2 daN (5 lbf) or ±10% of column force.</p>	Landing.	<p>Test from a minimum of 61 m (200 ft) AGL to nosewheel touchdown.</p> <p>CCA: Test in normal and non-normal control mode, if applicable.</p>		X	X	X	Two tests should be shown, including two normal landing flaps (if applicable) one of which should be near maximum certificated landing mass, the other at light or medium mass.
2.e.2.	Minimum Flap Landing.	<p>±3 kt airspeed.</p> <p>±1.5° pitch angle.</p> <p>±1.5° AOA.</p> <p>±3 m (10 ft) or ±10% of height.</p> <p>For airplanes with</p>	Minimum Certified Landing Flap Configuration.	<p>Test from a minimum of 61 m (200 ft) AGL to nosewheel touchdown.</p> <p>Test at near maximum certificated landing weight.</p>			X	X	

		reversible flight control systems:  ±2.2 daN (5 lbf) or ±10% of column force.							
2.e.3.	Crosswind Landing.	±3 kt airspeed.  ±1.5° pitch angle.  ±1.5° AOA.  ±3 m (10 ft) or ±10% of height.  ±2° roll angle.  ±2° side-slip angle.  ±3° heading angle.  For airplanes with reversible flight control systems:  ±2.2 daN (5 lbf) or ±10% of column force.  ±1.3 daN (3 lbf) or ±10% of wheel force.  ±2.2 daN (5 lbf) or ±10% of rudder pedal force.	Landing.	Test from a minimum of 61 m (200 ft) AGL to a 50% decrease in main landing gear touchdown speed.  Test data is required, including wind profile, for a crosswind component of at least 60% of airplane performance data value measured at 10 m (33 ft) above the runway.  Wind components must be provided as headwind and crosswind values with respect to the runway.		X	X	X	In those situations where a maximum crosswind or a maximum demonstrated crosswind is not known, contact the NSPM.
2.e.4.	One Engine Inoperative Landing.	±3 kt airspeed.  ±1.5° pitch angle.  ±1.5° AOA.  ±3 m (10 ft) or ±10% of height.	Landing.	Test from a minimum of 61 m (200 ft) AGL to a 50% decrease in main landing gear touchdown speed.		X	X	X	

		±2° roll angle.  ±2° side-slip angle.  ±3° heading angle.							
2.e.5.	Autopilot landing (if applicable).	±1.5 m (5 ft) flare height.  ±0.5 s or ± 10% of Tf.  ±0.7 m/s (140 ft/min) rate of descent at touchdown.  ±3 m (10 ft) lateral deviation during roll-out.	Landing.	If autopilot provides roll-out guidance, record lateral deviation from touchdown to a 50% decrease in main landing gear touchdown speed.  Time of autopilot flare mode engage and main gear touchdown must be noted.		X	X	X	See Appendix F of this part for definition of T <sub>f</sub> .
2.e.6.	All-engine autopilot go-around.	±3 kt airspeed.  ±1.5° pitch angle.  ±1.5° AOA.	As per airplane performance data.	Normal all-engine autopilot go-around must be demonstrated (if applicable) at medium weight.		X	X	X	
2.e.7.	One engine inoperative go around.	±3 kt airspeed.  ±1.5° pitch angle.  ±1.5° AOA.  ±2° roll angle.  ±2° side-slip angle.	As per airplane performance data.	Engine inoperative go-around required near maximum certificated landing weight with critical engine inoperative.  Provide one test with autopilot (if applicable) and one without autopilot.  CCA: Non-autopilot test to be conducted in non-normal mode.		X	X	X	
2.e.8.	Directional control (rudder effectiveness) with symmetric reverse thrust.	±5 kt airspeed.  ±2°/s yaw rate.	Landing.	Apply rudder pedal input in both directions using full reverse thrust until reaching full thrust reverser minimum operating speed.		X	X	X	
2.e.9.	Directional control (rudder effectiveness) with asymmetric reverse thrust.	±5 kt airspeed.  ±3° heading angle.	Landing.	With full reverse thrust on the operating engine(s), maintain heading with rudder pedal input until maximum rudder pedal input or thrust reverser minimum operation speed is reached.		X	X	X	
2.f.	Ground Effect.								

	Test to demonstrate Ground Effect.	$\pm 1^\circ$ elevator angle. $\pm 0.5^\circ$ stabilizer angle. $\pm 5\%$ of net thrust or equivalent. $\pm 1^\circ$ AOA. $\pm 1.5$ m (5 ft) or $\pm 10\%$ of height. $\pm 3$ kt airspeed. $\pm 1^\circ$ pitch angle.	Landing.	A rationale must be provided with justification of results.  <b>CCA:</b> Test in normal or non-normal control mode, as applicable.		X	X	X	See paragraph 5 of this Attachment for additional information.
<b>2.g.</b>	<b>Windshear.</b>								
	Four tests, two takeoff and two landing, with one of each conducted in still air and the other with windshear active to demonstrate windshear models.	See Attachment 5 of this appendix.	Takeoff and Landing.	Requires windshear models that provide training in the specific skills needed to recognize windshear phenomena and to execute recovery procedures. See Attachment 5 of this appendix for tests, tolerances, and procedures.			X	X	See Attachment 5 of this appendix for information related to Level A and B simulators.
<b>2.h.</b>	<b>Flight Maneuver and Envelope Protection Functions.</b>								
	<i>Note. — The requirements of 2.h are only applicable to computer-controlled airplanes. Time history results of response to control inputs during entry into each envelope protection function (i.e. with normal and degraded control states if their function is different) are required. Set thrust as required to reach the envelope protection function.</i>								
<b>2.h.1.</b>	Overspeed.	$\pm 5$ kt airspeed.	Cruise.			X	X	X	
<b>2.h.2.</b>	Minimum Speed.	$\pm 3$ kt airspeed.	Takeoff, Cruise, and Approach or Landing.			X	X	X	
<b>2.h.3.</b>	Load Factor.	$\pm 0.1g$ normal load factor	Takeoff, Cruise.			X	X	X	
<b>2.h.4.</b>	Pitch Angle.	$\pm 1.5^\circ$ pitch angle	Cruise, Approach.			X	X	X	
<b>2.h.5.</b>	Bank Angle.	$\pm 2^\circ$ or $\pm 10\%$ bank angle	Approach.			X	X	X	
<b>2.h.6.</b>	Angle of Attack.	$\pm 1.5^\circ$ angle of attack	Second Segment Climb, and Approach or Landing.			X	X	X	
<b>2.i.</b>	<b>Engine and Airframe Icing Effects</b>								
<b>2.i.</b>	Engine and Airframe Icing Effects Demonstration (High Angle of Attack)		Takeoff or Approach or Landing  [One flight condition –	Time history of a full stall and initiation of the recovery. Tests are intended to demonstrate representative aerodynamic effects caused by in-flight ice accretion. Flight test validation data is			X	X	Tests will be evaluated for representative effects on relevant aerodynamic and other parameters such as

			two tests (ice on and off)]	<p>not required.</p> <p>Two tests are required to demonstrate engine and airframe icing effects. One test will demonstrate the FSTDs baseline performance without ice accretion, and the second test will demonstrate the aerodynamic effects of ice accretion relative to the baseline test.</p> <p>The test must utilize the icing model(s) as described in the required Statement of Compliance in Table A1A, Section 2.j. Test must include rationale that describes the icing effects being demonstrated. Icing effects may include, but are not limited to, the following effects as applicable to the particular airplane type:</p> <ul style="list-style-type: none"> <li>▪ Decrease in stall angle of attack</li> <li>▪ Changes in pitching moment</li> <li>▪ Decrease in control effectiveness</li> <li>▪ Changes in control forces</li> <li>▪ Increase in drag</li> <li>▪ Change in stall buffet characteristics and threshold of perception</li> <li>▪ Engine effects (power reduction/variation, vibration, etc. where expected to be present on the aircraft in the ice accretion scenario being tested)</li> </ul>					<p>angle of attack, control inputs, and thrust/power settings.</p> <p>Plotted parameters must include:</p> <ul style="list-style-type: none"> <li>• Altitude</li> <li>• Airspeed</li> <li>• Normal acceleration</li> <li>• Engine power</li> <li>• Angle of attack</li> <li>• Pitch attitude</li> <li>• Bank angle</li> <li>• Flight control inputs</li> <li>• Stall warning and stall buffet onset</li> </ul>
<b>3. Motion System.</b>									
<b>3.a.</b>	<b>Frequency response.</b>								
		As specified by the sponsor for FSTD qualification.	Not applicable.	Appropriate test to demonstrate required frequency response.	X	X	X	X	See paragraph 6 of this Attachment.
<b>3.b.</b>	<b>Turn-around check.</b>								
		As specified by the sponsor for FSTD qualification.	Not applicable.	Appropriate test to demonstrate required smooth turn-around.	X	X	X	X	See paragraph 6 of this Attachment.
<b>3.c</b>	<b>Motion effects.</b>				X	X	X	X	Refer to Attachment 3 of this Appendix on subjective testing.
<b>3.d.</b>	<b>Motion system repeatability.</b>								
	Motion system repeatability	±0.05 g actual platform linear accelerations.	None.		X	X	X	X	Ensure that motion system hardware and software (in normal FSTD operating

									mode) continue to perform as originally qualified. Performance changes from the original baseline can be readily identified with this information.  See paragraph 6.c. of this Attachment.
<b>3.e.</b>	<b>Motion cueing fidelity</b>								
<b>3.e.1.</b>	Motion cueing fidelity – Frequency-domain criterion.	As specified by the FSTD manufacturer for initial qualification.	Ground and flight.	For the motion system as applied during training, record the combined modulus and phase of the motion cueing algorithm and motion platform over the frequency range appropriate to the characteristics of the simulated aircraft.  This test is only required for initial FSTD qualification.			<b>X</b>	<b>X</b>	Testing may be accomplished by the FSTD manufacturer and results provided as a statement of compliance.
<b>3.e.2.</b>	Reserved								
<b>3.f</b>	Characteristic motion vibrations. The following tests with recorded results and an SOC are required for characteristic motion vibrations, which can be sensed at the flight deck where applicable by airplane type.	None.	Ground and flight.				<b>X</b>		The recorded test results for characteristic buffets should allow the comparison of relative amplitude versus frequency.  See also paragraph 6.e. of this Attachment.
<b>3.f.1.</b>	Thrust effect with brakes set.	The FSTD test results must exhibit the overall appearance and trends of the airplane data, with at least three (3) of the predominant frequency “spikes” being present within $\pm 2$ Hz of the airplane data.	Ground.	Test must be conducted at maximum possible thrust with brakes set.				<b>X</b>	
<b>3.f.2.</b>	Buffet with landing gear extended.	The FSTD test results must exhibit the overall appearance and trends of the airplane data,	Flight.	Test condition must be for a normal operational speed and not at the gear limiting speed.				<b>X</b>	

		with at least three (3) of the predominant frequency “spikes” being present within $\pm 2$ Hz of the airplane data.						
3.f.3.	Buffet with flaps extended.	The FSTD test results must exhibit the overall appearance and trends of the airplane data, with at least three (3) of the predominant frequency “spikes” being present within $\pm 2$ Hz of the airplane data.	Flight.	Test condition must be at a normal operational speed and not at the flap limiting speed.			X	
3.f.4.	Buffet with speedbrakes deployed.	The FSTD test results must exhibit the overall appearance and trends of the airplane data, with at least three (3) of the predominant frequency “spikes” being present within $\pm 2$ Hz of the airplane data.	Flight.	Test condition must be at a typical speed for a representative buffet.			X	
3.f.5.	Stall buffet	The FSTD test results must exhibit the overall appearance and trends of the airplane data, with at least three (3) of the predominant frequency “spikes” being present within $\pm 2$ Hz of the airplane data.	Cruise (High Altitude), Second Segment Climb, and Approach or Landing	Tests must be conducted for an angle of attack range between the buffet threshold of perception to the pilot and the stall angle of attack. Post stall characteristics are not required.		X	X	<p>If stabilized flight data between buffet threshold of perception and the stall angle of attack are not available, PSD analysis should be conducted for a time span between initial buffet and the stall angle of attack.</p> <p>Test required only for FSTDs qualified for full stall training tasks or for those aircraft which exhibit stall buffet before the activation of the stall warning system.</p>
3.f.6.	Buffet at high airspeeds or high Mach.	The FSTD test results must exhibit the overall appearance and trends of the airplane data, with at least three (3) of the predominant	Flight.				X	Test condition should be for high-speed maneuver buffet/wind-up-turn or alternatively Mach buffet.

		frequency “spikes” being present within ± 2 Hz of the airplane data.						
3.f.7.	In-flight vibrations for propeller driven airplanes.	The FSTD test results must exhibit the overall appearance and trends of the airplane data, with at least three (3) of the predominant frequency “spikes” being present within ± 2 Hz of the airplane data.	Flight (clean configuration).				X	Test should be conducted to be representative of in-flight vibrations for propeller-driven airplanes.
4. Visual System.								
4.a.	Visual scene quality							
4.a.1.	Continuous collimated cross-cockpit visual field of view.	Cross-cockpit, collimated visual display providing each pilot with a minimum of 176° horizontal and 36° vertical continuous field of view.	Not applicable.	Required as part of MQTG but not required as part of continuing evaluations.			X X	Field of view should be measured using a visual test pattern filling the entire visual scene (all channels) consisting of a matrix of black and white 5° squares.  Installed alignment should be confirmed in an SOC (this would generally consist of results from acceptance testing).
	Continuous collimated cross-cockpit visual field of view.	Continuous collimated field-of-view providing at least 45° horizontal and 30° vertical field-of-view for each pilot seat. Both pilot seat visual systems must be operable simultaneously.	Not applicable.	Required as part of MQTG but not required as part of continuing evaluations.	X	X		A vertical field-of-view of 30° may be insufficient to meet visual ground segment requirements.
4.a.2.	System geometry	5° even angular spacing within ±1° as measured from either pilot eye point and within 1.5° for adjacent squares.	Not applicable.	The angular spacing of any chosen 5° square and the relative spacing of adjacent squares must be within the stated tolerances.	X	X	X X	The purpose of this test is to evaluate local linearity of the displayed image at either pilot eye point. System geometry should be measured using a visual test pattern filling the entire visual scene (all channels) with a matrix of black and white 5° squares



									with light points at the intersections.  For continuing qualification testing, the use of an optical checking device is encouraged. This device should typically consist of a hand-held go/no go gauge to check that the relative positioning is maintained.
4.a.3	Surface resolution (object detection).	Not greater than 2 arc minutes.	Not applicable.	An SOC is required and must include the relevant calculations and an explanation of those calculations.  This requirement is applicable to any level of simulator equipped with a daylight visual system.			X	X	Resolution will be demonstrated by a test of objects shown to occupy the required visual angle in each visual display used on a scene from the pilot's eyepoint.  The object will subtend 2 arc minutes to the eye.  This may be demonstrated using threshold bars for a horizontal test.  A vertical test should also be demonstrated.
4.a.4	Light point size.	Not greater than 5 arc minutes.	Not applicable.	An SOC is required and must include the relevant calculations and an explanation of those calculations.  This requirement is applicable to any level of simulator equipped with a daylight visual system.			X	X	Light point size should be measured using a test pattern consisting of a centrally located single row of white light points displayed as both a horizontal and vertical row.  It should be possible to move the light points relative to the eyepoint in all axes.  At a point where modulation is just discernible in each visual channel, a calculation should be made to determine the light spacing.
4.a.5	Raster surface contrast ratio.	Not less than 5:1.	Not applicable.	This requirement is applicable to any level of simulator equipped with a daylight visual system.			X	X	Surface contrast ratio should be measured using a raster

									<p>drawn test pattern filling the entire visual scene (all channels).</p> <p>The test pattern should consist of black and white squares, 5° per square, with a white square in the center of each channel.</p> <p>Measurement should be made on the center bright square for each channel using a 1° spot photometer. This value should have a minimum brightness of 7 cd/m<sup>2</sup> (2 ft-lamberts). Measure any adjacent dark squares.</p> <p>The contrast ratio is the bright square value divided by the dark square value.</p> <p><i>Note 1. — During contrast ratio testing, FSTD aft-cab and flight deck ambient light levels should be as low as possible.</i></p> <p><i>Note 2. — Measurements should be taken at the center of squares to avoid light spill into the measurement device.</i></p>
4.a.6	Light point contrast ratio.	Not less than 25:1.	Not applicable.	An SOC is required and must include the relevant calculations.			X	X	<p>Light point contrast ratio should be measured using a test pattern demonstrating an area of greater than 1° area filled with white light points and should be compared to the adjacent background.</p> <p><i>Note. — Light point</i></p>

									<p><i>modulation should be just discernible on calligraphic systems but will not be discernible on raster systems.</i></p> <p>Measurements of the background should be taken such that the bright square is just out of the light meter FOV.</p> <p><i>Note. — During contrast ratio testing, FSTD aft-cab and flight deck ambient light levels should be as low as practical.</i></p>
	Light point contrast ratio.	Not less than 10:1.	Not applicable.		X	X			
4.a.7	Light point brightness.	Not less than 20 cd/m <sup>2</sup> (5.8 ft-lamberts).	Not applicable.				X	X	<p>Light points should be displayed as a matrix creating a square.</p> <p>On calligraphic systems the light points should just merge.</p> <p>On raster systems the light points should overlap such that the square is continuous (individual light points will not be visible).</p>
4.a.8	Surface brightness.	Not less than 20 cd/m <sup>2</sup> (5.8 ft-lamberts) on the display.	Not applicable.	This requirement is applicable to any level of simulator equipped with a daylight visual system.			X	X	<p>Surface brightness should be measured on a white raster, measuring the brightness using the 1° spot photometer.</p> <p>Light points are not acceptable.</p> <p>Use of calligraphic capabilities to enhance raster brightness is acceptable.</p>
4.a.9	Black level and	Black intensity:	Not applicable.		X	X	X	X	All projectors should be

	sequential contrast.	Background brightness – Black polygon brightness < 0.015 cd/m <sup>2</sup> (0.004 ft- lamberts).  Sequential contrast:  Maximum brightness – (Background brightness – Black polygon brightness) > 2,000:1.							turned off and the cockpit environment made as dark as possible. A background reading should be taken of the remaining ambient light on the screen.  The projectors should then be turned on and a black polygon displayed. A second reading should then be taken and the difference between this and the ambient level recorded.  A full brightness white polygon should then be measured for the sequential contrast test.  This test is generally only required for <b>light valve projectors</b> .	
4.a.10	Motion blur.	When a pattern is rotated about the eyepoint at 10°/s, the smallest detectable gap must be 4 arc min or less.	Not applicable.			X	X	X	X	A test pattern consists of an array of 5 peak white squares with black gaps between them of decreasing width.  The range of black gap widths should at least extend above and below the required detectable gap, and be in steps of 1 arc min.  The pattern is rotated at the required rate.  Two arrays of squares should be provided, one rotating in heading and the other in pitch, to provide testing in both axes.  A series of stationary

									numbers identifies the gap number.  <i>Note.— This test can be limited by the display technology. Where this is the case the NSPM should be consulted on the limitations.</i>  This test is generally only required for <b>light valve projectors</b> .
4.a.11	Speckle test.	Speckle contrast must be < 10%.	Not applicable.	An SOC is required describing the test method.	<b>X</b>	<b>X</b>	<b>X</b>	<b>X</b>	This test is generally only required for <b>laser projectors</b> .
4.b	<b>Head-Up Display (HUD)</b>								
4.b.1	Static Alignment.	Static alignment with displayed image.  HUD bore sight must align with the center of the displayed image spherical pattern.  Tolerance +/- 6 arc min.	<b>N/A</b>				<b>X</b>	<b>X</b>	Alignment requirement applies to any HUD system in use or both simultaneously if they are used simultaneously for training.
4.b.2	System display.	All functionality in all flight modes must be demonstrated.	<b>N/A</b>				<b>X</b>	<b>X</b>	A statement of the system capabilities should be provided and the capabilities demonstrated
4.b.3	HUD attitude versus FSTD attitude indicator (pitch and roll of horizon).	Pitch and roll align with aircraft instruments.	Flight.				<b>X</b>	<b>X</b>	
4.c	<b>Enhanced Flight Vision System (EFVS)</b>								
4.c.1	Registration test.	Alignment between EFVS display and out of the window image must represent the alignment typical of the aircraft and system type.	Takeoff point and on approach at 200 ft.				<b>X</b>	<b>X</b>	<i>Note.— The effects of the alignment tolerance in 4.b.1 should be taken into account.</i>

4.c.2	EFVS RVR and visibility calibration.	The scene represents the EFVS view at 350 m (1,200 ft) and 1,609 m (1 sm) RVR including correct light intensity.	Flight.				X	X	Infra-red scene representative of both 350 m (1,200 ft), and 1,609 m (1 sm) RVR.  Visual scene may be removed.
4.c.3	Thermal crossover.	Demonstrate thermal crossover effects during day to night transition.	Day and night.				X	X	The scene will correctly represent the thermal characteristics of the scene during a day to night transition.
4.d	Visual ground segment								
4.d.1	Visual ground segment (VGS).	Near end: the correct number of approach lights within the computed VGS must be visible.  Far end: ±20% of the computed VGS.  The threshold lights computed to be visible must be visible in the FSTD.	Trimmed in the landing configuration at 30 m (100 ft) wheel height above touchdown zone on glide slope at an RVR setting of 300 m (1,000 ft) or 350 m (1,200 ft).	This test is designed to assess items impacting the accuracy of the visual scene presented to a pilot at DH on an ILS approach. These items include:  1) RVR/Visibility;  2) glide slope (G/S) and localizer modeling accuracy (location and slope) for an ILS;  3) for a given weight, configuration and speed representative of a point within the airplane’s operational envelope for a normal approach and landing; and  4) Radio altimeter.  <i>Note. — If non-homogeneous fog is used, the vertical variation in horizontal visibility should be described and included in the slant range visibility calculation used in the VGS computation.</i>	X	X	X	X	
4.e	Visual System Capacity								
4.e.1	System capacity – Day mode.	Not less than: 10,000 visible textured surfaces, 6,000 light points, 16 moving models.	Not applicable.				X	X	Demonstrated through use of a visual scene rendered with the same image generator modes used to produce scenes for training.  The required surfaces, light

								points, and moving models should be displayed simultaneously.
4.e.2	System capacity – Twilight/night mode.	Not less than: 10,000 visible textured surfaces, 15,000 light points, 16 moving models.	Not applicable.			X	X	Demonstrated through use of a visual scene rendered with the same image generator modes used to produce scenes for training.  The required surfaces, light points, and moving models should be displayed simultaneously.
<b>5. Sound System.</b> The sponsor will not be required to repeat the airplane tests (i.e., tests 5.a.1. through 5.a.8. (or 5.b.1. through 5.b.9.) and 5.c., as appropriate) during continuing qualification evaluations if frequency response and background noise test results are within tolerance when compared to the initial qualification evaluation results, and the sponsor shows that no software changes have occurred that will affect the airplane test results. If the frequency response test method is chosen and fails, the sponsor may elect to fix the frequency response problem and repeat the test or the sponsor may elect to repeat the airplane tests. If the airplane tests are repeated during continuing qualification evaluations, the results may be compared against initial qualification evaluation results or airplane master data. All tests in this section must be presented using an unweighted 1/3-octave band format from band 17 to 42 (50 Hz to 16 kHz). A minimum 20 second average must be taken at the location corresponding to the airplane data set. The airplane and flight simulator results must be produced using comparable data analysis techniques.								
5.a.	<b>Turbo-jet airplanes.</b>							All tests in this section should be presented using an unweighted 1/3-octave band format from at least band 17 to 42 (50 Hz to 16 kHz).  A measurement of minimum 20 s should be taken at the location corresponding to the approved data set.  The approved data set and FSTD results should be produced using comparable data analysis techniques.  Refer to paragraph 7 of this Attachment
5.a.1.	Ready for engine start.	Initial evaluation: $\pm 5$ dB per 1/3 octave band.	Ground.	Normal condition prior to engine start.  The APU should be on if appropriate.			X	For initial evaluation, it is acceptable to have some 1/3 octave bands out of $\pm 5$ dB tolerance but not more than 2

		Recurrent evaluation: cannot exceed $\pm 5$ dB difference on three consecutive bands when compared to initial evaluation and the average of the absolute differences between initial and recurrent evaluation results cannot exceed 2 dB.						that are consecutive and in any case within $\pm 7$ dB from approved reference data, providing that the overall trend is correct.  Where initial evaluation employs approved subjective tuning to develop the approved reference standard, recurrent evaluation tolerances should be used during recurrent evaluations.
5.a.2.	All engines at idle.	Initial evaluation: $\pm 5$ dB per 1/3 octave band.  Recurrent evaluation: cannot exceed $\pm 5$ dB difference on three consecutive bands when compared to initial evaluation and the average of the absolute differences between initial and recurrent evaluation results cannot exceed 2 dB.	Ground.	Normal condition prior to takeoff.			X	For initial evaluation, it is acceptable to have some 1/3 octave bands out of $\pm 5$ dB tolerance but not more than 2 that are consecutive and in any case within $\pm 7$ dB from approved reference data, providing that the overall trend is correct.  Where initial evaluation employs approved subjective tuning to develop the approved reference standard, recurrent evaluation tolerances should be used during recurrent evaluations.
5.a.3.	All engines at maximum allowable thrust with brakes set.	Initial evaluation: $\pm 5$ dB per 1/3 octave band.  Recurrent evaluation: cannot exceed $\pm 5$ dB difference on three consecutive bands when compared to initial evaluation and the average of the absolute differences between initial and recurrent	Ground.	Normal condition prior to takeoff.			X	For initial evaluation, it is acceptable to have some 1/3 octave bands out of $\pm 5$ dB tolerance but not more than 2 that are consecutive and in any case within $\pm 7$ dB from approved reference data, providing that the overall trend is correct.  Where initial evaluation employs approved subjective



		evaluation results cannot exceed 2 dB.							tuning to develop the approved reference standard, recurrent evaluation tolerances should be used during recurrent evaluations.
5.a.4.	Climb	Initial evaluation: ± 5 dB per 1/3 octave band.  Recurrent evaluation: cannot exceed ±5 dB difference on three consecutive bands when compared to initial evaluation and the average of the absolute differences between initial and recurrent evaluation results cannot exceed 2 dB.	En-route climb.	Medium altitude.				X	For initial evaluation, it is acceptable to have some 1/3 octave bands out of ± 5 dB tolerance but not more than 2 that are consecutive and in any case within ± 7 dB from approved reference data, providing that the overall trend is correct.  Where initial evaluation employs approved subjective tuning to develop the approved reference standard, recurrent evaluation tolerances should be used during recurrent evaluations.
5.a.5.	Cruise	Initial evaluation: ± 5 dB per 1/3 octave band.  Recurrent evaluation: cannot exceed ±5 dB difference on three consecutive bands when compared to initial evaluation and the average of the absolute differences between initial and recurrent evaluation results cannot exceed 2 dB.	Cruise.	Normal cruise configuration.				X	For initial evaluation, it is acceptable to have some 1/3 octave bands out of ± 5 dB tolerance but not more than 2 that are consecutive and in any case within ± 7 dB from approved reference data, providing that the overall trend is correct.  Where initial evaluation employs approved subjective tuning to develop the approved reference standard, recurrent evaluation tolerances should be used during recurrent evaluations.
5.a.6.	Speed brake/spoilers extended (as appropriate).	Initial evaluation: ± 5 dB per 1/3 octave band.	Cruise.	Normal and constant speed brake deflection for descent at a constant airspeed and power setting.				X	For initial evaluation, it is acceptable to have some 1/3 octave bands out of ± 5 dB

		Recurrent evaluation: cannot exceed $\pm 5$ dB difference on three consecutive bands when compared to initial evaluation and the average of the absolute differences between initial and recurrent evaluation results cannot exceed 2 dB.						tolerance but not more than 2 that are consecutive and in any case within $\pm 7$ dB from approved reference data, providing that the overall trend is correct.  Where initial evaluation employs approved subjective tuning to develop the approved reference standard, recurrent evaluation tolerances should be used during recurrent evaluations.
5.a.7	Initial approach.	Initial evaluation: $\pm 5$ dB per 1/3 octave band.  Recurrent evaluation: cannot exceed $\pm 5$ dB difference on three consecutive bands when compared to initial evaluation and the average of the absolute differences between initial and recurrent evaluation results cannot exceed 2 dB.	Approach.	Constant airspeed, gear up, flaps/slats as appropriate.			X	For initial evaluation, it is acceptable to have some 1/3 octave bands out of $\pm 5$ dB tolerance but not more than 2 that are consecutive and in any case within $\pm 7$ dB from approved reference data, providing that the overall trend is correct.  Where initial evaluation employs approved subjective tuning to develop the approved reference standard, recurrent evaluation tolerances should be used during recurrent evaluations.
5.a.8	Final approach.	Initial evaluation: $\pm 5$ dB per 1/3 octave band.  Recurrent evaluation: cannot exceed $\pm 5$ dB difference on three consecutive bands when compared to initial evaluation and the average of the absolute differences between	Landing.	Constant airspeed, gear down, landing configuration flaps.			X	For initial evaluation, it is acceptable to have some 1/3 octave bands out of $\pm 5$ dB tolerance but not more than 2 that are consecutive and in any case within $\pm 7$ dB from approved reference data, providing that the overall trend is correct.  Where initial evaluation

		initial and recurrent evaluation results cannot exceed 2 dB.						employs approved subjective tuning to develop the approved reference standard, recurrent evaluation tolerances should be used during recurrent evaluations.
5.b	<b>Propeller-driven airplanes</b>							<p>All tests in this section should be presented using an unweighted 1/3-octave band format from at least band 17 to 42 (50 Hz to 16 kHz).</p> <p>A measurement of minimum 20 s should be taken at the location corresponding to the approved data set.</p> <p>The approved data set and FSTD results should be produced using comparable data analysis techniques.</p> <p>Refer to paragraph 3.7 of this Appendix.</p>
5.b.1.	Ready for engine start.	<p>Initial evaluation: <math>\pm 5</math> dB per 1/3 octave band.</p> <p>Recurrent evaluation: cannot exceed <math>\pm 5</math> dB difference on three consecutive bands when compared to initial evaluation and the average of the absolute differences between initial and recurrent evaluation results cannot exceed 2 dB.</p>	Ground.	<p>Normal condition prior to engine start.</p> <p>The APU should be on if appropriate.</p>			<b>X</b>	<p>For initial evaluation, it is acceptable to have some 1/3 octave bands out of <math>\pm 5</math> dB tolerance but not more than 2 that are consecutive and in any case within <math>\pm 7</math> dB from approved reference data, providing that the overall trend is correct.</p> <p>Where initial evaluation employs approved subjective tuning to develop the approved reference standard, recurrent evaluation tolerances should be used during recurrent evaluations.</p>

5.b.2	All propellers feathered, if applicable.	Initial evaluation: ± 5 dB per 1/3 octave band.  Recurrent evaluation: cannot exceed ±5 dB difference on three consecutive bands when compared to initial evaluation and the average of the absolute differences between initial and recurrent evaluation results cannot exceed 2 dB.	Ground.	Normal condition prior to takeoff.				X	For initial evaluation, it is acceptable to have some 1/3 octave bands out of ± 5 dB tolerance but not more than 2 that are consecutive and in any case within ± 7 dB from approved reference data, providing that the overall trend is correct.  Where initial evaluation employs approved subjective tuning to develop the approved reference standard, recurrent evaluation tolerances should be used during recurrent evaluations.
5.b.3.	Ground idle or equivalent.	Initial evaluation: ± 5 dB per 1/3 octave band.  Recurrent evaluation: cannot exceed ±5 dB difference on three consecutive bands when compared to initial evaluation and the average of the absolute differences between initial and recurrent evaluation results cannot exceed 2 dB.	Ground.	Normal condition prior to takeoff.				X	For initial evaluation, it is acceptable to have some 1/3 octave bands out of ± 5 dB tolerance but not more than 2 that are consecutive and in any case within ± 7 dB from approved reference data, providing that the overall trend is correct.  Where initial evaluation employs approved subjective tuning to develop the approved reference standard, recurrent evaluation tolerances should be used during recurrent evaluations.
5.b.4	Flight idle or equivalent.	Initial evaluation: ± 5 dB per 1/3 octave band.  Recurrent evaluation: cannot exceed ±5 dB difference on three	Ground.	Normal condition prior to takeoff.				X	For initial evaluation, it is acceptable to have some 1/3 octave bands out of ± 5 dB tolerance but not more than 2 that are consecutive and in any case within ± 7 dB from approved reference data,

		consecutive bands when compared to initial evaluation and the average of the absolute differences between initial and recurrent evaluation results cannot exceed 2 dB.						providing that the overall trend is correct.  Where initial evaluation employs approved subjective tuning to develop the approved reference standard, recurrent evaluation tolerances should be used during recurrent evaluations.
5.b.5	All engines at maximum allowable power with brakes set.	Initial evaluation: $\pm 5$ dB per 1/3 octave band.  Recurrent evaluation: cannot exceed $\pm 5$ dB difference on three consecutive bands when compared to initial evaluation and the average of the absolute differences between initial and recurrent evaluation results cannot exceed 2 dB.	Ground.	Normal condition prior to takeoff.			X	For initial evaluation, it is acceptable to have some 1/3 octave bands out of $\pm 5$ dB tolerance but not more than 2 that are consecutive and in any case within $\pm 7$ dB from approved reference data, providing that the overall trend is correct.  Where initial evaluation employs approved subjective tuning to develop the approved reference standard, recurrent evaluation tolerances should be used during recurrent evaluations.
5.b.6	Climb.	Initial evaluation: $\pm 5$ dB per 1/3 octave band.  Recurrent evaluation: cannot exceed $\pm 5$ dB difference on three consecutive bands when compared to initial evaluation and the average of the absolute differences between initial and recurrent evaluation results cannot exceed 2 dB.	En-route climb.	Medium altitude.			X	For initial evaluation, it is acceptable to have some 1/3 octave bands out of $\pm 5$ dB tolerance but not more than 2 that are consecutive and in any case within $\pm 7$ dB from approved reference data, providing that the overall trend is correct.  Where initial evaluation employs approved subjective tuning to develop the approved reference standard, recurrent evaluation tolerances should be used during recurrent evaluations.

5.b.7	Cruise	Initial evaluation: ± 5 dB per 1/3 octave band.  Recurrent evaluation: cannot exceed ±5 dB difference on three consecutive bands when compared to initial evaluation and the average of the absolute differences between initial and recurrent evaluation results cannot exceed 2 dB.	Cruise.	Normal cruise configuration.				X	For initial evaluation, it is acceptable to have some 1/3 octave bands out of ± 5 dB tolerance but not more than 2 that are consecutive and in any case within ± 7 dB from approved reference data, providing that the overall trend is correct.  Where initial evaluation employs approved subjective tuning to develop the approved reference standard, recurrent evaluation tolerances should be used during recurrent evaluations.
5.b.8	Initial approach.	Initial evaluation: ± 5 dB per 1/3 octave band.  Recurrent evaluation: cannot exceed ±5 dB difference on three consecutive bands when compared to initial evaluation and the average of the absolute differences between initial and recurrent evaluation results cannot exceed 2 dB.	Approach.	Constant airspeed, gear up, flaps extended as appropriate, RPM as per operating manual.				X	For initial evaluation, it is acceptable to have some 1/3 octave bands out of ± 5 dB tolerance but not more than 2 that are consecutive and in any case within ± 7 dB from approved reference data, providing that the overall trend is correct.  Where initial evaluation employs approved subjective tuning to develop the approved reference standard, recurrent evaluation tolerances should be used during recurrent evaluations.
5.b.9	Final approach.	Initial evaluation: ± 5 dB per 1/3 octave band.  Recurrent evaluation: cannot exceed ±5 dB difference on three consecutive bands when compared to initial evaluation and the	Landing.	Constant airspeed, gear down, landing configuration flaps, RPM as per operating manual.				X	For initial evaluation, it is acceptable to have some 1/3 octave bands out of ± 5 dB tolerance but not more than 2 that are consecutive and in any case within ± 7 dB from approved reference data, providing that the overall trend is correct.

		average of the absolute differences between initial and recurrent evaluation results cannot exceed 2 dB.						Where initial evaluation employs approved subjective tuning to develop the approved reference standard, recurrent evaluation tolerances should be used during recurrent evaluations.
5.c.	<b>Special cases.</b>	Initial evaluation: ± 5 dB per 1/3 octave band.  Recurrent evaluation: cannot exceed ±5 dB difference on three consecutive bands when compared to initial evaluation and the average of the absolute differences between initial and recurrent evaluation results cannot exceed 2 dB.	As appropriate.				<b>X</b>	<p>This applies to special steady-state cases identified as particularly significant to the pilot, important in training, or unique to a specific airplane type or model.</p> <p>For initial evaluation, it is acceptable to have some 1/3 octave bands out of ± 5 dB tolerance but not more than 2 that are consecutive and in any case within ± 7 dB from approved reference data, providing that the overall trend is correct.</p> <p>Where initial evaluation employs approved subjective tuning to develop the approved reference standard, recurrent evaluation tolerances should be used during recurrent evaluations</p>
5.d	<b>FSTD background noise</b>	Initial evaluation: background noise levels must fall below the sound levels described in Paragraph 7.c (5) of this Attachment.  Recurrent evaluation: ±3 dB per 1/3 octave band compared to initial evaluation.		Results of the background noise at initial qualification must be included in the QTG document and approved by the NSPM. The measurements are to be made with the simulation running, the sound muted and a dead cockpit.			<b>X</b>	<p>The simulated sound will be evaluated to ensure that the background noise does not interfere with training.</p> <p>Refer to paragraph 7 of this Attachment.</p> <p>This test should be presented using an unweighted 1/3 octave band format from band 17 to 42 (50 Hz to 16 kHz).</p>

5.e	<b>Frequency response</b>	Initial evaluation: not applicable.  Recurrent evaluation: cannot exceed $\pm 5$ dB difference on three consecutive bands when compared to initial evaluation and the average of the absolute differences between initial and recurrent evaluation results cannot exceed 2 dB.	Ground (static with all systems switched off)				<b>X</b>	Only required if the results are to be used during continuing qualification evaluations in lieu of airplane tests.  The results must be approved by the NSPM during the initial qualification.  This test should be presented using an unweighted 1/3 octave band format from band 17 to 42 (50 Hz to 16 kHz).
6	<b>SYSTEMS INTEGRATION</b>							
6.a.	<b>System response time</b>							
6.a.1	Transport delay.	Motion system and instrument response: 100 ms (or less) after airplane response.  Visual system response: 120 ms (or less) after airplane response.	Pitch, roll and yaw.			<b>X</b>	<b>X</b>	One separate test is required in each axis.  Where EFVS systems are installed, the EFVS response should be within + or - 30 ms from visual system response, and not before motion system response.  <i>Note.— The delay from the airplane EFVS electronic elements should be added to the 30 ms tolerance before comparison with visual system reference.</i>
	Transport delay.	300 milliseconds or less after controller movement.	Pitch, roll and yaw.		<b>X</b>	<b>X</b>		

## 6. Motion System.

b. Motion System Checks. The intent of test 3a, Frequency Response, and test 3b, Turn-



Around Check, as described in the Table of Objective Tests, are to demonstrate the performance of the motion system hardware, and to check the integrity of the motion set-up with regard to calibration and wear. These tests are independent of the motion cueing software and should be considered robotic tests.

\* \* \* \* \*

d. Objective Motion Cueing Test—  
Frequency Domain

(1) Background. This test quantifies the response of the motion cueing system from the output of the flight model to the motion platform response. Other motion tests, such as the motion system frequency response, concentrate on the mechanical performance of the motion system hardware alone. The intent of this test is to provide quantitative frequency response records of the entire motion system for specified degree-of-freedom transfer relationships over a range of frequencies. This range should be representative of the manual control range for that particular aircraft type and the simulator as set up during qualification. The measurements of this test should include the combined influence of the motion cueing algorithm, the motion platform dynamics, and the transport delay associated with the motion cueing and control system implementation. Specified frequency responses describing the ability of the FSTD to reproduce aircraft translations and rotations, as well as the cross-coupling relations, are required as part of these measurements. When simulating forward aircraft acceleration, the simulator is accelerated momentarily in the forward direction to provide the onset cueing. This is considered the direct transfer relation. The simulator is simultaneously tilted nose-up due to the low-pass filter in order to generate a sustained specific force. The tilt associated with the generation of the sustained specific force, and the angular rates and angular accelerations associated with the initiation of the sustained specific force, are considered cross-coupling relations. The specific force is required for the perception of the aircraft

sustained specific force, while the angular rates and accelerations do not occur in the aircraft and should be minimized.

(2) Frequency response test. This test requires the frequency response to be measured for the motion cueing system. Reference sinusoidal signals are inserted at the pilot reference position prior to the motion cueing computations. The response of the motion platform in the corresponding degree-of-freedom (the direct transfer relations), as well as the motions resulting from cross-coupling (the cross-coupling relations), are recorded. These are the tests that are important to pilot motion cueing and are general tests applicable to all types of airplanes.

(3) This test is only required to be run once for the initial qualification of the FSTD and will not be required for continuing qualification purposes. The FAA will accept test results provided by the FSTD manufacturer as part of a Statement of Compliance confirming that the objective motion cueing tests were used to assist in the tuning of the FSTD's motion cueing algorithms.

\* \* \* \* \*

# 11. Validation Test Tolerances

\* \* \* \* \*

a. \* \* \*

(1) If engineering simulator data or other non-flight-test data are used as an allowable form of reference validation data for the objective tests listed in Table A2A of this attachment, the data provider must supply a well-documented mathematical model and testing procedure that enables a replication of the engineering simulation results within 40% of the corresponding flight test tolerances.

b. \* \* \*

\* \* \* \* \*

(5) The tolerance limit between the reference data and the flight simulator results is generally 40 percent of the corresponding 'flight-test' tolerances. However, there may be cases where the simulator models used are of higher fidelity, or the manner in which they

are cascaded in the integrated testing loop have the effect of a higher fidelity, than those supplied by the data provider. Under these circumstances, it is possible that an error greater than 40 percent may be generated. An error greater than 40 percent may be acceptable if simulator sponsor can provide an adequate explanation.

\* \* \* \* \*

# 12. Validation Data Roadmap

a. Airplane manufacturers or other data suppliers should supply a validation data roadmap (VDR) document as part of the data package. A VDR document contains guidance material from the airplane validation data supplier recommending the best possible sources of data to be used as validation data in the QTG. A VDR is of special value when requesting interim qualification, qualification of simulators for airplanes certificated prior to 1992, and qualification of alternate engine or avionics fits. A sponsor seeking to have a device qualified in accordance with the standards contained in this QPS appendix should submit a VDR to the NSPM as early as possible in the planning stages. The NSPM is the final authority to approve the data to be used as validation material for the QTG.

\* \* \* \* \*

## ■ 9. Amend Attachment 3 to Appendix A by revising:

- A. Table A3A;
- B. Table A3B;
- C. Table A3D; and
- D. Table A3F;

The revisions read as follows:

## Appendix A to Part 60—Qualification Performance Standards for Airplane Full Flight Simulators

\* \* \* \* \*

## Attachment 3 to Appendix A to Part 60—SIMULATOR SUBJECTIVE EVALUATION

\* \* \* \* \*

	Tasks in this table are subject to evaluation if appropriate for the airplane simulated as indicated in the SOQ Configuration List or the level of simulator qualification involved. Items not installed or not functional on the simulator and, therefore, not appearing on the SOQ Configuration List, are not required to be listed as exceptions on the SOQ.				
<b>1.</b>	<b>Preparation For Flight</b>				
<b>1.a.</b>	<b>Pre-flight.</b> Accomplish a functions check of all switches, indicators, systems, and equipment at all crew members' and instructors' stations and determine that:				
<b>1.a.1</b>	The flight deck design and functions are identical to that of the airplane being simulated.	X	X	X	X
<b>1.a.2</b>	Reserved				
<b>1.a.3</b>	Reserved				
<b>2.</b>	<b>Surface Operations (pre-flight).</b>				
<b>2.a.</b>	<b>Engine Start</b>				
<b>2.a.1.</b>	Normal start	X	X	X	X
<b>2.a.2.</b>	Alternate start procedures	X	X	X	X
<b>2.a.3.</b>	Abnormal starts and shutdowns (e.g., hot/hung start, tail pipe fire)	X	X	X	X
<b>2.b.</b>	<b>Taxi</b>				
<b>2.b.1</b>	Pushback/powerback		X	X	X
<b>2.b.2.</b>	Thrust response	X	X	X	X
<b>2.b.3.</b>	Power lever friction	X	X	X	X
<b>2.b.4.</b>	Ground handling	X	X	X	X
<b>2.b.5.</b>	Nosewheel scuffing			X	X
<b>2.b.6.</b>	Taxi aids (e.g. taxi camera, moving map)			X	X
<b>2.b.7.</b>	Low visibility (taxi route, signage, lighting, markings, etc.)			X	X
<b>2.c.</b>	<b>Brake Operation</b>				
<b>2.c.1.</b>	Brake operation (normal and alternate/emergency)	X	X	X	X
<b>2.c.2.</b>	Brake fade (if applicable)	X	X	X	X
<b>2.d</b>	<b>Other</b>				
<b>3.</b>	<b>Take-off.</b>				
<b>3.a.</b>	<b>Normal</b>				
<b>3.a.1.</b>	Airplane/engine parameter relationships, including run-up	X	X	X	X
<b>3.a.2.</b>	Nosewheel and rudder steering	X	X	X	X
<b>3.a.3.a</b>	Crosswind (maximum demonstrated)	X	X	X	X
<b>3.a.3.b</b>	Gusting crosswind			X	X
<b>3.a.4.</b>	Special performance				
<b>3.a.4.a</b>	Reduced V <sub>1</sub>	X	X	X	X
<b>3.a.4.b</b>	Maximum engine de-rate	X	X	X	X
<b>3.a.4.c</b>	Soft surface			X	X
<b>3.a.4.d</b>	Short field/short take-off and landing (STOL) operations	X	X	X	X
<b>3.a.4.e</b>	Obstacle (performance over visual obstacle)			X	X
<b>3.a.5.</b>	Low visibility take-off	X	X	X	X
<b>3.a.6.</b>	Landing gear, wing flap leading edge device operation	X	X	X	X
<b>3.a.7.</b>	Contaminated runway operation			X	X
<b>3.a.8.</b>	Other				
<b>3.b.</b>	<b>Abnormal/emergency</b>				
<b>3.b.1.</b>	Rejected Take-off	X	X	X	X
<b>3.b.2.</b>	Rejected special performance (e.g., reduced V <sub>1</sub> , max de-rate, short field operations)	X	X	X	X

<b>3.b.3.</b>	Rejected take-off with contaminated runway			<b>X</b>	<b>X</b>
<b>3.b.4.</b>	Takeoff with a propulsion system malfunction (allowing an analysis of causes, symptoms, recognition, and the effects on aircraft performance and handling) at the following points: (i) Prior to V1 decision speed; (ii) Between V1 and Vr (rotation speed); and (iii) Between Vr and 500 feet above ground level.	<b>X</b>	<b>X</b>	<b>X</b>	<b>X</b>
<b>3.b.5.</b>	Flight control system failures, reconfiguration modes, manual reversion and associated handling.	<b>X</b>	<b>X</b>	<b>X</b>	<b>X</b>
<b>3.b.6.</b>	Other				
<b>4.</b>	<b>Climb.</b>				
<b>4.a.</b>	Normal.	<b>X</b>	<b>X</b>	<b>X</b>	<b>X</b>
<b>4.b.</b>	One or more engines inoperative.	<b>X</b>	<b>X</b>	<b>X</b>	<b>X</b>
<b>4.c.</b>	Approach climb in icing (for airplanes with icing accountability).	<b>X</b>	<b>X</b>	<b>X</b>	<b>X</b>
<b>4.d.</b>	Other				
<b>5.</b>	<b>Cruise.</b>				
<b>5.a.</b>	<b>Performance characteristics (speed vs. power, configuration, and attitude)</b>				
<b>5.a.1.</b>	Straight and level flight.	<b>X</b>	<b>X</b>	<b>X</b>	<b>X</b>
<b>5.a.2.</b>	Change of airspeed.	<b>X</b>	<b>X</b>	<b>X</b>	<b>X</b>
<b>5.a.3.</b>	High altitude handling.	<b>X</b>	<b>X</b>	<b>X</b>	<b>X</b>
<b>5.a.4.</b>	High Mach number handling (Mach tuck, Mach buffet) and recovery (trim change).	<b>X</b>	<b>X</b>	<b>X</b>	<b>X</b>
<b>5.a.5.</b>	Overspeed warning (in excess of V <sub>mo</sub> or M <sub>mo</sub> ).	<b>X</b>	<b>X</b>	<b>X</b>	<b>X</b>
<b>5.a.6.</b>	High IAS handling.	<b>X</b>	<b>X</b>	<b>X</b>	<b>X</b>
<b>5.a.7.</b>	Other				
<b>5.b.</b>	<b>Maneuvers</b>				
<b>5.b.1.</b>	High Angle of Attack				
<b>5.b.1.a</b>	High angle of attack, approach to stalls, stall warning, and stall buffet (take-off, cruise, approach, and landing configuration) including reaction of the autoflight system and stall protection system.	<b>X</b>	<b>X</b>		
<b>5.b.1.b</b>	High angle of attack, approach to stalls, stall warning, stall buffet, and stall (take-off, cruise, approach, and landing configuration) including reaction of the autoflight system and stall protection system.			<b>X</b>	<b>X</b>
<b>5.b.2.</b>	Slow flight			<b>X</b>	<b>X</b>
<b>5.b.3.</b>	Upset prevention and recovery maneuvers within the FSTD's validation envelope.			<b>X</b>	<b>X</b>
<b>5.b.4.</b>	Flight envelope protection (high angle of attack, bank limit, overspeed, etc.)	<b>X</b>	<b>X</b>	<b>X</b>	<b>X</b>
<b>5.b.5.</b>	Turns with/without speedbrake/spoilers deployed	<b>X</b>	<b>X</b>	<b>X</b>	<b>X</b>
<b>5.b.6.</b>	Normal and standard rate turns	<b>X</b>	<b>X</b>	<b>X</b>	<b>X</b>
<b>5.b.7.</b>	Steep turns	<b>X</b>	<b>X</b>	<b>X</b>	<b>X</b>
<b>5.b.8.</b>	Performance turn			<b>X</b>	<b>X</b>
<b>5.b.9.</b>	In flight engine shutdown and restart (assisted and windmill)	<b>X</b>	<b>X</b>	<b>X</b>	<b>X</b>
<b>5.b.10.</b>	Maneuvering with one or more engines inoperative, as appropriate	<b>X</b>	<b>X</b>	<b>X</b>	<b>X</b>
<b>5.b.11.</b>	Specific flight characteristics (e.g. direct lift control)	<b>X</b>	<b>X</b>	<b>X</b>	<b>X</b>

<b>5.b.12.</b>	Flight control system failures, reconfiguration modes, manual reversion and associated handling	<b>X</b>	<b>X</b>	<b>X</b>	<b>X</b>
<b>5.b.13</b>	Gliding to a forced landing			<b>X</b>	<b>X</b>
<b>5.b.14</b>	Visual resolution and FSTD handling and performance for the following (where applicable by aircraft type and training program):				
<b>5.b.14.a</b>	Terrain accuracy for forced landing area selection;			<b>X</b>	<b>X</b>
<b>5.b.14.b</b>	Terrain accuracy for VFR Navigation;			<b>X</b>	<b>X</b>
<b>5.b.14.c</b>	Eights on pylons (visual resolution);			<b>X</b>	<b>X</b>
<b>5.b.14.d</b>	Turns about a point; and			<b>X</b>	<b>X</b>
<b>5.b.14.e</b>	S-turns about a road or section line.			<b>X</b>	<b>X</b>
<b>5.b.15</b>	Other.				
<b>6.</b>	<b>Descent.</b>				
<b>6.a.</b>	Normal	<b>X</b>	<b>X</b>	<b>X</b>	<b>X</b>
<b>6.b.</b>	Maximum rate/emergency (clean and with speedbrake, etc.).	<b>X</b>	<b>X</b>	<b>X</b>	<b>X</b>
<b>6.c.</b>	With autopilot.	<b>X</b>	<b>X</b>	<b>X</b>	<b>X</b>
<b>6.d.</b>	Flight control system failures, reconfiguration modes, manual reversion and associated handling.	<b>X</b>	<b>X</b>	<b>X</b>	<b>X</b>
<b>6.e.</b>	Other				
<b>7.</b>	<b>Instrument Approaches And Landing.</b> Those instrument approach and landing tests relevant to the simulated airplane type are selected from the following list. Some tests are made with limiting wind velocities, under windshear conditions, and with relevant system failures, including the failure of the Flight Director. If Standard Operating Procedures allow use autopilot for non-precision approaches, evaluation of the autopilot will be included. Level A simulators are not authorized to credit the landing maneuver.				
<b>7.a.</b>	<b>Precision approach</b>				
<b>7.a.1</b>	CAT I published approaches.				
<b>7.a.1.a</b>	Manual approach with/without flight director including landing.	<b>X</b>	<b>X</b>	<b>X</b>	<b>X</b>
<b>7.a.1.b</b>	Autopilot/autothrottle coupled approach and manual landing.	<b>X</b>	<b>X</b>	<b>X</b>	<b>X</b>
<b>7.a.1.c</b>	Autopilot/autothrottle coupled approach, engine(s) inoperative.	<b>X</b>	<b>X</b>	<b>X</b>	<b>X</b>
<b>7.a.1.d</b>	Manual approach, engine(s) inoperative.	<b>X</b>	<b>X</b>	<b>X</b>	<b>X</b>
<b>7.a.1.e</b>	HUD/EFVS			<b>X</b>	<b>X</b>
<b>7.a.2</b>	CAT II published approaches.				
<b>7.a.2.a</b>	Autopilot/autothrottle coupled approach to DH and landing (manual and autoland).	<b>X</b>	<b>X</b>	<b>X</b>	<b>X</b>
<b>7.a.2.b</b>	Autopilot/autothrottle coupled approach with one-engine-inoperative approach to DH and go-around (manual and autopilot).	<b>X</b>	<b>X</b>	<b>X</b>	<b>X</b>
<b>7.a.2.c</b>	HUD/EFVS			<b>X</b>	<b>X</b>
<b>7.a.3</b>	CAT III published approaches.				
<b>7.a.3.a</b>	Autopilot/autothrottle coupled approach to landing and roll-out (if applicable) guidance (manual and autoland).	<b>X</b>	<b>X</b>	<b>X</b>	<b>X</b>
<b>7.a.3.b</b>	Autopilot/autothrottle coupled approach to DH and go-around (manual and autopilot).	<b>X</b>	<b>X</b>	<b>X</b>	<b>X</b>
<b>7.a.3.c</b>	Autopilot/autothrottle coupled approach to land and roll-out (if applicable) guidance with one engine inoperative	<b>X</b>	<b>X</b>	<b>X</b>	<b>X</b>

	(manual and autoland).				
<b>7.a.3.d</b>	Autopilot/autothrottle coupled approach to DH and go-around with one engine inoperative (manual and autopilot).	<b>X</b>	<b>X</b>	<b>X</b>	<b>X</b>
<b>7.a.3.e</b>	HUD/EFVS			<b>X</b>	<b>X</b>
<b>7.a.4</b>	Autopilot/autothrottle coupled approach (to a landing or to a go-around):				
<b>7.a.4.a</b>	With generator failure;	<b>X</b>	<b>X</b>	<b>X</b>	<b>X</b>
<b>7.a.4.b.1</b>	With maximum tail wind component certified or authorized;			<b>X</b>	<b>X</b>
<b>7.a.4.b.2</b>	With 10 knot tail wind;	<b>X</b>	<b>X</b>		
<b>7.a.4.c.1</b>	With maximum crosswind component demonstrated or authorized; and			<b>X</b>	<b>X</b>
<b>7.a.4.c.2</b>	With 10 knot crosswind.	<b>X</b>	<b>X</b>		
<b>7.a.5</b>	PAR approach, all engine(s) operating and with one or more engine(s) inoperative	<b>X</b>	<b>X</b>	<b>X</b>	<b>X</b>
<b>7.a.6</b>	MLS, GBAS, all engine(s) operating and with one or more engine(s) inoperative	<b>X</b>	<b>X</b>	<b>X</b>	<b>X</b>
<b>7.b.</b>	<b>Non-precision approach.</b>				
<b>7.b.1</b>	Surveillance radar approach, all engine(s) operating and with one or more engine(s) inoperative	<b>X</b>	<b>X</b>	<b>X</b>	<b>X</b>
<b>7.b.2</b>	NDB approach, all engine(s) operating and with one or more engine(s) inoperative	<b>X</b>	<b>X</b>	<b>X</b>	<b>X</b>
<b>7.b.3</b>	VOR, VOR/DME, TACAN approach, all engines(s) operating and with one or more engine(s) inoperative	<b>X</b>	<b>X</b>	<b>X</b>	<b>X</b>
<b>7.b.4</b>	RNAV / RNP / GNSS (RNP at nominal and minimum authorized temperatures) approach, all engine(s) operating and with one or more engine(s) inoperative	<b>X</b>	<b>X</b>	<b>X</b>	<b>X</b>
<b>7.b.5</b>	ILS LLZ (LOC), LLZ back course (or LOC-BC) approach, all engine(s) operating and with one or more engine(s) inoperative	<b>X</b>	<b>X</b>	<b>X</b>	<b>X</b>
<b>7.b.6</b>	ILS offset localizer approach, all engine(s) operating and with one or more engine(s) inoperative	<b>X</b>	<b>X</b>	<b>X</b>	<b>X</b>
<b>7.c</b>	<b>Approach procedures with vertical guidance (APV), e.g. SBAS, flight path vector</b>				
<b>7.c.1</b>	APV/baro-VNAV approach, all engine(s) operating and with one or more engine(s) inoperative			<b>X</b>	<b>X</b>
<b>7.c.2</b>	Area navigation (RNAV) approach procedures based on SBAS, all engine(s) operating and with one or more engine(s) inoperative			<b>X</b>	<b>X</b>
<b>8.</b>	<b>Visual Approaches (Visual Segment) And Landings.</b>				
	Flight simulators with visual systems, which permit completing a special approach procedure in accordance with applicable regulations, may be approved for that particular approach procedure.				
<b>8.a.</b>	Maneuvering, normal approach and landing, all engines operating with and without visual approach aid guidance	<b>X</b>	<b>X</b>	<b>X</b>	<b>X</b>
<b>8.b.</b>	Approach and landing with one or more engines inoperative	<b>X</b>	<b>X</b>	<b>X</b>	<b>X</b>
<b>8.c.</b>	Operation of landing gear, flap/slats and speedbrakes (normal and abnormal)	<b>X</b>	<b>X</b>	<b>X</b>	<b>X</b>
<b>8.d.1</b>	Approach and landing with crosswind (max. demonstrated)	<b>X</b>	<b>X</b>	<b>X</b>	<b>X</b>

<b>8.d.2</b>	Approach and landing with gusting crosswind			<b>X</b>	<b>X</b>
<b>8.e.</b>	Approach and landing with flight control system failures, reconfiguration modes, manual reversion and associated handling (most significant degradation which is probable)	<b>X</b>	<b>X</b>	<b>X</b>	<b>X</b>
<b>8.e.1.</b>	Approach and landing with trim malfunctions	<b>X</b>	<b>X</b>	<b>X</b>	<b>X</b>
<b>8.e.1.a</b>	Longitudinal trim malfunction	<b>X</b>	<b>X</b>	<b>X</b>	<b>X</b>
<b>8.e.1.b</b>	Lateral-directional trim malfunction	<b>X</b>	<b>X</b>	<b>X</b>	<b>X</b>
<b>8.f.</b>	Approach and landing with standby (minimum) electrical/hydraulic power	<b>X</b>	<b>X</b>	<b>X</b>	<b>X</b>
<b>8.g.</b>	Approach and landing from circling conditions (circling approach)	<b>X</b>	<b>X</b>	<b>X</b>	<b>X</b>
<b>8.h.</b>	Approach and landing from visual traffic pattern	<b>X</b>	<b>X</b>	<b>X</b>	<b>X</b>
<b>8.i.</b>	Approach and landing from non-precision approach	<b>X</b>	<b>X</b>	<b>X</b>	<b>X</b>
<b>8.j.</b>	Approach and landing from precision approach	<b>X</b>	<b>X</b>	<b>X</b>	<b>X</b>
<b>8.k.</b>	Other				
<b>9.</b>	<b>Missed Approach.</b>				
<b>9.a.</b>	All engines, manual and autopilot.	<b>X</b>	<b>X</b>	<b>X</b>	<b>X</b>
<b>9.b.</b>	Engine(s) inoperative, manual and autopilot.	<b>X</b>	<b>X</b>	<b>X</b>	<b>X</b>
<b>9.c.</b>	Rejected landing			<b>X</b>	<b>X</b>
<b>9.d.</b>	With flight control system failures, reconfiguration modes, manual reversion and associated handling	<b>X</b>	<b>X</b>	<b>X</b>	<b>X</b>
<b>9.e.</b>	Bounced landing recovery			<b>X</b>	<b>X</b>
<b>10.</b>	<b>Surface Operations (landing, after-landing and post-flight).</b>				
<b>10.a</b>	<b>Landing roll and taxi</b>				
<b>10.a.1</b>	HUD/EFVS			<b>X</b>	<b>X</b>
<b>10.a.2.</b>	Spoiler operation	<b>X</b>	<b>X</b>	<b>X</b>	<b>X</b>
<b>10.a.3.</b>	Reverse thrust operation	<b>X</b>	<b>X</b>	<b>X</b>	<b>X</b>
<b>10.a.4.</b>	Directional control and ground handling, both with and without reverse thrust		<b>X</b>	<b>X</b>	<b>X</b>
<b>10.a.5.</b>	Reduction of rudder effectiveness with increased reverse thrust (rear pod-mounted engines)		<b>X</b>	<b>X</b>	<b>X</b>
<b>10.a.6.</b>	Brake and anti-skid operation				
<b>10.a.6.a</b>	Brake and anti-skid operation with dry, patchy wet, wet on rubber residue, and patchy icy conditions			<b>X</b>	<b>X</b>
<b>10.a.6.b</b>	Reserved				
<b>10.a.6.c</b>	Brake operation	<b>X</b>	<b>X</b>		
<b>10.a.6.d</b>	Auto-braking system operation	<b>X</b>	<b>X</b>	<b>X</b>	<b>X</b>
<b>10.a.7</b>	Other				
<b>10.b</b>	<b>Engine shutdown and parking</b>				
<b>10.b.1</b>	Engine and systems operation	<b>X</b>	<b>X</b>	<b>X</b>	<b>X</b>
<b>10.b.2</b>	Parking brake operation	<b>X</b>	<b>X</b>	<b>X</b>	<b>X</b>
<b>10.b.3</b>	Other				
<b>11.</b>	<b>Any Flight Phase.</b>				
<b>11.a.</b>	<b>Airplane and engine systems operation (where fitted)</b>				
<b>11.a.1.</b>	Air conditioning and pressurization (ECS)	<b>X</b>	<b>X</b>	<b>X</b>	<b>X</b>
<b>11.a.2.</b>	De-icing/anti-icing	<b>X</b>	<b>X</b>	<b>X</b>	<b>X</b>
<b>11.a.3.</b>	Auxiliary power unit (APU).	<b>X</b>	<b>X</b>	<b>X</b>	<b>X</b>
<b>11.a.4.</b>	Communications	<b>X</b>	<b>X</b>	<b>X</b>	<b>X</b>
<b>11.a.5.</b>	Electrical	<b>X</b>	<b>X</b>	<b>X</b>	<b>X</b>

<b>11.a.6.</b>	Fire and smoke detection and suppression	<b>X</b>	<b>X</b>	<b>X</b>	<b>X</b>
<b>11.a.7.</b>	Flight controls (primary and secondary)	<b>X</b>	<b>X</b>	<b>X</b>	<b>X</b>
<b>11.a.8.</b>	Fuel and oil	<b>X</b>	<b>X</b>	<b>X</b>	<b>X</b>
<b>11.a.9.</b>	Hydraulic	<b>X</b>	<b>X</b>	<b>X</b>	<b>X</b>
<b>11.a.10.</b>	Pneumatic	<b>X</b>	<b>X</b>	<b>X</b>	<b>X</b>
<b>11.a.11.</b>	Landing gear	<b>X</b>	<b>X</b>	<b>X</b>	<b>X</b>
<b>11.a.12.</b>	Oxygen	<b>X</b>	<b>X</b>	<b>X</b>	<b>X</b>
<b>11.a.13.</b>	Engine	<b>X</b>	<b>X</b>	<b>X</b>	<b>X</b>
<b>11.a.14.</b>	Airborne radar	<b>X</b>	<b>X</b>	<b>X</b>	<b>X</b>
<b>11.a.15.</b>	Autopilot and Flight Director	<b>X</b>	<b>X</b>	<b>X</b>	<b>X</b>
<b>11.a.16.</b>	Terrain awareness warning systems and collision avoidance systems (e.g. EGPWS, GPWS, TCAS)	<b>X</b>	<b>X</b>	<b>X</b>	<b>X</b>
<b>11.a.17.</b>	Flight control computers including stability and control augmentation	<b>X</b>	<b>X</b>	<b>X</b>	<b>X</b>
<b>11.a.18.</b>	Flight display systems	<b>X</b>	<b>X</b>	<b>X</b>	<b>X</b>
<b>11.a.19.</b>	Flight management computers	<b>X</b>	<b>X</b>	<b>X</b>	<b>X</b>
<b>11.a.20.</b>	Head-up displays (including EFVS, if appropriate)	<b>X</b>	<b>X</b>	<b>X</b>	<b>X</b>
<b>11.a.21.</b>	Navigation systems	<b>X</b>	<b>X</b>	<b>X</b>	<b>X</b>
<b>11.a.22.</b>	Stall warning/avoidance	<b>X</b>	<b>X</b>	<b>X</b>	<b>X</b>
<b>11.a.23.</b>	Wind shear avoidance/recovery guidance equipment	<b>X</b>	<b>X</b>	<b>X</b>	<b>X</b>
<b>11.a.24.</b>	Flight envelope protections	<b>X</b>	<b>X</b>	<b>X</b>	<b>X</b>
<b>11.a.25.</b>	Electronic flight bag			<b>X</b>	<b>X</b>
<b>11.a.26.</b>	Automatic checklists (normal, abnormal and emergency procedures)			<b>X</b>	<b>X</b>
<b>11.a.27.</b>	Runway alerting and advisory system			<b>X</b>	<b>X</b>
<b>11.a.28.</b>	Other				
<b>11.b.</b>	<b>Airborne procedures</b>				
<b>11.b.1.</b>	Holding	<b>X</b>	<b>X</b>	<b>X</b>	<b>X</b>
<b>11.b.2.</b>	Air hazard avoidance (traffic, weather, including visual correlation)			<b>X</b>	<b>X</b>
<b>11.b.3.</b>	Windshear				
<b>11.b.3.a</b>	Prior to take-off rotation			<b>X</b>	<b>X</b>
<b>11.b.3.b</b>	At lift-off			<b>X</b>	<b>X</b>
<b>11.b.3.c</b>	During initial climb			<b>X</b>	<b>X</b>
<b>11.b.3.d</b>	On final approach, below 150 m (500 ft) AGL			<b>X</b>	<b>X</b>
<b>11.b.4.</b>	Effects of airframe ice			<b>X</b>	<b>X</b>

This table specifies the minimum airport model content and functionality to qualify a simulator at the indicated level. This table applies only to the airport models required for simulator qualification; i.e., one airport model for Level A and Level B simulators; three airport models for Level C and Level D simulators.

### Begin QPS Requirements

<b>1.</b>	<b>Functional test content requirements for Level A and Level B simulators.</b> The following is the minimum airport model content requirement to satisfy visual capability tests, and provides suitable visual cues to allow completion of all functions and subjective tests described in this attachment for simulators at Levels A and B.				
<b>1.a.</b>	A minimum of one (1) representative airport model. This model identification must be acceptable to the sponsor's TPAA, selectable from the IOS, and listed on the SOQ.	<b>X</b>	<b>X</b>		
<b>1.b.</b>	The fidelity of the airport model must be sufficient for the aircrew to visually identify the airport; determine the position of the simulated airplane within a night visual scene; successfully accomplish take-offs, approaches, and landings; and maneuver around the airport on the ground as necessary.	<b>X</b>	<b>X</b>		
<b>1.c.</b>	Runways:	<b>X</b>	<b>X</b>		
<b>1.c.1.</b>	Visible runway number.	<b>X</b>	<b>X</b>		
<b>1.c.2.</b>	Runway threshold elevations and locations must be modeled to provide sufficient correlation with airplane systems (e.g., altimeter).	<b>X</b>	<b>X</b>		
<b>1.c.3.</b>	Runway surface and markings.	<b>X</b>	<b>X</b>		
<b>1.c.4.</b>	Lighting for the runway in use including runway edge and centerline.	<b>X</b>	<b>X</b>		
<b>1.c.5.</b>	Lighting, visual approach aid and approach lighting of appropriate colors.	<b>X</b>	<b>X</b>		
<b>1.c.6.</b>	Representative taxiway lights.	<b>X</b>	<b>X</b>		
<b>2.a.</b>	<b>Additional functional test content requirements</b>				
<b>2.a.1</b>	<b>Airport scenes</b>				
<b>2.a.1.a</b>	A minimum of three (3) real-world airport models to be consistent with published data used for airplane operations and capable of demonstrating all the visual system features below. Each model should be in a different visual scene to permit assessment of FSTD automatic visual scene changes. The model identifications must be acceptable to the sponsor's TPAA, selectable from the IOS, and listed on the SOQ.			<b>X</b>	<b>X</b>
<b>2.a.1.b</b>	Reserved				
<b>2.a.1.c</b>	Reserved				
<b>2.a.1.d</b>	<b>Airport model content.</b> For circling approaches, all tests apply to the runway used for the initial approach and to the runway of intended landing. If all runways in an airport model used to meet the requirements of this attachment are not designated as "in use," then the "in use" runways must be listed on the SOQ (e.g., KORD, Rwy 9R, 14L, 22R). Models of airports with more than one runway must have all significant runways not "in-use" visually depicted for airport and runway recognition purposes. The use of white or off white light strings that identify the runway threshold, edges, and ends for twilight and night scenes are acceptable for this requirement.	<b>X</b>	<b>X</b>	<b>X</b>	<b>X</b>



	Rectangular surface depictions are acceptable for daylight scenes. A visual system's capabilities must be balanced between providing airport models with an accurate representation of the airport and a realistic representation of the surrounding environment. Airport model detail must be developed using airport pictures, construction drawings and maps, or other similar data, or developed in accordance with published regulatory material; however, this does not require that such models contain details that are beyond the design capability of the currently qualified visual system. Only one "primary" taxi route from parking to the runway end will be required for each "in-use" runway.				
<b>2.a.2</b>	<b>Visual scene fidelity.</b>				
<b>2.a.2.a</b>	The visual scene must correctly represent the parts of the airport and its surroundings used in the training program.	<b>X</b>	<b>X</b>	<b>X</b>	<b>X</b>
<b>2.a.2.b</b>	Reserved				
<b>2.a.2.c</b>	Reserved				
<b>2.a.3</b>	<b>Runways and taxiways.</b>				
<b>2.a.3.a</b>	Airport specific runways and taxiways.	<b>X</b>	<b>X</b>	<b>X</b>	<b>X</b>
<b>2.a.3.b</b>	Reserved				
<b>2.a.3.c</b>	Reserved				
<b>2.a.4</b>	If appropriate to the airport, two parallel runways and one crossing runway displayed simultaneously; at least two runways must be capable of being lit simultaneously.			<b>X</b>	<b>X</b>
<b>2.a.5</b>	Runway threshold elevations and locations must be modeled to provide correlation with airplane systems (e.g. HUD, GPS, compass, altimeter).			<b>X</b>	<b>X</b>
<b>2.a.6</b>	Slopes in runways, taxiways, and ramp areas must not cause distracting or unrealistic effects, including pilot eye-point height variation.			<b>X</b>	<b>X</b>
<b>2.a.7</b>	<b>Runway surface and markings for each "in-use" runway must include the following, if appropriate:</b>				
<b>2.a.7.a</b>	Threshold markings.	<b>X</b>	<b>X</b>	<b>X</b>	<b>X</b>
<b>2.a.7.b</b>	Runway numbers.	<b>X</b>	<b>X</b>	<b>X</b>	<b>X</b>
<b>2.a.7.c</b>	Touchdown zone markings.	<b>X</b>	<b>X</b>	<b>X</b>	<b>X</b>
<b>2.a.7.d</b>	Fixed distance markings.	<b>X</b>	<b>X</b>	<b>X</b>	<b>X</b>
<b>2.a.7.e</b>	Edge markings.	<b>X</b>	<b>X</b>	<b>X</b>	<b>X</b>
<b>2.a.7.f</b>	Center line markings.	<b>X</b>	<b>X</b>	<b>X</b>	<b>X</b>
<b>2.a.7.g</b>	Distance remaining signs.	<b>X</b>	<b>X</b>	<b>X</b>	<b>X</b>
<b>2.a.7.h</b>	Signs at intersecting runways and taxiways.	<b>X</b>	<b>X</b>	<b>X</b>	<b>X</b>
<b>2.a.7.i</b>	Windsock that gives appropriate wind cues.			<b>X</b>	<b>X</b>
<b>2.a.8</b>	<b>Runway lighting of appropriate colors, directionality, behavior and spacing for the "in-use" runway including the following:</b>				
<b>2.a.8.a</b>	Threshold lights.	<b>X</b>	<b>X</b>	<b>X</b>	<b>X</b>
<b>2.a.8.b</b>	Edge lights.	<b>X</b>	<b>X</b>	<b>X</b>	<b>X</b>
<b>2.a.8.c</b>	End lights.	<b>X</b>	<b>X</b>	<b>X</b>	<b>X</b>
<b>2.a.8.d</b>	Center line lights.	<b>X</b>	<b>X</b>	<b>X</b>	<b>X</b>
<b>2.a.8.e</b>	Touchdown zone lights.	<b>X</b>	<b>X</b>	<b>X</b>	<b>X</b>
<b>2.a.8.f</b>	Lead-off lights.	<b>X</b>	<b>X</b>	<b>X</b>	<b>X</b>
<b>2.a.8.g</b>	Appropriate visual landing aid(s) for that runway.	<b>X</b>	<b>X</b>	<b>X</b>	<b>X</b>

<b>2.a.8.h</b>	Appropriate approach lighting system for that runway.	<b>X</b>	<b>X</b>	<b>X</b>	<b>X</b>
<b>2.a.9</b>	<b>Taxiway surface and markings (associated with each “in-use” runway):</b>				
<b>2.a.9.a</b>	Edge markings	<b>X</b>	<b>X</b>	<b>X</b>	<b>X</b>
<b>2.a.9.b</b>	Center line markings.	<b>X</b>	<b>X</b>	<b>X</b>	<b>X</b>
<b>2.a.9.c</b>	Runway holding position markings.	<b>X</b>	<b>X</b>	<b>X</b>	<b>X</b>
<b>2.a.9.d</b>	ILS critical area markings.	<b>X</b>	<b>X</b>	<b>X</b>	<b>X</b>
<b>2.a.9.e</b>	All taxiway markings, lighting, and signage to taxi, as a minimum, from a designated parking position to a designated runway and return, after landing on the designated runway, to a designated parking position; a low visibility taxi route (e.g. surface movement guidance control system, follow-me truck, daylight taxi lights) must also be demonstrated at one airport model for those operations authorized in low visibilities. The designated runway and taxi routing must be consistent with that airport for operations in low visibilities.  The qualification of surface movement guidance control systems (SMGCS) is optional at the request of the FSTD sponsor. For the qualification of SMGCS, a demonstration model must be provided for evaluation.				<b>X</b>
<b>2.a.10</b>	<b>Taxiway lighting of appropriate colors, directionality, behavior and spacing (associated with each “in-use” runway):</b>				
<b>2.a.10.a</b>	Edge lights.	<b>X</b>	<b>X</b>	<b>X</b>	<b>X</b>
<b>2.a.10.b</b>	Center line lights.	<b>X</b>	<b>X</b>	<b>X</b>	<b>X</b>
<b>2.a.10.c</b>	Runway holding position and ILS critical area lights.	<b>X</b>	<b>X</b>	<b>X</b>	<b>X</b>
<b>2.a.11</b>	<b>Required visual model correlation with other aspects of the airport environment simulation.</b>				
<b>2.a.11.a</b>	The airport model must be properly aligned with the navigational aids that are associated with operations at the runway “in-use”.	<b>X</b>	<b>X</b>	<b>X</b>	<b>X</b>
<b>2.a.11.b</b>	The simulation of runway contaminants must be correlated with the displayed runway surface and lighting.				<b>X</b>
<b>2.a.12</b>	<b>Airport buildings, structures and lighting.</b>				
<b>2.a.12.a</b>	Buildings, structures and lighting:				
<b>2.a.12.a.1</b>	Airport specific buildings, structures and lighting.			<b>X</b>	<b>X</b>
<b>2.a.12.a.2</b>	Reserved				
<b>2.a.12.a.3</b>	Reserved				
<b>2.a.12.b</b>	At least one useable gate, set at the appropriate height (required only for those airplanes that typically operate from terminal gates).			<b>X</b>	<b>X</b>
<b>2.a.12.c</b>	Representative moving and static airport clutter (e.g. other airplanes, power carts, tugs, fuel trucks, additional gates).			<b>X</b>	<b>X</b>
<b>2.a.12.d</b>	Gate/apron markings (e.g. hazard markings, lead-in lines, gate numbering), lighting and gate docking aids or a marshaller.			<b>X</b>	<b>X</b>
<b>2.a.13</b>	<b>Terrain and obstacles.</b>				
<b>2.a.13.a</b>	Terrain and obstacles within 46 km (25 NM) of the reference airport.			<b>X</b>	<b>X</b>
<b>2.a.13.b</b>	Reserved				
<b>2.a.14</b>	<b>Significant, identifiable natural and cultural features and moving airborne traffic.</b>				
<b>2.a.14.a</b>	Significant, identifiable natural and cultural features within 46 km (25 NM) of the reference airport.			<b>X</b>	<b>X</b>

	<i>Note.— This refers to natural and cultural features that are typically used for pilot orientation in flight. Outlying airports not intended for landing need only provide a reasonable facsimile of runway orientation.</i>				
<b>2.a.14.b</b>	Reserved				
<b>2.a.14.c</b>	Representative moving airborne traffic (including the capability to present air hazards – e.g. airborne traffic on a possible collision course).			X	X
<b>2.b</b>	<b>Visual scene management.</b>				
<b>2.b.1</b>	All airport runway, approach and taxiway lighting and cultural lighting intensity for any approach must be capable of being set to six (6) different intensities (0 to 5); all visual scene light points should fade into view appropriately.			X	X
<b>2.b.2</b>	Airport runway, approach and taxiway lighting and cultural lighting intensity for any approach must be set at an intensity representative of that used in training for the visibility set; all visual scene light points should fade into view appropriately.	X	X		
<b>2.b.3</b>	The directionality of strobe lights, approach lights, runway edge lights, visual landing aids, runway center line lights, threshold lights, and touchdown zone lights on the runway of intended landing must be realistically replicated.	X	X	X	X
<b>2.c</b>	<b>Visual feature recognition.</b> <i>Note.— The following are the minimum distances at which runway features should be visible. Distances are measured from runway threshold to an airplane aligned with the runway on an extended 3-degree glide slope in suitable simulated meteorological conditions. For circling approaches, all tests below apply both to the runway used for the initial approach and to the runway of intended landing.</i>				
<b>2.c.1</b>	Runway definition, strobe lights, approach lights, and runway edge white lights from 8 km (5 sm) of the runway threshold.	X	X	X	X
<b>2.c.2</b>	<b>Visual approach aids lights.</b>				
<b>2.c.2.a</b>	Visual approach aids lights from 8 km (5 sm) of the runway threshold.			X	X
<b>2.c.2.b</b>	Visual approach aids lights from 4.8 km (3 sm) of the runway threshold.	X	X		
<b>2.c.3</b>	Runway center line lights and taxiway definition from 4.8 km (3 sm).	X	X	X	X
<b>2.c.4</b>	Threshold lights and touchdown zone lights from 3.2 km (2 sm).	X	X	X	X
<b>2.c.5</b>	Runway markings within range of landing lights for night scenes; as required by the surface resolution test on day scenes.	X	X	X	X
<b>2.c.6</b>	For circling approaches, the runway of intended landing and associated lighting must fade into view in a non-distracting manner.	X	X	X	X
<b>2.d</b>	<b>Selectable airport visual scene capability for:</b>				
<b>2.d.1</b>	Night.	X	X	X	X
<b>2.d.2</b>	Twilight.			X	X
<b>2.d.3</b>	Day.			X	X
<b>2.d.4</b>	Dynamic effects — the capability to present multiple ground and air hazards such as another airplane crossing the active runway or converging airborne traffic; hazards should be selectable via controls at the instructor station.			X	X

2.d.5	Illusions — operational visual scenes which portray representative physical relationships known to cause landing illusions, for example short runways, landing approaches over water, uphill or downhill runways, rising terrain on the approach path and unique topographic features. <i>Note.— Illusions may be demonstrated at a generic airport or at a specific airport.</i>				X
2.e	<b>Correlation with airplane and associated equipment.</b>				
2.e.1	Visual cues to relate to actual airplane responses.	X	X	X	X
2.e.2	<b>Visual cues during take-off, approach and landing.</b>				
2.e.2.a	Visual cues to assess sink rate and depth perception during landings.		X	X	X
2.e.2.b	Visual cueing sufficient to support changes in approach path by using runway perspective. Changes in visual cues during take-off, approach and landing should not distract the pilot.	X	X	X	X
2.e.3	Accurate portrayal of environment relating to airplane attitudes.	X	X	X	X
2.e.4	The visual scene must correlate with integrated airplane systems, where fitted (e.g. terrain, traffic and weather avoidance systems and HUD/EFVS).			X	X
2.e.5	The effect of rain removal devices must be provided.			X	X
2.f	<b>Scene quality.</b>				
2.f.1	<b>Quantization.</b>				
2.f.1.a	Surfaces and textural cues must be free from apparent quantization (aliasing).			X	X
2.f.1.b	Surfaces and textural cues must not create distracting quantization (aliasing).	X	X		
2.f.2	System capable of portraying full color realistic textural cues.			X	X
2.f.3	The system light points must be free from distracting jitter, smearing or streaking.	X	X	X	X
2.f.4	System capable of providing representative focus effects that simulate rain (e.g. reduced visibility and object resolution in the out the window view as a result of rain).			X	X
2.f.5	System capable of providing light point perspective growth (e.g. relative size of runway and taxiway edge lights increase as the lights are approached).			X	X
2.g	<b>Environmental effects.</b>				
2.g.1	The displayed scene must correspond to the appropriate surface contaminants and include runway lighting reflections for wet, partially obscured lights for snow, or suitable alternative effects.			X	X
2.g.2	Special weather representations which include the sound, motion and visual effects of light, medium and heavy precipitation near a thunderstorm on take-off, approach and landings at and below an altitude of 600 m (2 000 ft) above the airport surface and within a radius of 16 km (10 sm) from the airport.			X	X
2.g.3	One airport with a snow scene to include terrain snow and snow-covered taxiways and runways.			X	X
2.g.4	In-cloud effects such as variable cloud density, speed cues and ambient changes should be provided.			X	X
2.g.5	The effect of multiple cloud layers representing few, scattered, broken and overcast conditions giving partial or complete			X	X

	obstruction of the ground scene.				
<b>2.g.6</b>	Gradual break-out to ambient visibility/RVR, defined as up to 10% of the respective cloud base or top, $20\text{ ft} \leq \text{transition layer} \leq 200\text{ ft}$ ; cloud effects should be checked at and below a height of 600 m (2 000 ft) above the airport and within a radius of 16 km (10 sm) from the airport. Transition effects should be complete when the IOS cloud base or top is reached when exiting and start when entering the cloud, i.e. transition effects should occur within the IOS defined cloud layer.			<b>X</b>	<b>X</b>
<b>2.g.7</b>	Visibility and RVR measured in terms of distance. Visibility/RVR must be checked at and below a height of 600 m (2 000 ft) above the airport and within a radius of 16 km (10 sm) from the airport.	<b>X</b>	<b>X</b>	<b>X</b>	<b>X</b>
<b>2.g.8</b>	Patchy fog (sometimes referred to as patchy RVR) giving the effect of variable RVR. The lowest RVR should be that selected on the IOS, ie. variability is only greater than the IOS RVR.			<b>X</b>	<b>X</b>
<b>2.g.9</b>	Effects of fog on airport lighting such as halos and defocus.			<b>X</b>	<b>X</b>
<b>2.g.10</b>	Effect of ownship lighting in reduced visibility, such as reflected glare, to include landing lights, strobes, and beacons.			<b>X</b>	<b>X</b>
<b>2.g.11</b>	Wind cues to provide the effect of blowing snow or sand across a dry runway or taxiway should be selectable from the instructor station.			<b>X</b>	<b>X</b>
<b>End QPS Requirement</b>					
<b>Begin Information</b>					
<b>3.</b>	An example of being able to “combine two airport models to achieve two “in-use” runways: One runway designated as the “in use” runway in the first model of the airport, and the second runway designated as the “in use” runway in the second model of the same airport. For example, the clearance is for the ILS approach to Runway 27, Circle to Land on Runway 18 right. Two airport visual models might be used: the first with Runway 27 designated as the “in use” runway for the approach to runway 27, and the second with Runway 18 Right designated as the “in use” runway. When the pilot breaks off the ILS approach to runway 27, the instructor may change to the second airport visual model in which runway 18 Right is designated as the “in use” runway, and the pilot would make a visual approach and landing. This process is acceptable to the FAA as long as the temporary interruption due to the visual model change is not distracting to the pilot, does not cause changes in navigational radio frequencies, and does not cause undue instructor/evaluator time.				
<b>4.</b>	Sponsors are not required to provide every detail of a runway, but the detail that is provided should be correct within the capabilities of the system.				
<b>End Information</b>					

This table specifies motion effects that are required to indicate when a flight crewmember must be able to recognize an event or situation. Where applicable, flight simulator pitch, side loading and directional control characteristics must be representative of the airplane.					
1.	<b>Taxiing effects such as lateral, longitudinal, and directional cues resulting from steering and braking inputs. Runway contamination with associated anti-skid and taxiway characteristics.</b>			X	X
2.	<b>Runway rumble, oleo deflection, ground speed, uneven runway, runway/taxiway centerline light characteristics:</b>  Procedure: After the airplane has been pre-set to the takeoff position and then released, taxi at various speeds with a smooth runway and note the general characteristics of the simulated runway rumble effects of oleo deflections. Repeat the maneuver with a runway roughness of 50%, then with maximum roughness. Note the associated motion vibrations affected by ground speed and runway roughness.		X	X	X
3.	<b>Buffets on the ground due to spoiler/speedbrake extension and reverse thrust:</b>  Procedure: Perform a normal landing and use ground spoilers and reverse thrust – either individually or in combination – to decelerate the simulated airplane. Do not use wheel braking so that only the buffet due to the ground spoilers and thrust reversers is felt.	X	X	X	X
4.	<b>Bumps associated with the landing gear:</b>  Procedure: Perform a normal take-off paying special attention to the bumps that could be perceptible due to maximum oleo	X	X	X	X

	extension after lift-off. When the landing gear is extended or retracted, motion bumps can be felt when the gear locks into position.					
5.	<b>Buffet during extension and retraction of landing gear:</b>  Procedure: Operate the landing gear. Check that the motion cues of the buffet experienced represent the actual airplane.	X	X	X	X	
6.	<b>Buffet in the air due to flap and spoiler/speedbrake extension:</b>  Procedure: Perform an approach and extend the flaps and slats with airspeeds deliberately in excess of the normal approach speeds. In cruise configuration, verify the buffets associated with the spoiler/speedbrake extension. The above effects can also be verified with different combinations of spoiler/speedbrake, flap, and landing gear settings to assess the interaction effects.	X	X	X	X	
7.	<b>Buffet due to atmospheric disturbances</b> (e.g. buffet due to turbulence, windshear, proximity to thunderstorms, gusting winds, etc.).			X	X	
8.	<b>Approach to stall buffet and stall buffet (where applicable):</b>  Procedure: Conduct an approach-to-stall with engines at idle and a deceleration of 1 knot/second. Check that the motion cues of the buffet, including the level of buffet increase with decreasing speed, are representative of the actual airplane.	X	X	X	X	For FSTDs qualified for full stall training tasks, modeling that accounts for any increase in buffet amplitude from initial buffet threshold of perception to critical angle of attack or deterrent buffet as a function of angle of attack. The stall buffet modeling should include effects of Nz, as well as Nx and Ny if relevant.

9.	<b>Touchdown cues for main and nose gear:</b>  Procedure: Conduct several normal approaches with various rates of descent. Check that the motion cues for the touchdown bumps for each descent rate are representative of the actual airplane.	X	X	X	X	
10.	<b>Nosewheel scuffing:</b>  Procedure: Taxi at various ground speeds and manipulate the nosewheel steering to cause yaw rates to develop that cause the nosewheel to vibrate against the ground (“scuffing”). Evaluate the speed/nosewheel combination needed to produce scuffing and check that the resultant vibrations are representative of the actual airplane.		X	X	X	
11.	<b>Thrust effect with brakes set:</b>  Procedure: Set the brakes on at the take-off point and increase the engine power until buffet is experienced. Evaluate its characteristics. Confirm that the buffet increases appropriately with increasing engine thrust.	X	X	X	X	This effect is most discernible with wing-mounted engines.
12.	<b>Mach and maneuver buffet:</b>  Procedure: With the simulated airplane trimmed in 1 g flight while at high altitude, increase the engine power so that the Mach number exceeds the documented value at which Mach buffet is experienced. Check that the buffet begins at the same Mach number as it does in the airplane (for the same configuration) and that buffet levels are representative of the actual airplane. For certain airplanes, maneuver buffet can also be verified for the same effects. Maneuver buffet can occur during turning flight at conditions greater than 1 g, particularly		X	X	X	



\*  
\*  
\*  
\*  
\*

	at higher altitudes.					
<b>13.</b>	<b>Tire failure dynamics:</b>  Procedure: Simulate a single tire failure and a multiple tire failure.			<b>X</b>	<b>X</b>	The pilot may notice some yawing with a multiple tire failure selected on the same side. This should require the use of the rudder to maintain control of the airplane. Dependent on airplane type, a single tire failure may not be noticed by the pilot and should not have any special motion effect. Sound or vibration may be associated with the actual tire losing pressure.
<b>14.</b>	<b>Engine failures, malfunction, engine, and airframe structural damage:</b>  Procedure: The characteristics of an engine malfunction as stipulated in the malfunction definition document for the particular flight simulator must describe the special motion effects felt by the pilot. Note the associated engine instruments varying according to the nature of the malfunction and note the replication of the effects of the airframe vibration.		<b>X</b>	<b>X</b>	<b>X</b>	
<b>15.</b>	<b>Tail strikes, engine pod/propeller, wing strikes:</b>  Procedure: Tail-strikes can be checked by over-rotation of the airplane at a speed below $V_r$ while performing a takeoff. The effects can also be verified during a landing.  Excessive banking of the airplane during its take-off/landing roll can cause a pod strike.		<b>X</b>	<b>X</b>	<b>X</b>	The motion effect should be felt as a noticeable bump. If the tail strike affects the airplane angular rates, the cueing provided by the motion system should have an associated effect.

This table specifies the minimum special effects necessary for the specified simulator level.					
1.	<b>Braking Dynamics:</b> Representations of the dynamics of brake failure (flight simulator pitch, side-loading, and directional control characteristics representative of the airplane), including antiskid and decreased brake efficiency due to high brake temperatures (based on airplane related data), sufficient to enable pilot identification of the problem and implementation of appropriate procedures.			X	X
2.	<b>Effects of Airframe and Engine Icing:</b> <b>Required only for those airplanes authorized for operations in known icing conditions.</b>  Procedure: With the simulator airborne, autopilot on and auto-throttles off, engine and airfoil anti-ice/de-ice systems deactivated; activate icing conditions at a rate that allows monitoring of simulator and systems response. Icing recognition will typically include airspeed decay, change in simulator pitch attitude, change in engine performance indications (other than due to airspeed changes), and change in data from pitot/static system. Activate heating, anti-ice, or de-ice systems independently. Recognition will include proper effects of these systems, eventually returning the simulated airplane to normal flight. See Table A1A, section 2.j. and Attachment 7 for additional requirements.			X	X

#### Appendix A to Part 60—Qualification Performance Standards for Airplane Full Flight Simulators—[Amended]

■ 10. Amend Attachment 4 to Appendix A by removing and reserving Figure A4H.

■ 11. Amend Attachment 6 to Appendix A by adding the text for FSTD Directive No. 2 in sequential order after FSTD Directive No. 1 to read as follows:

#### Appendix A to Part 60—Qualification Performance Standards for Airplane Full Flight Simulators

\* \* \* \* \*

##### *Flight Simulation Training Device (FSTD) Directive*

FSTD Directive 2. Applicable to all airplane Full Flight Simulators (FFS), regardless of the original qualification basis and qualification date (original or upgrade), used to conduct full stall training, upset recovery training, airborne icing training, and other flight training tasks as described in this Directive.

Agency: Federal Aviation Administration (FAA), DOT.

Action: This is a retroactive requirement for any FSTD being used to obtain training, testing, or checking credit in an FAA approved flight training program for the specific training maneuvers as defined in this Directive.

Summary: Notwithstanding the authorization listed in paragraph 13b in Appendix A of this Part, this FSTD Directive requires that each FSTD sponsor conduct additional subjective and objective testing,

conduct required modifications, and apply for additional FSTD qualification under § 60.16 to support continued qualification of the following flight training tasks where training, testing, or checking credit is being sought in a selected FSTD being used in an FAA approved flight training program:

- Recognition of and Recovery from a Full Stall
  - Upset Prevention and Recovery
  - Engine and Airframe Icing
  - Takeoff and Landing with Gusting Crosswinds
  - Recovery from a Bounced Landing
- The FSTD sponsor may elect to apply for additional qualification for any, all, or none of the above defined training tasks for a particular FSTD. After March 12, 2019, any FSTD used to conduct the above training tasks must be evaluated and issued additional qualification by the National Simulator Program Manager (NSPM) as defined in this Directive.

Dates: FSTD Directive No. 2 becomes effective on May 31, 2016.

For Further Information Contact: Larry McDonald, Air Transportation Division/ National Simulator Program Branch, AFS-205, Federal Aviation Administration, P.O. Box 20636, Atlanta, GA 30320; telephone (404) 474-5620; email [larry.e.mcdonald@faa.gov](mailto:larry.e.mcdonald@faa.gov).

#### Specific Requirements

- Part 60 requires that each FSTD be:
  - Sponsored by a person holding or applying for an FAA operating certificate under Part 119, Part 141, or Part 142, or holding or applying for an FAA-approved training program under Part 63, Appendix C, for flight engineers, and

b. Evaluated and issued a Statement of Qualification (SOQ) for a specific FSTD level.

2. The evaluation criteria contained in this Directive is intended to address specific training tasks that require additional evaluation to ensure adequate FSTD fidelity.

3. The requirements described in this Directive define additional qualification criteria for specific training tasks that are applicable only to those FSTDs that will be utilized to obtain training, testing, or checking credit in an FAA approved flight training program. In order to obtain additional qualification for the tasks described in this Directive, FSTD sponsors must request additional qualification in accordance with § 60.16 and the requirements of this Directive. FSTDs that are found to meet the requirements of this Directive will have their Statement of Qualification (SOQ) amended to reflect the additional training tasks that the FSTD has been qualified to conduct. The additional qualification requirements as defined in this Directive are divided into the following training tasks:

- Section I—Additional Qualification Requirements for Full Stall Training Tasks
- Section II—Additional Qualification Requirements for Upset Prevention and Recovery Training Tasks
- Section III—Additional Qualification Requirements for Engine and Airframe Icing Training Tasks
- Section IV—Additional Qualification Requirements for Takeoff and Landing in Gusting Crosswinds
- Section V—Additional Qualification Requirements for Bounced Landing Recovery Training Tasks

4. A copy of this Directive (along with all required Statements of Compliance and objective test results) must be filed in the MQTG in the designated FSTD Directive Section, and its inclusion must be annotated on the Index of Effective FSTD Directives chart. See Attachment 4, Appendix A for a sample MQTG Index of Effective FSTD Directives chart.

#### Section I—Evaluation Requirements for Full Stall Training Tasks

1. This section applies to previously qualified Level C and Level D FSTDs being used to obtain credit for stall training maneuvers beyond the first indication of a stall (such as stall warning system activation, stick shaker, etc.) in an FAA approved training program.

2. The evaluation requirements in this Directive are intended to validate FSTD fidelity at angles of attack sufficient to identify the stall, to demonstrate aircraft performance degradation in the stall, and to demonstrate recovery techniques from a fully stalled flight condition.

3. After March 12, 2019, any FSTD being used to obtain credit for full stall training maneuvers in an FAA approved training program must be evaluated and issued additional qualification in accordance with this Directive and the following sections of Appendix A of this Part:

- a. Table A1A, General Requirements, Section 2.m. (High Angle of Attack Modeling)
- b. Table A1A, General Requirements, Section 3.f. (Stick Pusher System) [where applicable]
- c. Table A2A, Objective Testing Requirements, Test 2.a.10 (Stick Pusher Force Calibration) [where applicable]
- d. Table A2A, Objective Testing Requirements, Test 2.c.8.a (Stall Characteristics)
- e. Table A2A, Objective Testing Requirements, Test 3.f.5 (Characteristic Motion Vibrations—Stall Buffet) [See paragraph 4 of this section for applicability on previously qualified FSTDs]
- f. Table A3A, Functions and Subjective Testing Requirements, Test 5.b.1.b. (High Angle of Attack Maneuvers)
- g. Attachment 7, Additional Simulator Qualification Requirements for Stall, Upset Prevention and Recovery, and Engine and Airframe Icing Training Tasks (High Angle of Attack Model Evaluation)

4. For FSTDs initially qualified before May 31, 2016, including FSTDs that are initially qualified under the grace period conditions as defined in § 60.15(c):

- a. Objective testing for stall characteristics (Table A2A, test 2.c.8.a.) will only be required for the (wings level) second segment climb and approach or landing flight conditions. In lieu of objective testing for the high altitude cruise and turning flight stall conditions, these maneuvers may be subjectively evaluated by a qualified subject matter expert (SME) pilot and addressed in the required statement of compliance.
- b. Where existing flight test validation data in the FSTD's Master Qualification Test Guide (MQTG) is missing required parameters or is otherwise unsuitable to

fully meet the objective testing requirements of this Directive, the FAA may accept alternate sources of validation, including subjective validation by an SME pilot with direct experience in the stall characteristics of the aircraft.

- c. Objective testing for characteristic motion vibrations (Stall buffet—Table A2A, test 3.f.5) is not required where the FSTD's stall buffets have been subjectively evaluated by an SME pilot. For previously qualified Level D FSTDs that currently have objective stall buffet tests in their approved MQTG, the results of these existing tests must be provided to the FAA with the updated stall and stall buffet models in place.
- d. As described in Attachment 7 of this Appendix, the FAA may accept a statement of compliance from the data provider which confirms the stall characteristics have been subjectively evaluated by an SME pilot on an engineering simulator or development simulator that is acceptable to the FAA. Where this evaluation takes place on an engineering or development simulator, additional objective "proof-of-match" testing for all flight conditions as described in tests 2.c.8.a. and 3.f.5. will be required to verify the implementation of the stall model and stall buffets on the training FSTD.

5. Where qualification is being sought to conduct full stall training tasks in accordance with this Directive, the FSTD Sponsor must conduct the required evaluations and modifications as prescribed in this Directive and report compliance to the NSPM in accordance with § 60.23 using the NSP's standardized FSTD Sponsor Notification Form. At a minimum, this form must be accompanied with the following information:

- a. A description of any modifications to the FSTD (in accordance with § 60.23) necessary to meet the requirements of this Directive.
- b. Statements of Compliance (High Angle of Attack Modeling/Stick Pusher System)—See Table A1A, Section 2.m., 3.f., and Attachment 7
- c. Statement of Compliance (SME Pilot Evaluation)—See Table A1A, Section 2.m. and Attachment 7
- d. Copies of the required objective test results as described above in sections 3.c., 3.d., and 3.e.

6. The NSPM will review each submission to determine if the requirements of this Directive have been met and respond to the FSTD Sponsor as described in § 60.23(c). Additional NSPM conducted FSTD evaluations may be required before the modified FSTD is placed into service. This response, along with any noted restrictions, will serve as interim qualification for full stall training tasks until such time that a permanent change is made to the Statement of Qualification (SOQ) at the FSTD's next scheduled evaluation.

#### Section II—Evaluation Requirements for Upset Prevention and Recovery Training Tasks

1. This section applies to previously qualified FSTDs being used to obtain training, testing, or checking credits for upset

prevention and recovery training tasks (UPRT) as defined in Appendix A, Table A1A, Section 2.n. of this part. Additionally, FSTDs being used for unusual attitude training maneuvers that are intended to exceed the parameters of an aircraft upset must also be evaluated and qualified for UPRT under this section. These parameters include pitch attitudes greater than 25 degrees nose up; pitch attitudes greater than 10 degrees nose down, and bank angles greater than 45 degrees.

2. The requirements contained in this section are intended to define minimum standards for evaluating an FSTD for use in upset prevention and recovery training maneuvers that may exceed an aircraft's normal flight envelope. These standards include the evaluation of qualified training maneuvers against the FSTD's validation envelope and providing the instructor with minimum feedback tools for the purpose of determining if a training maneuver is conducted within FSTD validation limits and the aircraft's operating limits.

3. This Directive contains additional subjective testing that exceeds the evaluation requirements of previously qualified FSTDs. Where aerodynamic modeling data or validation data is not available or insufficient to meet the requirements of this Directive, the NSPM may limit additional qualification to certain upset prevention and recovery maneuvers where adequate data exists.

4. After March 12, 2019, any FSTD being used to obtain training, testing, or checking credit for upset prevention and recovery training tasks in an FAA approved flight training program must be evaluated and issued additional qualification in accordance with this Directive and the following sections of Appendix A of this part:

- a. Table A1A, General Requirements, Section 2.n. (Upset Prevention and Recovery)
- b. Table A3A, Functions and Subjective Testing, Test 5.b.3. (Upset Prevention and Recovery Maneuvers)
- c. Attachment 7, Additional Simulator Qualification Requirements for Stall, Upset Prevention and Recovery, and Engine and Airframe Icing Training Tasks (Upset Prevention and Recovery Training Maneuver Evaluation)

5. Where qualification is being sought to conduct upset prevention and recovery training tasks in accordance with this Directive, the FSTD Sponsor must conduct the required evaluations and modifications as prescribed in this Directive and report compliance to the NSPM in accordance with § 60.23 using the NSP's standardized FSTD Sponsor Notification Form. At a minimum, this form must be accompanied with the following information:

- a. A description of any modifications to the FSTD (in accordance with § 60.23) necessary to meet the requirements of this Directive.
- b. Statement of Compliance (FSTD Validation Envelope)—See Table A1A, Section 2.n. and Attachment 7
- c. A confirmation statement that the modified FSTD has been subjectively evaluated by a qualified pilot as described in § 60.16(a)(1)(iii).

6. The NSPM will review each submission to determine if the requirements of this Directive have been met and respond to the FSTD Sponsor as described in § 60.23(c). Additional NSPM conducted FSTD evaluations may be required before the modified FSTD is placed into service. This response, along with any noted restrictions, will serve as an interim qualification for upset prevention and recovery training tasks until such time that a permanent change is made to the Statement of Qualification (SOQ) at the FSTD's next scheduled evaluation.

### Section III—Evaluation Requirements for Engine and Airframe Icing Training Tasks

1. This section applies to previously qualified Level C and Level D FSTDs being used to obtain training, testing, or checking credits in maneuvers that demonstrate the effects of engine and airframe ice accretion.

2. The requirements in this section are intended to supersede and improve upon existing Level C and Level D FSTD evaluation requirements on the effects of engine and airframe icing. The requirements define a minimum level of fidelity required to adequately simulate the aircraft specific aerodynamic characteristics of an in-flight encounter with engine and airframe ice accretion as necessary to accomplish training objectives.

3. This Directive contains additional subjective testing that exceeds the evaluation requirements of previously qualified FSTDs. Where aerodynamic modeling data is not available or insufficient to meet the requirements of this Directive, the NSPM may limit qualified engine and airframe icing maneuvers where sufficient aerodynamic modeling data exists.

4. After March 12, 2019, any FSTD being used to conduct training tasks that demonstrate the effects of engine and airframe icing must be evaluated and issued additional qualification in accordance with this Directive and the following sections of Appendix A of this part:

- a. Table A1A, General Requirements, Section 2.j. (Engine and Airframe Icing)
- b. Attachment 7, Additional Simulator Qualification Requirements for Stall, Upset Prevention and Recovery, and Engine and Airframe Icing Training Tasks (Engine and Airframe Icing Evaluation; Paragraphs 1, 2, and 3). Objective demonstration tests of engine and airframe icing effects (Attachment 2, Table A2A, test 2.i. of this Appendix) are not required for previously qualified FSTDs.

5. Where continued qualification is being sought to conduct engine and airframe icing training tasks in accordance with this Directive, the FSTD Sponsor must conduct the required evaluations and modifications as prescribed in this Directive and report compliance to the NSPM in accordance with § 60.23 using the NSP's standardized FSTD Sponsor Notification Form. At a minimum, this form must be accompanied with the following information:

- a. A description of any modifications to the FSTD (in accordance with § 60.23) necessary to meet the requirements of this Directive;

b. Statement of Compliance (Ice Accretion Model)—See Table A1A, Section 2.j., and Attachment 7; and

c. A confirmation statement that the modified FSTD has been subjectively evaluated by a qualified pilot as described in § 60.16(a)(1)(iii).

6. The NSPM will review each submission to determine if the requirements of this Directive have been met and respond to the FSTD Sponsor as described in § 60.23(c). Additional NSPM conducted FSTD evaluations may be required before the modified FSTD is placed into service. This response, along with any noted restrictions, will serve as an interim update to the FSTD's Statement of Qualification (SOQ) until such time that a permanent change is made to the SOQ at the FSTD's next scheduled evaluation.

### Section IV—Evaluation Requirements for Takeoff and Landing in Gusting Crosswind

1. This section applies to previously qualified FSTDs that will be used to obtain training, testing, or checking credits in takeoff and landing tasks in gusting crosswinds as part of an FAA approved training program. The requirements of this Directive are applicable only to those Level B and higher FSTDs that are qualified to conduct takeoff and landing training tasks.

2. The requirements in this section introduce new minimum simulator requirements for gusting crosswinds during takeoff and landing training tasks as well as additional subjective testing that exceeds the evaluation requirements of previously qualified FSTDs.

3. After March 12, 2019, any FSTD that is used to conduct gusting crosswind takeoff and landing training tasks must be evaluated and issued additional qualification in accordance with this Directive and the following sections of Appendix A of this part:

- a. Table A1A, General Requirements, Section 2.d.3. (Ground Handling Characteristics);
- b. Table A3A, Functions and Subjective Testing Requirements, test 3.a.3 (Takeoff, Crosswind—Maximum Demonstrated and Gusting Crosswind); and
- c. Table A3A, Functions and Subjective Testing Requirements, test 8.d. (Approach and landing with crosswind—Maximum Demonstrated and Gusting Crosswind).

4. Where qualification is being sought to conduct gusting crosswind training tasks in accordance with this Directive, the FSTD Sponsor must conduct the required evaluations and modifications as prescribed in this Directive and report compliance to the NSPM in accordance with § 60.23 using the NSP's standardized FSTD Sponsor Notification Form. At a minimum, this form must be accompanied with the following information:

- a. A description of any modifications to the FSTD (in accordance with § 60.23) necessary to meet the requirements of this Directive.
- b. Statement of Compliance (Gusting Crosswind Profiles)—See Table A1A, Section 2.d.3.
- c. A confirmation statement that the modified FSTD has been subjectively evaluated by a

qualified pilot as described in § 60.16(a)(1)(iii).

5. The NSPM will review each submission to determine if the requirements of this Directive have been met and respond to the FSTD Sponsor as described in § 60.23(c). Additional NSPM conducted FSTD evaluations may be required before the modified FSTD is placed into service. This response, along with any noted restrictions, will serve as an interim qualification for gusting crosswind training tasks until such time that a permanent change is made to the Statement of Qualification (SOQ) at the FSTD's next scheduled evaluation.

### Section V—Evaluation Requirements for Bounced Landing Recovery Training Tasks

1. This section applies to previously qualified FSTDs that will be used to obtain training, testing, or checking credits in bounced landing recovery as part of an FAA approved training program. The requirements of this Directive are applicable only to those Level B and higher FSTDs that are qualified to conduct takeoff and landing training tasks.

2. The evaluation requirements in this section are intended to introduce new evaluation requirements for bounced landing recovery training tasks and contains additional subjective testing that exceeds the evaluation requirements of previously qualified FSTDs.

3. After March 12, 2019, any FSTD that is used to conduct bounced landing training tasks must be evaluated and issued additional qualification in accordance with this Directive and the following sections of Appendix A of this Part:

- a. Table A1A, General Requirements, Section 2.d.2. (Ground Reaction Characteristics)
- b. Table A3A, Functions and Subjective Testing Requirements, test 9.e. (Missed Approach—Bounced Landing)

4. Where qualification is being sought to conduct bounced landing training tasks in accordance with this Directive, the FSTD Sponsor must conduct the required evaluations and modifications as prescribed in this Directive and report compliance to the NSPM in accordance with § 60.23 using the NSP's standardized FSTD Sponsor Notification Form. At a minimum, this form must be accompanied with the following information:

- a. A description of any modifications to the FSTD (in accordance with § 60.23) necessary to meet the requirements of this Directive; and
- b. A confirmation statement that the modified FSTD has been subjectively evaluated by a qualified pilot as described in § 60.16(a)(1)(iii).

5. The NSPM will review each submission to determine if the requirements of this Directive have been met and respond to the FSTD Sponsor as described in § 60.23(c). Additional NSPM conducted FSTD evaluations may be required before the modified FSTD is placed into service. This response, along with any noted restrictions, will serve as an interim qualification for bounced landing recovery training tasks until such time that a permanent change is made to the Statement of Qualification (SOQ) at the FSTD's next scheduled evaluation.

■ 12. In appendix A to part 60, add Attachment 7 to read as follows:

**Appendix A to Part 60—Qualification Performance Standards for Airplane Full Flight Simulators**

\* \* \* \* \*

**Attachment 7 to Appendix A to Part 60—Additional Simulator Qualification Requirements for Stall, Upset Prevention and Recovery, and Engine and Airframe Icing Training Tasks**

**Begin QPS Requirements**

*A. High Angle of Attack Model Evaluation (Table A1A, Section 2.m.)*

1. Applicability: This attachment applies to all simulators that are used to satisfy training requirements for stall maneuvers that are conducted at angles of attack beyond the activation of the stall warning system. This attachment is not applicable for those FSTDs that are only qualified for approach to stall maneuvers where recovery is initiated at the first indication of the stall. The material in this section is intended to supplement the general requirements, objective testing requirements, and subjective testing requirements contained within Tables A1A, A2A, and A3A, respectively.

2. General Requirements: The requirements for high angle of attack modeling are intended to evaluate the recognition cues and performance and handling qualities of a developing stall through the stall identification angle-of-attack and recovery. Strict time-history-based evaluations against flight test data may not adequately validate the aerodynamic model in an unsteady and potentially unstable flight regime, such as stalled flight. As a result, the objective testing requirements defined in Table A2A do not prescribe strict tolerances on any parameter at angles of attack beyond the stall identification angle of attack. In lieu of mandating such objective tolerances, a Statement of Compliance (SOC) will be required to define the source data and methods used to develop the stall aerodynamic model.

3. Fidelity Requirements: The requirements defined for the evaluation of full stall training maneuvers are intended to provide the following levels of fidelity:

- a. Airplane type specific recognition cues of the first indication of the stall (such as the stall warning system or aerodynamic stall buffet);
- b. Airplane type specific recognition cues of an impending aerodynamic stall; and
- c. Recognition cues and handling qualities from the stall break through recovery that are sufficiently exemplar of the airplane being simulated to allow successful completion of the stall recovery training tasks.

For the purposes of stall maneuver evaluation, the term “exemplar” is defined as a level of fidelity that is type specific of the simulated airplane to the extent that the training objectives can be satisfactorily accomplished.

4. Statement of Compliance (Aerodynamic Model): At a minimum, the following must be addressed in the SOC:

- a. Source Data and Modeling Methods: The SOC must identify the sources of data used to develop the aerodynamic model. These data sources may be from the airplane original equipment manufacturer (OEM), the original FSTD manufacturer/data provider, or other data provider acceptable to the FAA. Of particular interest is a mapping of test points in the form of alpha/beta envelope plot for a minimum of flaps up and flaps down aircraft configurations. For the flight test data, a list of the types of maneuvers used to define the aerodynamic model for angle of attack ranges greater than the first indication of stall must be provided per flap setting. In cases where it is impractical to develop and validate a stall model with flight-test data (e.g., due to safety concerns involving the collection of flight test data past a certain angle of attack), the data provider is expected to make a reasonable attempt to develop a stall model through the required angle of attack range using analytical methods and empirical data (e.g., wind-tunnel data);
- b. Validity Range: The FSTD sponsor must declare the range of angle of attack and sideslip where the aerodynamic model remains valid for training. For stall recovery training tasks, satisfactory aerodynamic model fidelity must be shown through at least 10 degrees beyond the stall identification angle of attack. For the purposes of determining this validity range, the stall identification angle of attack is defined as the angle of attack where the pilot is given a clear and distinctive indication to cease any further increase in angle of attack where one or more of the following characteristics occur:
  - i. No further increase in pitch occurs when the pitch control is held at the full aft stop for 2 seconds, leading to an inability to arrest descent rate;
  - ii. An uncommanded nose down pitch that cannot be readily arrested, which may be accompanied by an uncommanded rolling motion;
  - iii. Buffeting of a magnitude and severity that is a strong and effective deterrent to further increase in angle of attack; and
  - iv. Activation of a stick pusher.

The model validity range must also be capable of simulating the airplane dynamics as a result of a pilot initially resisting the stick pusher in training. For aircraft equipped with a stall envelope protection system, the model validity range must extend to 10 degrees of angle of attack beyond the stall identification angle of attack with the protection systems disabled or otherwise degraded (such as a degraded flight control mode as a result of a pitot/static system failure).

- c. Model Characteristics: Within the declared range of model validity, the SOC must address, and the aerodynamic model must incorporate, the following stall characteristics where applicable by aircraft type:
  - i. Degradation in static/dynamic lateral-directional stability;
  - ii. Degradation in control response (pitch, roll, yaw);

- iii. Uncommanded roll acceleration or roll-off requiring significant control deflection to counter;
- iv. Apparent randomness or non-repeatability;
- v. Changes in pitch stability;
- vi. Stall hysteresis;
- vii. Mach effects;
- viii. Stall buffet; and
- ix. Angle of attack rate effects.

An overview of the methodology used to address these features must be provided.

5. Statement of Compliance (Subject Matter Expert Pilot Evaluation): The sponsor must provide an SOC that confirms the FSTD has been subjectively evaluated by a subject matter expert (SME) pilot who is knowledgeable of the aircraft's stall characteristics. In order to qualify as an acceptable SME to evaluate the FSTD's stall characteristics, the SME must meet the following requirements:

- a. Has held a type rating/qualification in the aircraft being simulated;
- b. Has direct experience in conducting stall maneuvers in an aircraft that shares the same type rating as the make, model, and series of the simulated aircraft. This stall experience must include hands on manipulation of the controls at angles of attack sufficient to identify the stall (e.g., deterrent buffet, stick pusher activation, etc.) through recovery to stable flight;
- c. Where the SME's stall experience is on an airplane of a different make, model, and series within the same type rating, differences in aircraft specific stall recognition cues and handling characteristics must be addressed using available documentation. This documentation may include aircraft operating manuals, aircraft manufacturer flight test reports, or other documentation that describes the stall characteristics of the aircraft; and
- d. Must be familiar with the intended stall training maneuvers to be conducted in the FSTD (e.g., general aircraft configurations, stall entry methods, etc.) and the cues necessary to accomplish the required training objectives. The purpose of this requirement is to ensure that the stall model has been sufficiently evaluated in those general aircraft configurations and stall entry methods that will likely be conducted in training.

This SOC will only be required once at the time the FSTD is initially qualified for stall training tasks as long as the FSTD's stall model remains unmodified from what was originally evaluated and qualified. Where an FSTD shares common aerodynamic and flight control models with that of an engineering simulator or development simulator that is acceptable to the FAA, the FAA will accept an SOC from the data provider that confirms the stall characteristics have been subjectively assessed by an SME pilot on the engineering or development simulator.

An FSTD sponsor may submit a request to the Administrator for approval of a deviation from the SME pilot experience requirements in this paragraph. This request for deviation must include the following information:

- a. An assessment of pilot availability that demonstrates that a suitably qualified pilot

meeting the experience requirements of this section cannot be practically located; and

- b. Alternative methods to subjectively evaluate the FSTD's capability to provide the stall recognition cues and handling characteristics needed to accomplish the training objectives.

**B. Upset Prevention and Recovery Training (UPRT) Maneuver Evaluation (Table A1A, Section 2.n.)**

1. Applicability: This attachment applies to all simulators that are used to satisfy training requirements for upset prevention and recovery training (UPRT) maneuvers. For the purposes of this attachment (as defined in the Airplane Upset Recovery Training Aid), an aircraft upset is generally defined as an airplane unintentionally exceeding the following parameters normally experienced in line operations or training:

- a. Pitch attitude greater than 25 degrees nose up;
- b. Pitch attitude greater than 10 degrees nose down;
- c. Bank angles greater than 45 degrees; and
- d. Within the above parameters, but flying at airspeeds inappropriate for the conditions.

FSTDs that will be used to conduct training maneuvers where the FSTD is either repositioned into an aircraft upset condition or an artificial stimulus (such as weather phenomena or system failures) is applied that is intended to result in a flightcrew entering an aircraft upset condition must be evaluated and qualified in accordance with this section.

2. General Requirements: The general requirement for UPRT qualification in Table A1A defines three basic elements required for qualifying an FSTD for UPRT maneuvers:

- a. FSTD Training Envelope: Valid UPRT should be conducted within the high and moderate confidence regions of the FSTD validation envelope as defined in paragraph 3 below.
- b. Instructor Feedback: Provides the instructor/evaluator with a minimum set of feedback tools to properly evaluate the trainee's performance in accomplishing an upset recovery training task.
- c. Upset Scenarios: Where dynamic upset scenarios or aircraft system malfunctions are used to stimulate the FSTD into an aircraft upset condition, specific guidance must be available to the instructor on the IOS that describes how the upset scenario is driven along with any malfunction or degradation in FSTD functionality that is required to stimulate the upset.

3. FSTD Validation Envelope: For the purposes of this attachment, the term "flight envelope" refers to the entire domain in which the FSTD is capable of being flown with a degree of confidence that the FSTD responds similarly to the airplane. This envelope can be further divided into three

subdivisions (see Appendix 3–D of the *Airplane Upset Recovery Training Aid*):

- a. Flight test validated region: This is the region of the flight envelope which has been validated with flight test data, typically by comparing the performance of the FSTD against the flight test data through tests incorporated in the QTG and other flight test data utilized to further extend the model beyond the minimum requirements. Within this region, there is high confidence that the simulator responds similarly to the aircraft. Note that this region is not strictly limited to what has been tested in the QTG; as long as the aerodynamics mathematical model has been conformed to the flight test results, that portion of the mathematical model can be considered to be within the flight test validated region.
- b. Wind tunnel and/or analytical region: This is the region of the flight envelope for which the FSTD has not been compared to flight test data, but for which there has been wind tunnel testing or the use of other reliable predictive methods (typically by the aircraft manufacturer) to define the aerodynamic model. Any extensions to the aerodynamic model that have been evaluated in accordance with the definition of an exemplar stall model (as described in the stall maneuver evaluation section) must be clearly indicated. Within this region, there is moderate confidence that the simulator will respond similarly to the aircraft.
- c. Extrapolated: This is the region extrapolated beyond the flight test validated and wind tunnel/analytical regions. The extrapolation may be a linear extrapolation, a holding of the last value before the extrapolation began, or some other set of values. Whether this extrapolated data is provided by the aircraft or simulator manufacturer, it is a "best guess" only. Within this region, there is low confidence that the simulator will respond similarly to the aircraft. Brief excursions into this region may still retain a moderate confidence level in FSTD fidelity; however, the instructor should be aware that the FSTD's response may deviate from the actual aircraft.

4. Instructor Feedback Mechanism: For the instructor/evaluator to provide feedback to the student during UPRT maneuver training, additional information must be accessible that indicates the fidelity of the simulation, the magnitude of trainee's flight control inputs, and aircraft operational limits that could potentially affect the successful completion of the maneuver(s). At a minimum, the following must be available to the instructor/evaluator:

- a. FSTD Validation Envelope: The FSTD must employ a method to display the FSTD's expected fidelity with respect to

the FSTD validation envelope. This may be displayed as an angle of attack vs sideslip (alpha/beta) envelope cross-plot on the Instructor Operating System (IOS) or other alternate method to clearly convey the FSTD's fidelity level during the maneuver. The cross-plot or other alternative method must display the relevant validity regions for flaps up and flaps down at a minimum. This validation envelope must be derived by the aerodynamic data provider or derived using information and data sources provided by the original aerodynamic data provider.

- b. Flight Control Inputs: The FSTD must employ a method for the instructor/evaluator to assess the trainee's flight control inputs during the upset recovery maneuver. Additional parameters, such as cockpit control forces (forces applied by the pilot to the controls) and the flight control law mode for fly-by-wire aircraft, must be portrayed in this feedback mechanism as well. For passive sidesticks, whose displacement is the flight control input, the force applied by the pilot to the controls does not need to be displayed. This tool must include a time history or other equivalent method of recording flight control positions.
- c. Aircraft Operational Limits: The FSTD must employ a method to provide the instructor/evaluator with real-time information concerning the aircraft operating limits. The simulated aircraft's parameters must be displayed dynamically in real-time and also provided in a time history or equivalent format. At a minimum, the following parameters must be available to the instructor:
  - i. Airspeed and airspeed limits, including the stall speed and maximum operating limit airspeed (Vmo/Mmo);
  - ii. Load factor and operational load factor limits; and
  - iii. Angle of attack and the stall identification angle of attack. See section A, paragraph 4.b. of this attachment for additional information concerning the definition of the stall identification angle of attack. This parameter may be displayed in conjunction with the FSTD validation envelope.

## End QPS Requirements

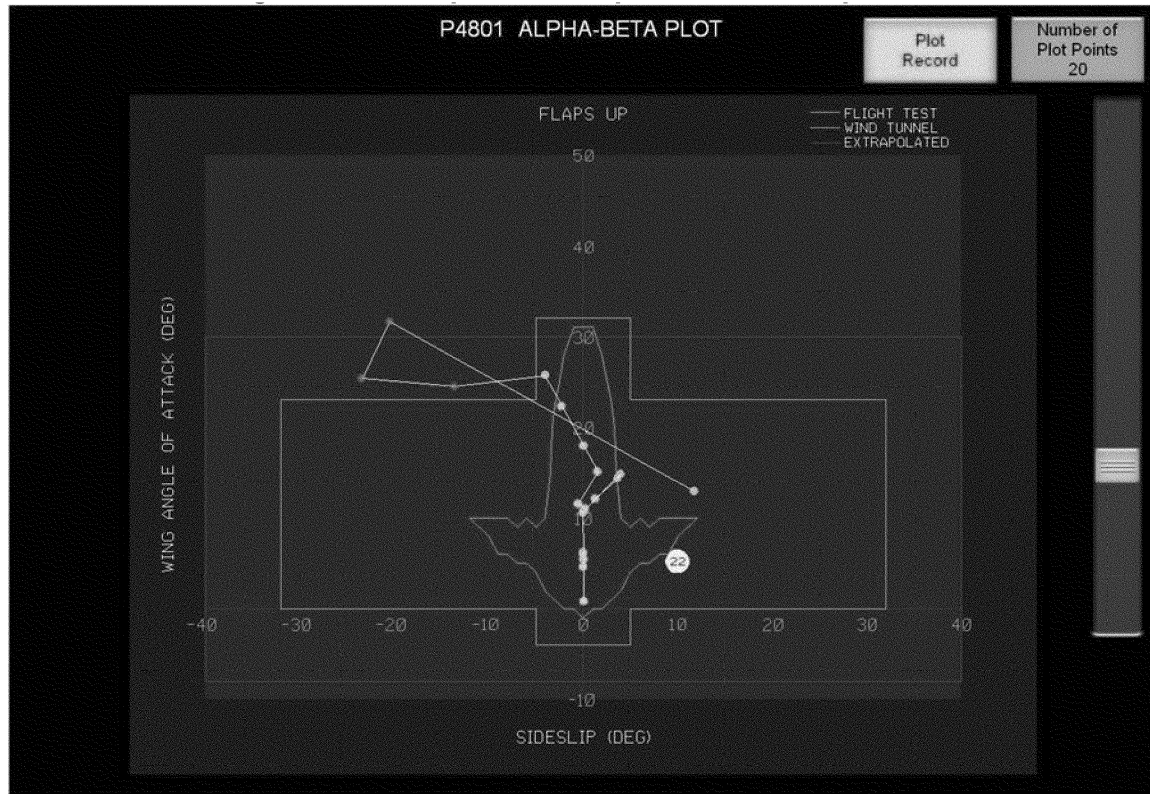
### Begin Information

An example FSTD "alpha/beta" envelope display and IOS feedback mechanism are shown below in Figure 1 and Figure 2. The following examples are provided as guidance material on one possible method to display the required UPRT feedback parameters on an IOS display. FSTD sponsors may develop other methods and feedback mechanisms that provide the required parameters and support the training program objectives.

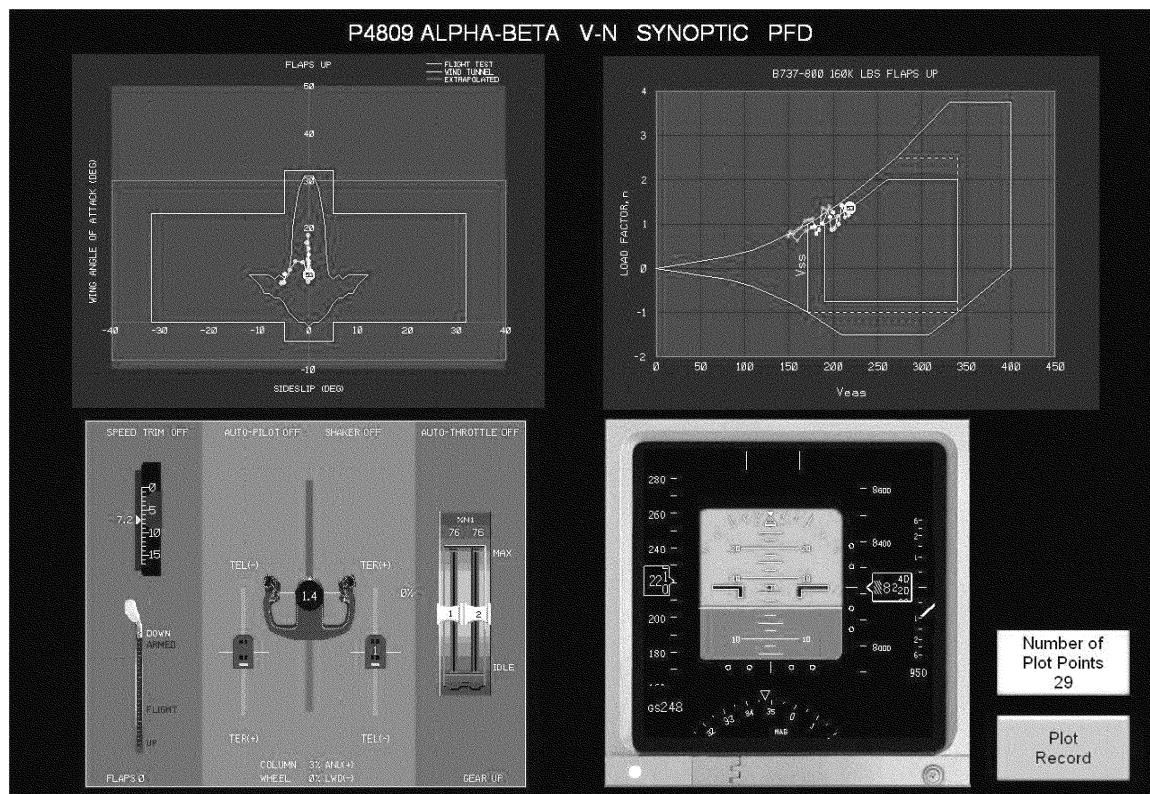
**BILLING CODE 4910-13-P**



### Figure 1 – Example FSTD Alpha/Beta Envelope Plot



**Figure 2 – Example IOS Instructor UPRT Feedback Display**



## End Information

### Begin QPS Requirements

#### *C. Engine and Airframe Icing Evaluation (Table A1A, Section 2.j.)*

1. Applicability: This section applies to all FSTDs that are used to satisfy training requirements for engine and airframe icing. New general requirements and objective requirements for simulator qualification have been developed to define aircraft specific icing models that support training objectives for the recognition and recovery from an in-flight ice accretion event.

2. General Requirements: The qualification of engine and airframe icing consists of the following elements that must be considered when developing ice accretion models for use in training:

a. Ice accretion models must be developed to account for training the specific skills required for recognition of ice accumulation and execution of the required response.

b. Ice accretion models must be developed in a manner to contain aircraft specific recognition cues as determined with aircraft OEM supplied data or other suitable analytical methods.

c. At least one qualified ice accretion model must be objectively tested to demonstrate that the model has been implemented correctly and generates the correct cues as necessary for training.

3. Statement of Compliance: The SOC as described in Table A1A, Section 2.j. must contain the following information to support FSTD qualification of aircraft specific ice accretion models:

a. A description of expected aircraft specific recognition cues and degradation effects due to a typical in-flight icing encounter. Typical cues may include loss of lift, decrease in stall angle of attack, changes in pitching moment, decrease in control effectiveness, and changes in control forces in addition to any overall increase in drag. This description must be based upon relevant source data, such as aircraft OEM supplied data, accident/incident data, or other acceptable data sources. Where a particular airframe has demonstrated vulnerabilities to a specific type of ice accretion (due to accident/incident history) which requires specific training (such as supercooled large-droplet icing or tailplane icing), ice accretion models must be developed that address the training requirements.

b. A description of the data sources utilized to develop the qualified ice accretion models. Acceptable data sources may be, but are not limited to, flight test data, aircraft certification data, aircraft OEM engineering simulation data, or other analytical methods based upon established engineering principles.

4. Objective Demonstration Testing: The purpose of the objective demonstration test is to demonstrate that the ice accretion models as described in the Statement of Compliance have been implemented correctly and demonstrate the proper cues and effects as defined in the approved data sources. At least one ice accretion model must be selected for testing and included in the Master Qualification Test Guide (MQTG). Two tests are required to demonstrate engine

and airframe icing effects. One test will demonstrate the FSTDs baseline performance without icing, and the second test will demonstrate the aerodynamic effects of ice accretion relative to the baseline test.

a. *Recorded Parameters:* In each of the two required MQTG cases, a time history recording must be made of the following parameters:

- i. Altitude;
- ii. Airspeed;
- iii. Normal Acceleration;
- iv. Engine Power/settings;
- v. Angle of Attack/Pitch attitude;
- vi. Bank Angle;
- vii. Flight control inputs;
- viii. Stall warning and stall buffet onset; and
- ix. Other parameters as necessary to demonstrate the effects of ice accretions.

b. *Demonstration maneuver:* The FSTD sponsor must select an ice accretion model as identified in the SOC for testing. The selected maneuver must demonstrate the effects of ice accretion at high angles of attack from a trimmed condition through approach to stall and "full" stall as compared to a baseline (no ice buildup) test. The ice accretion models must demonstrate the cues necessary to recognize the onset of ice accretion on the airframe, lifting surfaces, and engines and provide representative degradation in performance and handling qualities to the extent that a recovery can be executed. Typical recognition cues that may be present depending upon the simulated aircraft include:

- i. Decrease in stall angle of attack;
- ii. Increase in stall speed;
- iii. Increase in stall buffet threshold of perception speed;
- iv. Changes in pitching moment;
- v. Changes in stall buffet characteristics;
- vi. Changes in control effectiveness or control forces; and
- vii. Engine effects (power variation, vibration, etc.);

The demonstration test may be conducted by initializing and maintaining a fixed amount of ice accretion throughout the maneuver in order to consistently evaluate the aerodynamic effects.

### End QPS Requirements

13. Amend Appendix B by:

- A. Revising paragraph 1.b.;
- B. Revising paragraph 1.d.(21);
- C. Revising paragraph 1.d.(24);
- D. Revising paragraph 1.d.(25);
- E. Revising paragraph 11.b.(2);
- F. Removing and reserving paragraph 11.e.(2);
- G. Revising paragraph 11.h.;
- H. Revising paragraph 13.b.;
- I. Revising paragraph 13.d.; and
- J. Adding paragraph 24.a.(4)

The revisions and addition read as follows:

### Appendix B to Part 60—Qualification Performance Standards for Airplane Flight Training Devices

\* \* \* \* \*

#### 1. Introduction

\* \* \* \* \*

b. Questions regarding the contents of this publication should be sent to the U.S. Department of Transportation, Federal Aviation Administration, Flight Standards Service, National Simulator Program Staff, AFS-205, P.O. Box 20636, Atlanta, Georgia 30320. Telephone contact numbers for the NSP are: Phone, 404-474-5620; fax, 404-474-5656. The NSP Internet Web site address is: <http://www.faa.gov/about/initiatives/nsp/>. On this Web site you will find an NSP personnel list with telephone and email contact information for each NSP staff member, a list of qualified flight simulation devices, advisory circulars (ACs), a description of the qualification process, NSP policy, and an NSP "In-Works" section. Also linked from this site are additional information sources, handbook bulletins, frequently asked questions, a listing and text of the Federal Aviation Regulations, Flight Standards Inspector's handbooks, and other FAA links.

\* \* \* \* \*

d. \* \* \*

(21) International Air Transport Association document, "Flight Simulation Training Device Design and Performance Data Requirements," as amended.

\* \* \* \* \*

(24) International Civil Aviation Organization (ICAO) Manual of Criteria for the Qualification of Flight Simulation Training Devices, as amended.

(25) Aeroplane Flight Simulation Training Device Evaluation Handbook, Volume I, as amended and Volume II, as amended, The Royal Aeronautical Society, London, UK.

\* \* \* \* \*

### 11. Initial (and Upgrade) Qualification Requirements (§ 60.15)

\* \* \* \* \*

b. \* \* \*

(2) Unless otherwise authorized through prior coordination with the NSPM, a confirmation that the sponsor will forward to the NSPM the statement described in § 60.15(b) in such time as to be received no later than 5 business days prior to the scheduled evaluation and may be forwarded to the NSPM via traditional or electronic means.

\* \* \* \* \*

h. The sponsor may elect to complete the QTG objective and subjective tests at the manufacturer's facility or at the sponsor's training facility (or other sponsor designated location where training will take place). If the tests are conducted at the manufacturer's facility, the sponsor must repeat at least one-third of the tests at the sponsor's training facility in order to substantiate FTD performance. The QTG must be clearly annotated to indicate when and where each test was accomplished. Tests conducted at the manufacturer's facility and at the sponsor's designated training facility must be conducted after the FTD is assembled with systems and sub-systems functional and operating in an interactive manner. The test results must be submitted to the NSPM.

\* \* \* \* \*



**13. Previously Qualified FTDs (§ 60.17)**

\* \* \* \* \*

b. FTDs qualified prior to May 31, 2016, and replacement FTD systems, are not required to meet the general FTD requirements, the objective test requirements, and the subjective test requirements of Attachments 1, 2, and 3 of this appendix as long as the FTD continues to meet the test requirements contained in the MQTG developed under the original qualification basis.

\* \* \* \* \*

d. FTDs qualified prior to May 31, 2016, may be updated. If an evaluation is deemed appropriate or necessary by the NSPM after such an update, the evaluation will not require an evaluation to standards beyond

those against which the FTD was originally qualified.

\* \* \* \* \*

**24. Levels of FTD**

\* \* \* \* \*

a. \* \* \*

(4) Level 7. A Level 7 device is one that has an enclosed airplane-specific flight deck and aerodynamic program with all applicable airplane systems operating and control loading that is representative of the simulated airplane throughout its ground and flight envelope and significant sound representation. All displays may be flat/LCD panel representations or actual representations of displays in the aircraft, but all controls, switches, and knobs must physically replicate the aircraft in control

operation. It also has a visual system that provides an out-of-the-flight deck view, providing cross-flight deck viewing (for both pilots simultaneously) of a field-of-view of at least 180° horizontally and 40° vertically.

\* \* \* \* \*

■ 14. In appendix B to part 60, amend Attachment 1 to Appendix B by revising Tables B1A and B1B to read as follows:

**Appendix B to Part 60—Qualification Performance Standards for Airplane Flight Training Devices**

\* \* \* \* \*

**Attachment 1 to Appendix B to Part 60—General FTD REQUIREMENTS**

\* \* \* \* \*

<b>1. General Flight deck Configuration.</b>						
<b>1.a.</b>	<p>The FTD must have a flight deck that is a replica of the airplane simulated with controls, equipment, observable flight deck indicators, circuit breakers, and bulkheads properly located, functionally accurate and replicating the airplane. The direction of movement of controls and switches must be identical to that in the airplane. Pilot seat(s) must afford the capability for the occupant to be able to achieve the design “eye position.” Equipment for the operation of the flight deck windows must be included, but the actual windows need not be operable. Fire axes, extinguishers, and spare light bulbs must be available in the flight FTD, but may be relocated to a suitable location as near as practical to the original position. Fire axes, landing gear pins, and any similar purpose instruments need only be represented in silhouette.</p> <p>The use of electronically displayed images with physical overlay or masking for FTD instruments and/or instrument panels is acceptable provided:</p> <ol style="list-style-type: none"> <li>(1) All instruments and instrument panel layouts are dimensionally correct with differences, if any, being imperceptible to the pilot;</li> <li>(2) Instruments replicate those of the airplane including full instrument functionality and embedded logic;</li> <li>(3) Instruments displayed are free of quantization (stepping);</li> <li>(4) Instrument display characteristics replicate those of the airplane including: resolution, colors, luminance, brightness, fonts, fill patterns, line styles and symbology;</li> <li>(5) Overlay or masking, including bezels and bugs, as applicable, replicates the airplane panel(s);</li> <li>(6) Instrument controls and switches replicate and operate with the same technique, effort, travel and in the same direction as those in the airplane;</li> <li>(7) Instrument lighting replicates that of the airplane and is operated from the FSTD control for that lighting and, if applicable, is at a level</li> </ol>			<b>X</b>	<b>X</b>	<p>For FTD purposes, the flight deck consists of all that space forward of a cross section of the fuselage at the most extreme aft setting of the pilots' seats including additional, required flight crewmember duty stations and those required bulkheads aft of the pilot seats. For clarification, bulkheads containing only items such as landing gear pin storage compartments, fire axes and extinguishers, spare light bulbs, aircraft documents pouches are not considered essential and may be omitted.</p> <p>For Level 6 FTDs, flight deck window panes may be omitted where non-distracting and subjectively acceptable to conduct qualified training tasks.</p>

	<p>commensurate with other lighting operated by that same control; and</p> <p>(8) As applicable, instruments must have faceplates that replicate those in the airplane; and</p>					
<b>1.b.</b>	<p>Level 7 FTD only;</p> <p>The display image of any three dimensional instrument, such as an electro-mechanical instrument, should appear to have the same three dimensional depth as the replicated instrument. The appearance of the simulated instrument, when viewed from the principle operator's angle, should replicate that of the actual airplane instrument. Any instrument reading inaccuracy due to viewing angle and parallax present in the actual airplane instrument should be duplicated in the simulated instrument display image. Viewing angle error and parallax must be minimized on shared instruments such and engine displays and standby indicators.</p> <p>The FTD must have equipment (e.g., instruments, panels, systems, circuit breakers, and controls) simulated sufficiently for the authorized training/checking events to be accomplished. The installed equipment must be located in a spatially correct location and may be in a flight deck or an open flight deck area. Additional equipment required for the authorized training/checking events must be available in the FTD, but may be located in a suitable location as near as practical to the spatially correct position. Actuation of equipment must replicate the appropriate function in the airplane. Fire axes, landing gear pins, and any similar purpose instruments need only be represented in silhouette.</p>	<b>X</b>	<b>X</b>			
<b>1.c.</b>	Those circuit breakers that affect procedures or result in observable flight deck indications must be properly located and functionally accurate.				<b>X</b>	
<b>2. Programming.</b>						
<b>2.a.1</b>	The FTD must provide the proper effect of aerodynamic changes for the combinations of drag and thrust normally encountered in flight. This must include the effect of change in airplane attitude, thrust, drag, altitude, temperature, and configuration.		<b>X</b>	<b>X</b>		

	<p>Level 6 additionally requires the effects of changes in gross weight and center of gravity.</p> <p>Level 5 requires only generic aerodynamic programming.</p> <p>An SOC is required.</p>					
<b>2.a.2</b>	<p>A flight dynamics model that accounts for various combinations of drag and thrust normally encountered in flight must correspond to actual flight conditions, including the effect of change in airplane attitude, thrust, drag, altitude, temperature, gross weight, moments of inertia, center of gravity location, and configuration.</p> <p>The effects of pitch attitude and of fuel slosh on the aircraft center of gravity must be simulated.</p> <p>An SOC is required.</p>				<b>X</b>	
<b>2.b.</b>	<p>The FTD must have the computer capacity, accuracy, resolution, and dynamic response needed to meet the qualification level sought.</p> <p>An SOC is required.</p>	<b>X</b>	<b>X</b>	<b>X</b>	<b>X</b>	
<b>2.c.1</b>	<p>Relative responses of the flight deck instruments must be measured by latency tests, or transport delay tests, and may not exceed 300 milliseconds. The instruments must respond to abrupt input at the pilot's position within the allotted time, but not before the time when the airplane responds under the same conditions.</p> <p>(1) Latency: The FTD instrument and, if applicable, the motion system and the visual system response must not be prior to that time when the airplane responds and may respond up to 300 milliseconds after that time under the same conditions.</p> <p>(2) Transport Delay: As an alternative to the Latency requirement, a transport delay objective test may be used to demonstrate that the FTD system does not exceed the specified limit. The sponsor must measure</p>		<b>X</b>	<b>X</b>		<p>The intent is to verify that the FTD provides instrument cues that are, within the stated time delays, like the airplane responses. For airplane response, acceleration in the appropriate, corresponding rotational axis is preferred. Additional information regarding Latency and Transport Delay testing may be found in Appendix A,</p>

	all the delay encountered by a step signal migrating from the pilot's control through all the simulation software modules in the correct order, using a handshaking protocol, finally through the normal output interfaces to the instrument display and, if applicable, the motion system, and the visual system.					Attachment 2, paragraph 15.
<b>2.c.2.</b>	Relative responses of the motion system, visual system, and flight deck instruments, measured by latency tests or transport delay tests. Motion onset should occur before the start of the visual scene change (the start of the scan of the first video field containing different information) but must occur before the end of the scan of that video field. Instrument response may not occur prior to motion onset. Test results must be within the following limits:  100 ms for the motion (if installed) and instrument systems; and 120 ms for the visual system.				<b>X</b>	The intent is to verify that the FTD provides instrument, motion, and visual cues that are, within the stated time delays, like the airplane responses. For airplane response, acceleration in the appropriate, corresponding rotational axis is preferred.
<b>2.d.</b>	Ground handling and aerodynamic programming must include the following:					
<b>2.d.1.</b>	Ground effect.				<b>X</b>	Ground effect includes modeling that accounts for roundout, flare, touchdown, lift, drag, pitching moment, trim, and power while in ground effect.
<b>2.d.2.</b>	Ground reaction.				<b>X</b>	Ground reaction includes modeling that accounts for strut deflections, tire friction, and side forces. This is the reaction of the airplane upon contact with the runway during landing, and may differ with changes in factors such as gross weight, airspeed, or rate

					of descent on touchdown.
<b>2.d.3.</b>	Ground handling characteristics, including aerodynamic and ground reaction modeling including steering inputs, operations with crosswind, gusting crosswind, braking, thrust reversing, deceleration, and turning radius.			<b>X</b>	
<b>2.e.</b>	<p>If the aircraft being simulated is one of the aircraft listed in § 121.358, Low-altitude windshear system equipment requirements, the FTD must employ windshear models that provide training for recognition of windshear phenomena and the execution of recovery procedures. Models must be available to the instructor/evaluator for the following critical phases of flight:</p> <p>(1) Prior to takeoff rotation;</p> <p>(2) At liftoff;</p> <p>(3) During initial climb; and</p> <p>(4) On final approach, below 500 ft AGL.</p> <p>The QTG must reference the FAA Windshear Training Aid or present alternate airplane related data, including the implementation method(s) used. If the alternate method is selected, wind models from the Royal Aerospace Establishment (RAE), the Joint Airport Weather Studies (JAWS) Project and other recognized sources may be implemented, but must be supported and properly referenced in the QTG.</p> <p>The addition of realistic levels of turbulence associated with each required windshear profile must be available and selectable to the instructor.</p> <p>In addition to the four basic windshear models required for qualification, at least two additional “complex” windshear models must be available to the instructor which represent the complexity of actual windshear encounters. These models must be available in the takeoff and landing configurations and must consist of independent variable winds in multiple simultaneous components. The Windshear Training Aid provides two such example “complex” windshear models that may be used to satisfy this requirement.</p>			<b>X</b>	<p>Windshear models may consist of independent variable winds in multiple simultaneous components. The FAA Windshear Training Aid presents one acceptable means of compliance with FTD wind model requirements.</p> <p>The FTD should employ a method to ensure the required survivable and non-survivable windshear scenarios are repeatable in the training environment.</p> <p>For Level 7 FTDs, windshear training tasks may only be qualified for aircraft equipped with a synthetic stall warning system. The qualified windshear profile(s) are evaluated to ensure the synthetic stall warning (and not the stall buffet) is first indication of the stall.</p>
<b>2.f.</b>	The FTD must provide for manual and automatic testing of FTD hardware			<b>X</b>	Automatic “flagging” of out-

	and software programming to determine compliance with FTD objective tests as prescribed in Attachment 2 of this appendix.  An SOC is required.					of-tolerance situations is encouraged.
<b>2.g.</b>	The FTD must accurately reproduce the following runway conditions: (1) Dry; (2) Wet; (3) Icy; (4) Patchy Wet; (5) Patchy Icy; and (6) Wet on Rubber Residue in Touchdown Zone.  An SOC is required.				<b>X</b>	
<b>2.h.</b>	The FTD must simulate: (1) brake and tire failure dynamics, including antiskid failure; and (2) decreased brake efficiency due to high brake temperatures, if applicable.  An SOC is required				<b>X</b>	FTD pitch, side loading, and directional control characteristics should be representative of the airplane.
<b>2.i.</b>	Engine and Airframe Icing Modeling that includes the effects of icing, where appropriate, on the airframe, aerodynamics, and the engine(s). Icing models must simulate the aerodynamic degradation effects of ice accretion on the airplane lifting surfaces including loss of lift, decrease in stall angle of attack, change in pitching moment, decrease in control effectiveness, and changes in control forces in addition to any overall increase in drag. Aircraft systems (such as the stall protection system and autoflight system) must respond properly to ice accretion consistent with the simulated aircraft.  Aircraft OEM data or other acceptable analytical methods must be utilized to develop ice accretion models that are representative of the simulated aircraft's performance degradation in a typical in-flight icing encounter. Acceptable				<b>X</b>	SOC should be provided describing the effects which provide training in the specific skills required for recognition of icing phenomena and execution of recovery. The SOC should describe the source data and any analytical methods used to develop ice accretion models including verification that these effects have been tested.

	<p>analytical methods may include wind tunnel analysis and/or engineering analysis of the aerodynamic effects of icing on the lifting surfaces coupled with tuning and supplemental subjective assessment by a subject matter expert pilot.</p> <p>SOC required.</p>				<p>Icing effects simulation models are only required for those airplanes authorized for operations in icing conditions. Icing simulation models should be developed to provide training in the specific skills required for recognition of ice accumulation and execution of the required response.</p> <p>See Attachment 7 of this Appendix for further guidance material.</p>
<b>2.j.</b>	<p>The aerodynamic modeling in the FTD must include:</p> <p>(1) Low-altitude level-flight ground effect;</p> <p>(2) Mach effect at high altitude;</p> <p>(3) Normal and reverse dynamic thrust effect on control surfaces;</p> <p>(4) Aeroelastic representations; and</p> <p>(5) Nonlinearities due to sideslip.</p> <p>An SOC is required and must include references to computations of aeroelastic representations and of nonlinearities due to sideslip.</p>			<b>X</b>	<p>See Attachment 2 of this appendix, paragraph 5, for further information on ground effect.</p>
<b>2.k.</b>	<p>The FTD must have aerodynamic and ground reaction modeling for the effects of reverse thrust on directional control, if applicable.</p> <p>An SOC is required.</p>			<b>X</b>	
<b>3. Equipment Operation.</b>					
<b>3.a.</b>	<p>All relevant instrument indications involved in the simulation of the airplane must automatically respond to control movement or external disturbances to the simulated airplane; e.g., turbulence or windshear. Numerical values must</p>		<b>X</b>	<b>X</b>	<b>X</b>



	be presented in the appropriate units.					
	For Level 7 FTDs, instrument indications must also respond to effects resulting from icing.					
<b>3.b.1.</b>	Navigation equipment must be installed and operate within the tolerances applicable for the airplane. Levels 6 must also include communication equipment (inter-phone and air/ground) like that in the airplane and, if appropriate to the operation being conducted, an oxygen mask microphone system. Level 5 need have only that navigation equipment necessary to fly an instrument approach.		<b>X</b>	<b>X</b>		
<b>3.b.2.</b>	Communications, navigation, caution, and warning equipment must be installed and operate within the tolerances applicable for the airplane.  Instructor control of internal and external navigational aids. Navigation aids must be usable within range or line-of-sight without restriction, as applicable to the geographic area.				<b>X</b>	See Attachment 3 of this appendix for further information regarding long-range navigation equipment.
<b>3.b.3.</b>	Complete navigation database for at least 3 airports with corresponding precision and non-precision approach procedures, including navigational database updates.				<b>X</b>	
<b>3.c.1.</b>	Installed systems must simulate the applicable airplane system operation, both on the ground and in flight. Installed systems must be operative to the extent that applicable normal, abnormal, and emergency operating procedures included in the sponsor's training programs can be accomplished. Level 6 must simulate all applicable airplane flight, navigation, and systems operation. Level 5 must have at least functional flight and navigational controls, displays, and instrumentation. Level 4 must have at least one airplane system installed and functional.	<b>X</b>	<b>X</b>	<b>X</b>		
<b>3.c.2.</b>	Simulated airplane systems must operate as the airplane systems operate				<b>X</b>	Airplane system operation

	<p>under normal, abnormal, and emergency operating conditions on the ground and in flight.</p> <p>Once activated, proper systems operation must result from system management by the crew member and not require any further input from the instructor's controls.</p>					<p>should be predicated on, and traceable to, the system data supplied by the airplane manufacturer, original equipment manufacturer or alternative approved data for the airplane system or component.</p> <p>At a minimum, alternate approved data should validate the operation of all normal, abnormal, and emergency operating procedures and training tasks the FSTD is qualified to conduct.</p>
3.d.	The lighting environment for panels and instruments must be sufficient for the operation being conducted.	X	X	X	X	Back-lighted panels and instruments may be installed but are not required.
3.e.	<p>The FTD must provide control forces and control travel that corresponds to the airplane being simulated. Control forces must react in the same manner as in the airplane under the same flight conditions.</p> <p>For Level 7 FTDs, control systems must replicate airplane operation for the normal and any non-normal modes including back-up systems and should reflect failures of associated systems. Appropriate cockpit indications and messages must be replicated.</p>			X	X	
3.f.	The FTD must provide control forces and control travel of sufficient precision to manually fly an instrument approach.		X			
3.e.	FTD control feel dynamics must replicate the airplane. This must be determined by comparing a recording of the control feel dynamics of the FTD				X	

	to airplane measurements. For initial and upgrade qualification evaluations, the control dynamic characteristics must be measured and recorded directly from the flight deck controls, and must be accomplished in takeoff, cruise, and landing flight conditions and configurations.					
<b>4. Instructor or Evaluator Facilities.</b>						
<b>4.a.1.</b>	In addition to the flight crewmember stations, suitable seating arrangements for an instructor/check airman and FAA Inspector must be available. These seats must provide adequate view of crewmember's panel(s).	<b>X</b>	<b>X</b>	<b>X</b>		These seats need not be a replica of an aircraft seat and may be as simple as an office chair placed in an appropriate position.
<b>4.a.2.</b>	In addition to the flight crewmember stations, the FTD must have at least two suitable seats for the instructor/check airman and FAA inspector. These seats must provide adequate vision to the pilot's panel and forward windows. All seats other than flight crew seats need not represent those found in the airplane, but must be adequately secured to the floor and equipped with similar positive restraint devices.				<b>X</b>	The NSPM will consider alternatives to this standard for additional seats based on unique flight deck configurations.
<b>4.b.1.</b>	The FTD must have instructor controls that permit activation of normal, abnormal, and emergency conditions as appropriate. Once activated, proper system operation must result from system management by the crew and not require input from the instructor controls.	<b>X</b>	<b>X</b>	<b>X</b>		
<b>4.b.2.</b>	The FTD must have controls that enable the instructor/evaluator to control all required system variables and insert all abnormal or emergency conditions into the simulated airplane systems as described in the sponsor's FAA-approved training program; or as described in the relevant operating manual as appropriate.				<b>X</b>	
<b>4.c.</b>	The FTD must have instructor controls for all environmental effects expected to be available at the IOS; e.g., clouds, visibility, icing, precipitation, temperature, storm cells and microbursts, turbulence, and intermediate and high altitude wind speed and direction.				<b>X</b>	
<b>4.d.</b>	The FTD must provide the instructor or evaluator the ability to present ground				<b>X</b>	For example, another airplane

	and air hazards.					crossing the active runway or converging airborne traffic.
<b>5. Motion System.</b>						
<b>5.a.</b>	The FTD may have a motion system, if desired, although it is not required. If a motion system is installed and additional training, testing, or checking credits are being sought on the basis of having a motion system, the motion system operation may not be distracting and must be coupled closely to provide integrated sensory cues. The motion system must also respond to abrupt input at the pilot's position within the allotted time, but not before the time when the airplane responds under the same conditions.		X	X	X	The motion system standards set out in part 60, Appendix A for at least Level A simulators is acceptable.
<b>5.b.</b>	If a motion system is installed, it must be measured by latency tests or transport delay tests and may not exceed 300 milliseconds. Instrument response may not occur prior to motion onset.			X	X	The motion system standards set out in part 60, Appendix A for at least Level A simulators is acceptable.
<b>6. Visual System.</b>						
<b>6.a.</b>	The FTD may have a visual system, if desired, although it is not required. If a visual system is installed, it must meet the following criteria:	X	X	X		
<b>6.a.1.</b>	The visual system must respond to abrupt input at the pilot's position. An SOC is required.		X	X		
<b>6.a.2.</b>	The visual system must be at least a single channel, non-collimated display. An SOC is required.	X	X	X		
<b>6.a.3.</b>	The visual system must provide at least a field-of-view of 18° vertical / 24° horizontal for the pilot flying. An SOC is required.	X	X	X		
<b>6.a.4.</b>	The visual system must provide for a maximum parallax of 10° per pilot. An SOC is required.	X	X	X		
<b>6.a.5.</b>	The visual scene content may not be distracting. An SOC is required.	X	X	X		
<b>6.a.6.</b>	The minimum distance from the pilot's eye position to the surface of a direct view					

	display may not be less than the distance to any front panel instrument. An SOC is required.					
<b>6.a.7.</b>	The visual system must provide for a minimum resolution of 5 arc-minutes for both computed and displayed pixel size. An SOC is required.	<b>X</b>	<b>X</b>	<b>X</b>		
<b>6.b.</b>	If a visual system is installed and additional training, testing, or checking credits are being sought on the basis of having a visual system, a visual system meeting the standards set out for at least a Level A FFS (see Appendix A of this part) will be required. A “direct-view,” non-collimated visual system (with the other requirements for a Level A visual system met) may be considered satisfactory for those installations where the visual system design “eye point” is appropriately adjusted for each pilot’s position such that the parallax error is at or less than 10° simultaneously for each pilot. An SOC is required.			<b>X</b>		Directly projected, non-collimated visual displays may prove to be unacceptable for dual pilot applications.
<b>6.c.</b>	The FTD must have a visual system providing an out-of-the-flight deck view.				<b>X</b>	
<b>6.d.</b>	The FTD must provide a continuous visual field-of-view of at least 176° horizontally and 36° vertically or the number of degrees necessary to meet the visual ground segment requirement, whichever is greater. The minimum horizontal field-of-view coverage must be plus and minus one-half (½) of the minimum continuous field-of-view requirement, centered on the zero degree azimuth line relative to the aircraft fuselage.  An SOC is required and must explain the system geometry measurements including system linearity and field-of-view.  Collimation is not required but parallax effects must be minimized (not greater than 10° for each pilot when aligned for the point midway between the left and right seat eyepoints).				<b>X</b>	The horizontal field-of-view is traditionally described as a 180° field-of-view. However, the field-of-view is technically no less than 176°. Additional field-of-view capability may be added at the sponsor’s discretion provided the minimum fields of view are retained.
<b>6.e.</b>	The visual system must be free from optical discontinuities and artifacts that create non-realistic cues.				<b>X</b>	Non-realistic cues might include image “swimming”

						and image “roll-off,” that may lead a pilot to make incorrect assessments of speed, acceleration, or situational awareness.
<b>6.f.</b>	The FTD must have operational landing lights for night scenes. Where used, dusk (or twilight) scenes require operational landing lights.				<b>X</b>	
<b>6.g.</b>	The FTD must have instructor controls for the following:  (1) Visibility in statute miles (km) and runway visual range (RVR) in ft.(m); (2) Airport selection; and (3) Airport lighting.				<b>X</b>	
<b>6.h.</b>	The FTD must provide visual system compatibility with dynamic response programming.				<b>X</b>	
<b>6.i.</b>	The FTD must show that the segment of the ground visible from the FTD flight deck is the same as from the airplane flight deck (within established tolerances) when at the correct airspeed, in the landing configuration, at the appropriate height above the touchdown zone, and with appropriate visibility.				<b>X</b>	This will show the modeling accuracy of RVR, glideslope, and localizer for a given weight, configuration, and speed within the airplane's operational envelope for a normal approach and landing.
<b>6.j.</b>	The FTD must provide visual cues necessary to assess sink rates (provide depth perception) during takeoffs and landings, to include: (1) Surface on runways, taxiways, and ramps; and (2) Terrain features.				<b>X</b>	
<b>6.k.</b>	The FTD must provide for accurate portrayal of the visual environment relating to the FTD attitude.				<b>X</b>	Visual attitude vs. FTD attitude is a comparison of pitch and roll of the horizon as displayed in the visual scene compared to the display on the attitude indicator.

<b>6.l.</b>	The FTD must provide for quick confirmation of visual system color, RVR, focus, and intensity.  An SOC is required.				<b>X</b>	
<b>6.m.</b>	The FTD must be capable of producing at least 10 levels of occulting.				<b>X</b>	
<b>6.n.</b>	Night Visual Scenes. When used in training, testing, or checking activities, the FTD must provide night visual scenes with sufficient scene content to recognize the airport, the terrain, and major landmarks around the airport. The scene content must allow a pilot to successfully accomplish a visual landing. Scenes must include a definable horizon and typical terrain characteristics such as fields, roads and bodies of water and surfaces illuminated by airplane landing lights.				<b>X</b>	
<b>6.o.</b>	Dusk (or Twilight) Visual Scenes. When used in training, testing, or checking activities, the FTD must provide dusk (or twilight) visual scenes with sufficient scene content to recognize the airport, the terrain, and major landmarks around the airport. The scene content must allow a pilot to successfully accomplish a visual landing. Dusk (or twilight) scenes, as a minimum, must provide full color presentations of reduced ambient intensity, sufficient surfaces with appropriate textural cues that include self-illuminated objects such as road networks, ramp lighting and airport signage, to conduct a visual approach, landing and airport movement (taxi). Scenes must include a definable horizon and typical terrain characteristics such as fields, roads and bodies of water and surfaces illuminated by airplane landing lights. If provided, directional horizon lighting must have correct orientation and be consistent with surface shading effects. Total night or dusk (twilight) scene content must be comparable in detail to that produced by 10,000 visible textured surfaces and 15,000 visible lights with sufficient system capacity to display 16 simultaneously moving objects.  An SOC is required.				<b>X</b>	

<b>6.p.</b>	Daylight Visual Scenes. The FTD must provide daylight visual scenes with sufficient scene content to recognize the airport, the terrain, and major landmarks around the airport. The scene content must allow a pilot to successfully accomplish a visual landing. Any ambient lighting must not “washout” the displayed visual scene. Total daylight scene content must be comparable in detail to that produced by 10,000 visible textured surfaces and 6,000 visible lights with sufficient system capacity to display 16 simultaneously moving objects. The visual display must be free of apparent and distracting quantization and other distracting visual effects while the FTD is in motion.  An SOC is required.				<b>X</b>	
<b>6.q.</b>	The FTD must provide operational visual scenes that portray physical relationships known to cause landing illusions to pilots.				<b>X</b>	For example: short runways, landing approaches over water, uphill or downhill runways, rising terrain on the approach path, unique topographic features.
<b>6.r.</b>	The FTD must provide special weather representations of light, medium, and heavy precipitation near a thunderstorm on takeoff and during approach and landing. Representations need only be presented at and below an altitude of 2,000 ft. (610 m) above the airport surface and within 10 miles (16 km) of the airport.				<b>X</b>	
<b>6.s.</b>	The FTD must present visual scenes of wet and snow-covered runways, including runway lighting reflections for wet conditions, partially obscured lights for snow conditions, or suitable alternative effects.				<b>X</b>	
<b>6.t.</b>	The FTD must present realistic color and directionality of all airport lighting.				<b>X</b>	
<b>6.u.</b>	The following weather effects as observed on the visual system must be simulated and respective instructor controls provided. (1) Multiple cloud layers with adjustable bases, tops, sky coverage and				<b>X</b>	Scud effects are low, detached, and irregular clouds below a defined cloud layer.



	scud effect; (2) Storm cells activation and/or deactivation; (3) Visibility and runway visual range (RVR), including fog and patchy fog effect; (4) Effects on ownship external lighting; (5) Effects on airport lighting (including variable intensity and fog effects); (6) Surface contaminants (including wind blowing effect); (7) Variable precipitation effects (rain, hail, snow); (8) In-cloud airspeed effect; and (9) Gradual visibility changes entering and breaking out of cloud.					
<b>6.v.</b>	The simulator must provide visual effects for: (1) Light poles; (2) Raised edge lights as appropriate; and (3) Glow associated with approach lights in low visibility before physical lights are seen,				<b>X</b>	Visual effects for light poles and raised edge lights are for the purpose of providing additional depth perception during takeoff, landing, and taxi training tasks. Three dimensional modeling of the actual poles and stanchions is not required.
<b>7. Sound System.</b>						
<b>7.a.</b>	The FTD must provide flight deck sounds that result from pilot actions that correspond to those that occur in the airplane.			<b>X</b>	<b>X</b>	
<b>7.b.</b>	The volume control must have an indication of sound level setting which meets all qualification requirements.				<b>X</b>	This indication is of the sound level setting as evaluated during the FTD's initial evaluation.
<b>7.c.</b>	The FTD must accurately simulate the sound of precipitation, windshield wipers, and other significant airplane noises perceptible to the pilot during normal and abnormal operations, and include the sound of a crash (when the				<b>X</b>	

	<p>FTD is landed in an unusual attitude or in excess of the structural gear limitations); normal engine and thrust reversal sounds; and the sounds of flap, gear, and spoiler extension and retraction.</p> <p>Sounds must be directionally representative.</p> <p>An SOC is required.</p>					
<b>7.d.</b>	<p>The FTD must provide realistic amplitude and frequency of flight deck noises and sounds. FTD performance must be recorded, subjectively assessed for the initial evaluation, and be made a part of the QTG. .</p>				<b>X</b>	

<b>1. Preflight Procedures.</b>					
<b>1.a.</b>	Preflight Inspection (flight deck only)	A	A	X	X
<b>1.b.</b>	Engine Start	A	A	X	X
<b>1.c.</b>	Taxiing				T
<b>1.d.</b>	Pre-takeoff Checks	A	A	X	X
<b>2. Takeoff and Departure Phase.</b>					
<b>2.a.</b>	Normal and Crosswind Takeoff				T
<b>2.b.</b>	Instrument Takeoff				T
<b>2.c.</b>	Engine Failure During Takeoff				T
<b>2.d.</b>	Rejected Takeoff (requires visual system)			A	X
<b>2.e.</b>	Departure Procedure		X	X	X
<b>3. Inflight Maneuvers.</b>					
<b>3.a.</b>	Steep Turns		X	X	X
<b>3.b.</b>	Approaches to Stalls		A	X	X
					Approach to stall maneuvers qualified only where the aircraft does not exhibit stall buffet as the first indication of the stall.
<b>3.c.</b>	Engine Failure—Multiengine Airplane		A	X	X
<b>3.d.</b>	Engine Failure—Single-Engine Airplane		A	X	X
<b>3.e.</b>	Specific Flight Characteristics incorporated into the user's FAA approved flight training program.	A	A	A	A
					Level 4 FTDs have no minimum requirement for aerodynamic programming and are generally not qualified to conduct in-flight maneuvers.
<b>3.f.</b>	Windshear Recovery				T
					For Level 7 FTD, windshear recovery may be qualified at the Sponsor's option. See Table B1A for specific requirements and limitations.
<b>4. Instrument Procedures.</b>					
<b>4.a.</b>	Standard Terminal Arrival / Flight Management System Arrivals Procedures		A	X	X
<b>4.b.</b>	Holding		A	X	X
<b>4.c.</b>	Precision Instrument				
<b>4.c.1.</b>	All engines operating.		A	X	X
					e.g., Autopilot, Manual (Flt. Dir. Assisted), Manual (Raw Data)
<b>4.c.2.</b>	One engine inoperative.				T
					e.g., Manual (Flt. Dir. Assisted), Manual (Raw Data)

4.d.	Non-precision Instrument Approach		A	X	X	e.g., NDB, VOR, VOR/DME, VOR/TAC, RNAV, LOC, LOC/BC, ADF, and SDF.
4.e.	Circling Approach (requires visual system)			A	X	Specific authorization required.
4.f.	Missed Approach					
4.f.1.	Normal.		A	X	X	
4.f.2.	One engine Inoperative.				T	
<b>5. Landings and Approaches to Landings.</b>						
5.a.	Normal and Crosswind Approaches and Landings				T	
5.b.	Landing From a Precision / Non-Precision Approach				T	
5.c.	Approach and Landing with (Simulated) Engine Failure – Multiengine Airplane				T	
5.d.	Landing From Circling Approach				T	
5.e.	Rejected Landing				T	
5.f.	Landing From a No Flap or a Nonstandard Flap Configuration Approach				T	
<b>6. Normal and Abnormal Procedures.</b>						
6.a.	Engine (including shutdown and restart)	A	A	X	X	
6.b.	Fuel System	A	A	X	X	
6.c.	Electrical System	A	A	X	X	
6.d.	Hydraulic System	A	A	X	X	
6.e.	Environmental and Pressurization Systems	A	A	X	X	
6.f.	Fire Detection and Extinguisher Systems	A	A	X	X	
6.g.	Navigation and Avionics Systems	A	A	X	X	
6.h.	Automatic Flight Control System, Electronic Flight Instrument System, and Related Subsystems	A	A	X	X	
6.i.	Flight Control Systems	A	A	X	X	
6.j.	Anti-ice and Deice Systems	A	A	X	X	
6.k.	Aircraft and Personal Emergency Equipment	A	A	X	X	
<b>7. Emergency Procedures.</b>						
7.a.	Emergency Descent (Max. Rate)		A	X	X	
7.b.	Inflight Fire and Smoke Removal		A	X	X	
7.c.	Rapid Decompression		A	X	X	
7.d.	Emergency Evacuation	A	A	X	X	
<b>8. Postflight Procedures.</b>						
8.a.	After-Landing Procedures	A	A	X	X	
8.b.	Parking and Securing	A	A	X	X	

Note 1: An “A” in the table indicates that the system, task, or procedure, although not required to be present, may be examined if the appropriate airplane system is simulated in the FTD and is working properly.

Note 2: Items not installed or not functional on the FTD and not appearing on the SOQ Configuration List, are not required to be listed as exceptions on the SOQ.

Note 3: A “T” in the table indicates that the task may only be qualified for introductory initial or recurrent qualification training. These tasks may not be qualified for proficiency testing or checking credits in an FAA approved flight training program.

■ C. In Table B2B;  
■ D. In Table B2C;  
■ E. In Table B2D; and  
■ F. In Table B2E.,  
The revisions and additions read as follows:

**Appendix B to Part 60—Qualification Performance Standards for Airplane Flight Training Devices**  
\* \* \* \* \*

**Attachment 2 to Appendix B to Part 60—FFS OBJECTIVE TESTS**  
\* \* \* \* \*  
2. \* \* \*  
\* \* \* \* \*  
e. It is not acceptable to program the FTD so that the mathematical modeling is correct only at the validation test points. Unless otherwise noted, FTD tests must represent airplane performance and handling qualities at operating weights and centers of gravity

(CG) typical of normal operation. FTD tests at extreme weight or CG conditions may be acceptable where required for concurrent aircraft certification testing. Tests of handling qualities must include validation of augmentation devices.  
\* \* \* \* \*

1. Performance.								
1.a.	Taxi.							
1.a.1	Minimum radius turn.	±0.9 m (3 ft) or ±20% of airplane turn radius.	Ground.	Plot both main and nose gear loci and key engine parameter(s). Data for no brakes and the minimum thrust required to maintain a steady turn except for airplanes requiring asymmetric thrust or braking to achieve the minimum radius turn.			X	
1.a.2	Rate of turn versus nosewheel steering angle (NWA).	±10% or ±2°/s of turn rate.	Ground.	Record for a minimum of two speeds, greater than minimum turning radius speed with one at a typical taxi speed, and with a spread of at least 5 kt.			X	
1.b.	Takeoff.			<i>Note.— For Level 7 FTD, all airplane manufacturer commonly-used certificated take-off flap settings must be demonstrated at least once either in minimum unstick speed (1.b.3), normal take-off (1.b.4), critical engine failure on take-off (1.b.5) or crosswind take-off (1.b.6).</i>				
1.b.1	Ground acceleration time and distance.	±1.5 s or ±5% of time; and ±61 m (200 ft) or ±5% of distance.  For Level 6 FTD: ±1.5 s or ±5% of time.	Takeoff.	Acceleration time and distance must be recorded for a minimum of 80% of the total time from brake release to $V_r$ . Preliminary aircraft certification data may be used.		X	X	May be combined with normal takeoff (1.b.4.) or rejected takeoff (1.b.7.). Plotted data should be shown using appropriate scales for each portion of the maneuver.  For Level 6 FTD, this test is required only if RTO training credit is sought.
1.b.2	Minimum control speed, ground ( $V_{mcg}$ ) using aerodynamic controls only per applicable airworthiness requirement or alternative engine inoperative test to demonstrate ground control characteristics.	±25% of maximum airplane lateral deviation reached or ±1.5 m (5 ft).  For airplanes with reversible flight control systems:  ±10% or ±2.2 daN (5 lbf) rudder pedal force.	Takeoff.	Engine failure speed must be within ±1 kt of airplane engine failure speed. Engine thrust decay must be that resulting from the mathematical model for the engine applicable to the FTD under test. If the modeled engine is not the same as the airplane manufacturer's flight test engine, a further test may be run with the same initial conditions using the thrust from the flight test data as the driving parameter.			X	If a $V_{mcg}$ test is not available, an acceptable alternative is a flight test snap engine deceleration to idle at a speed between $V_1$ and $V_1-10$ kt, followed by control of heading using aerodynamic control only and recovery should be achieved with the main gear on the ground.  To ensure only aerodynamic control, nosewheel steering must be disabled (i.e. castored) or the nosewheel held slightly off the ground.
1.b.3	Minimum unstick speed ( $V_{mu}$ ) or	±3 kt airspeed. ±1.5° pitch angle.	Takeoff.	Record time history data from 10 knots before start of rotation until at least 5 seconds after the			X	$V_{mu}$ is defined as the minimum speed at which the last main

	equivalent test to demonstrate early rotation take-off characteristics.			occurrence of main gear lift-off.				landing gear leaves the ground. Main landing gear strut compression or equivalent air/ground signal should be recorded. If a $V_{mu}$ test is not available, alternative acceptable flight tests are a constant high-altitude takeoff run through main gear lift-off or an early rotation takeoff.  If either of these alternative solutions is selected, aft body contact/tail strike protection functionality, if present on the airplane, should be active.
<b>1.b.4</b>	Normal take-off.	$\pm 3$ kt airspeed. $\pm 1.5^\circ$ pitch angle. $\pm 1.5^\circ$ AOA. $\pm 6$ m (20 ft) height. For airplanes with reversible flight control systems: $\pm 2.2$ daN (5 lbf) or $\pm 10\%$ of column force.	Takeoff.	Data required for near maximum certificated takeoff weight at mid center of gravity location and light takeoff weight at an aft center of gravity location. If the airplane has more than one certificated take-off configuration, a different configuration must be used for each weight.  Record takeoff profile from brake release to at least 61 m (200 ft) AGL.			<b>X</b>	The test may be used for ground acceleration time and distance (1.b.1).  Plotted data should be shown using appropriate scales for each portion of the maneuver.
<b>1.b.5</b>	Critical engine failure on take-off.	$\pm 3$ kt airspeed. $\pm 1.5^\circ$ pitch angle. $\pm 1.5^\circ$ AOA. $\pm 6$ m (20 ft) height. $\pm 2^\circ$ roll angle. $\pm 2^\circ$ side-slip angle. $\pm 3^\circ$ heading angle. For airplanes with reversible flight control systems:	Takeoff.	Record takeoff profile to at least 61 m (200 ft) AGL.  Engine failure speed must be within $\pm 3$ kt of airplane data.  Test at near maximum takeoff weight			<b>X</b>	



		±2.2 daN (5 lbf) or ±10% of column force; ±1.3 daN (3 lbf) or ±10% of wheel force; and ±2.2 daN (5 lbf) or ±10% of rudder pedal force.						
1.b.6	Crosswind take-off.	± 3 kt airspeed.  ±1.5° pitch angle.  ±1.5° AOA.  ±6 m (20 ft) height.  ±2° roll angle.  ±2° side-slip angle.  ±3° heading angle.  Correct trends at ground speeds below 40 kt for rudder/pedal and heading angle.  For airplanes with reversible flight control systems:  ±2.2 daN (5 lbf) or ±10% of column force;  ±1.3 daN (3 lbf) or ±10% of wheel force; and  ±2.2 daN (5 lbf) or ±10% of rudder pedal force.	Takeoff.	Record takeoff profile from brake release to at least 61 m (200 ft) AGL.  This test requires test data, including wind profile, for a crosswind component of at least 60% of the airplane performance data value measured at 10 m (33 ft) above the runway.  Wind components must be provided as headwind and crosswind values with respect to the runway.			X	In those situations where a maximum crosswind or a maximum demonstrated crosswind is not known, contact the NSPM.
1.b.7.a.	Rejected Takeoff.	±5% of time or ±1.5 s.	Takeoff.	Record at mass near maximum takeoff weight.			X	Autobrakes will be used where

		±7.5% of distance or ±76 m (250 ft).  For Level 6 FTD: ±5% of time or ±1.5 s.		Speed for reject must be at least 80% of V <sub>1</sub> .  Maximum braking effort, auto or manual.  Where a maximum braking demonstration is not available, an acceptable alternative is a test using approximately 80% braking and full reverse, if applicable.  Time and distance must be recorded from brake release to a full stop.				applicable.
<b>1.b.7.b.</b>	Rejected Takeoff.	±5% of time or ±1.5 s.	Takeoff	Record time for at least 80% of the segment from initiation of the rejected takeoff to full stop.		<b>X</b>		For Level 6 FTD, this test is required only if RTO training credit is sought.
<b>1.b.8.</b>	Dynamic Engine Failure After Takeoff.	±2°/s or ±20% of body angular rates.	Takeoff.	Engine failure speed must be within ±3 kt of airplane data.  Engine failure may be a snap deceleration to idle.  Record hands-off from 5 s before engine failure to +5 s or 30° roll angle, whichever occurs first.  CCA: Test in Normal and Non-normal control state.			<b>X</b>	For safety considerations, airplane flight test may be performed out of ground effect at a safe altitude, but with correct airplane configuration and airspeed.
<b>1.c.</b>	<b>Climb.</b>							
<b>1.c.1.</b>	Normal Climb, all engines operating.	±3 kt airspeed.  ±0.5 m/s (100 ft/ min) or ±5% of rate of climb.	Clean.	Flight test data are preferred; however, airplane performance manual data are an acceptable alternative.  Record at nominal climb speed and mid initial climb altitude.  FTD performance is to be recorded over an interval of at least 300 m (1, 000 ft).	<b>X</b>	<b>X</b>	<b>X</b>	For Level 5 and Level 6 FTDs, this may be a snapshot test result.
<b>1.c.2.</b>	One-engine- inoperative 2nd segment climb.	±3 kt airspeed.  ±0.5 m/s (100 ft/ min) or ±5% of rate of climb, but not less than airplane performance data requirements.	2nd segment climb.	Flight test data is preferred; however, airplane performance manual data is an acceptable alternative.  Record at nominal climb speed.  FTD performance is to be recorded over an interval of at least 300 m (1,000 ft).  Test at WAT (weight, altitude or temperature)			<b>X</b>	

				limiting condition.				
<b>1.c.3.</b>	One Engine Inoperative En route Climb.	±10% time, ±10% distance, ±10% fuel used	Clean	Flight test data or airplane performance manual data may be used.  Test for at least a 1,550 m (5,000 ft) segment.			<b>X</b>	
<b>1.c.4.</b>	One Engine Inoperative Approach Climb for airplanes with icing accountability if provided in the airplane performance data for this phase of flight.	±3 kt airspeed.  ±0.5 m/s (100 ft/ min) or ±5% rate of climb, but not less than airplane performance data.	Approach	Flight test data or airplane performance manual data may be used.  FTD performance to be recorded over an interval of at least 300 m (1,000 ft).  Test near maximum certificated landing weight as may be applicable to an approach in icing conditions.			<b>X</b>	Airplane should be configured with all anti-ice and de-ice systems operating normally, gear up and go-around flap.  All icing accountability considerations, in accordance with the airplane performance data for an approach in icing conditions, should be applied.
<b>1.d.</b>	<b>Cruise / Descent.</b>							
<b>1.d.1.</b>	Level flight acceleration	±5% Time	Cruise	Time required to increase airspeed a minimum of 50 kt, using maximum continuous thrust rating or equivalent.  For airplanes with a small operating speed range, speed change may be reduced to 80% of operational speed change.			<b>X</b>	
<b>1.d.2.</b>	Level flight deceleration.	±5% Time	Cruise	Time required to decrease airspeed a minimum of 50 kt, using idle power.  For airplanes with a small operating speed range, speed change may be reduced to 80% of operational speed change.			<b>X</b>	
<b>1.d.3.</b>	Cruise performance.	±.05 EPR or ±3% N1 or ±5% of torque.  ±5% of fuel flow.	Cruise.	The test may be a single snapshot showing instantaneous fuel flow, or a minimum of two consecutive snapshots with a spread of at least 3 minutes in steady flight.			<b>X</b>	
<b>1.d.4.</b>	Idle descent.	±3 kt airspeed.  ±1.0 m/s (200 ft/min) or ±5% of rate of descent.	Clean.	Idle power stabilized descent at normal descent speed at mid altitude.  FTD performance to be recorded over an interval of at least 300 m (1,000 ft).			<b>X</b>	
<b>1.d.5.</b>	Emergency descent.	±5 kt airspeed.  ±1.5 m/s (300 ft/min) or ±5% of rate of descent.	As per airplane performance data.	FTD performance to be recorded over an interval of at least 900 m (3,000 ft).			<b>X</b>	Stabilized descent to be conducted with speed brakes extended if applicable, at mid altitude and near $V_{mo}$ or

								according to emergency descent procedure.
<b>1.e.</b>	<b>Stopping.</b>							
<b>1.e.1.</b>	Deceleration time and distance, manual wheel brakes, dry runway, no reverse thrust.	±1.5 s or ±5% of time.  For distances up to 1,220 m (4,000 ft), the smaller of ±61 m (200 ft) or ±10% of distance.  For distances greater than 1,220 m (4,000 ft), ±5% of distance.	Landing.	Time and distance must be recorded for at least 80% of the total time from touchdown to a full stop.  Position of ground spoilers and brake system pressure must be plotted (if applicable).  Data required for medium and near maximum certificated landing weight.  Engineering data may be used for the medium weight condition.			<b>X</b>	
<b>1.e.2.</b>	Deceleration time and distance, reverse thrust, no wheel brakes, dry runway.	±1.5 s or ±5% of time; and  the smaller of ±61 m (200 ft) or ±10% of distance.	Landing	Time and distance must be recorded for at least 80% of the total time from initiation of reverse thrust to full thrust reverser minimum operating speed.  Position of ground spoilers must be plotted (if applicable).  Data required for medium and near maximum certificated landing weight.  Engineering data may be used for the medium weight condition.			<b>X</b>	
<b>1.e.3.</b>	Stopping distance, wheel brakes, wet runway.	±61 m (200 ft) or ±10% of distance.	Landing.	Either flight test or manufacturer's performance manual data must be used, where available.  Engineering data, based on dry runway flight test stopping distance and the effects of contaminated runway braking coefficients, are an acceptable alternative.			<b>X</b>	
<b>1.e.4.</b>	Stopping distance, wheel brakes, icy runway.	±61 m (200 ft) or ±10% of distance.	Landing.	Either flight test or manufacturer's performance manual data must be used, where available.  Engineering data, based on dry runway flight test stopping distance and the effects of contaminated runway braking coefficients, are an acceptable alternative.			<b>X</b>	
<b>1.f.</b>	<b>Engines.</b>							
<b>1.f.1.</b>	Acceleration.	For Level 7 FTD:	Approach or landing	Total response is the incremental change in the	<b>X</b>	<b>X</b>	<b>X</b>	See Appendix F of this part for

		±10% $T_i$ or ±0.25 s; and ±10% $T_t$ or ±0.25 s.  For Level 6 FTD: ±10% $T_t$ or ±0.25 s.  For Level 5 FTD: ±1 s		critical engine parameter from idle power to go-around power.				definitions of $T_i$ and $T_t$ .
1.f.2.	Deceleration.	For Level 7 FTD: ±10% $T_i$ or ±0.25 s; and ±10% $T_t$ or ±0.25 s.  For Level 6 FTD: ±10% $T_t$ or ±0.25 s.  For Level 5 FTD: ±1 s	Ground	Total response is the incremental change in the critical engine parameter from maximum take-off power to idle power.	X	X	X	See Appendix F of this part for definitions of $T_i$ and $T_t$ .
<b>2. Handling Qualities.</b>								
2.a.	<b>Static Control Tests.</b>							
	<p><i>Note 1 — Testing of position versus force is not applicable if forces are generated solely by use of airplane hardware in the FTD.</i></p> <p><i>Note 2 — Pitch, roll and yaw controller position versus force or time should be measured at the control. An alternative method in lieu of external test fixtures at the flight controls would be to have recording and measuring instrumentation built into the FTD. The force and position data from this instrumentation could be directly recorded and matched to the airplane data. Provided the instrumentation was verified by using external measuring equipment while conducting the static control checks, or equivalent means, and that evidence of the satisfactory comparison is included in the MQTG, the instrumentation could be used for both initial and recurrent evaluations for the measurement of all required control checks. Verification of the instrumentation by using external measuring equipment should be repeated if major modifications and/or repairs are made to the control loading system. Such a permanent installation could be used without any time being lost for the installation of external devices. Static and dynamic flight control tests should be accomplished at the same feel or impact pressures as the validation data where applicable.</i></p> <p><i>Note 3 — (Level 7 FTD only) FTD static control testing from the second set of pilot controls is only required if both sets of controls are not mechanically interconnected on the FTD. A rationale is required from the data provider if a single set of data is applicable to both sides. If controls are mechanically interconnected in the FTD, a single set of tests is sufficient.</i></p>							
2.a.1.a.	Pitch controller position versus force and surface position calibration.	±0.9 daN (2 lbf) breakout.  ±2.2 daN (5 lbf) or ±10% of force.  ±2° elevator angle.	Ground.	Record results for an uninterrupted control sweep to the stops.		X	X	Test results should be validated with in-flight data from tests such as longitudinal static stability, stalls, etc.
2.a.1.b.	Pitch controller position versus force	±0.9 daN (2 lbf) breakout.  ±2.2 daN (5 lbf) or ±10% of force.	As determined by sponsor	Record results during initial qualification evaluation for an uninterrupted control sweep to the stops. The recorded tolerances apply to subsequent comparisons on continuing qualification evaluations.	X			Applicable only on continuing qualification evaluations. The intent is to design the control feel for Level 5 to be able to manually fly an instrument approach; and not to compare results to flight test or other such data.

<b>2.a.2.a.</b>	Roll controller position versus force and surface position calibration.	±0.9 daN (2 lbf) breakout.  ±1.3 daN (3 lbf) or ±10% of force.  ±2° aileron angle.  ±3° spoiler angle.	Ground.	Record results for an uninterrupted control sweep to the stops.		<b>X</b>	<b>X</b>	Test results should be validated with in-flight data from tests such as engine-out trims, steady state side-slips, etc.
<b>2.a.2.b.</b>	Roll controller position versus force	±0.9 daN (2 lbf) breakout.  ±1.3 daN (3 lbf) or ±10% of force.	As determined by sponsor	Record results during initial qualification evaluation for an uninterrupted control sweep to the stops. The recorded tolerances apply to subsequent comparisons on continuing qualification evaluations.	<b>X</b>			Applicable only on continuing qualification evaluations. The intent is to design the control feel for Level 5 to be able to manually fly an instrument approach; and not to compare results to flight test or other such data.
<b>2.a.3.a.</b>	Rudder pedal position versus force and surface position calibration.	±2.2 daN (5 lbf) breakout.  ±2.2 daN (5 lbf) or ±10% of force.  ±2° rudder angle.	Ground.	Record results for an uninterrupted control sweep to the stops.		<b>X</b>	<b>X</b>	Test results should be validated with in-flight data from tests such as engine-out trims, steady state side-slips, etc.
<b>2.a.3.b.</b>	Rudder pedal position versus force	±2.2 daN (5 lbf) breakout.  ±2.2 daN (5 lbf) or ±10% of force.	As determined by sponsor	Record results during initial qualification evaluation for an uninterrupted control sweep to the stops. The recorded tolerances apply to subsequent comparisons on continuing qualification evaluations.	<b>X</b>			Applicable only on continuing qualification evaluations. The intent is to design the control feel for Level 5 to be able to manually fly an instrument approach; and not to compare results to flight test or other such data.
<b>2.a.4.a.</b>	Nosewheel Steering Controller Force and Position Calibration.	±0.9 daN (2 lbf) breakout.  ±1.3 daN (3 lbf) or ±10% of force.  ±2° NWA.	Ground.	Record results of an uninterrupted control sweep to the stops.			<b>X</b>	
<b>2.a.4.b.</b>	Nosewheel Steering Controller Force	±0.9 daN (2 lbf) breakout.  ±1.3 daN (3 lbf) or	Ground.	Record results of an uninterrupted control sweep to the stops.		<b>X</b>		

		±10% of force.					
<b>2.a.5.</b>	Rudder Pedal Steering Calibration.	±2° NWA.	Ground.	Record results of an uninterrupted control sweep to the stops.		<b>X</b>	<b>X</b>
<b>2.a.6.</b>	Pitch Trim Indicator vs. Surface Position Calibration.	±0.5° trim angle.	Ground.			<b>X</b>	<b>X</b> The purpose of the test is to compare FSTD surface position indicator against the FSTD flight controls model computed value.
<b>2.a.7.</b>	Pitch Trim Rate.	±10% of trim rate (°/s) or  ±0.1°/s trim rate.	Ground and approach.	Trim rate to be checked at pilot primary induced trim rate (ground) and autopilot or pilot primary trim rate in-flight at go-around flight conditions.  For CCA, representative flight test conditions must be used.			<b>X</b>
<b>2.a.8.</b>	Alignment of cockpit throttle lever versus selected engine parameter.	When matching engine parameters:  ±5° of TLA.  When matching detents:  ±3% N1 or ±.03 EPR or ±3% torque, or ±3% maximum rated manifold pressure, or equivalent.  Where the levers do not have angular travel, a tolerance of ±2 cm (±0.8 in) applies.	Ground.	Simultaneous recording for all engines. The tolerances apply against airplane data.  For airplanes with throttle detents, all detents to be presented and at least one position between detents/ endpoints (where practical). For airplanes without detents, end points and at least three other positions are to be presented.		<b>X</b>	<b>X</b> Data from a test airplane or engineering test bench are acceptable, provided the correct engine controller (both hardware and software) is used.  In the case of propeller-driven airplanes, if an additional lever, usually referred to as the propeller lever, is present, it should also be checked. This test may be a series of snapshot tests.
<b>2.a.9.a.</b>	Brake pedal position versus force and brake system pressure calibration.	±2.2 daN (5 lbf) or ±10% of force.  ±1.0 MPa (150 psi) or ±10% of brake system pressure.	Ground.	Relate the hydraulic system pressure to pedal position in a ground static test.  Both left and right pedals must be checked.			<b>X</b> FTD computer output results may be used to show compliance.
<b>2.a.9.b.</b>	Brake pedal position versus force	±2.2 daN (5 lbf) or ±10% of force.	Ground.	Two data points are required: zero and maximum deflection. Computer output results may be used to show compliance.		<b>X</b>	FTD computer output results may be used to show compliance.  Test not required unless RTO credit is sought.

2.b.	Dynamic Control Tests.						
	<i>Note.— Tests 2.b.1, 2.b.2 and 2.b.3 are not applicable for FTDs where the control forces are completely generated within the airplane controller unit installed in the FTD. Power setting may be that required for level flight unless otherwise specified. See paragraph 4 of Appendix A, Attachment 2.</i>						
2.b.1.	Pitch Control.	<p><b>For underdamped systems:</b></p> <p><math>T(P_0) \pm 10\%</math> of <math>P_0</math> or <math>\pm 0.05</math> s.</p> <p><math>T(P_1) \pm 20\%</math> of <math>P_1</math> or <math>\pm 0.05</math> s.</p> <p><math>T(P_2) \pm 30\%</math> of <math>P_2</math> or <math>\pm 0.05</math> s.</p> <p><math>T(P_n) \pm 10 \cdot (n+1)\%</math> of <math>P_n</math> or <math>\pm 0.05</math> s.</p> <p><math>T(A_n) \pm 10\%</math> of <math>A_{\max}</math>, where <math>A_{\max}</math> is the largest amplitude or <math>\pm 0.5\%</math> of the total control travel (stop to stop).</p> <p><math>T(A_d) \pm 5\%</math> of <math>A_d</math> = residual band or <math>\pm 0.5\%</math> of the maximum control travel = residual band.</p> <p><math>\pm 1</math> significant overshoots (minimum of 1 significant overshoot).</p> <p>Steady state position within residual band.</p> <p><i>Note 1.— Tolerances should not be applied on period or amplitude after the last significant overshoot.</i></p>	Takeoff, Cruise, and Landing.	<p>Data must be for normal control displacements in both directions (approximately 25% to 50% of full throw or approximately 25% to 50% of maximum allowable pitch controller deflection for flight conditions limited by the maneuvering load envelope).</p> <p>Tolerances apply against the absolute values of each period (considered independently).</p>		X	<p>n = the sequential period of a full oscillation.</p> <p>Refer to paragraph 4 of Appendix A, Attachment 2 for additional information.</p> <p>For overdamped and critically damped systems, see Figure A2B of Appendix A for an illustration of the reference measurement.</p>



		<p><i>Note 2.—Oscillations within the residual band are not considered significant and are not subject to tolerances.</i></p> <p><b>For overdamped and critically damped systems only,</b> the following tolerance applies:  <math>T(P_0) \pm 10\%</math> of <math>P_0</math> or <math>\pm 0.05</math> s.</p>					
<b>2.b.2.</b>	Roll Control.	Same as 2.b.1.	Takeoff, Cruise, and Landing.	Data must be for normal control displacement (approximately 25% to 50% of full throw or approximately 25% to 50% of maximum allowable roll controller deflection for flight conditions limited by the maneuvering load envelope).			<p><b>X</b></p> <p>Refer to paragraph 4 of Appendix A, Attachment 2 for additional information.</p> <p>For overdamped and critically damped systems, see Figure A2B of Appendix A for an illustration of the reference measurement.</p>
<b>2.b.3.</b>	Yaw Control.	Same as 2.b.1.	Takeoff, Cruise, and Landing.	Data must be for normal control displacement (approximately 25% to 50% of full throw).			<p><b>X</b></p> <p>Refer to paragraph 4 of Appendix A, Attachment 2 for additional information.</p> <p>For overdamped and critically damped systems, see Figure A2B of Appendix A for an illustration of the reference measurement.</p>
<b>2.b.4.</b>	Small Control Inputs – Pitch.	$\pm 0.15^\circ/\text{s}$ body pitch rate or $\pm 20\%$ of peak body pitch rate applied throughout the time history.	Approach or Landing.	<p>Control inputs must be typical of minor corrections made while established on an ILS approach (approximately 0.5 to 2°/s pitch rate).</p> <p>Test in both directions.</p> <p>Show time history data from 5 s before until at least 5 s after initiation of control input.</p> <p>If a single test is used to demonstrate both directions, there must be a minimum of 5 s before</p>			<p><b>X</b></p>

				control reversal to the opposite direction. <b>CCA:</b> Test in normal and non-normal control state.				
<b>2.b.5.</b>	Small Control Inputs – Roll.	±0.15°/s body roll rate or ±20% of peak body roll rate applied throughout the time history.	Approach or landing.	Control inputs must be typical of minor corrections made while established on an ILS approach (approximately 0.5 to 2°/s roll rate).  Test in one direction. For airplanes that exhibit non-symmetrical behavior, test in both directions.  Show time history data from 5 s before until at least 5 s after initiation of control input.  If a single test is used to demonstrate both directions, there must be a minimum of 5 s before control reversal to the opposite direction.  <b>CCA:</b> Test in normal and non-normal control state.			<b>X</b>	
<b>2.b.6.</b>	Small Control Inputs – Yaw.	±0.15°/s body yaw rate or ±20% of peak body yaw rate applied throughout the time history.	Approach or landing.	Control inputs must be typical of minor corrections made while established on an ILS approach (approximately 0.5 to 2°/s yaw rate).  Test in both directions.  Show time history data from 5 s before until at least 5 s after initiation of control input.  If a single test is used to demonstrate both directions, there must be a minimum of 5 s before control reversal to the opposite direction.  <b>CCA:</b> Test in normal and non-normal control state.			<b>X</b>	
<b>2.c.</b>	<b>Longitudinal Control Tests.</b>							
	Power setting is that required for level flight unless otherwise specified.							
<b>2.c.1.a.</b>	Power Change Dynamics.	±3 kt airspeed. ±30 m (100 ft) altitude. ±1.5° or ±20% of pitch angle.	Approach.	Power change from thrust for approach or level flight to maximum continuous or go-around power.  Time history of uncontrolled free response for a			<b>X</b>	

				time increment equal to at least 5 s before initiation of the power change to the completion of the power change + 15 s.  CCA: Test in normal and non-normal control mode				
<b>2.c.1.b.</b>	Power Change Force.	±5 lb (2.2 daN) or, ±20% pitch control force.	Approach.	May be a series of snapshot test results. Power change dynamics test as described in test 2.c.1.a. will be accepted. CCA: Test in Normal and Non-normal control mode.	<b>X</b>	<b>X</b>		
<b>2.c.2.a.</b>	Flap/Slat Change Dynamics.	±3 kt airspeed.  ±30 m (100 ft) altitude.  ±1.5° or ±20% of pitch angle.	Takeoff through initial flap retraction, and approach to landing.	Time history of uncontrolled free response for a time increment equal to at least 5 s before initiation of the reconfiguration change to the completion of the reconfiguration change + 15 s.  CCA: Test in normal and non-normal control mode			<b>X</b>	
<b>2.c.2.b.</b>	Flap/Slat Change Force.	±5 lb (2.2 daN) or, ±20% pitch control force.	Takeoff through initial flap retraction, and approach to landing.	May be a series of snapshot test results. Flap/Slat change dynamics test as described in test 2.c.2.a. will be accepted. CCA: Test in Normal and Non-normal control mode.	<b>X</b>	<b>X</b>		
<b>2.c.3.</b>	Spoiler/Speedbrake Change Dynamics.	±3 kt airspeed.  ±30 m (100 ft) altitude.  ±1.5° or ±20% of pitch angle.	Cruise.	Time history of uncontrolled free response for a time increment equal to at least 5 s before initiation of the configuration change to the completion of the configuration change +15 s.  Results required for both extension and retraction.  CCA: Test in normal and non-normal control mode			<b>X</b>	
<b>2.c.4.a.</b>	Gear Change Dynamics.	±3 kt airspeed.  ±30 m (100 ft) altitude.  ±1.5° or ±20% of pitch angle.	Takeoff (retraction), and Approach (extension).	Time history of uncontrolled free response for a time increment equal to at least 5 s before initiation of the configuration change to the completion of the configuration change + 15 s.  CCA: Test in normal and non-normal control mode			<b>X</b>	
<b>2.c.4.b.</b>	Gear Change Force.	±5 lb (2.2 daN) or,	Takeoff (retraction) and	May be a series of snapshot test results. Gear	<b>X</b>	<b>X</b>		

		±20% pitch control force.	Approach (extension).	change dynamics test as described in test 2.c.4.a. will be accepted. <b>CCA:</b> Test in Normal and Non-normal control mode.				
2.c.5.	Longitudinal Trim.	±1° elevator angle.  ±0.5° stabilizer or trim surface angle.  ±1° pitch angle.  ±5% of net thrust or equivalent.	Cruise, Approach, and Landing.	Steady-state wings level trim with thrust for level flight. This test may be a series of snapshot tests.  Level 5 FTD may use equivalent stick and trim controllers in lieu of elevator and trim surface.  <b>CCA:</b> Test in normal or non-normal control mode, as applicable.	X	X	X	
2.c.6.	Longitudinal Maneuvering Stability (Stick Force/g).	±2.2 daN (5 lbf) or ±10% of pitch controller force.  Alternative method:  ±1° or ±10% of the change of elevator angle.	Cruise, Approach, and Landing.	Continuous time history data or a series of snapshot tests may be used.  Test up to approximately 30° of roll angle for approach and landing configurations. Test up to approximately 45° of roll angle for the cruise configuration.  Force tolerance not applicable if forces are generated solely by the use of airplane hardware in the FTD.  Alternative method applies to airplanes which do not exhibit stick-force-per-g characteristics.  <b>CCA:</b> Test in normal or non-normal control mode		X	X	
2.c.7.	Longitudinal Static Stability.	±2.2 daN (5 lbf) or ±10% of pitch controller force.  Alternative method:  ±1° or ±10% of the change of elevator angle.	Approach.	Data for at least two speeds above and two speeds below trim speed. The speed range must be sufficient to demonstrate stick force versus speed characteristics.  This test may be a series of snapshot tests.  Force tolerance is not applicable if forces are generated solely by the use of airplane hardware in the FTD.  Alternative method applies to airplanes which do not exhibit speed stability characteristics.	X	X	X	

				Level 5 must exhibit positive static stability, but need not comply with the numerical tolerance.  <b>CCA:</b> Test in normal or non-normal control mode, as applicable.				
<b>2.c.8.a.</b>	Approach to Stall Characteristics	±3 kt airspeed for initial buffet, stall warning, and stall speeds.  Control inputs must be plotted and demonstrate correct trend and magnitude.  ±2.0° pitch angle ±2.0° angle of attack ±2.0° bank angle ±2.0° sideslip angle  Additionally, for those simulators with reversible flight control systems: ±10% or ±5 lb (2.2 daN)) Stick/Column force (prior to “g break” only).	Second Segment Climb, High Altitude Cruise (Near Performance Limited Condition), and Approach or Landing	Each of the following stall entry methods must be demonstrated in at least one of the three required flight conditions: <ul style="list-style-type: none"> <li>Stall entry at wings level (1g)</li> <li>Stall entry in turning flight of at least 25° bank angle (accelerated stall)</li> <li>Stall entry in a power-on condition (required only for turboprop aircraft)</li> </ul> The required cruise condition must be conducted in a flaps-up (clean) configuration. The second segment climb and approach/landing conditions must be conducted at different flap settings.  For airplanes that exhibit stall buffet as the first indication of a stall, for qualification of this task, the FTD must be equipped with a vibration system that meets the applicable subjective and objective requirements in Appendix A of this Part.			<b>X</b>	Tests may be conducted at centers of gravity typically required for airplane certification stall testing.
<b>2.c.8.b.</b>	Stall Warning (actuation of stall warning device.)	±3 kts. airspeed, ±2° bank for speeds greater than actuation of stall warning device or initial buffet.	Second Segment Climb, and Approach or Landing.	The stall maneuver must be entered with thrust at or near idle power and wings level (1g). Record the stall warning signal and initial buffet if applicable.  <b>CCA:</b> Test in Normal and Non-normal control states.	<b>X</b>	<b>X</b>		
<b>2.c.9.a.</b>	Phugoid Dynamics.	±10% of period.  ±10% of time to one half or double amplitude or ±0.02 of damping ratio.	Cruise.	Test must include three full cycles or that necessary to determine time to one half or double amplitude, whichever is less.  <b>CCA:</b> Test in non-normal control mode.		<b>X</b>	<b>X</b>	
<b>2.c.9.b.</b>	Phugoid Dynamics.	±10% period, Representative damping.	Cruise.	The test must include whichever is less of the following: Three full cycles (six overshoots after the input is completed), or the number of cycles sufficient to determine representative damping.	<b>X</b>			

				CCA: Test in non-normal control mode.				
2.c.10	Short Period Dynamics.	±1.5° pitch angle or ±2°/s pitch rate.  ±0.1 g normal acceleration	Cruise.	CCA: (Level 7 FTD) Test in normal and non-normal control mode.  (Level 6 FTD) Test in non-normal control mode.		X	X	
2.c.11.	(Reserved)							
2.d.	<b>Lateral Directional Tests.</b>							
	Power setting is that required for level flight unless otherwise specified.							
2.d.1.	Minimum control speed, air ( $V_{mca}$ ) or landing ( $V_{mcl}$ ), per applicable airworthiness requirement or low speed engine-inoperative handling characteristics in the air.	±3 kt airspeed.	Takeoff or Landing (whichever is most critical in the airplane).	Takeoff thrust must be set on the operating engine(s).  Time history or snapshot data may be used.  CCA: Test in normal or non-normal control state, as applicable.			X	Minimum speed may be defined by a performance or control limit which prevents demonstration of $V_{mca}$ or $V_{mcl}$ in the conventional manner.
2.d.2.	Roll Response (Rate).	±2°/s or ±10% of roll rate.  For airplanes with reversible flight control systems (Level 7 FTD only):  ±1.3 daN (3 lbf) or ±10% of wheel force.	Cruise, and Approach or Landing.	Test with normal roll control displacement (approximately one-third of maximum roll controller travel).  This test may be combined with step input of flight deck roll controller test 2.d.3.	X	X	X	
2.d.3.	Step input of flight deck roll controller.	±2° or ±10% of roll angle.	Approach or Landing.	This test may be combined with roll response (rate) test 2.d.2.  CCA: (Level 7 FTD) Test in normal and non-normal control mode.  (Level 6 FTD) Test in non-normal control mode.		X	X	With wings level, apply a step roll control input using approximately one-third of the roll controller travel. When reaching approximately 20° to 30° of bank, abruptly return the roll controller to neutral and allow approximately 10 seconds of airplane free response.
2.d.4.a.	Spiral Stability.	Correct trend and ±2° or ±10% of roll angle in 20 s.	Cruise, and Approach or Landing.	Airplane data averaged from multiple tests may be used.			X	

		If alternate test is used: correct trend and $\pm 2^\circ$ aileron angle.		Test for both directions. As an alternative test, show lateral control required to maintain a steady turn with a roll angle of approximately $30^\circ$ .  CCA: Test in non-normal control mode.				
2.d.4.b.	Spiral Stability.	Correct trend and $\pm 3^\circ$ or $\pm 10\%$ of roll angle in 20 s.	Cruise	Airplane data averaged from multiple tests may be used.  Test for both directions. As an alternative test, show lateral control required to maintain a steady turn with a roll angle of approximately $30^\circ$ .  CCA: Test in non-normal control mode.		X		
2.d.4.c.	Spiral Stability.	Correct trend	Cruise	Airplane data averaged from multiple tests may be used.  CCA: Test in non-normal control mode.	X			
2.d.5.	Engine Inoperative Trim.	$\pm 1^\circ$ rudder angle or $\pm 1^\circ$ tab angle or equivalent rudder pedal.  $\pm 2^\circ$ side-slip angle.	Second Segment Climb, and Approach or Landing.	This test may consist of snapshot tests.			X	Test should be performed in a manner similar to that for which a pilot is trained to trim an engine failure condition.  2nd segment climb test should be at takeoff thrust. Approach or landing test should be at thrust for level flight.
2.d.6.a.	Rudder Response.	$\pm 2^\circ/\text{s}$ or $\pm 10\%$ of yaw rate.	Approach or Landing.	For Level 7 FTD: Test with stability augmentation on and off.  Test with a step input at approximately 25% of full rudder pedal throw.  Not required if rudder input and response is shown in Dutch Roll test (test 2.d.7).  CCA: Test in normal and non-normal control mode		X	X	
2.d.6.b.	Rudder Response.	Roll rate $\pm 2^\circ/\text{sec}$ , bank angle $\pm 3^\circ$ .	Approach or Landing.	May be roll response to a given rudder deflection.	X			May be accomplished as a yaw response test, in which case the

				CCA: Test in Normal and Non-normal control states.				procedures and requirements of test 2.d.6.a. will apply.
2.d.7.	Dutch Roll	<p><math>\pm 0.5</math> s or <math>\pm 10\%</math> of period.</p> <p><math>\pm 10\%</math> of time to one half or double amplitude or <math>\pm 0.02</math> of damping ratio.</p> <p>(Level 7 FTD only): <math>\pm 1</math> s or <math>\pm 20\%</math> of time difference between peaks of roll angle and side-slip angle.</p>	Cruise, and Approach or Landing.	<p>Test for at least six cycles with stability augmentation off.</p> <p>CCA: Test in non-normal control mode.</p>		X	X	
2.d.8.	Steady State Sideslip.	<p>For a given rudder position:</p> <p><math>\pm 2^\circ</math> roll angle;</p> <p><math>\pm 1^\circ</math> side-slip angle;</p> <p><math>\pm 2^\circ</math> or <math>\pm 10\%</math> of aileron angle; and</p> <p><math>\pm 5^\circ</math> or <math>\pm 10\%</math> of spoiler or equivalent roll controller position or force.</p> <p>For airplanes with reversible flight control systems (Level 7 FTD only):</p> <p><math>\pm 1.3</math> daN (3 lbf) or <math>\pm 10\%</math> of wheel force.</p> <p><math>\pm 2.2</math> daN (5 lbf) or <math>\pm 10\%</math> of rudder pedal force.</p>	Approach or Landing.	<p>This test may be a series of snapshot tests using at least two rudder positions (in each direction for propeller-driven airplanes), one of which must be near maximum allowable rudder.</p> <p>(Level 5 and Level 6 FTD only): Sideslip angle is matched only for repeatability and only on continuing qualification evaluations.</p>	X	X	X	



<b>2.e.</b>	<b>Landings.</b>							
<b>2.e.1.</b>	Normal Landing.	±3 kt airspeed. ±1.5° pitch angle. ±1.5° AOA. ±3 m (10 ft) or ±10% of height. For airplanes with reversible flight control systems: ±2.2 daN (5 lbf) or ±10% of column force.	Landing.	Test from a minimum of 61 m (200 ft) AGL to nosewheel touchdown.  <b>CCA:</b> Test in normal and non-normal control mode, if applicable.			<b>X</b>	Two tests should be shown, including two normal landing flaps (if applicable) one of which should be near maximum certificated landing mass, the other at light or medium mass.
<b>2.e.2.</b>	Minimum Flap Landing.	±3 kt airspeed. ±1.5° pitch angle. ±1.5° AOA. ±3 m (10 ft) or ±10% of height. For airplanes with reversible flight control systems: ±2.2 daN (5 lbf) or ±10% of column force.	Minimum Certified Landing Flap Configuration.	Test from a minimum of 61 m (200 ft) AGL to nosewheel touchdown.  Test at near maximum certificated landing weight.			<b>X</b>	
<b>2.e.3.</b>	Crosswind Landing.	±3 kt airspeed. ±1.5° pitch angle. ±1.5° AOA. ±3 m (10 ft) or ±10% of height. ±2° roll angle.	Landing.	Test from a minimum of 61 m (200 ft) AGL to a 50% decrease in main landing gear touchdown speed.  It requires test data, including wind profile, for a crosswind component of at least 60% of airplane performance data value measured at 10 m (33 ft) above the runway.  Wind components must be provided as headwind			<b>X</b>	In those situations where a maximum crosswind or a maximum demonstrated crosswind is not known, contact the NSPM.

		<p>±2° side-slip angle.</p> <p>±3° heading angle.</p> <p>For airplanes with reversible flight control systems:</p> <p>±2.2 daN (5 lbf) or ±10% of column force.</p> <p>±1.3 daN (3 lbf) or ±10% of wheel force.</p> <p>±2.2 daN (5 lbf) or ±10% of rudder pedal force.</p>		and crosswind values with respect to the runway.				
2.e.4.	One Engine Inoperative Landing.	<p>±3 kt airspeed.</p> <p>±1.5° pitch angle.</p> <p>±1.5° AOA.</p> <p>±3 m (10 ft) or ±10% of height.</p> <p>±2° roll angle.</p> <p>±2° side-slip angle.</p> <p>±3° heading angle.</p>	Landing.	Test from a minimum of 61 m (200 ft) AGL to a 50% decrease in main landing gear touchdown speed.			X	
2.e.5.	Autopilot landing (if applicable).	<p>±1.5 m (5 ft) flare height.</p> <p>±0.5 s or ± 10% of T<sub>f</sub>.</p> <p>±0.7 m/s (140 ft/min) rate of descent at touchdown.</p>	Landing.	<p>If autopilot provides roll-out guidance, record lateral deviation from touchdown to a 50% decrease in main landing gear touchdown speed.</p> <p>Time of autopilot flare mode engage and main gear touchdown must be noted.</p>			X	See Appendix F of this part for definition of T <sub>f</sub> .

		±3 m (10 ft) lateral deviation during roll-out.					
<b>2.e.6.</b>	All-engine autopilot go-around.	±3 kt airspeed. ±1.5° pitch angle. ±1.5° AOA.	As per airplane performance data.	Normal all-engine autopilot go-around must be demonstrated (if applicable) at medium weight.			<b>X</b>
<b>2.e.7.</b>	One engine inoperative go around.	±3 kt airspeed. ±1.5° pitch angle. ±1.5° AOA. ±2° roll angle. ±2° side-slip angle.	As per airplane performance data.	Engine inoperative go-around required near maximum certificated landing weight with critical engine inoperative.  Provide one test with autopilot (if applicable) and one without autopilot.  <b>CCA:</b> Non-autopilot test to be conducted in non-normal mode.			<b>X</b>
<b>2.e.8.</b>	Directional control (rudder effectiveness) with symmetric reverse thrust.	±5 kt airspeed. ±2°/s yaw rate.	Landing.	Apply rudder pedal input in both directions using full reverse thrust until reaching full thrust reverser minimum operating speed.			<b>X</b>
<b>2.e.9.</b>	Directional control (rudder effectiveness) with asymmetric reverse thrust.	±5 kt airspeed. ±3° heading angle.	Landing.	With full reverse thrust on the operating engine(s), maintain heading with rudder pedal input until maximum rudder pedal input or thrust reverser minimum operation speed is reached.			<b>X</b>
<b>2.f.</b>	<b>Ground Effect.</b>						
	Test to demonstrate Ground Effect.	±1° elevator angle. ±0.5° stabilizer angle. ±5% of net thrust or equivalent. ±1° AOA. ±1.5 m (5 ft) or ±10% of height. ±3 kt airspeed. ±1° pitch angle.	Landing.	A rationale must be provided with justification of results.  <b>CCA:</b> Test in normal or non-normal control mode, as applicable.			<b>X</b> See paragraph on Ground Effect in this attachment for additional information.

2.g.	Reserved							
2.h.	Flight Maneuver and Envelope Protection Functions.							
	<i>Note. — The requirements of 2.h are only applicable to computer-controlled airplanes. Time history results of response to control inputs during entry into each envelope protection function (i.e. with normal and degraded control states if their function is different) are required. Set thrust as required to reach the envelope protection function.</i>							
2.h.1.	Overspeed.	±5 kt airspeed.	Cruise.				X	
2.h.2.	Minimum Speed.	±3 kt airspeed.	Takeoff, Cruise, and Approach or Landing.				X	
2.h.3.	Load Factor.	±0.1g normal load factor	Takeoff, Cruise.				X	
2.h.4.	Pitch Angle.	±1.5° pitch angle	Cruise, Approach.				X	
2.h.5.	Bank Angle.	±2° or ±10% bank angle	Approach.				X	
2.h.6.	Angle of Attack.	±1.5° angle of attack	Second Segment Climb, and Approach or Landing.				X	
3.	Reserved							
4.	Visual System.							
4.a.	Visual scene quality							
4.a.1.	Continuous cross-cockpit visual field of view.	Visual display providing each pilot with a minimum of 176° horizontal and 36° vertical continuous field of view.	Not applicable.	Required as part of MQTG but not required as part of continuing evaluations.			X	Field of view should be measured using a visual test pattern filling the entire visual scene (all channels) consisting of a matrix of black and white 5° squares.  Installed alignment should be confirmed in an SOC (this would generally consist of results from acceptance testing).
4.a.2.	System Geometry	Geometry of image should have no distracting discontinuities.					X	
4.a.3.	Surface resolution (object detection).	Not greater than 4 arc minutes.	Not applicable.				X	Resolution will be demonstrated by a test of objects shown to occupy the required visual angle in each visual display used on a scene from the pilot's eyepoint.  The object will subtend 4 arc minutes to the eye.  This may be demonstrated using threshold bars for a horizontal

								test. A vertical test should also be demonstrated. The subtended angles should be confirmed by calculations in an SOC.
<b>4.a.4</b>	Light point size.	Not greater than 8 arc minutes.	Not applicable.				<b>X</b>	Light point size should be measured using a test pattern consisting of a centrally located single row of white light points displayed as both a horizontal and vertical row.  It should be possible to move the light points relative to the eyepoint in all axes.  At a point where modulation is just discernible in each visual channel, a calculation should be made to determine the light spacing.  An SOC is required to state test method and calculation.
<b>4.a.5</b>	Raster surface contrast ratio.	Not less than 5:1.	Not applicable.				<b>X</b>	Surface contrast ratio should be measured using a raster drawn test pattern filling the entire visual scene (all channels).  The test pattern should consist of black and white squares, 5° per square, with a white square in the center of each channel.  Measurement should be made on the center bright square for each channel using a 1° spot photometer. This value should have a minimum brightness of 7 cd/m <sup>2</sup> (2 ft-lamberts). Measure any adjacent dark squares.

							<p>The contrast ratio is the bright square value divided by the dark square value.</p> <p><i>Note 1. — During contrast ratio testing, FTD aft-cab and flight deck ambient light levels should be as low as possible.</i></p> <p><i>Note 2. — Measurements should be taken at the center of squares to avoid light spill into the measurement device.</i></p>
4.a.6	Light point contrast ratio.	Not less than 10:1.	Not applicable.			X	<p>Light point contrast ratio should be measured using a test pattern demonstrating an area of greater than 1° area filled with white light points and should be compared to the adjacent background.</p> <p><i>Note. — Light point modulation should be just discernible on calligraphic systems but will not be discernable on raster systems.</i></p> <p>Measurements of the background should be taken such that the bright square is just out of the light meter FOV.</p> <p><i>Note. — During contrast ratio testing, FTD aft-cab and flight deck ambient light levels should be as low as practical.</i></p>
4.a.7	Light point brightness.	Not less than 20 cd/m <sup>2</sup> (5.8 ft-lamberts).	Not applicable.			X	<p>Light points should be displayed as a matrix creating a square.</p> <p>On calligraphic systems the light points should just merge.</p>

								On raster systems the light points should overlap such that the square is continuous (individual light points will not be visible).
<b>4.a.8</b>	Surface brightness.	Not less than 14 cd/m <sup>2</sup> (4.1 ft-lamberts) on the display.	Not applicable.				<b>X</b>	Surface brightness should be measured on a white raster, measuring the brightness using the 1° spot photometer.  Light points are not acceptable.  Use of calligraphic capabilities to enhance raster brightness is acceptable.
<b>4.b</b>	<b>Head-Up Display (HUD)</b>							
<b>4.b.1</b>	Static Alignment.	Static alignment with displayed image.  HUD bore sight must align with the center of the displayed image spherical pattern.  Tolerance +/- 6 arc min.					<b>X</b>	Alignment requirement only applies to the pilot flying.
<b>4.b.2</b>	System display.	All functionality in all flight modes must be demonstrated.					<b>X</b>	A statement of the system capabilities should be provided and the capabilities demonstrated
<b>4.b.3</b>	HUD attitude versus FTD attitude indicator (pitch and roll of horizon).	Pitch and roll align with aircraft instruments.	Flight				<b>X</b>	Alignment requirement only applies to the pilot flying.
<b>4.c</b>	<b>Enhanced Flight Vision System (EFVS)</b>							
<b>4.c.1</b>	Registration test.	Alignment between EFVS display and out of the window image must represent the alignment typical of the aircraft	Takeoff point and on approach at 200 ft.				<b>X</b>	Alignment requirement only applies to the pilot flying.  <i>Note.— The effects of the alignment tolerance in 4.b.1</i>

		and system type.						<i>should be taken into account.</i>
4.c.2	EFVS RVR and visibility calibration.	The scene represents the EFVS view at 350 m (1,200 ft) and 1,609 m (1 sm) RVR including correct light intensity.	Flight				X	Infra-red scene representative of both 350 m (1,200 ft), and 1,609 m (1 sm) RVR.  Visual scene may be removed.
4.c.3	Thermal crossover.	Demonstrate thermal crossover effects during day to night transition.	Day and night				X	The scene will correctly represent the thermal characteristics of the scene during a day to night transition.
4.d	<b>Visual ground segment</b>							
4.d.1	Visual ground segment (VGS).	Near end: the correct number of approach lights within the computed VGS must be visible.  Far end: $\pm 20\%$ of the computed VGS.  The threshold lights computed to be visible must be visible in the FTD.	Trimmed in the landing configuration at 30 m (100 ft) wheel height above touchdown zone on glide slope at an RVR setting of 300 m (1,000 ft) or 350 m (1,200 ft).	This test is designed to assess items impacting the accuracy of the visual scene presented to a pilot at DH on an ILS approach. These items include:  1) RVR/Visibility;  2) glide slope (G/S) and localizer modeling accuracy (location and slope) for an ILS;  3) for a given weight, configuration and speed representative of a point within the airplane's operational envelope for a normal approach and landing; and  4) Radio altimeter.  <i>Note. — If non-homogeneous fog is used, the vertical variation in horizontal visibility should be described and included in the slant range visibility calculation used in the VGS computation.</i>				X  Pre-position for this test is encouraged but may be achieved via manual or autopilot control to the desired position.
4.e	<b>Visual System Capacity</b>							
4.e.1	System capacity – Day mode.	Not less than: 10,000 visible textured surfaces, 6,000 light points, 16 moving models.	Not applicable				X	Demonstrated through use of a visual scene rendered with the same image generator modes used to produce scenes for training.  The required surfaces, light points, and moving models



							should be displayed simultaneously.
<b>4.e.2</b>	System capacity – Twilight/night mode.	Not less than: 10,000 visible textured surfaces, 15,000 light points, 16 moving models.	Not applicable			<b>X</b>	Demonstrated through use of a visual scene rendered with the same image generator modes used to produce scenes for training.  The required surfaces, light points, and moving models should be displayed simultaneously.
<b>5. Sound System.</b> The sponsor will not be required to repeat the operational sound tests (i.e., tests 5.a.1. through 5.a.8. (or 5.b.1. through 5.b.9.) and 5.c., as appropriate) during continuing qualification evaluations if frequency response and background noise test results are within tolerance when compared to the initial qualification evaluation results, and the sponsor shows that no software changes have occurred that will affect the FTD's sound system. If the frequency response test method is chosen and fails, the sponsor may elect to fix the frequency response problem and repeat the test or the sponsor may elect to repeat the operational sound tests. If the operational sound tests are repeated during continuing qualification evaluations, the results may be compared against initial qualification evaluation results. All tests in this section must be presented using an unweighted 1/3-octave band format from band 17 to 42 (50 Hz to 16 kHz). A minimum 20 second average must be taken at a common location from where the initial evaluation sound results were gathered.							
<b>5.a.</b>	<b>Turbo-jet airplanes.</b>						All tests in this section should be presented using an unweighted 1/3-octave band format from at least band 17 to 42 (50 Hz to 16 kHz).  A measurement of minimum 20 s should be taken at the location corresponding to the approved data set.  Refer to paragraph 7 of Appendix A, Attachment 2.
<b>5.a.1.</b>	Ready for engine start.	Initial evaluation: Subjective assessment of 1/3 octave bands.  Recurrent evaluation: cannot exceed $\pm 5$ dB difference on three consecutive bands when compared to initial evaluation and the	Ground.	Normal condition prior to engine start.  The APU must be on if appropriate.		<b>X</b>	

		average of the absolute differences between initial and recurrent evaluation results cannot exceed 2 dB.						
5.a.2.	All engines at idle.	Initial evaluation: Subjective assessment of 1/3 octave bands.  Recurrent evaluation: cannot exceed $\pm 5$ dB difference on three consecutive bands when compared to initial evaluation and the average of the absolute differences between initial and recurrent evaluation results cannot exceed 2 dB.	Ground.	Normal condition prior to takeoff.			X	
5.a.3.	All engines at maximum allowable thrust with brakes set.	Initial evaluation: Subjective assessment of 1/3 octave bands.  Recurrent evaluation: cannot exceed $\pm 5$ dB difference on three consecutive bands when compared to initial evaluation and the average of the absolute differences between initial and recurrent evaluation results cannot exceed 2 dB.	Ground.	Normal condition prior to takeoff.			X	
5.a.4.	Climb	Initial evaluation: Subjective assessment of 1/3 octave bands.  Recurrent evaluation: cannot exceed $\pm 5$ dB difference on three consecutive bands when compared to initial evaluation and the	En-route climb.	Medium altitude.			X	

		average of the absolute differences between initial and recurrent evaluation results cannot exceed 2 dB.						
5.a.5.	Cruise	Initial evaluation: Subjective assessment of 1/3 octave bands.  Recurrent evaluation: cannot exceed $\pm 5$ dB difference on three consecutive bands when compared to initial evaluation and the average of the absolute differences between initial and recurrent evaluation results cannot exceed 2 dB.	Cruise.	Normal cruise configuration.			X	
5.a.6.	Speed brake/spoilers extended (as appropriate).	Initial evaluation: Subjective assessment of 1/3 octave bands.  Recurrent evaluation: cannot exceed $\pm 5$ dB difference on three consecutive bands when compared to initial evaluation and the average of the absolute differences between initial and recurrent evaluation results cannot exceed 2 dB.	Cruise.	Normal and constant speed brake deflection for descent at a constant airspeed and power setting.			X	
5.a.7	Initial approach.	Initial evaluation: Subjective assessment of 1/3 octave bands.  Recurrent evaluation: cannot exceed $\pm 5$ dB difference on three consecutive bands when compared to initial evaluation and the	Approach.	Constant airspeed, gear up, flaps/slats as appropriate.			X	

		average of the absolute differences between initial and recurrent evaluation results cannot exceed 2 dB.					
5.a.8	Final approach.	Initial evaluation: Subjective assessment of 1/3 octave bands.  Recurrent evaluation: cannot exceed $\pm 5$ dB difference on three consecutive bands when compared to initial evaluation and the average of the absolute differences between initial and recurrent evaluation results cannot exceed 2 dB.	Landing.	Constant airspeed, gear down, landing configuration flaps.			X
5.b	Propeller-driven airplanes						<p>All tests in this section should be presented using an unweighted 1/3-octave band format from at least band 17 to 42 (50 Hz to 16 kHz).</p> <p>A measurement of minimum 20 s should be taken at the location corresponding to the approved data set.</p> <p>Refer to paragraph 7 of Appendix A, Attachment 2.</p>
5.b.1.	Ready for engine start.	Initial evaluation: Subjective assessment of 1/3 octave bands.  Recurrent evaluation: cannot exceed $\pm 5$ dB difference on three consecutive bands when compared to initial evaluation and the average of the absolute	Ground.	Normal condition prior to engine start.  The APU must be on if appropriate.			X

		differences between initial and recurrent evaluation results cannot exceed 2 dB.						
<b>5.b.2</b>	All propellers feathered, if applicable.	Initial evaluation: Subjective assessment of 1/3 octave bands.  Recurrent evaluation: cannot exceed $\pm 5$ dB difference on three consecutive bands when compared to initial evaluation and the average of the absolute differences between initial and recurrent evaluation results cannot exceed 2 dB.	Ground.	Normal condition prior to take-off.			<b>X</b>	
<b>5.b.3.</b>	Ground idle or equivalent.	Initial evaluation: Subjective assessment of 1/3 octave bands.  Recurrent evaluation: cannot exceed $\pm 5$ dB difference on three consecutive bands when compared to initial evaluation and the average of the absolute differences between initial and recurrent evaluation results cannot exceed 2 dB.	Ground.	Normal condition prior to takeoff.			<b>X</b>	
<b>5.b.4</b>	Flight idle or equivalent.	Initial evaluation: Subjective assessment of 1/3 octave bands.  Recurrent evaluation: cannot exceed $\pm 5$ dB difference on three consecutive bands when compared to initial evaluation and the average of the absolute	Ground.	Normal condition prior to takeoff.			<b>X</b>	

		differences between initial and recurrent evaluation results cannot exceed 2 dB.						
5.b.5	All engines at maximum allowable power with brakes set.	Initial evaluation: Subjective assessment of 1/3 octave bands.  Recurrent evaluation: cannot exceed $\pm 5$ dB difference on three consecutive bands when compared to initial evaluation and the average of the absolute differences between initial and recurrent evaluation results cannot exceed 2 dB.	Ground.	Normal condition prior to takeoff.			X	
5.b.6	Climb.	Initial evaluation: Subjective assessment of 1/3 octave bands.  Recurrent evaluation: cannot exceed $\pm 5$ dB difference on three consecutive bands when compared to initial evaluation and the average of the absolute differences between initial and recurrent evaluation results cannot exceed 2 dB.	En-route climb.	Medium altitude.			X	
5.b.7	Cruise	Initial evaluation: Subjective assessment of 1/3 octave bands.  Recurrent evaluation: cannot exceed $\pm 5$ dB difference on three consecutive bands when compared to initial evaluation and the average of the absolute	Cruise.	Normal cruise configuration.			X	

		differences between initial and recurrent evaluation results cannot exceed 2 dB.					
<b>5.b.8</b>	Initial approach.	Initial evaluation: Subjective assessment of 1/3 octave bands.  Recurrent evaluation: cannot exceed $\pm 5$ dB difference on three consecutive bands when compared to initial evaluation and the average of the absolute differences between initial and recurrent evaluation results cannot exceed 2 dB.	Approach.	Constant airspeed, gear up, flaps extended as appropriate, RPM as per operating manual.			<b>X</b>
<b>5.b.9</b>	Final approach.	Initial evaluation: Subjective assessment of 1/3 octave bands.  Recurrent evaluation: cannot exceed $\pm 5$ dB difference on three consecutive bands when compared to initial evaluation and the average of the absolute differences between initial and recurrent evaluation results cannot exceed 2 dB.	Landing.	Constant airspeed, gear down, landing configuration flaps, RPM as per operating manual.			<b>X</b>
<b>5.c.</b>	<b>Special cases.</b>	Initial evaluation: Subjective assessment of 1/3 octave bands.  Recurrent evaluation: cannot exceed $\pm 5$ dB difference on three consecutive bands when compared to initial evaluation and the average of the absolute	As appropriate.				<b>X</b> This applies to special steady-state cases identified as particularly significant to the pilot, important in training, or unique to a specific airplane type or model.

		differences between initial and recurrent evaluation results cannot exceed 2 dB.						
5.d	FTD background noise	Initial evaluation: background noise levels must fall below the sound levels described in Appendix A, Attachment 2, Paragraph 7.c (5).  Recurrent evaluation: $\pm 3$ dB per 1/3 octave band compared to initial evaluation.		Results of the background noise at initial qualification must be included in the QTG document and approved by the NSPM. The measurements are to be made with the simulation running, the sound muted and a dead cockpit.			X	The simulated sound will be evaluated to ensure that the background noise does not interfere with training.  Refer to paragraph 7 of this Appendix A, Attachment 2.  This test should be presented using an unweighted 1/3 octave band format from band 17 to 42 (50 Hz to 16 kHz).
5.e	Frequency response	Initial evaluation: not applicable.  Recurrent evaluation: cannot exceed $\pm 5$ dB difference on three consecutive bands when compared to initial evaluation and the average of the absolute differences between initial and recurrent evaluation results cannot exceed 2 dB.					X	Only required if the results are to be used during continuing qualification evaluations in lieu of airplane tests.  The results must be approved by the NSPM during the initial qualification.  This test should be presented using an unweighted 1/3 octave band format from band 17 to 42 (50 Hz to 16 kHz).
6	SYSTEMS INTEGRATION							
6.a.	System response time							
6.a.1	Transport delay.	Instrument response: 100 ms (or less) after airplane response.  Visual system response: 120 ms (or less) after airplane response.	Pitch, roll and yaw.				X	One separate test is required in each axis.  Where EFVS systems are installed, the EFVS response should be within + or - 30 ms from visual system response,



							and not before motion system response.
							<i>Note.— The delay from the airplane EFVS electronic elements should be added to the 30 ms tolerance before comparison with visual system reference.</i>
6.a.2	Transport delay.	300 milliseconds or less after controller movement.	Pitch, roll and yaw.		X	X	If transport delay is the chosen method to demonstrate relative responses, the sponsor and the NSPM will use the latency values to ensure proper FTD response when reviewing those existing tests where latency can be identified (e.g., short period, roll response, rudder response).

\*  
\*  
\*  
\*  
\*

<b>1.</b>	<b>Performance.</b>	
<b>1.c</b>	<b>Climb.</b>	
<b>1.c.1.</b>	Normal climb with nominal gross weight, at best rate-of-climb airspeed.	Climb rate = 500 - 1200 fpm (2.5 - 6 m/sec).
<b>1.f.</b>	<b>Engines.</b>	
<b>1.f.1.</b>	Acceleration; idle to takeoff power.	2 - 4 Seconds.
<b>1.f.2.</b>	Deceleration; takeoff power to idle.	2 - 4 Seconds.
<b>2.</b>	<b>Handling Qualities.</b>	
<b>2.c.</b>	<b>Longitudinal Tests.</b>	
<b>2.c.1.</b>	Power change force.	
	(a) Trim for straight and level flight at 80% of normal cruise airspeed with necessary power. Reduce power to flight idle. Do not change trim or configuration. After stabilized, record column force necessary to maintain original airspeed.	5 - 15 lbs (2.2 - 6.6 daN) of force (Push).
	<b>OR</b>	
<b>2.c.2.</b>	(b) Trim for straight and level flight at 80 percent of normal cruise airspeed with necessary power. Add power to maximum setting. Do not change trim or configuration. After stabilized, record column force necessary to maintain original airspeed.	5 - 15 lbs (2.2 - 6.6 daN) of force (Pull).
	Flap/slat change force.	
	(a) Trim for straight and level flight with flaps fully retracted at a constant airspeed within the flaps-extended airspeed range. Do not adjust trim or power. Extend the flaps to 50 percent of full flap travel. After stabilized, record stick force necessary to maintain original airspeed.	5 - 15 lbs (2.2 - 6.6 daN) of force (Push).
	<b>OR</b>	
<b>2.c.4.</b>	b) Trim for straight and level flight with flaps extended to 50% of full flap travel, at a constant airspeed within the flaps-extended airspeed range. Do not adjust trim or power. Retract the flaps to zero. After stabilized, record stick force necessary to maintain original airspeed.	5 - 15 lbs (2.2 - 6.6 daN) of force (Pull).
	Gear change force.	

	(a) Trim for straight and level flight with landing gear retracted at a constant airspeed within the landing gear-extended airspeed range. Do not adjust trim or power. Extend the landing gear. After stabilized, record stick force necessary to maintain original airspeed.	2 - 12 lbs (0.88 - 5.3 daN) of force (Push).
	<b>OR</b>	
	(b) Trim for straight and level flight with landing gear extended, at a constant airspeed within the landing gear-extended airspeed range. Do not adjust trim or power. Retract the landing gear. After stabilized, record stick force necessary to maintain original airspeed.	2 - 12 lbs (0.88 - 5.3 daN) of force (Pull).
<b>2.c.5.</b>	Longitudinal trim.	Must be able to trim longitudinal stick force to “zero” in each of the following configurations: cruise; approach; and landing.
<b>2.c.7.</b>	Longitudinal static stability.	Must exhibit positive static stability.
<b>2.c.8.</b>	Stall warning (actuation of stall warning device) with nominal gross weight; wings level; and a deceleration rate of not more than three (3) knots per second.	
	a) Landing configuration.	40 - 60 knots; $\pm 5^\circ$ of bank.
	b) Clean configuration.	Landing configuration speed + 10 - 20%.
<b>2.c.9.b.</b>	Phugoid dynamics.	Must have a phugoid with a period of 30 - 60 seconds. May not reach $\frac{1}{2}$ or double amplitude in less than 2 cycles.
<b>2.d.</b>	<b>Lateral Directional Tests.</b>	
<b>2.d.2.</b>	Roll response (rate). Roll rate must be measured through at least 30 degree of roll. Aileron control must be deflected 1/3 (33.3 percent) of maximum travel.	Must have a roll rate of $4^\circ$ - $25^\circ$ /second.
<b>2.d.4.b.</b>	Spiral stability. Cruise configuration and normal cruise airspeed. Establish a 20 degree - 30 degree bank. When stabilized, neutralize the aileron control and release. Must be completed in both directions of turn.	Initial bank angle ( $\pm 5^\circ$ ) after 20 seconds.
<b>2.d.6.b.</b>	Rudder response. Use 25 percent of maximum rudder deflection. (Applicable to approach or landing configuration.)	$2^\circ$ - $6^\circ$ /second yaw rate.
<b>2.d.8.</b>	Steady state sideslip. Use 50 percent rudder deflection. (Applicable to approach and landing configurations.)	2 percent – 10 percent of bank; 4 percent - 10 percent of sideslip; and 2 percent -10 percent of aileron.

6.	FTD System Response Time.	
6.a.	Flight deck instrument systems response to an abrupt pilot controller input. One test is required in each axis (pitch, roll, yaw).	300 milliseconds or less.

<b>1.</b>	<b>Performance.</b>	
<b>1.c</b>	<b>Climb.</b>	
<b>1.c.1.</b>	Normal climb with nominal gross weight, at best rate-of-climb airspeed.	Climb airspeed = 95 – 115 knots. Climb rate = 500 – 1500 fpm (2.5 – 7.5 m/sec)
<b>1.f.</b>	<b>Engines.</b>	
<b>1.f.1.</b>	Acceleration; idle to takeoff power.	2 - 5 Seconds.
<b>1.f.2.</b>	Deceleration; takeoff power to idle.	2 - 5 Seconds.
<b>2.</b>	<b>Handling Qualities.</b>	
<b>2.c.</b>	<b>Longitudinal Tests.</b>	
<b>2.c.1.</b>	Power change force.	
	(a) Trim for straight and level flight at 80 percent of normal cruise airspeed with necessary power. Reduce power to flight idle. Do not change trim or configuration. After stabilized, record column force necessary to maintain original airspeed.	10 - 25 lbs (2.2 - 6.6 daN) of force (Push).
	<b>OR</b>	
<b>2.c.2.</b>	(b) Trim for straight and level flight at 80 percent of normal cruise airspeed with necessary power. Add power to maximum setting. Do not change trim or configuration. After stabilized, record column force necessary to maintain original airspeed.	5 - 15 lbs (2.2 - 6.6 daN) of force (Pull).
	Flap/slat change force.	
	(a) Trim for straight and level flight with flaps fully retracted at a constant airspeed within the flaps-extended airspeed range. Do not adjust trim or power. Extend the flaps to 50 percent of full flap travel. After stabilized, record stick force necessary to maintain original airspeed.	5 - 15 lbs (2.2 - 6.6 daN) of force (Push).
<b>2.c.4.</b>	<b>OR</b>	
	(b) Trim for straight and level flight with flaps extended to 50 percent of full flap travel, at a constant airspeed within the flaps-extended airspeed range. Do not adjust trim or power. Retract the flaps to zero. After stabilized, record stick force necessary to maintain original airspeed.	5 - 15 lbs (2.2 - 6.6 daN) of force (Pull).
<b>2.c.4.</b>	Gear change force.	

	(a) Trim for straight and level flight with landing gear retracted at a constant airspeed within the landing gear-extended airspeed range. Do not adjust trim or power. Extend the landing gear. After stabilized, record stick force necessary to maintain original airspeed.	2 - 12 lbs (0.88 - 5.3 daN) of force (Push).
	<b>OR</b>	
	(b) Trim for straight and level flight with landing gear extended, at a constant airspeed within the landing gear-extended airspeed range. Do not adjust trim or power. Retract the landing gear. After stabilized, record stick force necessary to maintain original airspeed.	2 - 12 lbs (0.88 - 5.3 daN) of force (Pull).
<b>2.c.5.</b>	Longitudinal trim.	Must be able to trim longitudinal stick force to “zero” in each of the following configurations: cruise; approach; and landing.
<b>2.c.7.</b>	Longitudinal static stability.	Must exhibit positive static stability.
<b>2.c.8.</b>	Stall warning (actuation of stall warning device) with nominal gross weight; wings level; and a deceleration rate of not more than three (3) knots per second.	
	(a) Landing configuration.	60 - 90 knots; $\pm 5$ degree of bank.
	(b) Clean configuration.	Landing configuration speed + 10 - 20%.
<b>2.c.9.b.</b>	Phugoid dynamics.	Must have a phugoid with a period of 30 - 60 seconds. May not reach $\frac{1}{2}$ or double amplitude in less than 2 cycles.
<b>2.d.</b>	<b>Lateral Directional Tests.</b>	
<b>2.d.2.</b>	Roll response. Roll rate must be measured through at least 30 degree of roll. Aileron control must be deflected 1/3 (33.3 percent) of maximum travel.	Must have a roll rate of 4- 25 degree /second.
<b>2.d.4.b.</b>	Spiral stability. Cruise configuration and normal cruise airspeed. Establish a 20 degree – 30 degree bank. When stabilized, neutralize the aileron control and release. Must be completed in both directions of turn.	Initial bank angle ( $\pm 5$ degree) after 20 seconds.
<b>2.d.6.b.</b>	Rudder response. Use 25 percent of maximum rudder deflection. (Applicable to approach or landing configuration.)	3 - 6 degree /second yaw rate.
<b>2.d.8.</b>	Steady state sideslip.	2 - 10 degree of bank; 4 - 10 degrees of sideslip; and

	Use 50 percent rudder deflection. (Applicable to approach and landing configurations.)	2 - 10 degree of aileron.
<b>6.</b>	<b>FTD System Response Time.</b>	
<b>6.a.</b>	Flight deck instrument systems response to an abrupt pilot controller input. One test is required in each axis (pitch, roll, yaw).	300 milliseconds or less.

<b>1.</b>	<b>Performance.</b>	
<b>1.c</b>	<b>Climb.</b>	
<b>1.c.1.</b>	Normal climb with nominal gross weight, at best rate-of-climb airspeed.	Climb airspeed = 95 – 115 knots. Climb rate = 800 – 1800 fpm (4 - 9 m/sec)
<b>1.f.</b>	<b>Engines.</b>	
<b>1.f.1.</b>	Acceleration; idle to takeoff power.	4 - 8 Seconds.
<b>1.f.2.</b>	Deceleration; takeoff power to idle.	3 - 7 Seconds.
<b>2.</b>	<b>Handling Qualities.</b>	
<b>2.c.</b>	<b>Longitudinal Tests.</b>	
<b>2.c.1.</b>	Power change force.	
	a) Trim for straight and level flight at 80 percent of normal cruise airspeed with necessary power. Reduce power to flight idle. Do not change trim or configuration. After stabilized, record column force necessary to maintain original airspeed.	8 lbs (3.5 daN) of Push force – 8 lbs (3.5 daN) of Pull force.
	OR	
	b) Trim for straight and level flight at 80 percent of normal cruise airspeed with necessary power. Add power to maximum setting. Do not change trim or configuration. After stabilized, record column force necessary to maintain original airspeed.	12 - 22 lbs (5.3 – 9.7 daN) of force (Pull).
<b>2.c.2.</b>	Flap/slat change force.	
	a) Trim for straight and level flight with flaps fully retracted at a constant airspeed within the flaps-extended airspeed range. Do not adjust trim or power. Extend the flaps to 50 percent of full flap travel. After stabilized, record stick force necessary to maintain original airspeed.	5 - 15 lbs (2.2 - 6.6 daN) of force (Push).
	OR	
	b) Trim for straight and level flight with flaps extended to 50 percent of full flap travel, at a constant airspeed within the flaps-extended airspeed range. Do not adjust trim or power. Retract the flaps to zero. After stabilized, record stick force necessary to maintain original airspeed.	5 - 15 lbs (2.2 - 6.6 daN) of force (Pull).
<b>2.c.4.</b>	Gear change force.	



	a) Trim for straight and level flight with landing gear retracted at a constant airspeed within the landing gear-extended airspeed range. Do not adjust trim or power. Extend the landing gear. After stabilized, record stick force necessary to maintain original airspeed.	2 - 12 lbs (0.88 - 5.3 daN) of force (Push).
	OR	
	b) Trim for straight and level flight with landing gear extended, at a constant airspeed within the landing gear-extended airspeed range. Do not adjust trim or power. Retract the landing gear. After stabilized, record stick force necessary to maintain original airspeed.	2 - 12 lbs (0.88 - 5.3 daN) of force (Pull).
<b>2.c.5.</b>	Longitudinal trim.	Must be able to trim longitudinal stick force to “zero” in each of the following configurations: cruise; approach; and landing.
<b>2.c.7.</b>	Longitudinal static stability.	Must exhibit positive static stability.
<b>2.c.8.</b>	Stall warning (actuation of stall warning device) with nominal gross weight; wings level; and a deceleration rate of not more than three (3) knots per second.	
	a) Landing configuration.	60 - 90 knots; $\pm 5$ degree of bank.
	b) Clean configuration.	Landing configuration speed + 10 - 20 percent.
<b>2.c.9.b.</b>	Phugoid dynamics.	Must have a phugoid with a period of 30 - 60 seconds. May not reach $\frac{1}{2}$ or double amplitude in less than 2 cycles.
<b>2.d.</b>	<b>Lateral Directional Tests.</b>	
<b>2.d.2.</b>	Roll response. Roll rate must be measured through at least 30° of roll. Aileron control must be deflected 1/3 (33.3 percent) of maximum travel.	Must have a roll rate of 4 - 25 degree /second.
<b>2.d.4.c.</b>	Spiral stability. Cruise configuration and normal cruise airspeed. Establish a 20° - 30° bank. When stabilized, neutralize the aileron control and release. Must be completed in both directions of turn.	Initial bank angle ( $\pm 5$ degree) after 20 seconds.
<b>2.d.6.b.</b>	Rudder response. Use 25 percent of maximum rudder deflection. (Applicable to approach or landing configuration.)	3 - 6 degree /second yaw rate.
<b>2.d.8.</b>	Steady state sideslip. Use 50 percent rudder deflection. (Applicable to approach and landing configurations.)	2 - 10 degree of bank; 4 - 10 degree of sideslip; and 2 - 10 degree of aileron.
<b>6.</b>	<b>FTD System Response Time.</b>	

<b>6.a.</b>	Flight deck instrument systems response to an abrupt pilot controller input. One test is required in each axis (pitch, roll, yaw).	300 milliseconds or less.
-------------	--	---------------------------

<b>1.</b>	<b>Performance.</b>	
<b>1.c</b>	<b>Climb.</b>	
<b>1.b.1.</b>	Normal climb with nominal gross weight, at best rate-of-climb airspeed.	Climb airspeed = 120 – 140 knots. Climb rate = 1000 – 3000 fpm (5 - 15 m/sec)
<b>1.f.</b>	<b>Engines.</b>	
<b>1.f.1.</b>	Acceleration; idle to takeoff power.	2 - 6 Seconds.
<b>1.f.2.</b>	Deceleration; takeoff power to idle.	1 - 5 Seconds.
<b>2.</b>	<b>Handling Qualities.</b>	
<b>2.c.</b>	<b>Longitudinal Tests.</b>	
<b>2.c.1.</b>	Power change force.	
	a) Trim for straight and level flight at 80 percent of normal cruise airspeed with necessary power. Reduce power to flight idle. Do not change trim or configuration. After stabilized, record column force necessary to maintain original airspeed.	8 lbs (3.5 daN) of Push force to 8 lbs (3.5 daN) of Pull force.
	<b>OR</b>	
	b) Trim for straight and level flight at 80 percent of normal cruise airspeed with necessary power. Add power to maximum setting. Do not change trim or configuration. After stabilized, record column force necessary to maintain original airspeed.	12 - 22 lbs (5.3 – 9.7 daN) of force (Pull).
<b>2.c.2.</b>	Flap/slat change force.	
	a) Trim for straight and level flight with flaps fully retracted at a constant airspeed within the flaps-extended airspeed range. Do not adjust trim or power. Extend the flaps to 50 percent of full flap travel. After stabilized, record stick force necessary to maintain original airspeed.	5 - 15 lbs (2.2 - 6.6 daN) of force (Push).
	<b>OR</b>	
	b) Trim for straight and level flight with flaps extended to 50 percent of full flap travel, at a constant airspeed within the flaps-extended airspeed range. Do not adjust trim or power. Retract the flaps to zero. After stabilized, record stick force necessary to maintain original airspeed.	5 - 15 lbs (2.2 - 6.6 daN) of force (Pull).
<b>2.c.4.</b>	Gear change force.	

	a) Trim for straight and level flight with landing gear retracted at a constant airspeed within the landing gear-extended airspeed range. Do not adjust trim or power. Extend the landing gear. After stabilized, record stick force necessary to maintain original airspeed.	2 - 12 lbs (0.88 - 5.3 daN) of force (Push).
	<b>OR</b>	
	b) Trim for straight and level flight with landing gear extended, at a constant airspeed within the landing gear-extended airspeed range. Do not adjust trim or power. Retract the landing gear. After stabilized, record stick force necessary to maintain original airspeed.	2 - 12 lbs (0.88 - 5.3 daN) of force (Pull).
<b>2.c.5.</b>	Longitudinal trim.	Must be able to trim longitudinal stick force to “zero” in each of the following configurations: cruise; approach; and landing.
<b>2.c.7.</b>	Longitudinal static stability.	Must exhibit positive static stability.
<b>2.c.8.</b>	Stall warning (actuation of stall warning device) with nominal gross weight; wings level; and a deceleration rate of not more than three (3) knots per second.	
	a) Landing configuration.	80 - 100 knots; $\pm 5^\circ$ of bank.
	b) Clean configuration.	Landing configuration speed + 10 - 20 percent.
<b>2.c.9.b.</b>	Phugoid dynamics.	Must have a phugoid with a period of 30 - 60 seconds. May not reach $\frac{1}{2}$ or double amplitude in less than 2 cycles.
<b>2.d.</b>	<b>Lateral Directional Tests.</b>	
<b>2.d.2.</b>	Roll response. Roll rate must be measured through at least 30 degree of roll. Aileron control must be deflected $\frac{1}{3}$ (33.3 percent) of maximum travel.	Must have a roll rate of 4 - 25 degree /second.
<b>2.d.4.b.</b>	Spiral stability. Cruise configuration and normal cruise airspeed. Establish a 20 - 30 degree bank. When stabilized, neutralize the aileron control and release. Must be completed in both directions of turn.	Initial bank angle ( $\pm 5^\circ$ ) after 20 seconds.
<b>2.d.6.b.</b>	Rudder response. Use 25 percent of maximum rudder deflection. (Applicable to approach or landing configuration.)	3 - 6 degree /second yaw rate.
<b>2.d.8.</b>	Steady state sideslip. Use 50 percent rudder deflection.	2 - 10 degree of bank; 4 - 10 degree of sideslip; and

	(Applicable to approach and landing configurations.)	2 -10 degree of aileron.
<b>6.</b>	<b>FTD System Response Time.</b>	
<b>6.a.</b>	Flight deck instrument systems response to an abrupt pilot controller input. One test is required in each axis (pitch, roll, yaw).	300 milliseconds or less.

\* \* \* \* \*

■ 16. Amend Attachment 3 to Appendix B by adding Tables B3D, B3E, B3F, and B3G to read as follows:

**Appendix B to Part 60—Qualification Performance Standards for Airplane Flight Training Devices**

\* \* \* \* \*

**Attachment 3 to Appendix B to Part 60—Flight Training Device (FTD) Subjective Evaluation**

\* \* \* \* \*

**BILLING CODE 4910–13–P**

	Tasks in this table are subject to evaluation if appropriate for the airplane simulated as indicated in the SOQ Configuration List or the level of FTD qualification involved. Items not installed or not functional on the FTD and, therefore, not appearing on the SOQ Configuration List, are not required to be listed as exceptions on the SOQ.
<b>1.</b>	<b>Preparation For Flight</b>
<b>1.a.</b>	<b>Pre-flight.</b> Accomplish a functions check of all switches, indicators, systems, and equipment at all crew members' and instructors' stations and determine that:
<b>1.a.1</b>	The flight deck design and functions are identical to that of the airplane simulated.
<b>2.</b>	<b>Surface Operations (pre-flight).</b>
<b>2.a.</b>	<b>Engine Start.</b>
<b>2.a.1.</b>	Normal start.
<b>2.a.2.</b>	Alternate start procedures.
<b>2.a.3.</b>	Abnormal starts and shutdowns (e.g., hot/hung start, tail pipe fire).
<b>2.b.</b>	<b>Taxi.</b>
<b>2.b.1</b>	Pushback/powerback
<b>2.b.2.</b>	Thrust response.
<b>2.b.3.</b>	Power lever friction.
<b>2.b.4.</b>	Ground handling.
<b>2.b.5.</b>	Reserved
<b>2.b.6.</b>	Taxi aids (e.g. taxi camera, moving map)
<b>2.b.7.</b>	Low visibility (taxi route, signage, lighting, markings, etc.)
<b>2.c.</b>	<b>Brake Operation</b>
<b>2.c.1.</b>	Brake operation (normal and alternate/emergency).
<b>2.c.2.</b>	Brake fade (if applicable).
<b>3.</b>	<b>Take-off.</b>
<b>3.a.</b>	<b>Normal.</b>
<b>3.a.1.</b>	Airplane/engine parameter relationships, including run-up.
<b>3.a.2.</b>	Nosewheel and rudder steering.
<b>3.a.3.</b>	Crosswind (maximum demonstrated and gusting crosswind).
<b>3.a.4.</b>	Special performance
<b>3.a.4.a</b>	Reduced $V_1$
<b>3.a.4.b</b>	Maximum engine de-rate.
<b>3.a.4.c</b>	Soft surface.
<b>3.a.4.d</b>	Short field/short take-off and landing (STOL) operations.
<b>3.a.4.e</b>	Obstacle (performance over visual obstacle).
<b>3.a.5.</b>	Low visibility take-off.
<b>3.a.6.</b>	Landing gear, wing flap leading edge device operation.
<b>3.a.7.</b>	Contaminated runway operation.
<b>3.b.</b>	<b>Abnormal/emergency.</b>
<b>3.b.1.</b>	Rejected Take-off.
<b>3.b.2.</b>	Rejected special performance (e.g., reduced $V_1$ , max de-rate, short field operations).
<b>3.b.3.</b>	Rejected take-off with contaminated runway.

<b>3.b.4.</b>	Takeoff with a propulsion system malfunction (allowing an analysis of causes, symptoms, recognition, and the effects on aircraft performance and handling) at the following points: . (iii) Prior to V1 decision speed. (iv) Between V1 and Vr (rotation speed). (iii) Between Vr and 500 feet above ground level.
<b>3.b.5.</b>	Flight control system failures, reconfiguration modes, manual reversion and associated handling.
<b>4.</b>	<b>Climb.</b>
<b>4.a.</b>	Normal.
<b>4.b.</b>	One or more engines inoperative.
<b>4.c.</b>	Approach climb in icing (for airplanes with icing accountability).
<b>5.</b>	<b>Cruise.</b>
<b>5.a.</b>	<b>Performance characteristics (speed vs. power, configuration, and attitude)</b>
<b>5.a.1.</b>	Straight and level flight.
<b>5.a.2.</b>	Change of airspeed.
<b>5.a.3.</b>	High altitude handling.
<b>5.a.4.</b>	High Mach number handling (Mach tuck, Mach buffet) and recovery (trim change).
<b>5.a.5.</b>	Overspeed warning (in excess of $V_{mo}$ or $M_{mo}$ ).
<b>5.a.6.</b>	High IAS handling.
<b>5.b.</b>	<b>Maneuvers.</b>
<b>5.b.1.</b>	High Angle of Attack
<b>5.b.1.a</b>	High angle of attack, approach to stalls, stall warning, and stall buffet (take-off, cruise, approach, and landing configuration) including reaction of the autoflight system and stall protection system.
<b>5.b.1.b</b>	Reserved
<b>5.b.2.</b>	Slow flight
<b>5.b.3.</b>	Reserved
<b>5.b.4.</b>	Flight envelope protection (high angle of attack, bank limit, overspeed, etc.).
<b>5.b.5.</b>	Turns with/without speedbrake/spoilers deployed.
<b>5.b.6.</b>	Normal and standard rate turns.
<b>5.b.7.</b>	Steep turns
<b>5.b.8.</b>	Performance turn
<b>5.b.9.</b>	In flight engine shutdown and restart (assisted and windmill).
<b>5.b.10.</b>	Maneuvering with one or more engines inoperative, as appropriate.
<b>5.b.11.</b>	Specific flight characteristics (e.g., direct lift control).
<b>5.b.12.</b>	Flight control system failures, reconfiguration modes, manual reversion and associated handling.
<b>5.b.13</b>	Gliding to a forced landing.
<b>5.b.14</b>	Visual resolution and FSTD handling and performance for the following (where applicable by aircraft type and training program):
<b>5.b.14.a</b>	Terrain accuracy for forced landing area selection.
<b>5.b.14.b</b>	Terrain accuracy for VFR Navigation.
<b>5.b.14.c</b>	Eights on pylons (visual resolution).
<b>5.b.14.d</b>	Turns about a point.
<b>5.b.14.e</b>	S-turns about a road or section line.
<b>6.</b>	<b>Descent.</b>
<b>6.a.</b>	Normal.



<b>6.b.</b>	Maximum rate/emergency (clean and with speedbrake, etc.).
<b>6.c.</b>	With autopilot.
<b>6.d.</b>	Flight control system failures, reconfiguration modes, manual reversion and associated handling.
<b>7.</b>	<b>Instrument Approaches And Landing.</b> Those instrument approach and landing tests relevant to the simulated airplane type are selected from the following list. Some tests are made with limiting wind velocities, under windshear conditions, and with relevant system failures, including the failure of the Flight Director. If Standard Operating Procedures allow use autopilot for non-precision approaches, evaluation of the autopilot will be included.
<b>7.a.</b>	<b>Precision approach</b>
<b>7.a.1</b>	CAT I published approaches.
<b>7.a.1.a</b>	Manual approach with/without flight director including landing.
<b>7.a.1.b</b>	Autopilot/autothrottle coupled approach and manual landing.
<b>7.a.1.c</b>	Autopilot/autothrottle coupled approach, engine(s) inoperative.
<b>7.a.1.d</b>	Manual approach, engine(s) inoperative.
<b>7.a.1.e</b>	HUD/EFVS
<b>7.a.2</b>	CAT II published approaches.
<b>7.a.2.a</b>	Autopilot/autothrottle coupled approach to DH and landing (manual and autoland).
<b>7.a.2.b</b>	Autopilot/autothrottle coupled approach with one-engine-inoperative approach to DH and go-around (manual and autopilot).
<b>7.a.2.c</b>	HUD/EFVS
<b>7.a.3</b>	CAT III published approaches.
<b>7.a.3.a</b>	Autopilot/autothrottle coupled approach to landing and roll-out (if applicable) guidance (manual and autoland).
<b>7.a.3.b</b>	Autopilot/autothrottle coupled approach to DH and go-around (manual and autopilot).
<b>7.a.3.c</b>	Autopilot/autothrottle coupled approach to land and roll-out (if applicable) guidance with one engine inoperative (manual and autoland).
<b>7.a.3.d</b>	Autopilot/autothrottle coupled approach to DH and go-around with one engine inoperative (manual and autopilot).
<b>7.a.3.e</b>	HUD/EFVS
<b>7.a.4</b>	Autopilot/autothrottle coupled approach (to a landing or to a go-around):
<b>7.a.4.a</b>	With generator failure.
<b>7.a.4.b.1</b>	With maximum tail wind component certified or authorized.
<b>7.a.4.b.2</b>	Reserved
<b>7.a.4.c.1</b>	With maximum crosswind component demonstrated or authorized.
<b>7.a.4.c.2</b>	Reserved
<b>7.a.5</b>	PAR approach, all engine(s) operating and with one or more engine(s) inoperative.
<b>7.a.6</b>	MLS, GBAS, all engine(s) operating and with one or more engine(s) inoperative.
<b>7.b.</b>	<b>Non-precision approach.</b>
<b>7.b.1</b>	Surveillance radar approach, all engine(s) operating and with one or more engine(s) inoperative.
<b>7.b.2</b>	NDB approach, all engine(s) operating and with one or more engine(s) inoperative.

<b>7.b.3</b>	VOR, VOR/DME, TACAN approach, all engines(s) operating and with one or more engine(s) inoperative.
<b>7.b.4</b>	RNAV / RNP / GNSS (RNP at nominal and minimum authorized temperatures) approach, all engine(s) operating and with one or more engine(s) inoperative.
<b>7.b.5</b>	ILS LLZ (LOC), LLZ back course (or LOC-BC) approach, all engine(s) operating and with one or more engine(s) inoperative.
<b>7.b.6</b>	ILS offset localizer approach, all engine(s) operating and with one or more engine(s) inoperative.
<b>7.c</b>	<b>Approach procedures with vertical guidance (APV), e.g. SBAS, flight path vector.</b>
<b>7.c.1</b>	APV/baro-VNAV approach, all engine(s) operating and with one or more engine(s) inoperative.
<b>7.c.2</b>	Area navigation (RNAV) approach procedures based on SBAS, all engine(s) operating and with one or more engine(s) inoperative.
<b>8.</b>	<b>Visual Approaches (Visual Segment) And Landings.</b>  Flight simulators with visual systems, which permit completing a special approach procedure in accordance with applicable regulations, may be approved for that particular approach procedure.
<b>8.a.</b>	Maneuvering, normal approach and landing, all engines operating with and without visual approach aid guidance.
<b>8.b.</b>	Approach and landing with one or more engines inoperative.
<b>8.c.</b>	Operation of landing gear, flap/slats and speedbrakes (normal and abnormal).
<b>8.d.</b>	Approach and landing with crosswind (max. demonstrated and gusting crosswind).
<b>8.e.</b>	Approach and landing with flight control system failures, reconfiguration modes, manual reversion and associated handling (most significant degradation which is probable).
<b>8.e.1.</b>	Approach and landing with trim malfunctions.
<b>8.e.1.a</b>	Longitudinal trim malfunction.
<b>8.e.1.b</b>	Lateral-directional trim malfunction.
<b>8.f.</b>	Approach and landing with standby (minimum) electrical/hydraulic power.
<b>8.g.</b>	Approach and landing from circling conditions (circling approach).
<b>8.h.</b>	Approach and landing from visual traffic pattern.
<b>8.i.</b>	Approach and landing from non-precision approach.
<b>8.j.</b>	Approach and landing from precision approach.
<b>9.</b>	<b>Missed Approach.</b>
<b>9.a.</b>	All engines, manual and autopilot.
<b>9.b.</b>	Engine(s) inoperative, manual and autopilot.
<b>9.c.</b>	Rejected landing
<b>9.d.</b>	With flight control system failures, reconfiguration modes, manual reversion and associated handling.
<b>9.e.</b>	Reserved
<b>10.</b>	<b>Surface Operations (landing, after-landing and post-flight).</b>
<b>10.a</b>	<b>Landing roll and taxi.</b>
<b>10.a.1</b>	HUD/EFVS.
<b>10.a.2.</b>	Spoiler operation.
<b>10.a.3.</b>	Reverse thrust operation.
<b>10.a.4.</b>	Directional control and ground handling, both with and without reverse thrust.

<b>10.a.5.</b>	Reduction of rudder effectiveness with increased reverse thrust (rear pod-mounted engines).
<b>10.a.6.</b>	Brake and anti-skid operation
<b>10.a.6.a</b>	Brake and anti-skid operation with dry, patchy wet, wet on rubber residue, and patchy icy conditions.
<b>10.a.6.b</b>	Reserved
<b>10.a.6.c</b>	Reserved
<b>10.a.6.d</b>	Auto-braking system operation.
<b>10.b</b>	<b>Engine shutdown and parking.</b>
<b>10.b.1</b>	Engine and systems operation.
<b>10.b.2</b>	Parking brake operation.
<b>11.</b>	<b>Any Flight Phase.</b>
<b>11.a.</b>	<b>Airplane and engine systems operation (where fitted).</b>
<b>11.a.1.</b>	Air conditioning and pressurization (ECS).
<b>11.a.2.</b>	De-icing/anti-icing.
<b>11.a.3.</b>	Auxiliary power unit (APU).
<b>11.a.4.</b>	Communications.
<b>11.a.5.</b>	Electrical.
<b>11.a.6.</b>	Fire and smoke detection and suppression.
<b>11.a.7.</b>	Flight controls (primary and secondary).
<b>11.a.8.</b>	Fuel and oil
<b>11.a.9.</b>	Hydraulic
<b>11.a.10.</b>	Pneumatic
<b>11.a.11.</b>	Landing gear.
<b>11.a.12.</b>	Oxygen.
<b>11.a.13.</b>	Engine.
<b>11.a.14.</b>	Airborne radar.
<b>11.a.15.</b>	Autopilot and Flight Director.
<b>11.a.16.</b>	Terrain awareness warning systems and collision avoidance systems (e.g. EGPWS, GPWS, TCAS).
<b>11.a.17.</b>	Flight control computers including stability and control augmentation.
<b>11.a.18.</b>	Flight display systems.
<b>11.a.19.</b>	Flight management computers.
<b>11.a.20.</b>	Head-up displays (including EFVS, if appropriate).
<b>11.a.21.</b>	Navigation systems
<b>11.a.22.</b>	Stall warning/avoidance
<b>11.a.23.</b>	Wind shear avoidance/recovery guidance equipment
<b>11.a.24.</b>	Flight envelope protections
<b>11.a.25.</b>	Electronic flight bag
<b>11.a.26.</b>	Automatic checklists (normal, abnormal and emergency procedures).
<b>11.a.27.</b>	Runway alerting and advisory system.
<b>11.b.</b>	<b>Airborne procedures.</b>
<b>11.b.1.</b>	Holding.
<b>11.b.2.</b>	Air hazard avoidance (traffic, weather, including visual correlation).
<b>11.b.3.</b>	Windshear.
<b>11.b.3.a</b>	Prior to take-off rotation.
<b>11.b.3.b</b>	At lift-off
<b>11.b.3.c</b>	During initial climb.
<b>11.b.3.d</b>	On final approach, below 150 m (500 ft) AGL.

11.b.4.	Reserved

This table specifies the minimum airport model content and functionality to qualify a simulator at the indicated level. This table applies only to the airport models required for FTD qualification.	
<b>Begin QPS Requirements</b>	
<b>1.</b>	<b>Reserved</b>
<b>2.a.</b>	<b>Functional test content requirements</b>
<b>2.a.1</b>	<b>Airport scenes</b>
<b>2.a.1.a</b>	A minimum of three (3) real-world airport models to be consistent with published data used for airplane operations and capable of demonstrating all the visual system features below. Each model should be in a different visual scene to permit assessment of FSTD automatic visual scene changes. The model identifications must be acceptable to the sponsor's TPAA, selectable from the IOS, and listed on the SOQ.
<b>2.a.1.b</b>	Reserved
<b>2.a.1.c</b>	Reserved
<b>2.a.1.d</b>	<b>Airport model content.</b> For circling approaches, all tests apply to the runway used for the initial approach and to the runway of intended landing. If all runways in an airport model used to meet the requirements of this attachment are not designated as "in use," then the "in use" runways must be listed on the SOQ (e.g., KORD, Rwys 9R, 14L, 22R). Models of airports with more than one runway must have all significant runways not "in-use" visually depicted for airport and runway recognition purposes. The use of white or off white light strings that identify the runway threshold, edges, and ends for twilight and night scenes are acceptable for this requirement. Rectangular surface depictions are acceptable for daylight scenes. A visual system's capabilities must be balanced between providing airport models with an accurate representation of the airport and a realistic representation of the surrounding environment. Airport model detail must be developed using airport pictures, construction drawings and maps, or other similar data, or developed in accordance with published regulatory material; however, this does not require that such models contain details that are beyond the design capability of the currently qualified visual system. Only one "primary" taxi route from parking to the runway end will be required for each "in-use" runway.
<b>2.a.2</b>	<b>Visual scene fidelity.</b>
<b>2.a.2.a</b>	The visual scene must correctly represent the parts of the airport and its surroundings used in the training program.
<b>2.a.2.b</b>	Reserved
<b>2.a.2.c</b>	Reserved
<b>2.a.3</b>	<b>Runways and taxiways.</b>
<b>2.a.3.a</b>	Reserved
<b>2.a.3.b</b>	Representative runways and taxiways.
<b>2.a.3.c</b>	Reserved
<b>2.a.4</b>	Reserved
<b>2.a.5</b>	Runway threshold elevations and locations must be modeled to provide correlation with airplane systems (e.g. HUD, GPS, compass, altimeter).
<b>2.a.6</b>	Reserved
<b>2.a.7</b>	<b>Runway surface and markings for each "in-use" runway must include the following, if appropriate:</b>
<b>2.a.7.a</b>	Threshold markings.
<b>2.a.7.b</b>	Runway numbers.
<b>2.a.7.c</b>	Touchdown zone markings.
<b>2.a.7.d</b>	Fixed distance markings.

2.a.7.e	Edge markings.
2.a.7.f	Center line markings.
2.a.7.g	Reserved
2.a.7.h	Reserved
2.a.7.i	Windsock that gives appropriate wind cues.
2.a.8	<b>Runway lighting of appropriate colors, directionality, behavior and spacing for the “in-use” runway including the following:</b>
2.a.8.a	Threshold lights.
2.a.8.b	Edge lights.
2.a.8.c	End lights.
2.a.8.d	Center line lights.
2.a.8.e	Touchdown zone lights.
2.a.8.f	Lead-off lights.
2.a.8.g	Appropriate visual landing aid(s) for that runway.
2.a.8.h	Appropriate approach lighting system for that runway.
2.a.9	<b>Taxiway surface and markings (associated with each “in-use” runway):</b>
2.a.9.a	Edge markings
2.a.9.b	Center line markings.
2.a.9.c	Runway holding position markings.
2.a.9.d	ILS critical area markings.
2.a.9.e	Reserved
2.a.10	<b>Taxiway lighting of appropriate colors, directionality, behavior and spacing (associated with each “in-use” runway):</b>
2.a.10.a	Edge lights.
2.a.10.b	Center line lights.
2.a.10.c	Runway holding position and ILS critical area lights.
2.a.11	<b>Required visual model correlation with other aspects of the airport environment simulation.</b>
2.a.11.a	The airport model must be properly aligned with the navigational aids that are associated with operations at the runway “in-use”.
2.a.11.b	Reserved
2.a.12	<b>Airport buildings, structures and lighting.</b>
2.a.12.a	Buildings, structures and lighting:
2.a.12.a.1	Reserved
2.a.12.a.2	Representative airport buildings, structures and lighting.
2.a.12.a.3	Reserved
2.a.12.b	Reserved
2.a.12.c	Representative moving and static airport clutter (e.g. other airplanes, power carts, tugs, fuel trucks, additional gates).
2.a.12.d	Reserved
2.a.13	<b>Terrain and obstacles.</b>
2.a.13.a	Reserved
2.a.13.b	Representative depiction of terrain and obstacles within 46 km (25 NM) of the reference airport.
2.a.14	<b>Significant, identifiable natural and cultural features.</b>
2.a.14.a	Reserved
2.a.14.b	Representative depiction of significant and identifiable natural and cultural features within 46 km (25 NM) of the reference airport. <i>Note.— This refers to natural and cultural features that are typically used for pilot orientation</i>

	<i>in flight. Outlying airports not intended for landing need only provide a reasonable facsimile of runway orientation.</i>
<b>2.a.14.c</b>	Representative moving airborne traffic (including the capability to present air hazards – e.g. airborne traffic on a possible collision course).
<b>2.b</b>	<b>Visual scene management.</b>
<b>2.b.1</b>	Reserved
<b>2.b.2</b>	Airport runway, approach and taxiway lighting and cultural lighting intensity for any approach should be set at an intensity representative of that used in training for the visibility set; all visual scene light points must fade into view appropriately.
<b>2.b.3</b>	Reserved
<b>2.c</b>	<b>Visual feature recognition.</b> <i>Note.— The following are the minimum distances at which runway features should be visible. Distances are measured from runway threshold to an airplane aligned with the runway on an extended 3-degree glide slope in suitable simulated meteorological conditions. For circling approaches, all tests below apply both to the runway used for the initial approach and to the runway of intended landing.</i>
<b>2.c.1</b>	Runway definition, strobe lights, approach lights, and runway edge white lights from 8 km (5 sm) of the runway threshold.
<b>2.c.2</b>	<b>Visual approach aids lights.</b>
<b>2.c.2.a</b>	Reserved
<b>2.c.2.b</b>	Visual approach aids lights from 4.8 km (3 sm) of the runway threshold.
<b>2.c.3</b>	Runway center line lights and taxiway definition from 4.8 km (3 sm).
<b>2.c.4</b>	Threshold lights and touchdown zone lights from 3.2 km (2 sm).
<b>2.c.5</b>	Reserved
<b>2.c.6</b>	For circling approaches, the runway of intended landing and associated lighting must fade into view in a non-distracting manner.
<b>2.d</b>	<b>Selectable airport visual scene capability for:</b>
<b>2.d.1</b>	Night.
<b>2.d.2</b>	Twilight.
<b>2.d.3</b>	Day.
<b>2.d.4</b>	Dynamic effects — the capability to present multiple ground and air hazards such as another airplane crossing the active runway or converging airborne traffic; hazards must be selectable via controls at the instructor station.
<b>2.d.5</b>	Reserved
<b>2.e</b>	<b>Correlation with airplane and associated equipment.</b>
<b>2.e.1</b>	Visual cues to relate to actual airplane responses.
<b>2.e.2</b>	<b>Visual cues during take-off, approach and landing.</b>
<b>2.e.2.a</b>	Visual cues to assess sink rate and depth perception during landings.
<b>2.e.2.b</b>	Reserved
<b>2.e.3</b>	Accurate portrayal of environment relating to airplane attitudes.
<b>2.e.4</b>	The visual scene must correlate with integrated airplane systems, where fitted (e.g. terrain, traffic and weather avoidance systems and HUD/EFVS).
<b>2.e.5</b>	Reserved
<b>2.f</b>	<b>Scene quality.</b>
<b>2.f.1</b>	<b>Quantization.</b>
<b>2.f.1.a</b>	Surfaces and textural cues must be free from apparent quantization (aliasing).
<b>2.f.1.b</b>	Reserved
<b>2.f.2</b>	System capable of portraying full color realistic textural cues.
<b>2.f.3</b>	The system light points must be free from distracting jitter, smearing or streaking.

2.f.4	Reserved
2.f.5	System capable of providing light point perspective growth (e.g. relative size of runway and taxiway edge lights increase as the lights are approached).
2.g	<b>Environmental effects.</b>
2.g.1	Reserved
2.g.2	Reserved
2.g.3	Reserved
2.g.4	Reserved
2.g.5	Reserved
2.g.6	Reserved
2.g.7	Visibility and RVR measured in terms of distance. Visibility/RVR must be checked at and below a height of 600 m (2 000 ft) above the airport and within a radius of 16 km (10 sm) from the airport.
2.g.8	Reserved
2.g.9	Reserved
2.g.10	Reserved
2.g.11	Reserved
<b>End QPS Requirement</b>	
<b>Begin Information</b>	
3.	<p>An example of being able to “combine two airport models to achieve two “in-use” runways:</p> <p>One runway designated as the “in use” runway in the first model of the airport, and the second runway designated as the “in use” runway in the second model of the same airport. For example, the clearance is for the ILS approach to Runway 27, Circle to Land on Runway 18 right. Two airport visual models might be used: the first with Runway 27 designated as the “in use” runway for the approach to runway 27, and the second with Runway 18 Right designated as the “in use” runway. When the pilot breaks off the ILS approach to runway 27, the instructor may change to the second airport visual model in which runway 18 Right is designated as the “in use” runway, and the pilot would make a visual approach and landing. This process is acceptable to the FAA as long as the temporary interruption due to the visual model change is not distracting to the pilot, does not cause changes in navigational radio frequencies, and does not cause undue instructor/evaluator time.</p>
4.	<p>Sponsors are not required to provide every detail of a runway, but the detail that is provided should be correct within the capabilities of the system.</p> <p><b>End Information</b></p>



The following checks are performed during a normal flight profile.	
1.	Precipitation.
2.	Reserved
3.	Significant airplane noises perceptible to the pilot during normal operations.
4.	Abnormal operations for which there are associated sound cues including, engine malfunctions, landing gear/tire malfunctions, tail and engine pod strike and pressurization malfunction.
5.	Sound of a crash when the flight simulator is landed in excess of limitations.

Table B3G - Functions and Subjective Tests Level 7 FTD	
QPS REQUIREMENTS	
Entry Number	Instructor Operating Station (IOS) Requirements
	Functions in this table are subject to evaluation only if appropriate for the airplane and/or the system is installed on the specific FTD.
1.	<b>Simulator Power Switch(es)</b>
2.	<b>Airplane conditions.</b>
2.a.	Gross weight, center of gravity, fuel loading and allocation
2.b.	Airplane systems status.
2.c.	Ground crew functions (e.g., ext. power, push back)
3.	<b>Airports.</b>
3.a.	Number and selection.
3.b.	Runway selection.
3.c.	Runway surface condition (e.g., rough, smooth, icy, wet)
3.d.	Preset positions (e.g., ramp, gate, #1 for takeoff, takeoff position, over FAF)
3.e.	Lighting controls.
4.	<b>Environmental controls.</b>
4.a.	Visibility (statute miles (kilometers)).
4.b.	Runway visual range (in feet (meters)).
4.c.	Temperature.
4.d.	Climate conditions (e.g., ice, snow, rain).
4.e.	Wind speed and direction.
4.f.	Windshear.
4.g.	Clouds (base and tops).
5.	<b>Airplane system malfunctions</b> (Inserting and deleting malfunctions into the simulator).
6.	<b>Locks, Freezes, and Repositioning.</b>
6.a.	Problem (all) freeze / release.
6.b.	Position (geographic) freeze / release.
6.c.	Repositioning (locations, freezes, and releases).
6.d.	Ground speed control.
7.	Remote IOS. (if installed)
8.	<b>Sound Controls.</b> On / off / adjustment
9.	<b>Control Loading System.</b>
9.a.	On / off / emergency stop.
10.	<b>Observer Seats / Stations.</b> Position / Adjustment

\* \* \* \* \*

Issued under authority provided by 49  
U.S.C. 106(f), 44701(a), and 44703 in  
Washington, DC, on February 24, 2016.

**Michael P. Huerta,**  
Administrator.

[FR Doc. 2016-05860 Filed 3-29-16; 8:45 am]

**BILLING CODE 4910-13-C**



# FEDERAL REGISTER

---

Vol. 81

Wednesday,

No. 61

March 30, 2016

---

## Part V

### Department of Health and Human Services

---

#### Centers for Medicare & Medicaid Services

42 CFR Parts 438, 440, 456, et al.

Medicaid and Children's Health Insurance Programs; Mental Health Parity and Addiction Equity Act of 2008; the Application of Mental Health Parity Requirements to Coverage Offered by Medicaid Managed Care Organizations, the Children's Health Insurance Program (CHIP), and Alternative Benefit Plans; Final Rule

**DEPARTMENT OF HEALTH AND HUMAN SERVICES****Centers for Medicare & Medicaid Services****42 CFR Parts 438, 440, 456, and 457****[CMS–2333–F]****RIN 0938–AS24****Medicaid and Children's Health Insurance Programs; Mental Health Parity and Addiction Equity Act of 2008; the Application of Mental Health Parity Requirements to Coverage Offered by Medicaid Managed Care Organizations, the Children's Health Insurance Program (CHIP), and Alternative Benefit Plans****AGENCY:** Centers for Medicare & Medicaid Services (CMS), HHS.**ACTION:** Final rule.

**SUMMARY:** This final rule will address the application of certain requirements set forth in the Public Health Service Act, as amended by the Paul Wellstone and Pete Domenici Mental Health Parity and Addiction Equity Act of 2008, to coverage offered by Medicaid managed care organizations, Medicaid Alternative Benefit Plans, and Children's Health Insurance Programs.

**DATES:** These regulations are effective on May 31, 2016.

**FOR FURTHER INFORMATION CONTACT:**

John O'Brien, (410) 786–5529,

Alternative Benefit Plan.

Debra Dombrowski, (312) 353–1403, Managed Care.

Amy Lutzky, (410) 786–0721.

**SUPPLEMENTARY INFORMATION:****Table of Contents**

- I. Executive Summary
- II. Background
  - A. Introduction
  - B. Legislative Overview
- III. Provisions of the Final Rule
  - A. Definitions
  - B. Parity Requirements for Aggregate, Lifetime and Annual Limits
  - C. Parity Requirements for Financial Requirements and Treatment Limitations
  - D. Cumulative Financial Requirements
  - E. Compliance With Other Cost-sharing Rules
  - F. Nonquantitative Treatment Limitations (NQTLs)
  - G. Parity for Mental Health and Substance Use Disorder Benefits in CHIP Programs Covering EPSDT
  - H. Availability of Information
  - I. Application to EHBs and Other ABP Benefits
  - J. ABP State Plan Requirements
  - K. Application of Parity Requirements to the Medicaid State Plan
  - L. Scope and Applicability of the Final Rule

- M. Scope of Services
- N. Increased Cost Exemption
- O. Enforcement, Managed Care Rate Setting and Contract Review and Approval
- P. Applicability and Compliance
- Q. Utilization Control
- R. Institutions for Mental Diseases
- S. Medicare-Medicaid Dual Eligible Beneficiaries
- IV. Summary of Changes
- V. Collection of Information Requirements
- VI. Regulatory Impact Analysis
  - A. Statement of Need
  - B. Overall Impact
  - C. Anticipated Effects
  - D. Alternatives Considered
  - E. Accounting Statement and Table
  - F. Regulatory Flexibility Act
  - G. Unfunded Mandates Reform Act
  - H. Federalism
  - I. Conclusion
- Regulations Text

**Acronyms, Abbreviations, and Short Forms**

Because of the many terms to which we refer by acronym, abbreviation, or short form in this final rule, we are listing the acronyms, abbreviation, and short forms used and their corresponding terms in alphabetical order below:

- 2008 Extenders Act Tax Extenders and Alternative Minimum Tax Relief Act of 2008 (Division C)
- The Act Social Security Act
- The Affordable Care Act Patient Protection and Affordable Care Act (Pub. L. 111–148, enacted on March 23, 2010), as amended by the Health Care and Education Reconciliation Act of 2010 (Pub. L. 111–152)
- The Departments Departments of the Treasury, Labor, and Health and Human Services
- ABP Alternative Benefit Plan
- BBA Balanced Budget Act of 1997
- CHIP Children's Health Insurance Program
- CHIPRA Children's Health Insurance Program Reauthorization Act of 2009
- CMS Centers for Medicare and Medicaid Services
- The Code Internal Revenue Code of 1986
- DOL Department of Labor
- DSM Diagnostic and Statistical Manual of Mental Disorders (current edition)
- EHB Essential Health Benefit
- EPSDT Early and Periodic Screening, Diagnostic and Treatment
- ERISA Employee Retirement Income Security Act of 1974
- FFP Federal Financial Participation
- FFS Fee for Service
- HHS Department of Health and Human Services
- ICD International Classification of Diseases
- MCE Managed Care Entity
- MCO Managed Care Organization
- MH Mental Health
- MH/SUD Mental Health or Substance Use Disorder
- MHPA Mental Health Parity Act of 1996
- MHPAEA Paul Wellstone and Pete Domenici Mental Health Parity and Addiction Equity Act of 2008

NQTL Nonquantitative Treatment Limitation

PAHP Prepaid Ambulatory Health Plan

PHS Act Public Health Service Act

PIHP Prepaid Inpatient Health Plan

SHO State Health Official

SUD Substance Use Disorder

Treasury Department of the Treasury

**I. Executive Summary**

This final rule addresses the application to Medicaid and the Children's Health Insurance Program (CHIP) of certain mental health parity requirements added to the Public Health Service Act (PHS Act) by the Paul Wellstone and Pete Domenici Mental Health Parity and Addiction Equity Act of 2008 (MHPAEA) (Pub. L. 110–343, enacted on October 3, 2008). Specifically, this final rule addresses the application of MHPAEA parity requirements to: (1) Medicaid managed care organizations (MCOs) as described in section 1903(m) of the Social Security Act (the Act); (2) Medicaid benchmark and benchmark-equivalent plans (referred to in this rule as Medicaid Alternative Benefit Plans (ABPs)) as described in section 1937 of the Act; and (3) Children's Health Insurance Program (CHIP) under title XXI of the Act.

Under section 1932(b)(8) of the Act, Medicaid MCOs are required to comply with the requirements of subpart 2 of part A of title XXVII of the PHS Act, to the same extent that those requirements apply to a health insurance issuer that offers group health insurance. Subpart 2 includes mental health parity requirements added by MHPAEA that are now found at section 2726 of the PHS Act (as renumbered; formerly section 2705 of the PHS Act).

Under section 1937(b)(6) of the Act, Medicaid ABPs that are not offered by an MCO and that provide both medical and surgical benefits and mental health or substance use disorder (MH/SUD) benefits are required to ensure that financial requirements and treatment limitations for such benefits comply with the mental health parity requirements of the PHS Act (renumbered section 2726(a) of the PHS Act), in the same manner as such requirements apply to a group health plan. The section 1937 provision applies only to ABPs that are not offered by MCOs; ABPs offered by MCOs are already required to comply with these requirements under section 1932(b)(8) of the Act.

Section 2103(c)(6) of the Act requires that state CHIP plans that provide both medical and surgical benefits and MH/SUD benefits shall ensure that financial requirements and treatment limitations for such benefits comply with mental

health parity requirements of the PHS Act (referencing renumbered section 2726(a) of the PHS Act) to the same extent as such requirements apply to a group health plan. In addition, section 2103(f)(2) of the Act requires that CHIP benchmark or benchmark equivalent plans comply with all of the requirements of subpart 2 of part A of the title XXVII of the PHS Act, which includes the mental health parity requirements of the PHS Act, insofar as such requirements apply to health insurance issuers that offer group health insurance coverage.

These final rules incorporate these requirements into our regulations.

## II. Background

### A. Legislative History

On September 26, 1996, the Congress enacted the Mental Health Parity Act of 1996 (Pub. L. 104–204) (MHPA), which required parity in aggregate lifetime and annual dollar limits for mental health benefits and medical/surgical benefits. Those mental health parity provisions were codified in section 712 of ERISA, section 2726 of the PHS Act (renumbered under section 1001 of the Affordable Care Act), and section 9812 of the Code, and applied to employment-related group health plans and health insurance coverage offered in connection with a group health plan. The Balanced Budget Act of 1997 (Pub. L. 105–33, enacted on August 5, 1997) (BBA) added sections 1932(b)(8) and 2103(f)(2) of the Act to generally apply certain aspects of MHPA, including the provisions of section 2726 of the PHS Act, to Medicaid MCOs and CHIP benefits.

MHPAEA was enacted as sections 511 and 512 of the Tax Extenders and Alternative Minimum Tax Relief Act of 2008 (Division C of Pub. L. 110–343) (the 2008 Extenders Act). MHPAEA amended the Employee Retirement Income Security Act of 1974 (ERISA), the PHS Act, and the Internal Revenue Code of 1986 (the Code). The changes made by MHPAEA consist of new standards, including parity for coverage of substance use disorder benefits, as well as amendments to the existing mental health parity provisions enacted in MHPA.

In 2009, section 502 of the Children's Health Insurance Program Reauthorization Act of 2009 (Pub. L. 111–3) (CHIPRA) amended section 2103(c) of the Act by adding paragraph (6), which requires that CHIP plans that provide both medical and surgical benefits and MH/SUD benefits comply with the provisions of section 2705(a) of the PHS Act, as amended by MHPAEA,

in the same manner as a group health plan.

The Patient Protection and Affordable Care Act (Pub. L. 111–148) was enacted on March 23, 2010 and the Health Care and Education Reconciliation Act of 2010 (Pub. L. 111–152) was enacted on March 30, 2010 (collectively referred to as the “Affordable Care Act”). Section 1001 of the Affordable Care Act reorganized and renumbered certain provisions of the PHS Act, including renumbering section 2705 of the PHS Act as section 2726 of the PHS Act. The Affordable Care Act did not make conforming changes to cross-references to the renumbered provisions; instead, it contained new cross-references to the former section numbers. However, there was no indication that Congress intended to alter the meaning of the existing cross-references. As a result, we read the cross-references to continue to refer to the same section originally referenced, as renumbered. We believe it is clear that the new cross-references were also intended to refer to the renumbered provisions.

The Affordable Care Act expanded the application of section 2705(a) of the PHS Act, as amended by MHPAEA, and renumbered as section 2726(a) of the PHS Act, to benefits in Medicaid ABPs delivered outside of a MCO. ABPs delivered through an MCO would already have to comply with these requirements under section 1932(b)(8) of the Act. Also, section 2001(c) of the Affordable Care Act modified the benefit provisions of section 1937 of the Act. Specifically, section 2001(c) of the Affordable Care Act added mental health benefits and prescription drug coverage to the list of benefits that must be included in benchmark-equivalent coverage; required the inclusion of essential health benefits (EHBs) beginning in 2014; and directed that plans described in section 1937 of the Act (now known as ABPs) that include medical/surgical benefits and MH/SUD benefits ensure that the financial requirements and treatment limitations applicable to such MH/SUD benefits comply with the mental health parity provisions of the PHS Act.

The Departments of Health and Human Services (HHS), Labor, and the Treasury (collectively the Departments) published interim final regulations implementing MHPAEA on February 2, 2010 (75 FR 5410), and final regulations applicable to group health plans and health insurance issuers on November 13, 2013 (78 FR 68240) (MHPAEA final regulations).<sup>1</sup> The MHPAEA final

regulations do not apply to Medicaid MCOs, ABPs, or CHIP state plans.

In 2013, we released a State Health Official (SHO) letter that provided guidance to states regarding the implementation of requirements under MHPAEA to Medicaid benchmark and benchmark-equivalent plans (referred to in the letter as ABPs) as described in section 1937 of the Act, CHIP under title XXI of the Act, and MCOs as described in section 1903(m) of the Act.<sup>2</sup> We previously issued a SHO letter on November 4, 2009, concerning the application of section 502 of CHIPRA.<sup>3</sup>

In April 2015, we published a proposed rule on the Medicaid and Children's Health Insurance Programs; Mental Health Parity and Addiction Equity Act of 2008; the Application of Mental Health Parity Requirements to Coverage Offered by Medicaid Managed Care Organizations, the Children's Health Insurance Program (CHIP), and ABPs (80 FR 19418–19452). In this rule, we are finalizing regulations to address how the MHPAEA requirements in section 2726 of the PHS Act, as implemented in the MHPAEA final regulations, apply to MCOs, ABPs, and CHIP. For a more detailed description of the proposed provisions, please refer to the proposed rule (80 FR 19418).

### B. Stakeholder Input

We received a total of 158 comments from state agencies, advocacy groups, health care providers, health insurers, health care associations, and the general public. The comments ranged from general support or opposition (to various provisions in the proposed rule) to very specific questions or comments regarding the proposed changes. After consideration of the comments and feedback received from stakeholders, we are adopting these final regulations. The following are brief summaries of each proposed provision, a summary of public comments received, and our responses to the comments. Comments related to the paperwork burden and the impact analyses are addressed in the “Collection of Information

on the first day of the first plan year beginning on or after July 1, 2014. The preamble to the MHPAEA final regulations stated that each plan or issuer subject to the interim final regulations, issued on February 2, 2010 (75 FR 5410), must continue to comply with the applicable provisions of the interim final regulations until the corresponding provisions of these final regulations become applicable to that plan or issuer (78 FR 68252 and 253). Note: for ease of reference, the citations to provisions of the MHPAEA final rules throughout this document will only refer to the provisions adopted by HHS in 45 CFR part 146.

<sup>2</sup> <http://www.medicaid.gov/federal-policy-guidance/downloads/sho-13-001.pdf>.

<sup>1</sup> The MHPAEA final regulations generally apply to group health plans and health insurance issuers

<sup>3</sup> <http://downloads.cms.gov/cmsgov/archived-downloads/SMDL/downloads/SHO110409.pdf>.

Requirements” and “Regulatory Impact Analysis” sections in this preamble.

### III. Provisions of the Final Rule and Analysis of and Responses to Public Comments

The provisions of this final rule generally mirror the policies set forth in the MHPAEA final regulations to implement the statutory provisions that require MCOs, ABPs and CHIP to comply with certain requirements of section 2726 of the PHS Act (mental health parity requirements).

The following sections, arranged by subject area, include a summary of the public comments that we received, and our responses.

#### A. Definitions (§ 438.900, § 440.395, § 457.496)

The definitions of terms in the proposed rule and in this final rule include most terms included in the MHPAEA final regulation at 45 CFR 146.136(a). The proposed rule modified or added several terms to reflect the terminology used in the Medicaid program and CHIP statutes, regulations or policies. Some terms that are not relevant to the Medicaid program or CHIP were not included in the proposed rule. There were also several proposed terms that modified, added or deleted language from those definitions in the MHPAEA final regulations. For example:

- We proposed to add the terms ABP and Early and Periodic Screening, Diagnostic and Treatment (EPSDT) benefits since these terms are unique to the Medicaid program.
- We proposed to add the definition of “essential health benefits”, since Medicaid benchmark and benchmark-equivalent plans (now also known as ABPs) must cover EHBs and MH/SUD services provided as an EHB must be compliant with parity.
- We proposed a different definition for the term “medical/surgical benefits,” to reflect that the state defines these benefits in the Medicaid and CHIP contexts. Under existing law, the state has the responsibility of identifying what is a covered benefit for Medicaid and CHIP; MCOs, PIHPs or PAHPs are responsible for providing the covered benefits identified by the state. This is different from the MHPAEA final regulations, where medical/surgical benefits are defined under the terms of the group health plan or health insurance coverage and in accordance with applicable federal or state law.
- We also proposed that the definitions of “medical/surgical benefits,” “mental health benefits,” and “substance use disorder benefits” would

clearly exclude long term care services in the Medicaid and CHIP context. We stated that this clarification was consistent with the intent of the MHPAEA final regulations, given that the kinds of long term care services included in benefit packages for Medicaid and CHIP beneficiaries were not commonly provided in the commercial market as part of health benefits coverage. We sought comments on our proposal to exclude long term care services from the definitions of “medical/surgical benefits,” “mental health benefits,” and “substance use disorder benefits.”

*Comment:* We received many comments on the proposal to exclude long term care services from the definitions of “medical/surgical benefits,” “mental health benefits,” and “substance use disorder benefits.” A few commenters supported the proposal to exclude long term care services from the definitions of “medical/surgical benefits,” “mental health benefits,” and “substance use disorder benefits” as used in this rule. The commenters requested that additional guidance regarding the definition of long term care services be provided to ensure consistency in states’ and plans’ parity analyses.

However, a large majority of commenters opposed this approach, and recommended that the final rule apply parity protections to long term MH/SUD benefits. Commenters who opposed the proposed rule approach provided three general concerns. First, many commenters noted that Medicaid is the nation’s largest provider of benefits coverage for individuals with MH/SUD conditions and the only benefits coverage for most disabled individuals with these conditions; these commenters stated that parity protections in Medicaid should be at least as strong as the rules governing the commercial market. The commenters also discussed the importance of access to long term care services for the effective treatment of many MH/SUD conditions, particularly within the populations served by Medicaid and CHIP programs.

Second, several commenters noted that commercial plans typically do cover some forms of long term care services for both MH/SUD and medical/surgical conditions, including skilled nursing, inpatient rehabilitation, and home health services. From this perspective, commenters stated that CMS is prohibited from excluding the application of parity to long term care services because section 1932(b)(8) of the Act requires Medicaid MCOs to comply with the requirements of

MHPAEA “to the same extent that those requirements apply to a health insurance issuer that offers group health insurance.” Underlying this claim from commenters is the view that commercial insurers of group health plans would be obligated to meet parity requirements in connection with coverage of long term care services in order to comply with PHS Act section 2726. To the extent that Medicaid coverage does differ from the commercial market, commenters stated that the regulations must reflect the differences between commercial insurance and Medicaid and CHIP, as well as the different needs of the populations that each type of health coverage serves. These commenters stated that the proposed rule’s approach misconstrues the intent and substance of the parity requirements if parity requirements only apply to Medicaid and CHIP services that are also covered by commercial insurance. Commenters suggested that there is no statutory basis for the interpretation underlying the proposed rule on this point and the corresponding application that long term services be excluded from the parity analysis. Commenters also stated that there are many services covered in the commercial plans that are comparable to long term services covered by Medicaid such as personal care, where the services might be covered for medical-surgical conditions, but not for MH/SUD because they are defined as “long term care.” This opens the door for decisions to exclude coverage or impose different financial or treatment limitations that would be otherwise prohibited by this rule but are wholly justified on any plausible rationale that characterizes the services as long term care.

Third, and finally, many commenters also identified the difficulty of formulating clear and consistent standards to distinguish between long term care services and other services across treatment settings, from both a definitional and an operational perspective; they stated that it would be administratively difficult to implement a policy that carved these services out of medical, surgical, MH/SUD benefits to exclude long term care services from parity protections. Many commenters also raised concerns that adopting this exclusion without providing a regulatory definition of long term care services would allow states and plans to declare a number of services to be long term care and thus not subject to parity in an inconsistent manner. Having no consistent definition of long term service would create disparate policies across states as to which services would

not be subject to parity and therefore would have allowable quantitative and nonquantitative treatment limits on services that were needed on a long term basis. In addition, some services that may be currently considered intermediate and subject to parity may be intentionally classified by states or MCOs, PIHPs or PAHPs to be long term services and excluded from parity. Commenters stated that if all long term care services are excluded from parity protections, MCOs, PIHPs and PAHPs may financially benefit from the anticipated cost savings of shifting away from acute care to long term care and have no obligation to ensure that there is mental health parity within long term care benefits. This may also preclude any systematic basis to audit MCOs, PIHPs or PAHPs compliance with relevant MHPAEA requirements applied to long term services.

For these reasons, most commenters requested that parity requirements under this final rule be applied to long term care services that are within the scope of medical/surgical or mental health/substance use disorder services, or that if the exclusion were to be maintained, that very clear definitions and guidelines be provided regarding the services to be characterized as long term care services that are excluded from these other classification of services set forth in this rule.

*Response:* We agree with the commenters and have revised this final rule to include long term care services in the definitions of medical/surgical, mental health, and substance use disorder benefits, and, thus, to apply parity protections under this final rule to long term care services. Therefore, long term care services will need to be included in the appropriate classification(s) of benefits provided for in this rule for the purposes of the parity analysis. We intend to provide additional information to states regarding the application of parity to long term services. This information will assist states in determining how various medical/surgical and MH/SUD long term services would be classified in the four areas (inpatient, outpatient, pharmacy and emergency).

We believe this change will reduce the likelihood that states would have disparate policies regarding which services would be subject to parity and could ensure that beneficiaries have similar protections regardless of where they live. In addition, this prevents states from applying treatment limits to long term care services needed for MH/SUD conditions more restrictively than treatment limits are applied for long term care services for medical/surgical

conditions. We also believe that by requiring the categorization of long term services used to treat MH/SUD conditions, this final rule could improve beneficiary access to needed MH/SUD benefits. Finally, finalizing the regulations in this final rule with this change will provide MCOs and states with needed clarity regarding the application of parity to these services.

*Comment:* Many commenters supported the guidance provided in the proposed rule regarding state-defined MH/SUD benefits. Commenters noted that requiring state definitions to be consistent with generally recognized independent standards of current medical practice will help ensure Medicaid managed care beneficiaries receive clinically appropriate levels of care. However, several commenters offered specific recommendations regarding the scope of definitions for medical/surgical services and MH/SUD services in the proposed rule. For instance, one commenter recommended that CMS define the scope of MH/SUD to be consistent with the psychiatric diagnoses listed in the new DSM-5 and in the Diagnostic Classification of Mental Health and Developmental Disorders Infancy and Early Childhood. Several commenters also cautioned that Medicaid's medical/surgical benefits should be defined specifically for the child and adolescent population to ensure consistent implementation.

Several other commenters recommended that CMS provide a non-exhaustive list of "mental health conditions" that must be included within a state's definition of "mental health condition". They added that simply stating that this term must be defined consistent with generally recognized independent standards of medical practice does not provide sufficient clarity and guidance to states. Commenters suggested that a non-exhaustive list would give greater clarity and uniformity among states, thus facilitating the collection and analysis of data and outcomes measures.

*Response:* We believe that requiring states to include specific diagnosis or providing a non-exhaustive list of mental health conditions in a state's definition of mental health conditions is beyond the scope of this regulation and CMS authority. Since Medicaid is a state and federal partnership, we believe that the state, and not CMS, should identify which conditions are considered medical/surgical and MH/SUD conditions. Therefore, we do not provide a list (either exhaustive or non-exhaustive) of mental health conditions in this final rule. The language in the final regulation provides states guidance

regarding generally recognized independent standards of current medical practice to determine what conditions are medical/surgical, mental health, and substance use disorders.

*Comment:* One commenter suggested that CMS should clarify that quantitative visit limits do not apply to required services such as services provided by clinical psychologists and clinical social workers in FQHCs.

*Response:* We believe that the current regulation provides sufficient information regarding the application of parity standards to treatment limits imposed on MH/SUD services. To the extent permissible under existing law, states and MCOs may impose quantitative treatment limits for MH/SUD benefits, so long as these limits are no more restrictive than the predominant limits applied to substantially all medical/surgical benefits in each classification; if existing law prohibits the imposition of any treatment limitation on a service covered by a Medicaid or CHIP state plan, this rule does not provide authority to impose such limits merely because parity standards would be met. This rule allows states to apply quantitative treatment limits, consistent with other law, to services regardless of the type of practitioner that renders either a medical/surgical service or MH/SUD service so long as the parity requirements are met. A discussion of the mandatory coverage requirements for Medicaid and CHIP is otherwise outside the scope of this final rule.

*Comment:* Another commenter recommended that CMS should clarify that utilization management and prior authorization or concurrent review can function as "soft limits" that allow for an individual to exceed medical/surgical or MH/SUD benefit limits based on medical necessity.

*Response:* We are clarifying in this final rule that benefit limits that allow for an individual to exceed numerical limits for medical/surgical or MH/SUD benefits based on medical necessity are not considered to be quantitative treatment limits under this rule, but are subject to the provisions of this rule governing Nonquantitative Treatment Limitations (NQTLs) for medical/surgical or MH/SUD benefits. The processes, strategies, evidentiary standards, or other considerations that are used to determine whether to apply a soft limit must be comparable to and applied no more stringently than factors used in applying the limitation for medical surgical/benefits in the classification.

*Comment:* Another commenter suggested that CMS include a list of

terms that have different meanings in Medicaid and commercial plans and clarify how these meanings apply in the context of parity protections provided in Medicaid and the commercial market.

*Response:* We appreciate the commenter's suggestion. However, we believe that we provide adequate discussion of the similarities and differences in the use of terms in Medicaid and commercial plans in the text of this regulation and other regulations governing Medicaid, CHIP and the commercial health insurance market.

For the reasons described in the proposed rule and in consideration of the comments received, we are finalizing the provisions proposed in § 438.900, § 440.395, and § 457.496 of the proposed rule with modification. We are finalizing revised definitions of medical/surgical, mental health, and substance use disorder services so that they include, rather than exclude, long term care services. Additional modifications to the definitions proposed in § 457.496 are discussed in section III.G of this final rule.

*B. Parity Requirements for Aggregate Lifetime and Annual Dollar Limits (§ 438.905 and § 457.496(c))*

In proposed § 438.905 and § 457.496(c), we addressed the parity requirements for aggregate lifetime and annual dollar limits for MCOs (including PIHPs and PAHPs when providing coverage for MCO enrollees) and CHIP. As noted above, the application of these requirements under this rule is generally the same as under the MHPAEA final regulations (45 CFR 146.136(b)). If a regulated entity applies an aggregate lifetime or annual dollar limit to at least two-thirds of all medical/surgical benefits, it must either apply the aggregate limit to both to medical/surgical benefits and to MH/SUD benefits in a manner that does not distinguish between the medical/surgical and MH/SUD benefits, or not include an aggregate lifetime or annual dollar limit on MH/SUD benefits that is less than the aggregate limit on medical/surgical benefits. If a regulated entity does not include an aggregate lifetime or annual dollar limit on medical/surgical benefits or includes a limit that applies to less than one-third of all medical/surgical benefits, it may not impose an aggregate lifetime or annual dollar limit, respectively, on MH/SUD benefits. If a regulated entity applies an aggregate lifetime or annual dollar limit to between one-third and two-thirds of all medical/surgical benefits, it must either impose no aggregate lifetime or annual dollar limit on MH/SUD benefits, or

impose an aggregate lifetime or annual dollar limit on MH/SUD benefits that is no more restrictive than the average limit for medical/surgical benefits. These requirements do not address the provisions of section 2711 of the PHS Act, which prohibit imposing lifetime and annual limits on the dollar value of essential health benefits.

We noted in the proposed rule that for managed care arrangements, we are using our authority in section 1902(a)(4) of the Act to require PIHPs and PAHPs to comply with mental health parity requirements when providing coverage for MCO enrollees. The proposed regulations included definitions of "aggregate lifetime dollar limit" and "annual dollar limit" at § 438.900, § 440.395(a), and § 457.496(a).

*Comment:* One commenter suggested that CMS should consider including a definition of "coverage unit" that mirrors the definitions in the MHPAEA final regulations.

*Response:* We did not include a definition of coverage unit in this rule because in Medicaid and CHIP programs, the coverage unit will always be the individual beneficiary, regardless of marital or family status.

*Comment:* Another commenter requested that CMS provide clarification on the use of aggregate lifetime and annual dollar limits in the context of section 2711 of the PHS Act, as added by section 1001 of the Affordable Care Act, which generally prohibits lifetime and annual limits on the dollar amount of EHB, including MH/SUD services.

*Response:* Section 2711 of the PHS Act, as added by the Affordable Care Act, generally prohibits lifetime and annual limits on the dollar amount of EHB in group health plans and health insurance coverage. As set forth in section 1302(b) of the Affordable Care Act, the definition of EHB includes "mental health and substance use disorder services, including behavioral health treatment."<sup>4</sup> Thus, notwithstanding the provisions of MHPAEA that permit aggregate lifetime and annual dollar limits with respect to MH/SUD benefits as long as those limits are in accordance with the parity requirements for such limits, such dollar limits are prohibited with respect to MH/SUD benefits that are covered as EHB, regardless of the service delivery system within Medicaid Alternative Benefit Plans.

Section 2711 of the PHS Act is applied to Medicaid MCOs by section 1932(b)(8) of the Act and to CHIP benchmark or benchmark-equivalent

plans by section 2103(f)(2) of the Act (as section 2711 is part of subpart 2 of part A of title XXVII of the PHS Act). ABP and CHIP benefits that are offered through an MCO, or through a PIHP or PAHP that provides coverage to MCO enrollees are also subject to the prohibition on lifetime and annual limits. However, the prohibition on annual and lifetime limits in section 2711 of the PHS Act does not apply to ABPs that are not offered by an MCO or by a PIHP, or PAHP to enrollees of an MCO.

Regardless of whether services are delivered in managed care or non-managed care arrangements, all Medicaid ABPs (including benchmark equivalent and Secretary-approved benchmark plans) and CHIP plans are statutorily required by sections 1937(b)(6) and 2103(c)(6) of the Act to meet the financial requirements and treatment limitations components of the mental health parity provisions set forth at section 2726(a) of the PHS Act.

*Comment:* One commenter indicated that CMS should consider the extent to which § 438.905 appears to sanction aggregate lifetime or annual dollar limits in the Medicaid program. For example, paragraph (c) discusses a Medicaid MCO with an annual or lifetime dollar limit on two-thirds of all medical and surgical benefits. The commenter further states that it is difficult to imagine how a lifetime limit on two-thirds of all medical and surgical benefits would meet the sufficiency, access and comparability requirements of Medicaid.

*Response:* This final rule neither sanctions nor prohibits aggregate lifetime and annual dollar limits; this rule merely provides the standards for applying parity requirements to such limits if the limits are otherwise authorized. While we agree that a lifetime limit on two-thirds of all medical and surgical benefits would not likely meet the sufficiency, access, and comparability requirements of Medicaid, sufficiency, access, and comparability requirements are outside of the scope of this final rule.

*Comment:* One commenter noted that the use of the phrase "in states that cover both medical and surgical benefits and mental health and substance use disorder benefits under their State plan" is not necessary. All state Medicaid programs contain at least some mental health and SUD benefits, because hospital and physician services are mandatory benefits that include mental health and SUD treatment.

*Response:* We agree that inpatient hospital and physician services are mandatory state plan services that

<sup>4</sup> See section 1302(b)(1)(E) of the Affordable Care Act.



furnish services to address MH/SUD. However, as noted, under section 1932(b)(8) of the Act, Medicaid MCOs are required to comply with mental health parity requirements in section 2726 of the PHS Act to the same extent that those requirements apply to a health insurance issuer that offers group health insurance. The parity requirements in section 2726 of the PHS Act are limited to group health plans or health insurance issuers offering group or individual health insurance coverage that provides both medical and surgical benefits and MH/SUD benefits. Similarly, section 2103(c)(6) of the Act requires that state CHIP plans that provide both medical and surgical benefits and MH/SUD benefits shall ensure that financial requirements and treatment limitations for such benefits comply with mental health parity requirements of section 2726(a) of the PHS Act to the same extent as such requirements apply to a group health plan. Therefore, we are retaining the clarifying language in §§ 438.905(a), 438.910(b), 457.496(d)(2), and 457.496(f) of this final rule that these requirements apply to states that offer both medical and surgical and MH/SUD benefits.

We are finalizing the provisions at §§ 438.905 and 457.496(c) about aggregate lifetime and annual limits for Medicaid MCOs and CHIP as proposed. In the proposed rule, we included under § 438.905 the title of “General” under paragraph (a), with paragraph of “General parity requirement” under (a)(1). As we do not intend to use paragraph (a)(2), in the final rule we have removed the paragraph numbering for (a)(1) and named “General parity requirement” simply under paragraph (a) of this section, rather than including “General” in the title.

### *C. Parity Requirements for Financial Requirements and Treatment Limitations (§§ 438.910, 440.395(b), and 457.496(d))*

Sections 438.910, 440.395(b), and 457.496(d) of the proposed rule set forth parity requirements for financial requirements and treatment limitations.

#### **1. Clarification of Terms**

In the proposed rule, we indicated that “classification of benefits” means a classification as described in § 438.910, § 440.395(b), and § 457.496(d), which describe parity requirements for financial requirements and treatment limitations. Specifically, we proposed to modify the classifications of benefits set forth in the regulations that were adopted by the Departments in the 2010 MHPAEA final rule (as discussed in section III.C.2). As in the MHPAEA final

regulations, we proposed in this Medicaid and CHIP rule that parity requirements for financial requirements and treatment limitations be applied on a classification by classification basis.

We proposed the term “type” to refer to financial requirements and treatment limitations of the same nature. Different types of financial requirements and treatment limitations include copayments, coinsurance, annual visit limits, and episode visit limits. We proposed that a financial requirement or treatment limitation must be compared only to financial requirements or treatment limitations of the same type within a classification.

In addition, we proposed the term “level” to refer to the magnitude (such as the dollar, percentage, day, or visit amount) of the financial requirement or treatment limitation. We did not receive any comments on the definitions of terms described at § 438.910, § 440.395(b), and § 457.496(d) and are finalizing these terms as proposed.

#### **2. General Parity Requirement for Financial Requirements and Treatment Limitations**

At proposed § 438.910(b), § 440.395(b)(2), and § 457.496(d)(2), we included general parity provisions to prohibit a MCO, PIHP, or PAHP (when providing benefits to an MCO enrollee), ABP (when used in a non-managed care arrangement), or CHIP state plan from applying any financial requirement or treatment limitation to MH/SUD benefits in any classification that is more restrictive than the predominant financial requirement or treatment limitation of that type that is applied to substantially all medical/surgical benefits in the same classification. For this purpose, the general parity requirement of MHPAEA would apply separately for each type of financial requirement or treatment limitation (for example, unit limits are compared to unit limits, or co-pays are compared to co-pays).

We noted in the proposed rule that the MHPAEA final regulations at § 146.136(c)(2)(ii) set forth the following classifications of benefits: inpatient in-network; inpatient out-of-network; outpatient in-network; outpatient out-of-network; emergency care; and prescription drugs. We proposed to follow the general structure of the classifications used in the MHPAEA final regulations with a significant distinction. Specifically, we proposed to eliminate the in-network and out-of-network distinctions for the inpatient and outpatient classifications, and therefore to provide four classifications:

inpatient; outpatient; emergency care; and prescription drugs.

As discussed in this final rule, we maintain this classification structure. The four classifications in this final rule are the only classifications to be used for purposes of applying the parity requirements of MHPAEA to Medicaid and CHIP. Moreover, these classifications must be used for all financial requirements and treatment limitations to the extent that a MCO, PIHP, PAHP, ABP, or CHIP provides benefits in a classification and imposes any separate financial requirement or treatment limitation (or separate level of a financial requirement or treatment limitation) for benefits in the classification. Similar to the MHPAEA final rule, this final rule does not define what services are included in the inpatient, outpatient, or emergency care classifications. These terms are subject to the design of a state’s managed care program and their meanings may differ depending on the benefit packages.

For the purposes of applying parity requirements to Medicaid, we proposed that the classifications of benefits should relate to how states construct and manage their Medicaid benefits. All Medicaid benefits provided should fall into one of the classifications of benefits. We noted that the MHPAEA final regulations discussed the application of parity requirements to intermediate services (such as residential treatment, partial hospitalization, and intensive outpatient treatment) provided under the health plan. Specifically, the MHPAEA final regulations required group health plans and issuers to assign covered intermediate MH/SUD benefits to a benefit classification in the same manner that they assign comparable intermediate medical/surgical benefits to a classification. The MHPAEA final regulations do not specifically define intermediate services; nor do current statutory and regulatory provisions governing the Medicaid and CHIP programs define intermediate services within state plan benefits. Therefore, we did not propose to specify an intermediate classification to be used in the parity analysis for Medicaid or CHIP programs. As in the MHPAEA final rule, we proposed to allow the applicable regulated entity (the MCO, PIHP, or PAHP, or state in connection with the ABP, and CHIP) to assign intermediate level services to any of the classifications listed, but require that assignment to those classifications be done using the same standards for both medical/surgical services and MH/SUD services (see § 438.910(b)(2), § 440.395(b)(2)(ii), and

§ 457.496(d)(2)(ii)). This final rule also requires that the method used to assign services to the four classifications be reasonable.

We note that similar concerns may arise regarding the classification of long term care services, given the revised definitions of mental health benefits and substance use disorder benefits set forth in this final rule. We did not propose and do not finalize any specific rules for the classification of long term care services. This final rule allows the applicable regulated entity (the MCO, PIHP or PAHP, or state in connection with the ABP, a carve-out managed care delivery system, and CHIP) to assign long term care services to any of the four listed classifications, but, as with intermediate and other services, requires that assignment to those classifications be done using the same reasonable standards for both medical/surgical services and MH/SUD services.

*Comment:* Many commenters provided feedback on this approach. Some commenters requested that CMS create a new intermediate level services classification and clarify that intermediate services for MH/SUD must be covered if similar types of services are covered for medical/surgical conditions. However, most commenters supported the consistency of the proposed approach with the MHPAEA final rules, and appreciated that this approach would give some flexibility to states and health plans to assign intermediate level services to the four classifications in the proposed rule. Commenters noted that consistency with the MHPAEA final rules would make it easier for states and plans to comply. Since other aspects of the benefit, including financial requirements and NQTLs, are influenced by the classification a service is put into, this flexibility would allow states and plans to determine the most appropriate classification for intermediate services based on the entire benefit package that is offered.

*Response:* Similar to the MHPAEA final rule, this final rule does not define what services are included in the inpatient, outpatient, or emergency care classifications. Similar to the reasoning provided in the MHPAEA final regulations, we did not intend to impose a benefit mandate through the parity requirement in order to require greater benefits for mental health conditions and substance use disorders than for medical/surgical conditions. In addition, as noted above, current statutory and regulatory provisions governing the Medicaid and CHIP programs do not define intermediate services within state plan benefits. The

definitions of the four classifications used by this rule are subject to the design of a state's managed care program, and their meanings may differ depending on the benefit packages. State health insurance laws may define these terms, and in the event that these are not defined, we expect each regulated entity within a state to define these classifications in a similar manner. Further, each regulated managed care plan (MCOs, PIHPs and PAHPs) or the state in connection with ABP, or CHIP, must apply these terms uniformly for both medical/surgical benefits and MH/SUD benefits under § 438.910(b)(2), § 440.395(b)(2)(ii) and § 457.496(d)(2)(ii). Therefore, we are not including a new intermediate level services classification in this final rule.

*Comment:* Some commenters requested that the final rule clearly state that intermediate services offered in Medicaid and CHIP are subject to the parity requirements. The commenters urged CMS to provide guidance regarding MH/SUD intermediate care services and provide examples and resources that mirror the provisions included in the MHPAEA final rule. Many commenters also requested guidance on the types of factors and processes that should be used to classify intermediate care services into the benefit classifications for parity assessments to ensure consistency across payers in the application of parity to these services. Many commenters requested additional examples of intermediate services that can be classified as inpatient or outpatient. Commenters expressed particular concern about the need to define intermediate services clearly if long term care services were excluded from the final rule. Given the similarities and overlap between many intermediate services and long term care services, commenters expressed concern that plans would be able to classify services as long term care and exclude them from parity protections.

*Response:* We reiterate that all Medicaid services provided should be placed into one of the classifications of benefits for the purposes of this final rule. This final rule does not provide any authority for a medical/surgical or mental health/substance use disorder benefit to be classified or characterized as something other than the four classifications in § 438.910(b)(2), § 440.395(b)(2)(ii) and § 457.496(d)(2)(ii). In addition, as noted in section III.A, this final rule includes long term care services in the definitions of "medical/surgical benefits," "mental health benefits," and "substance use disorder benefits."

Therefore, the distinction between intermediate services and long term care services is not material to the application or enforcement of this final rule. However, we have amended the provisions at §§ 438.910(b)(2), 440.395(b)(2)(ii) and 457.496(d)(2)(ii) to note that the factors used to classify services in the four classifications must be reasonable in addition to being the same for medical/surgical and MH/SUD services. We believe that this reasonableness requirement should help to allay concerns that services could be classified according to arbitrary factors in an attempt to permit the application of discriminatory limitations to MH/SUD services under this rule.

*Comment:* One commenter emphasized the difficulty of ensuring parity requirements across delivery platforms, especially as they relate to NQTLs and intermediate services. The commenter noted that the line between intermediate services and long term care services is not always clear, and stated that medical necessity criteria would need to be established to differentiate levels of care within long term care services. The commenter requested additional guidance on how to address parity requirements for services that are unique to Medicaid and for which comparable services on the medical/surgical side do not exist.

*Response:* As noted above, this final rule applies parity requirements to all intermediate and long term care services. Medical necessity determinations for long term care services or other services are an NQTL that must comply with the requirements of this rule. The parity analysis does not require a one-to-one comparison of a MH/SUD service to a medical/surgical service, but instead requires that a NQTL may not be imposed for a MH/SUD benefit in any classification unless, under the terms of the coverage, as written and in operation, any factors used in applying the NQTL to the MH/SUD benefit are comparable to and applied no more stringently than factors used in applying the same NQTL to medical/surgical benefits in the classification; we address NQTL standards in greater detail in section F. If questions persist regarding the development and use of medical necessity criteria under this rule, and/or methodologies for classifying intermediate and long term care services into the four benefit classifications provided in this rule, we may develop further guidance or provide technical assistance as needed.

*Comment:* One commenter requested guidance to the states on developing clinically appropriate intensity of

service and licensure expectations of facilities that provide behavioral health services which are not readily classifiable.

*Response:* This final rule clarifies that mental health parity requirements under this final rule do not apply to state licensure laws, and therefore such guidance is beyond the scope of this final regulation. Clinical determinations regarding medical necessity, such as the intensity of services that is medically necessary for an individual, are subject to the NQTL requirements set forth in this final rule. In addition, any processes, strategies, evidentiary standards, or other considerations that are used to guide clinical determinations concerning the appropriate intensity of service are also subject to the NQTL requirements set forth in this final rule.

As indicated in the responses to comments, we are finalizing these provisions mostly as proposed. We are finalizing §§ 438.910(b)(2), 440.395(b)(2)(ii) and 457.496(d)(2)(ii) with a modification that requires that the standards used to assign benefits to a classification be reasonable as well as the same for both medical/surgical and MH/SUD benefits.

### 3. Applying the General Parity Requirement to Financial Requirements and Quantitative Treatment Limitations (§§ 438.910(c), 440.395(b)(3), and 457.496(d)(3))

At proposed §§ 438.910(c), 440.395(b)(3) and, 457.496(d)(3), we addressed the application of the general parity requirement of MHPAEA to

financial requirements and quantitative treatment limitations in MCOs, PIHPs, PAHPs, ABP and CHIP state plans. The general parity requirement at proposed §§ 438.910(b), 440.395(b)(2), and 457.496(d)(2) and now finalized in this rule would prohibit a MCO, PIHP or PAHP (in connection with coverage provided to an MCO enrollee), or ABP state plan (when used in a non-managed care arrangement), or CHIP state plan or MCE contracting with a CHIP state plan from applying any financial requirement or treatment limitation to MH/SUD benefits in any classification that is more restrictive than the “predominant” financial requirement or treatment limitation of that type applied to “substantially all” medical/surgical benefits in the same classification. In the proposed regulation text (that is, §§ 438.910(c), 440.395(b)(3) and 457.496(d)(3)), we proposed standards that are the same as those in the MHPAEA final regulations for determining the portion of medical/surgical benefits subject to a financial requirement or quantitative treatment limitation for purposes of the parity analysis. Under the proposed and now final rule, the portion of medical/surgical benefits in a classification subject to a financial requirement or quantitative treatment limitation would be based on the dollar amount of all payments for medical/surgical benefits in the classification expected to be paid during a specific year. For MCOs, PIHPs and PAHPs, this means dollar amounts for payment during a contract year. For ABPs and CHIP state plans, this means dollar amounts for the year starting the

effective date of the approved ABP or CHIP state plan; effective dates for these plans will vary based on the date the ABP or CHIP state plan was approved by CMS. For purposes of this calculation, the MCOs (when such organizations are responsible for coverage of MH/SUD benefits) or the state (in cases where PIHPs and PAHPs are used in conjunction with MCOs) must determine the total amount projected to be expended to determine the two-thirds threshold.

We included a detailed example to illustrate how our proposal would work:

*Example. Facts.* A state is providing a comprehensive service package through an MCO. The MCO is currently providing coverage of services with limits that are consistent with the approved state plan. The MCO benefit package includes:

- Inpatient Hospital services for medical/surgical—30 days per year limit.
- Inpatient Hospital services for MH/SUD—30 days per year limit.
- Primary Care Physician Services for medical/surgical—unlimited.
- Specialist Physician Services for medical/surgical—50 visits per year.
- Outpatient MH services—20 visits per year limit.
- Physical Therapy—20 visits per year limit.
- Occupational Therapy—20 visits per year limit.
- Emergency Services—Unlimited for medical/surgical or MH/SUD

The MCO projects its payments as follows for medical/surgical benefits:

TABLE 1—EXAMPLE OF QUANTITATIVE TREATMENT LIMIT

Benefit/classification—Medical/Surgical	Projected payment	Percent of total costs	Percent of classification subject to a limit
Inpatient Hospital .....	\$400x	100	100
Inpatient total .....	400x	100	100
Physician Services .....	150x	27	0
Specialist Services .....	250x	46	46
Physical Therapy .....	75x	13.5	13.5
Occupational Therapy .....	75x	13.5	13.5
Outpatient total .....	550x	100	73
Emergency Services .....	100x	100	0
Emergency total .....	100x	100	0

*Example. Conclusion.* In this example, the MCO would be able to maintain some level of day and visit limits on benefits in both the inpatient and outpatient MH/SUD classifications

because both classifications meet the “substantially all” standard—in other words, more than two-thirds of the medical/surgical benefits in each classification are subject to those types

of limits (100 percent of all medical/surgical inpatient benefits are subject to a day limit, and 73 percent of all medical/surgical outpatient benefits are subject to a visit limit).

With regards to the level of the quantitative treatment limitation on inpatient MH/SUD services, the MCO may maintain its 30 day limit because 100 percent of all inpatient medical/surgical benefits are also subject to a 30 day limit, making it the predominant level.

However, with regards to the level of the quantitative treatment limitation on outpatient MH/SUD services, the MCO may not maintain its current limit of 20 visits per year. Of the total amount of outpatient medical/surgical benefits subject to a visit limit (\$400x), 62.5 percent (\$250x) are subject to a 50 visit limit (specialist services), and only 37.5 percent (\$150x) are subject to a 20 visit limit (physical therapy and occupational therapy). Because the 20 visit limitation is not the predominant level (that is, it does not apply to at least 50 percent of the medical/surgical benefits in the classification subject to the visit limit), the MCO would need to either remove the visit limits altogether on outpatient MH/SUD services or increase the visit limitation to at least 50 visits per year to align with the least restrictive level of visit limits on outpatient medical/surgical benefits. Lastly, because there are currently unlimited emergency visits under the medical/surgical benefits, the MCO would need to maintain unlimited visits for emergency services for MH/SUD, and would not be able to impose any limits on MH/SUD unless limits were also imposed on medical/surgical services and such limits were consistent with parity requirements.

We received no comments on applying the general parity requirement to financial requirements and quantitative treatment limitations as described in §§ 438.910(c), 440.395(b)(3), and 457.496(d)(3). We are finalizing these provisions as proposed.

#### 4. Special Rules for Multi-Tiered Prescription Drug Benefits and Other Benefits (§§ 438.910(c)(2), 440.395(b)(3)(ii), 457.496(d)(3)(ii))

The MHPAEA final regulations at 45 CFR 146.136(c)(3)(iii)(A) permit plans under certain circumstances to apply different levels of financial requirements to different tiers of prescription drugs and still satisfy the parity requirements. The proposed rule would allow a MCO, PIHP, PAHP, ABP, or CHIP state plan to subdivide the prescription drug classification into tiers based on reasonable factors as described in the proposed regulations and without regard to whether a drug is generally prescribed for medical/surgical benefits or for MH/SUD benefits.

The MHPAEA final regulations at 45 CFR 146.136(c)(3)(iii)(C) permit a subclassification for office visits, separate from other outpatient items and services. Other subclassifications not specifically permitted, such as separate sub-classifications for generalists and specialists, cannot be used for purposes of determining parity. As proposed and finalized in this rule, we will retain this approach to subclassifications in the application of these parity requirements established in parts 438, 440 and 457 (that is, to services provided to enrollees in Medicaid MCOs, and to ABPs and CHIP). After the subclassification is established, a MCO, PIHP, PAHP, ABP, or CHIP state plan may not impose any financial requirement or quantitative treatment limitation on MH/SUD benefits in any sub-classification (for example, office visits or non-office visits) that is more restrictive than the predominant financial requirement or quantitative treatment limitation that applies to substantially all medical/surgical benefits in the sub-classification, using the parity analysis for financial requirements and quantitative treatment limitations.

In the MHPAEA final regulations, the Departments recognized that tiered provider networks have become an important tool for health plan efforts to manage care and control costs. Therefore, for purposes of applying the financial requirement and treatment limitation rules under MHPAEA, the MHPAEA final regulations provide that if a plan (or health insurance coverage) provides benefits through multiple tiers of in-network providers (such as an in-network tier of preferred providers with more generous cost-sharing to participants than a separate in-network tier of participating providers in any classification), the plan may divide its benefits furnished on an in-network basis into sub-classifications that reflect those network tiers, if the tiering is done without regard to whether a provider is a MH/SUD provider or a medical/surgical provider. While network tiers may also be used in Medicaid managed care, we do not believe that the parity standards for Medicaid managed care need to address such network structures so we did not propose regulation text to address financial limitations (for example, different cost-sharing requirements) in that context in this rule. Medicaid cost-sharing rules apply regardless of network status. Any quantitative treatment limitation outlined in the contract must be applied to the service broadly and therefore cannot have separate limitations based on network tiers. We recognize there

may be network tiers used to commonly refer enrollees or for purposes of building the network and have varying payment rates to providers, but the use of multiple network tiers in the context of NQTLs is discussed in section III.E. of this final rule.

*Comment:* One commenter stated that network adequacy provisions in § 438.206 are not specific enough and encouraged CMS to provide more specificity in the number, types of providers that must be in network, as well as time and distance requirements in current Medicaid managed care regulations.

*Response:* We believe that providing standards that specify the number and types of providers that must be in the network is beyond the scope of this rule. These standards are addressed in existing regulations at § 438.206 and § 438.207.<sup>5</sup> The parity proposed rule stated that a plan complying with the network adequacy requirements of § 438.206(b)(4) will be deemed in compliance with § 438.910(d)(3). In this final rule we removed the provision to deem compliance with §§ 438.910(d)(3) and 457.496(d)(5) of this rule (regarding parity requirements for access to out-of-network providers) where an MCO, PIHP, PAHP, or CHIP state plan is found to be in compliance with the provider network standard found in § 438.206(b)(4).

As indicated in the responses to the comments, we are finalizing the provisions regarding multi-tiered prescription drug benefits and other benefits at §§ 438.910(c)(2), 440.395(b)(3)(ii), 457.496(d)(3)(ii) as proposed.

#### D. Cumulative Financial Requirements (§ 438.910(c)(3), § 440.395(b)(3)(iii), § 457.496(d)(3)(iii))

While financial requirements such as copayments and coinsurance generally apply separately to each covered expense, other financial requirements (in particular, deductibles) accumulate across covered expenses. In the case of deductibles, generally an amount of otherwise covered expenses must be accumulated before the plan pays benefits. Financial requirements that determine whether and to what extent benefits are provided based on accumulated amounts were defined in the proposed rules as cumulative

<sup>5</sup> We note that CMS proposed changes to §§ 438.206 and 438.207 that we believe are consistent with the intent of these final rules in CMS-2390-P Medicaid and CHIP Programs; Medicaid Managed Care, CHIP Delivered in Managed Care, Medicaid and CHIP Comprehensive Quality Strategies, and Revisions Related to Third Party Liability.

financial requirements. As in the MHPAEA final rule at § 146.136(c)(v), we proposed and are finalizing in this final rule that separate cumulative financial requirements (separate for mental health, substance use or medical/surgical) will not be permitted for entities subject to our proposed requirements (namely, MCOs, PIHPs and PAHPs in connection with coverage provided to MCO enrollees, and in ABP and CHIP).

However, unlike the MHPAEA final rule for insurers of group health plans, in the Medicaid and CHIP proposed rule we proposed to permit quantitative treatment limitations to accumulate separately for medical/surgical and MH/SUD services as long as they comply with the general parity requirement. We proposed to allow this separate accumulation of treatment limits in Medicaid and CHIP for several reasons. First, benefits for MCO beneficiaries must be provided in at least the same amount, duration, and scope as set forth in the state plan. Requiring plans to have cumulative limits across medical/surgical benefits and MH/SUD benefits within a classification may incentivize MCOs to retain the quantitative treatment limitation level applied on the medical/surgical benefits in the state plan as the total cumulative limit for both medical/surgical and MH/SUD benefits. This would comply with the requirements of parity, but would not meet the requirements of providing at least what is in the state plan. In addition, we believe that requiring quantitative treatment limitations within a classification of benefits to accumulate jointly toward a unified limit level may not benefit the enrollee. Specifically, if there were a combined visit or treatment limit individuals that have co-occurring disorders may not be able to use the same level of MH/SUD services they would have been able to use if benefits accumulated separately. In recognition of the positive beneficiary impact, we proposed and are finalizing in this rule to permit the MCO, PIHP, or PAHP to maintain separate quantitative treatment limitations, provided that any such limit for MH/SUD benefits is no more restrictive than the predominant limit applied to substantially all medical/surgical benefits in a given classification.

However, as noted in this section, to align with the MHPAEA final regulations, we are retaining the proposal that separate cumulative financial requirements will not be permitted. This is because we also believe that a unified cumulative deductible is also more beneficial for the beneficiary and is in recognition that

Medicaid programs generally do not have financial requirements that are cumulative, such as deductibles, and that financial requirements such as co-pays, which are common in Medicaid programs, do not typically include cumulative limits. While we recognize the potential for ABPs to include deductibles, we note that nearly all group health plans and insurers had eliminated the use of separate deductibles for MH/SUD benefits by 2011.<sup>6</sup>

*Comment:* A few commenters supported the proposal to follow the general approach in the MHPAEA final rule, but to allow entities subject to our proposed requirements to maintain separate accumulation of quantitative treatment limits. Commenters noted that unified quantitative treatment limitations that accumulate across entities would be very difficult for Medicaid managed care plans to administer, particularly if they do not have contractual relationships with other entities, and also supported that view that this provision is necessary to address the complex health needs of Medicaid and CHIP populations.

*Response:* We appreciate the comments in support of our approach.

As indicated in the response to comments, we are finalizing §§ 438.910(c)(3), 440.395(b)(3)(iii), 457.496(d)(3)(iii) as proposed.

#### *E. Compliance With Other Cost-Sharing Rules (§ 438.910(c)(4))*

States and the MCOs, PIHPs and PAHPs that contract with states are bound by the existing Medicaid and CHIP cost-sharing rules (§ 438.108 and part 457, subpart E). As previously indicated, the Medicaid program and CHIP are held to strict cost-sharing requirements for both managed care and non-managed care delivery systems. In the proposed rule, we emphasized that all financial requirements included in a MHPAEA analysis must also be in compliance with both existing cost-sharing rules and the requirements of this rule. Compliance with the parity requirements does not mean that a state, or MCO, PIHP or PAHP can violate existing cost-sharing requirements. Therefore, some cost-sharing structures in a state's Medicaid program or CHIP

may need to change to be compliant with the MHPAEA parity standards addressed in this rule. To clarify this, in § 438.910(c)(4) we reiterated that requirement with a cross-reference to the cost-sharing rules applicable to MCOs, PIHPs and PAHPs.

We received no comments on this specific proposal and are finalizing § 438.910(c)(4) as proposed.

#### *F. Nonquantitative Treatment Limitations (NQTLs) (§ 438.910(d), § 440.395(b)(4), and § 457.496(d)(4) and (d)(5))*

MCOs, PIHPs, PAHPs, ABP and CHIP state plans may impose a variety of limits affecting the scope or duration of benefits that are not expressed numerically. Nonetheless, such nonquantitative provisions are also treatment limitations affecting the scope or duration of benefits. As proposed and now finalized, §§ 438.910(d), 440.395(b)(4), and 457.496(d)(4) prohibit the imposition of any nonquantitative treatment limitation (NQTL) to MH/SUD benefits unless certain requirements are met. In addition, the proposed provisions and this final rule provide an illustrative list of NQTLs, including medical management standards; prescription drug formulary design; standards for provider admission to participate in a network; and conditioning benefits on completion of a course of treatment.

Under the MHPAEA final regulations at § 146.136(c)(4), a NQTL may not be imposed for MH/SUD benefits in any classification unless, under the terms of the plan (or health insurance coverage) as written and in operation, any factors used in applying the NQTL to MH/SUD benefits in a classification are comparable to and applied no more stringently than factors used in applying the limitation for medical surgical/benefits in the classification. For these purposes, factors mean the processes, strategies, evidentiary standards, or other considerations used in determining limitations on coverage of services.

We proposed to adopt the same approach to NQTLs in the application of parity requirements to Medicaid MCOs, PIHPs and PAHPs providing services to MCO enrollees, ABPs, and CHIP state plans. For states that are using a non-managed care delivery system for their ABPs and CHIP, the state (through its ABP and CHIP state plan) may only impose a NQTL on a MH/SUD benefit in any classification if it has written and operable processes, strategies, evidentiary standards or other factors used in applying—to MH/SUD benefits in that classification—the NQTL that are

<sup>6</sup> Final Report: Consistency of Large Employer and Group Health Plan Benefits with Requirements of the Paul Wellstone and Pete Domenici Mental Health Parity and Addiction Equity Act of 2008. NORC at the University of Chicago for the Office of the Assistant Secretary for Planning and Evaluation. This study analyzed information on large group health plan benefit designs from 2009 through 2011 in several databases maintained by benefits consulting firms that advise plans on compliance with MHPAEA as well as other requirements.

comparable to or less restrictive and applied no more stringently than any processes, strategies, evidentiary standards, or other factors used in applying the limitation for medical/surgical services in that classification. The phrase “applied no more stringently” requires that any processes, strategies, evidentiary standards, or other factors that are comparable on their face be applied in the same manner to medical/surgical benefits and MH/SUD benefits.

We proposed and are finalizing in this rule an example of an NQTL regarding standards for accessing out-of-network providers. As discussed earlier, in the context of CHIP or ABPs that use a FFS delivery system or other non-managed care arrangement, absent a waiver, beneficiaries may choose from any qualified provider that has signed a Medicaid or CHIP provider agreement and are not limited to a network. In a Medicaid managed care environment, if a provider network is unable to provide necessary services covered under the contract to a particular enrollee, the MCO, PIHP or PAHP must adequately (and on a timely basis) cover these services out-of-network for the enrollee for as long as the MCO, PIHP or PAHP is unable to provide them in-network.<sup>7</sup> The proposed rule specified that the standard for providing access to out-of-network services (when they cannot be provided in-network) is considered to be an NQTL for the purposes of this rule. The proposed regulation stated that regulated entities providing access to out-of-network providers for medical/surgical benefits within a classification must use the same processes, strategies, evidentiary standards, or other factors in determining access to out-of-network providers for MH/SUD benefits within the same classification. As discussed further, we are revising the proposed regulation in this final rule for consistency with the general NQTL standard, to require that the factors used in determining access to out-of-network providers for MH/SUD benefits be comparable to and applied no more stringently than the factors used in determining access to out-of-network providers for medical/surgical benefits in the classification, rather than requiring that the *same* factors be applied to both sets of benefits.

Finally, the proposed rule provided that if MCOs, PIHPs or PAHPs, ABPs and CHIP State plans provided through managed care are found to be in compliance with § 438.206(b)(4), that would be evidence that they are in compliance with § 438.910(d)(3) and

§ 457.496(d)(5), although the state will want to review how the plan is doing this in practice. We noted that the additional example of a NQTL regarding out-of-network providers is not relevant for states that are using a non-managed care delivery system for ABPs and CHIP state plan, since providers must be enrolled in Medicaid or CHIP and would not be considered out-of-network. As discussed below, we are not finalizing this approach to deemed compliance in this final rule in §§ 438.910(d)(3) and 457.496(d)(5), and instead are clarifying that regulated entities must comply with both sets of requirements.

We included in the proposed rule the examples, which have been modified slightly for greater clarity below, to illustrate the operation of the requirements for NQTLs.

**Example 1. Facts.** A MCO requires prior authorization that a treatment is medically necessary for all inpatient medical/surgical benefits and for all inpatient MH/SUD benefits. In practice, inpatient benefits for medical/surgical conditions are routinely approved for 7 days, after which a treatment plan must be submitted by the patient’s attending provider and approved by the MCO. Conversely, for inpatient MH/SUD benefits, routine approval is given only for 1 day, after which a treatment plan must be submitted by the beneficiary’s attending provider and approved by the MCO.

**Example 1. Conclusion.** In this example, the MCO violates the NQTL provision of this rule (§ 438.910(d)) because it is applying a stricter NQTL in practice to MH/SUD benefits than is applied to medical/surgical benefits.

**Example 2. Facts.** A MCO applies concurrent review to inpatient care where there are high levels of variation in length of stay (as measured by a coefficient of variation exceeding 0.8). In practice, the application of this standard affects 60 percent of MH/SUDs, but only 30 percent of medical/surgical conditions.

**Example 2. Conclusion.** In this example, the MCO complies with the NQTL provisions of this rule because the evidentiary standard used by the MCO is applied no more stringently for MH/SUD benefits than for medical/surgical benefits, even though it results in an overall difference in the application of concurrent review for MH/SUDs than for medical/surgical conditions.

**Example 3. Facts.** A MCO requires prior approval that a course of treatment is medically necessary for outpatient medical/surgical and MH/SUD benefits and uses comparable criteria in

determining whether a course of treatment is medically necessary. For MH/SUD treatments that do not have prior approval, no benefits will be paid; for medical/surgical treatments that do not have prior approval, providers will only receive a 25 percent reduction in payments for these treatments from the MCO.

**Example 3. Conclusion.** In this example, the MCO violates the NQTL provision of this rule. Although the same NQTL—medical necessity—is applied both to MH/SUD benefits and to medical/surgical benefits for outpatient services, it is not applied in a comparable way. The penalty for failure to obtain prior approval for MH/SUD benefits is not comparable to the penalty for failure to obtain prior approval for medical/surgical benefits.

**Example 4. Facts.** A MCO generally covers medically appropriate treatments. For both medical/surgical benefits and MH/SUD benefits, evidentiary standards used in determining whether a treatment is medically appropriate are based on recommendations made by panels of experts with appropriate training and experience in the fields of medicine involved. The evidentiary standards are applied in a manner that is based on clinically appropriate standards of care for a condition.

**Example 4. Conclusion.** In this example, the MCO complies with the NQTL provision of the rule because the processes for developing the evidentiary standards used to determine medical appropriateness and the application of these standards to MH/SUD benefits are comparable to and are applied no more stringently than for medical/surgical benefits. This is the result even if the application of the evidentiary standards does not result in similar numbers of visits, days of coverage, or other benefits utilized for MH/SUDs as it does for any particular medical/surgical condition, so long as the outcomes are the result of consistent application of the guidelines.

**Example 5. Facts.** Training and state licensing requirements often vary among types of providers. An MCO applies a general standard that any provider must meet the minimum requirement related to supervised clinical experience under applicable state licensure laws to participate in the MCO’s provider network. State law requires master’s level general medical providers to have post-degree, supervised clinical experience; therefore the MCO requires all master’s level providers in its network (including mental health providers) to have post-degree, supervised clinical experience.

<sup>7</sup> See § 438.206(b)(4).

State law does not require master's level mental health therapists to have post-degree, supervised clinical experience; therefore the MCO requirement to participate in the network is effectively higher than state law for master's level mental health therapists.

**Example 5. Conclusion.** In this example, the MCO complies with the provision of this rule pertaining to NQTLs. The requirement that all master's-level providers (including mental health providers) must have supervised post-degree supervised clinical experience to join the network is permissible because the MCO is consistently applying the same standard to all providers, even though it may have a disparate impact on certain mental health providers.

**Example 6. Facts.** A state contracts with an external utilization review entity to review inpatient admissions for all beneficiaries participating in its ABP. All inpatient services in the ABP are delivered on a FFS basis. The state's utilization review contractor considers a wide array of factors in designing medical management techniques for both MH/SUD and medical/surgical inpatient benefits, such as cost of treatment; high cost growth; variability in cost and quality; elasticity of demand; provider discretion in determining diagnosis, or type or length of treatment; clinical efficacy of any proposed treatment or service; licensing and accreditation of providers; and claim types with a high percentage of fraud. Based on application of these factors in a comparable fashion, prior authorization is required for some (but not all) inpatient MH/SUD benefits, as well as for some (but not all) medical/surgical benefits. The evidence considered in developing its medical management techniques includes consideration of a wide array of recognized medical literature and professional standards and protocols (including comparative effectiveness studies and clinical trials). This evidence and how it was used to develop these medical management techniques is also well documented by the state's utilization review organization.

**Example 6. Conclusion.** In this example, the state and its utilization review contractor comply with the NQTL rules. Under the terms of the ABP as written and in operation, the processes, strategies, evidentiary standards, and other factors considered by the contractor in implementing the prior authorization requirement for MH/SUD inpatient benefits are comparable to, and applied no more stringently

than, those applied to medical/surgical benefits.

**Example 7. Facts.** A MCO provides coverage for medically appropriate medical/surgical benefits, as well as MH/SUD benefits. The MCO excludes coverage for inpatient SUD services when obtained outside of the state. There is no similar exclusion for medical/surgical benefits within the same classification.

**Example 7. Conclusion.** In this example, the MCO violates the NQTL provisions of this rule. The MCO is imposing a NQTL that restricts benefits based on geographic location. Because there is no comparable exclusion that applies to medical/surgical benefits, this exclusion may not be applied to MH/SUD benefits.

**Example 8. Facts.** A state's CHIP program requires prior authorization for all outpatient MH/SUD services after the ninth visit and will only approve up to 5 additional visits per authorization. For outpatient medical/surgical benefits, the state's CHIP program allows an initial visit without prior authorization. After the initial visit, benefits must be pre-approved based on the individual treatment plan recommended by the attending provider based on that individual's specific medical condition. There is no explicit, predetermined cap on the amount of additional visits approved per authorization.

**Example 8. Conclusion.** In this example, the state's CHIP program violates the NQTL provisions of the rule. Although the same NQTL—prior authorization to determine medical appropriateness—is applied to both MH/SUD benefits and medical/surgical benefits for outpatient services, it is not applied in a comparable way. While the state CHIP plan is more generous in the number of visits initially provided without pre-authorization for MH/SUD benefits, treating all MH/SUDs in the same manner, while providing for individualized treatment of medical conditions, is not a comparable application of this NQTL.

**Example 9. Facts.** A state provides an ABP that is compliant with EHB requirements, including the provision of MH/SUD services. The state aligns its ABP's outpatient benefits with those described in the state plan and applies the same prior authorization requirements. For outpatient MH/SUD services, prior authorization is required for each individual treatment session. In contrast, for outpatient medical/surgical services, a series of treatments is provided under a single authorization.

**Example 9. Conclusion.** In this example, the state's ABP design does not comply with the NQTL provisions

of this rule. Although the same NQTL—prior authorization to determine medical appropriateness—is applied to both MH/SUD benefits and medical/surgical benefits for outpatient services, it is not applied in a comparable way.

**Example 10. Facts.** A state's ABP requires preauthorization for all outpatient substance use disorder services. The state ABP does not require preauthorization for any medical/surgical services.

**Example 10. Conclusion.** The state ABP does not comply with the NQTL requirements in this rule. If a state ABP requires preauthorization for each outpatient SUD service it cannot remain in compliance if there is no comparable limitation on medical/surgical services.

**Example 11. Facts.** In cases where an MCO is unable to provide necessary outpatient services to a particular enrollee, the MCO requires that the enrollee must get prior approval in order to see any outpatient out-of-network provider. The MCO approves the use of an out-of-network provider for medical/surgical outpatient services if there is not an in-network provider within 10 miles of the person's residence. Approval of an out-of-network provider for outpatient MH/SUD services is only authorized if there is not an in-network provider within 30 miles of a person's residence.

**Example 11. Conclusion.** In this example, the MCO violates the NQTL provisions of this rule. The MCO is imposing a restriction that limits access to out-of-network providers. Although the same nonquantitative treatment limitation is applied to both the MH/SUD benefits and to medical/surgical benefits for outpatient services, it is not applied in a comparable way.

**Example 12. Facts.** A state contracts with MCO A to provide coverage for inpatient and outpatient mental health services to its Medicaid enrollees. MCO A requires prior authorization in person from MCO A's staff for all inpatient admissions for any mental health condition. The state provides medical/surgical benefits to its Medicaid enrollees through a separate MCO ("MCO B"). MCO B does not require prior authorization in person but instead provides that authorization for an inpatient admission may be obtained from MCO B over the phone. The in-person prior authorization process for MCO A imposes a higher administrative burden on providers than the telephonic prior authorization, and in many cases also involves a longer waiting period for approval.

**Example 12. Conclusion.** In this example, MCO A violates the NQTL provisions of this rule. The in-person



prior authorization requirement in MCO A applies to all inpatient mental health benefits whereas prior authorization may be obtained more easily and quickly over the phone for inpatient medical/surgical benefits in MCO B. MCO A is applying a stricter NQTL in practice to mental health and substance use disorder benefits than is applied to medical/surgical benefits.

**Example 13. Facts.** An MCO includes buprenorphine, a medication for treating opioid dependence, on its formulary. However, coverage is limited to one year total over a beneficiary's lifetime. The MCO does not apply this type of limit (a lifetime limit) to any other prescription drugs.

**Example 13. Conclusion.** In this example, the MCO violates the parity requirements for financial requirements and treatment limitations in this rule. The lifetime limit on coverage of this medication does not apply to substantially all medical/surgical benefits in the prescription drug classification.

**Comment:** A few commenters proposed additional, very specific criteria for determinations of whether a NQTL is applied to a given service. For example, one commenter suggested that the final rule stipulate that criteria including the following would justify the application of an NQTL to a MH/SUD service in a classification where similar NQTLs are not applied to medical/surgical services:

- Treatments involving multiple services per session, with an increasing likelihood of medically unnecessary services with the higher number of services per session;
- Services with highly variable rates of progress for individuals patients; and
- Services with highly variable treatment approaches among providers.

**Response:** We believe that the standards proposed and finalized in this rule and illustrated in the examples above in this section strike an appropriate balance between the need for clarity and the need to provide flexibility to regulated entities to determine the most effective way to structure the covered benefits: a NQTL may not be imposed for MH/SUD benefits in any classification unless, under the policies and procedures of the MCO, PIHP, or PAHP, or under the terms of the ABP or CHIP state plan, as written and in operation, any factors used in applying the NQTL to MH/SUD benefits in a classification are comparable to and applied no more stringently than factors used in applying the limitation for medical surgical/benefits in the classification. For these purposes, factors mean the processes,

strategies, evidentiary standards, or other considerations used in determining limitations on coverage of services. Therefore, we are not providing additional criteria for determination of whether an NQTL is applied to a given service. If questions arise about the appropriateness of criteria that are being used to apply NQTLs to MH/SUD benefits, we will consider whether additional subregulatory guidance or further rulemaking is needed.

**Comment:** Many commenters requested additional details to clarify what constitutes an NQTL and additional examples of typical parity violations. Most commenters also requested supplementary materials to provide further guidance, including information regarding typical violations as they are identified, along with regular and ongoing technical assistance to states and plans to help them implement the requirements of parity regarding NQTLs and to minimize the administrative burden related to this analysis.

**Response:** We clarify that all NQTLs imposed on MH/SUD benefits by regulated entities are to be applied in accordance with the requirements of this rule. We believe that the illustrative list of NQTLs provided in this final rule (§§ 438.910(d)(2), 440.395(b)(4)(ii), and 457.496(d)(4)(ii)) is sufficient to provide an understanding of the NQTLs that are commonly used in current health care practices. Given our attempts to align these provisions with the requirements of the MHPAEA final rules, we encourage interested parties to review guidance issued by Department of Labor (DOL), Department of Health and Human Services (HHS) and Department of the Treasury (Treasury) about application of the parity standards to group health plans and health insurance issuers. In addition, we will provide technical assistance to states regarding the implementation of these provisions and questions or issues that may arise. We will develop educational materials about the requirements of parity for Medicaid managed care, ABPs and CHIP programs, and about effective quality control strategies to ensure that managed care contracts include provisions that reflect best practices and promote quality of care in the context of parity. We will also identify and promote best practices and quality control strategies for states to help managed care organizations ensure that their benefits and service delivery strategies adhere to the requirements of parity.

**Comment:** Many commenters requested additional clarity on the

application of parity requirements to provider networks, including additional examples. A few commenters noted that the proposed regulatory language regarding access to out-of-network providers differed slightly from the language of the general rule for NQTLs. Proposed § 438.910(d)(3) provided that any MCO, PIHP or PAHP providing access to out-of-network providers for medical/surgical benefits within a classification, must use the *same* processes, strategies, evidentiary standards, or other factors in determining access to out-of-network providers for MH/SUD benefits. In contrast, for other NQTLs the proposed rule required only that the factors used in applying the NQTL to MH/SUD benefits be *comparable to* and applied no more stringently than factors used in applying the limitation to medical/surgical benefits in the classification.

**Response:** We have revised this requirement in the final regulatory language. This final rule has been revised to require that the factors used to apply the limitation to MH/SUD benefits be “comparable to” and applied no more stringently than the factors used in applying the limitation to medical/surgical benefits in the classification. This language is in alignment with the general NQTL standard. We believe that it will reduce administrative burden on regulated entities and simplify enforcement to apply the same standard to all NQTLs. This final rule clarifies that the types of factors used to apply the NQTL will depend on the nature of both the NQTL and the benefit, and that in some cases it may be appropriate to use the same factors to apply the NQTL for both medical/surgical and MH/SUD benefits, whereas in other cases there may not be a single factor or set of factors that can practically be applied to both medical/surgical and MH/SUD benefits, and instead factors that are comparable may need to be used.

**Comment:** Many commenters requested that the rule address access to in-network providers. Several commenters also requested clarification regarding the interplay between proposed § 438.910(d)(3) of the parity rule and § 438.206(b)(4) of the existing managed care rule. The parity proposed rule stated that a plan complying with the network adequacy requirements of § 438.206(b)(4) will be deemed in compliance with § 438.910(d)(3), but commenters noted that § 438.206(b)(4) does not stipulate the same requirements regarding parity in determining access to MH/SUD and medical/surgical providers. For this reason, commenters stated that finding



provider networks to be in compliance with parity based only on adherence to § 438.206(b)(4) would thwart the intent of the MHPAEA statute. Commenters also stated that it is unclear what the purpose of § 438.910(d)(3) is if it requires nothing more than compliance with existing law.

*Response:* We agree and in this final rule, we removed the provision to deem compliance with §§ 438.910(d)(3) and 457.496(d)(5) of this rule (regarding parity requirements for access to out-of-network providers) where an MCO, PIHP, PAHP, or CHIP state plan is found to be in compliance with the provider network standard found in § 438.206(b)(4). We clarify that compliance with § 438.910(d)(3) and/or § 457.496(d)(5) does not affect the requirement to comply with § 438.206(b)(4). We may provide additional guidance or technical assistance to states regarding the requirements of §§ 438.206(b)(4) and 438.910(d)(3) and 457.496(d)(5) if questions persist. In response to the comments requesting that the rule address access to in-network providers, we also note that §§ 438.910(d)(2)(iii) and 457.496(d)(4)(ii)(C) include the example of an NQTL pertaining to network design for MCOs, PIHPs and PAHPs with multiple network tiers because although network tiers may not be used to impose financial requirements or quantitative treatment limitations in Medicaid and CHIP, we recognize that MCOs, PIHPs and PAHPs may still use them in developing NQTLs. For example, the MCO, PIHP, or PAHP may use network tiers when recommending providers to enrollees, or how they structure their provider directories. MCOs, PIHPs and PAHPs with multiple network tiers should be constructing them and providing beneficiary access to them in a way that is consistent with the parity standard for NQTLs.

*Comment:* Many commenters expressed concerns about the ability of regulated entities to manage utilization of MH/SUD services under the proposed requirements. For example, one commenter requested that MCOs be provided the flexibility to require prior authorization of inpatient benefits for psychiatric admissions directly from emergency departments to ensure that enrollees have access to alternative crisis stabilization options, even where a parallel review is not needed for medical/surgical admissions.

*Response:* We disagree and we are finalizing this provision as discussed. The factors used to determine whether and when the use of prior authorization is appropriate must be comparable and

applied no more stringently for MH/SUD benefits than they are for medical/surgical conditions.

*Comment:* Some commenters raised concerns about situations where medical/surgical services are provided through FFS and MH/SUD services are provided by an MCO, PIHP, or PAHP. The commenters expressed concern that because FFS delivery systems typically use extremely limited NQTL management of benefits, the MCO, PIHP, or PAHP will not be able to use any strategies to manage the utilization of MH/SUD services.

*Response:* Under this final rule, states have the flexibility to offer benefits through a variety of service delivery systems, and to employ financial requirements, quantitative treatment limits, and NQTLs as appropriate in alignment with the requirements of this rule. As stated earlier, we do not apply mental health parity requirements to state plan services provided to beneficiaries covered only through a FFS or PCCM delivery system, even if care for other beneficiaries is delivered through a managed care delivery system. However, as indicated in our 2013 SHO letter, we strongly encourage states to consider changes to the state plan benefit package to comport with the mental health parity requirements of section 2726 of the PHS Act. Benefits provided to an individual enrolled in an ABP or CHIP program are subject to parity regardless of how they receive their services, as explained in sections G and I.

We understand there could be instances where an MCO enrollee receives the majority of his or her services through a FFS delivery system. In those cases, the MCO will still need to deliver any MH/SUD services in compliance with these regulations; even if that means that the ability to use NQTLs is limited. However, states that contract with MCOs typically use them to deliver a comprehensive set of medical/surgical benefits.

*Comment:* Some commenters noted that in some delivery systems, the use of multiple delivery options (MCO, PIHP, and PAHP) results in segmentation of management of the benefit amongst different delivery system mechanisms. For example, a state may provide outpatient mental health benefits through the MCOs for the first 20 visits per year, but provide all additional visits through the FFS system.

*Response:* In this situation, because coverage for the service remains available to the beneficiary, we do not believe that this arrangement constitutes a quantitative treatment limit. Any

requirements for prior authorization, concurrent review, or other NQTLs that are applied when the beneficiary begins receiving outpatient mental health services under FFS would be subject to the general parity analysis given this beneficiary is an enrollee of an MCO.

*Comment:* Some commenters requested clarification regarding the use of NQTLs for MH/SUD services where Diagnosis-Related Group (DRG) based reimbursement is used for medical/surgical services. Commenters stated that DRG-based reimbursement typically functions as an alternative to the use of NQTLs, and stated that it is not commonly used for MH/SUD benefits due to factors including higher variability in outcomes, lower predictability of length of stay, and related considerations regarding payment for MH/SUD services. Commenters questioned whether NQTLs may be used to manage utilization of MH/SUD services when DRG-based reimbursement is being used for medical/surgical services.

*Response:* The application of NQTLs to MH/SUD services is subject to the requirements of parity under this final rule. Thus, the use of concurrent review (a type of NQTL) for MH/SUD services in a classification would have to be based on processes, strategies, evidentiary standards or other factors that are comparable to and applied no more stringently than those used by the plan to determine when to use concurrent review for a medical service in the same classification. Some acceptable factors may include variability in outcomes and lower predictability in length of stay. In this scenario, the regulated entity would need to apply comparable criteria to medical/surgical services in a classification to determine whether to apply concurrent review to a MH/SUD service in that classification.

*Comment:* Many commenters recommended that no restrictions be allowed for MH/SUD medications that do not exist for medications used for medical/surgical treatment, including tiered drug formularies and other mechanisms used to limit access. Other commenters simply requested clarification regarding the application of the NQTL standard to prescription drugs, including formulary tiering standards that include off-label use. Commenters noted that Medicaid programs often impose limits on medications for MH/SUD, including limits on dosage, exclusion of certain medications used to treat SUD, lifetime limits on medications used to treat SUD, and complex initial prior authorization requirements.

*Response:* We note that all of these restrictions constitute quantitative or nonquantitative treatment limits that are subject to the parity analysis. However, we are not prohibiting the use of all quantitative or nonquantitative treatment limits for MH/SUD medications, as we believe these may be important tools for ensuring the appropriate management and delivery of effective MH/SUD treatments and services.

*Comment:* Many commenters requested that Medicare Part D standards be integrated into this final rule to ensure non-discriminatory access to medications used for the treatment of mental illness and substance use disorders.

*Response:* While we agree that beneficiaries should have access to appropriate medications used for their treatment of medical/surgical and MH/SUD conditions, MHPAEA does not mandate the coverage of specific treatments, services, or drugs, and instead governs the limitations imposed on benefits that are offered. We believe that existing protections in Medicaid and CHIP programs are sufficient to ensure non-discriminatory access to medications used for the treatment of MH/SUD conditions. We also note that prescription drug coverage standards under Medicare Part D arise from different statutory provisions, funding mechanisms, and program requirements, than Medicaid and CHIP programs, and therefore are beyond the scope of this final regulation.

*Comment:* Many commenters requested the inclusion of additional examples to demonstrate the application of NQTL requirements to provider reimbursement, noting that reimbursement rates affect the sufficiency of network adequacy, which can limit access to care. One commenter noted that Medicaid and CHIP inpatient general acute services are typically reimbursed using methods tied to diagnosis and severity rather than category of service, but that this reimbursement methodology is not typically used for MH/SUD services.

*Response:* Similar to the guidance provided in the MHPAEA final rule, we clarify that regulated entities may consider a wide array of factors in determining provider reimbursement methodologies and rates for both medical/surgical services and MH/SUD services, such as service type; geographic market; demand for services; supply of providers; provider practice size; Medicare reimbursement rates; and training, experience and licensure of providers. The NQTL provisions require that these or other factors be applied

comparably to and no more stringently than those applied for medical/surgical services, noting that disparate results alone do not mean that the NQTLs in use fail to comply with these requirements.

After consideration of the comments received and further analysis of the reasons described in the proposed rule, we are revising the provisions proposed in § 438.910(d)(3) and § 457.496(d)(5) by finalizing them without the language to deem compliance with § 438.910(d)(3) and § 457.496(d)(5) of this final rule (regarding parity requirements for access to out-of-network providers) where an MCO, PIHP, or PAHP is found to be in compliance with the provider network standard found in § 438.206(b)(4). We are also revising the provisions in §§ 438.910(d)(3) and 457.496(d)(5) to require that the factors used to apply the limitation to MH/SUD benefits be “comparable to” and applied no more stringently than the factors used in applying the limitation to medical/surgical benefits in the classification, rather than requiring that the “same” factors be applied to both sets of benefits. We are also finalizing a technical change in the punctuation and the placement of the word “and” in § 457.496(d)(4)(ii)(G) and (H) to increase clarity in the final rule regulation text. With the exception of these revisions, as indicated in the response to comments, we are finalizing the provisions regarding NQTLs at §§ 438.910(d), 440.395(b)(4), and 457.496(d)(4) and (5) as proposed.

#### *G. Parity for Mental Health and Substance Use Disorder Benefits in CHIP Programs Covering EPSDT (§ 457.496(b))*

Consistent with section 2103(c)(6)(B) of the Act, we proposed at § 457.496(b) to deem a separate CHIP compliant with mental health parity requirements if the state provides EPSDT in accordance with section 1905(r) of the Act. Proposed § 457.496(a) included a definition of EPSDT by cross reference to section 1905(r) of the Act, which specifies the scope of services and supports that must be provided as well as the medical necessity standard applicable to individuals entitled to EPSDT. However, to be deemed compliant with the mental health parity requirements, section 2103(c)(6)(B) of the Act also requires that a separate CHIP provide EPSDT benefits in accordance with section 1902(a)(43) of the Act. This requirement was not adequately addressed in the proposed regulation. Therefore, as discussed below in this final rule, we are modifying § 457.496(b) in the final rule

to reflect that compliance with the requirements at section 1902(a)(43) of the Act is also necessary in order for a separate CHIP to be deemed compliant with parity provisions. We are also revising several proposed definitions set forth in § 457.496(a) as discussed later in this section of the final rule.

We received the following comments on these proposed provisions.

*Comment:* The majority of commenters were generally supportive of the application of parity requirements related to mental health/substance use disorder (MH/SUD) benefits to CHIP. However, many commenters expressed concern about deeming CHIP programs compliant based solely on coverage of EPSDT benefits. In particular, they emphasized the need for greater oversight of states' compliance with providing the full range of services included within the scope of EPSDT, citing lawsuits in which children enrolled in Medicaid allegedly have been denied access to MH/SUD treatment even though the state is required to cover MH/SUD services as part of the EPSDT benefit. Some commenters noted that a few separate CHIP plans indicate that they provide EPSDT benefits, but in fact, apply limitations or exclude benefits that must be covered under the EPSDT benefit in Medicaid. Commenters recommended that CMS scrutinize the coverage under CHIP to ensure that programs deemed compliant are in fact providing EPSDT benefits as defined under the Medicaid statute. Commenters were particularly concerned about the application of treatment limitations, including NQTLs, to MH/SUD benefits compared to medical/surgical benefits for children enrolled in separate CHIPs that cover EPSDT under the CHIP state plan. Some commenters suggested not providing for deemed compliance at all.

A few commenters were supportive of deeming separate CHIPs as compliant with MHPAEA strictly based on the state plan indicating that EPSDT benefits are covered for the population, and were opposed to considering other criteria, such as an examination of treatment limits, cost sharing, and NQTLs.

*Response:* We agree that EPSDT is a critical benefit that ensures children, adolescents, and young adults under age 21 have access to a comprehensive benefit package and other medically necessary services tailored to meet their needs. While we understand some commenters are concerned that implementation of EPSDT in Medicaid may not fulfill the requirements of the statute across all states, implementation of EPSDT in state Medicaid programs is

a compliance issue that is beyond the scope of this regulation.

However, we appreciate commenters' concerns that it is not sufficient that the state plan only indicate coverage of EPSDT under a separate CHIP in order to be deemed compliant with mental health parity requirements. We also agree with commenters that separate CHIPs that exclude benefits or place limits on benefits that are not consistent with the scope of EPSDT under the Medicaid statute should not be considered eligible for deemed compliance with mental health parity requirements. Section 2103(c)(6)(B) of the Act provides that CHIPs covering EPSDT benefits are deemed compliant with parity requirements under MHPAEA. Specifically, section 2103(c)(6)(B) provides that a separate CHIP which provides EPSDT benefits and services consistent with sections 1905(r) and 1902(a)(43) of the Act are deemed compliant with the mental health parity requirements, and we have retained that statutorily-prescribed policy in the final regulation.

Section 1905(r) of the Act requires states to provide screening and diagnostic services as well as any medically necessary health care services, or treatments covered under section 1905(a) of the Act needed to correct or ameliorate defects and mental and physical illnesses or conditions, regardless of whether the service is covered under the Medicaid state plan. This allows for a broad array of services to be available under EPSDT such as rehabilitative and therapy services, counseling, personal care services, immunizations, periodic comprehensive well-child checkups and screenings for vision, hearing, and dental care, even if not covered for adults under the Medicaid state plan. Section 1905(r) of the Act also requires states to provide screening services at intervals that align with periodicity schedules that meet reasonable standards of medical or dental practice. Section 1902(a)(43) of the Act requires states to provide and arrange for these medically necessary screenings, diagnostic services, and treatments, and to inform individuals under 21 in Medicaid about the availability of the full range of EPSDT services available to them. Separate CHIP programs that comply with these statutory requirements will be considered to provide "full" EPSDT in their separate CHIPs and will be deemed compliant with the parity requirements. Separate CHIPs that do not comply with all of the statutory requirements in sections 1905(r) and 1902(a)(43) of the Act will not be deemed compliant; compliance for these programs will be

based on satisfaction of the standards set forth in § 457.496.

In response to commenters' concerns that separate CHIPs will be deemed compliant with MHPAEA without providing the full scope of EPSDT benefits and supports, we are modifying § 457.496(b) of the final regulation to provide, with new language at paragraph (b)(1), that to be deemed compliant with the mental health parity requirements under § 457.496, a state must elect in its state plan to cover all EPSDT services required under section 1905(r) of the Act, as well as meet the informing and administrative requirements under section 1902(a)(43) of the Act and the approved State Medicaid plan. We are also adding new language at paragraph (b)(2) to require that the child health plan include a description of how the state will comply with the applicable Medicaid statute and the requirements of paragraph (b)(1)(i). The exclusion of services for particular conditions or diagnoses is also not permitted under section 1905(r) of the Act for individuals under 21 entitled to EPSDT services. Therefore, we have added a provision at § 457.496(b)(1)(ii) to preclude separate CHIPs from excluding any particular condition, disorder, or diagnosis under EPSDT benefits. We are also revising the meaning of EPSDT at § 457.496(a) to include references to both sections 1905(r) and 1902(a)(43) of the Act. We are not finalizing the proposed text that referred to "expansion of Medicaid programs" which we believe was confusing since the regulation applies only to separate CHIP programs.

In evaluating whether a state is fully compliant with the statutory requirements governing EPSDT benefits with respect to children enrolled in its separate CHIP, we will consider whether there are any outstanding compliance issues associated with the state's provision of EPSDT in its Medicaid program. While we recognize that in some states, the Medicaid and CHIP programs may not be identical and/or administered by different agencies, what is critical to be deemed compliant with the mental health parity requirements is that the provision of EPSDT in CHIP is compliant with the requirements in sections 1902(a)(43) and 1905(r) of the Act. For example, if a separate CHIP covers all benefits identified in section 1905(a) of the Act in accordance with the requirements set forth in section 1905(r)(5) of the Act, we would deem compliance with parity requirements in this final rule only if the separate CHIP also had procedures to inform individuals of the availability of those services, provide or arrange for

screening services, and assure necessary transportation as part of the administration of those benefits as required by section 1902(a)(43) of the Act.

States that elect to apply any type of NQTLs under their separate program must ensure that such limits are consistent with EPSDT requirements at section 1905(r)(5) of the Act. We will closely review states' NQTLs to ensure that they meet deemed compliance standards under § 457.496(b). For example, states will have the discretion to exclude some experimental services, and this type of NQTL would be unlikely to present a barrier to deemed compliance. Conversely, annual and lifetime limits are not consistent with Medicaid and/or EPSDT, and this practice would preclude a state from deemed compliance.

Finally, we have added paragraph (b)(3) to § 457.496 to be clear that if a state has elected in its state child health plan to cover EPSDT benefits only for certain children eligible under the state child health plan, the state is deemed compliant with this section only with respect to such children.

*Comment:* Some commenters recommended that the states should submit documentation beyond state plan assurances to show how they plan to meet parity requirements. Furthermore, commenters were concerned that separate CHIPs deemed compliant with parity regulations would apply NQTLs to MH/SUD benefits in a manner that is not comparable to or is more restrictive than the NQTLs applied to medical/surgical benefits.

*Response:* We will develop a state plan amendment (SPA) template for states to use in indicating how they will comply with the requirements of § 457.496. For states that report providing EPSDT, we anticipate asking them to attest that the full EPSDT benefits being offered to children in the separate CHIP, as described in section 1905(r) of the Act, are being provided in a manner that is compliant with section 1902(a)(43) of the Act.

States will also be required to affirm in their state plan that the processes, strategies, evidentiary standards, or other factors used in applying NQTLs to MH/SUD benefits are comparable to and applied no more stringently than those used in applying the limitation to medical/surgical benefits. As a part of the review process, we will work closely with states to ensure compliance with the parity requirements and assist states in their efforts to address any inconsistencies discovered during the review process.

*Comment:* Commenters expressed concern about how states not providing EPSDT in CHIP would document compliance with MHPAEA. One commenter asked for clarification about the assurances states will provide when submitting their CHIP state plan amendments to CMS.

*Response:* For CHIP programs that do not provide full EPSDT benefits (and therefore do not meet the deeming requirements), a full benefit and cost sharing analysis of the CHIP state plan must be conducted by the state to determine compliance with the parity standards in this final rule. The state's parity analysis must also include an examination of the processes, strategies, evidentiary standards, and other factors used in the application of NQTLs to MH/SUD benefits. The state must ensure these factors are comparable to and applied no more stringently than those used in applying NQTLs to medical/surgical benefits in the same classification. We will develop a state plan template to facilitate this analysis.

*Comment:* Another commenter expressed concerns about lack of current tracking of certain mental health benefits that are required under EPSDT because they are not reported on the CMS-416 form.

*Response:* The CMS-416 mandatory reporting form does not include a measure specific to any mental health screenings, diagnostic methods, or treatments. The CMS-416 is primarily focused on defining the number of children eligible for EPSDT, the overall number of screenings these children receive, and oral health and dental care measurements. However, section 401 of the CHIPRA required that the HHS Secretary develop a standardized set of measures for voluntary state use relating to a variety of topics within children's health. The initial Child Core Set was published in February 2011 and has been expanded to include measures specific to behavioral health. We will continue our efforts to collaborate with states to improve the quality of the behavioral health measures data. Additional information on the Child Core Measurement Set is available at <http://www.medicaid.gov/Medicaid-CHIP-Program-Information/By-Topics/Quality-of-Care/CHIPRA-Initial-Core-Set-of-Childrens-Health-Care-Quality-Measures.html>.

*Comment:* Many commenters recommended clarifying what medically necessary services separate CHIP programs are required to provide through EPSDT, such as home services and intensive care coordination.

*Response:* EPSDT is a required Medicaid benefit for categorically needy

individuals under age 21 that entitles these individuals to medically necessary services, as described in section 1905(a) of the Act, to treat physical or mental illnesses or conditions, whether or not these services are otherwise covered under the Medicaid state plan. Under section 1905(r)(5) of the Act, the EPSDT benefit includes services necessary to correct or ameliorate defects and physical or mental illnesses and conditions discovered by screening services. To be deemed compliant with the parity requirements under § 457.496(b) of the final regulations, the coverage of EPSDT under a separate CHIP requires the same scope of coverage that a child covered by Medicaid would receive—that is, a CHIP enrollee would have to be entitled to all benefits and services described in section 1905(a) of the Act if medically necessary and consistent with section 1905(r) of the Act. We believe that including a list of specific services that are required to be provided under EPSDT is outside of the scope of this regulation. Additional information on the scope of benefits required under the EPSDT benefit can be found in “EPSDT—A Guide for States: Coverage in the Medicaid Benefit for Children and Adolescents,” available at [http://www.medicaid.gov/medicaid-chip-program-information/by-topics/benefits/downloads/epsdt\\_coverage\\_guide.pdf](http://www.medicaid.gov/medicaid-chip-program-information/by-topics/benefits/downloads/epsdt_coverage_guide.pdf).

*Comment:* One commenter noted that applied behavior analysis (ABA) is another service that is considered a medically necessary service that must be provided under EPSDT.

*Response:* Whether or not a specific service is medically necessary for a particular child is beyond the scope of this final rule. However, we direct the commenter to the CMCS Informational Bulletin “Clarification of Medicaid Coverage of Services to Children with Autism” at <https://www.medicaid.gov/Federal-Policy-Guidance/Downloads/CIB-07-07-14.pdf>, and the frequently asked question issuance entitled “Services to Address Autism”, which discusses the provision of ABA therapy under EPSDT, available at <http://www.medicaid.gov/Federal-Policy-Guidance/downloads/FAQ-09-24-2014.pdf>.

*Comment:* Many commenters expressed concern that the exclusion of coverage for services related to specific diagnoses is not considered a treatment limitation under this rule. Commenters believed that excluding benefits for certain diagnoses or conditions would directly conflict with current Medicaid regulations that prohibit discrimination based on diagnosis and could lead to states not fulfilling their obligations.

Many commenters believed that states would view the proposed regulation as superseding current regulations. To avoid this confusion, many commenters suggested adding clarifying language that the proposed regulation does not trump the state's obligation to comply with current Medicaid regulations regarding discrimination based on diagnosis or other legislation such as the Americans with Disabilities Act (ADA). Other commenters recommended not including the exclusion in the final regulations.

*Response:* In this final rule we maintain the definition of “treatment limitation” set forth at § 457.496(a) in the proposed rule under which a permanent exclusion of all benefits for a particular condition or disorder is not a treatment limitation. This definition aligns with the definition of “treatment limitation” provided in the MHPAEA final regulations (the final rules applicable outside of Medicaid and CHIP, as defined in section II of this final rule). As previously discussed, we agree that states providing EPSDT benefits in their separate CHIP must be compliant with the all requirements associated with EPSDT in the Medicaid statute. Exclusion of treatment for any conditions is not permitted under section 1905(r) of the Act for individuals under age 21 who are enrolled in Medicaid, so if a separate CHIP excludes coverage for particular conditions, disorders, or diagnoses, that separate CHIP will not be considered as providing EPSDT benefits consistent with section 1905(r)(5) of the Act. Therefore, states which exclude treatment for particular conditions, disorders, or diagnoses cannot be deemed compliant with the mental health parity requirements under § 457.496(b) of the final regulations. In response to comments, we have added language in § 457.496(b)(1)(ii) to expressly provide that a separate CHIP cannot be deemed compliant with mental health parity requirements under the final regulation if it excludes benefits for a particular condition, disorder, or diagnosis.

In considering the comments received, we are finalizing the provisions proposed in § 457.496(a) with modifications to revise the definition of EPSDT benefits to specify that, for the purposes of § 457.496, EPSDT benefits means benefits defined in section 1905(r) of the Act that are provided in accordance with section 1902(a)(43) of the Act to mirror the statutory requirement in section 2103(c)(6)(B) of the Act regarding deemed compliance. Additional changes to proposed definitions in

paragraph (a) include the modification of “CHIP State Plan” to “State Plan” in order to use terminology consistent with existing CHIP regulations.

Furthermore, § 457.496(b) is being finalized with substantive changes and a technical change to clarify the standards which must be met to be deemed compliant with § 457.496, including the provision of all EPSDT benefits as defined in section 1905(r) of the Act, and compliance with requirements for providing EPSDT benefits in accordance with section 1902(a)(43) of the Act. Additional language is also being incorporated to clarify that the state plan must include a description of how the state will comply with the EPSDT deeming requirements in § 457.496(b).

#### *H. Availability of Information* (§ 438.915, § 440.395(d), § 457.496(e))

Under the MHPAEA final regulations at § 146.136 (d)(1), the criteria for medical necessity determinations made under a group health plan or health insurance coverage for MH/SUD benefits must be made available by the plan administrator or the health insurance issuer offering such coverage in accordance with regulations to any current or potential participant, beneficiary, or contracting provider upon request, in accordance with section 2726(a)(4) of the PHS Act. Under the same authority, the MHPAEA final regulations also require at § 146.136(d)(2) that the reason for any denial under a group health plan or health insurance coverage of reimbursement or payment for services for MH/SUD benefits in the case of any participant or beneficiary be made available, upon request or as otherwise required, by the plan administrator or the health insurance issuer to the participant or beneficiary. The proposed rule also addressed these issues.

We proposed to apply these disclosure requirements imposed on the health insurance issuer under MHPAEA and the MHPAEA final regulations regarding availability of information in a similar manner to MCOs and to PIHPs and PAHPs that provide coverage to MCO enrollees. As proposed and finalized in this rule in § 438.915(a), MCOs, PIHPs, and PAHPs subject to parity requirements must make their medical necessity criteria for MH/SUD benefits available to any enrollee, potential enrollee or contracting provider upon request. We proposed that MCOs, PIHPs, and PAHPs found to be in compliance with § 438.236(c), which requires dissemination by MCOs, PIHPs and PAHPs of practice guidelines to all

affected providers, and, upon request to enrollees and potential enrollees, will be deemed to meet this requirement. In addition, we proposed in § 438.915(b) to require MCOs, PIHPs, or PAHPs to make available the reason for any denial of reimbursement or payment for services for MH/SUD benefits to the enrollee. As noted in the proposed rule, § 438.210(c) already requires each contract with an MCO, PIHP, or PAHP to provide for the MCO, PIHP, or PAHP to notify the requesting provider and give the enrollee written notice of any decision by the MCO, PIHP, or PAHP to deny a service authorization request or to authorize a service in an amount, duration, or scope that is less than requested.

Although the statute that applies MHPAEA to ABPs does not include specific provisions regarding the availability of plan information, in the proposed rule we proposed to use our authority under section 1902(a)(4) of the Act to extend this provision to all ABPs, as well as those ABPs with services delivered through MCOs, PIHPs and all PAHP. This final rule retains this provision. At § 440.395(c)(1), we proposed that all states delivering ABP services through a non-MCO must make available to beneficiaries and contracting providers on request the criteria for medical necessity determinations for MH/SUD benefits. Similarly, § 440.395(c)(2) in the proposed rule required the state to make available to the enrollee the reason for any denial of reimbursement or payment for services for MH/SUD benefits. For the same reasons, using our authority under section 2101(a) of the Act, we proposed at § 457.496(e) to require disclosure, upon request, to any current or potential CHIP enrollee or contracting provider of the criteria for medical necessity determinations and to require that the reason for any denial of reimbursement or payment for MH/SUD benefits be made available to the enrollee. As proposed, the CHIP rule would also apply to managed care plans, so we included a provision in that proposal for deeming compliance with the parity disclosure requirement if the managed care entity complied with § 438.236(c) disclosure requirements. We also proposed for CHIP plans that other laws requiring disclosure would still apply.

The MHPAEA final regulations at § 146.136(d)(2) state that non-federal governmental group health plans (or health insurance coverage offered in connection with such plans) that provide the reason for claim denial in a form and manner consistent with the requirements of 29 CFR 2560.503–1 for

group health plans will be found in compliance with the MHPAEA disclosure requirements for denials.<sup>8</sup> The standards at 29 CFR 2560.503–1 do not themselves apply to Medicaid; we did not propose in this rule to make them applicable as a condition for deemed compliance because similar requirements are already applicable under existing law. MCOs, PIHPs, PAHPs and states are required to give a “reason” for any adverse benefit determinations under requirements for notices in, respectively, § 438.404 and § 431.210. The information provided in this disclosure of the reason for the adverse benefit determination must be made in compliance with these and all other provisions of applicable federal or state law.

For similar reasons, the proposed rule did not make claim denial requirements of 29 CFR 2560.503–1 a condition of deemed compliance for CHIP programs. CHIP enrollees have an opportunity for an external review of denials, reduction or suspension of health services under § 457.1130.

We requested comments on any additional provisions concerning the availability of plan information or notice of adverse determinations that may be necessary to facilitate compliance with MHPAEA for MCOs, PIHPs, PAHPs, ABPs, and CHIP.

*Comment:* Some commenters expressed concern that the requirements for MCOs, PIHPs, and PAHPs that are specific to parity compliance were less stringent than the disclosure requirements that apply to commercial plans under the final MHPAEA rule. The commenters recommended that the final rule be revised to set more specific standards for the release of medical necessity determinations.

*Response:* We disagree and believe the proposed rule set forth the same standards regarding availability of medical necessity information for MCOs and to PIHPs and PAHPs that provide coverage to MCO enrollees that are imposed on the health insurance issuer through section 2726 of the PHS Act and the MHPAEA final regulations. We proposed and are finalizing the regulation at § 438.915(a) to provide that MCOs, PIHPs and PAHPs subject to MHPAEA requirements must make their medical necessity criteria for MH/SUD benefits available to any enrollee,

<sup>8</sup> The requirements of 29 CFR 2560.503–1 are applicable to ERISA plans, as well as all non-grandfathered group health plans and health insurance issuers in the group and individual markets, through the claims and appeals regulations adopted under the Affordable Care Act. See 78 FR 68247 for a full discussion.

potential enrollee or contracting provider upon request.

*Comment:* Some commenters were concerned that the proposed rule did not have the same claims denial requirements as required for group health plans. The commenters recommended that CMS require MCOs, PIHPs, and PAHPs to provide the reason for a claim denial in a form and manner consistent with the requirements of 29 CFR 2560.503–1. In addition, some commenters suggested that CMS establish a firm timeframe for the release of such information and for the release of claims denials. Several commenters recommended that CMS establish penalties for Medicaid MCOs, CHIP plans and ABPs that fail to make plan information available in a timely and easily accessible manner.

*Response:* As we stated in the proposed rule, the provisions under 29 CFR 2560.503–1 do not themselves apply to Medicaid and CHIP and we did not see a reason to propose to extend those provisions to Medicaid and CHIP. There is a disclosure requirement applicable in Medicaid and CHIP. MCOs, PIHPs, PAHPs and states are required to give a “reason” for any adverse benefit determinations under requirements for notices in, respectively, § 438.404 and § 431.210. CHIP enrollees have an opportunity for an external review of denials, reduction or suspension of health services under § 457.1130. There are current rules that do require states to provide notice of adverse action within certain timeframes and (§ 432.211 and § 432.213). In addition, there is specific information that must be included in a notice of action to a beneficiary including: The action, reason for the action, right to appeal and the right to continue benefits pending the result of the appeal (§ 438.404). Therefore, we do not believe it is necessary or appropriate to adopt additional general disclosure standards in this rule.

*Comment:* Many commenters expressed concern that the proposed rule would not provide beneficiaries, providers and stakeholders with comparable information regarding medical necessity standards for medical/surgical service, and therefore, would not provide sufficient information to compare medical necessity requirements for MH/SUD against similar requirements for medical/surgical services. The commenters recommended the rule should specify that information about criteria used for making medical necessity determinations for comparable medical/surgical treatment should be

provided to plan beneficiaries and providers upon request.

*Response:* The current managed care rules § 438.236 do require Medicaid managed care plans to provide practice guidelines (including medical/surgical and MH/SUD) to enrollees and potential enrollees. Additionally, § 431.210 and § 438.404 require MCOs, PIHPs, PAHPs and states (for state fair hearings) to provide the reason for a denial. In addition, under § 438.404 beneficiaries can be provided medical necessity criteria for medical/surgical benefits as well as MH/SUD benefits. In addition, § 438.402 allows providers acting on behalf of beneficiaries to file a grievance to request and receive information.

In regards to CHIP, under § 457.1130 and § 457.1180, beneficiaries have the right to an external review related to health service matters and must receive a notice that includes the reasons why a determination was made. We believe these requirements allow beneficiaries to request and receive the necessary medical necessity information especially in terms of a denial to make a determination that access to the service is in compliance with these rules.

*Comment:* Some commenters expressed concern that transparency should not be predicated upon Medicaid and CHIP beneficiaries having the knowledge and wherewithal to request information from health plans after specific services have been denied. These commenters made several recommendations to improve this transparency. Some commenters recommended that plans be required to provide beneficiaries and, when appropriate, providers with written criteria for medical necessity determinations whenever requests for MH/SUD services are denied rather than requiring beneficiaries request this information.

*Response:* We agree that transparency is important and we would like to remind beneficiaries and providers that they can request that information at any time. However, providing written criteria for medical necessity determinations to all beneficiaries when services are denied may be overwhelming for all beneficiaries and may be administratively burdensome for states and MCOs, PIHPs and PAHPs. Therefore, we are not imposing a requirement in this final rule to provide beneficiaries and, when appropriate, providers with written criteria for medical necessity determinations whenever requests for MH/SD services are denied.

*Comment:* Commenters recommended that MCOs, PIHPs, and PAHPs should

be required to publish their medical necessity criteria for MH/SUD treatment and medical/surgical treatment on their Web sites and in other formats easily accessible to consumers, families, and treatment providers including requirements for persons with limited English proficiency or disabilities. Some commenters made other recommendations to improve health plans’ transparency, including a request that MCOs, PIHPs, and PAHPs should be required to periodically publish information about denial rates for inpatient and outpatient MH/SUD treatment and denial rates for inpatient and outpatient medical/surgical treatment which would allow states to identify possible issues with parity compliance and to take necessary actions to ensure that the provisions of this rule are enforced.

*Response:* We believe that existing requirements in § 438.236 (governing the adoption, dissemination and application of practice guidelines by MCOs, PIHPs and PAHPs) as well as the requirements in § 438.10 mandating that member materials be provided in alternative formats is sufficient for providing the necessary information to beneficiaries. We also believe that the language in § 438.10 can be interpreted to include posting information on the Web site as that modality becomes more available to individuals enrolled in Medicaid. However, we would encourage states to post this information regarding practice guidelines on their Web site. We are providing technical assistance to states regarding the data and information that would be helpful to review to identify possible issues with plans’ efforts to understand and comply with parity. Further, we believe that data regarding denial rates across classifications will be important information for states to analyze and determine if there are potential issues with complying with the provisions of this rule and taking corrective action when appropriate with their MCOs, PIHPs, or PAHPs.

*Comment:* Several commenters raised concerns that additional requirements regarding the availability of information could have unintended consequences. One example of such consequences included duplicating or complicating existing efforts to ensure transparency and adequate information to enrollees; another example suggested that additional requirements would make it more difficult for members to navigate the available information and could also divert plan resources away from Medicaid beneficiaries who were enrolled in managed care. Several commenters noted that current

Medicaid regulations already provide sufficient protections for Medicaid and CHIP enrollees regarding medical necessity determinations indicating that CMS already requires Medicaid MCOs to notify the requesting provider and/or give the enrollee written notice of any decision to deny a service authorization request or to authorize a service in an amount, duration, or scope that is less than requested. In addition, the commenters indicated that the Medicaid program already has disclosure requirements concerning the availability of plan information and notice of adverse determinations and those should be followed instead of increasing the administrative burden for states and plans by creating new requirements specific to parity. The commenters stated that creating additional or new requirements would increase the administrative and operational burden for both plans and states. One commenter recommended that if additional guidance was needed, subregulatory guidance, such as a State Medicaid Director Letter, could address some of the complexities around availability of information such as medical necessity and adverse determination notices. Another commenter recommended that CMS engage states, accreditation organizations, and Medicaid managed care plans to better understand activities already occurring before layering on additional monitoring requirements on states and plans.

*Response:* We believe that current Medicaid and CHIP regulations provide sufficient disclosure to current beneficiaries; the proposed regulation solidifies a provider's ability to obtain medical necessity information. The current provisions require MCOs, PIHPs or PAHPs to provide their medical necessity criteria for mental health and substance disorder benefits to beneficiaries and affected providers. We proposed and are finalizing § 438.915(a) that will require the plan administrators to provide such medical necessity criteria to any contracting provider. We believe that an affected provider in § 438.236(c) is consistent with this definition because given certain referral practices in place within an MCO, PIHP or PAHP; providers may need to understand practice guidelines for more than their area of expertise.

*Comment:* One commenter expressed concern regarding issues with sharing medical necessity criteria because the proposed provisions (and this final rule) require provision of medical necessity criteria or practice guidelines to enrollees and prospective enrollees as well as participating providers.

Specifically, this commenter recommended that CMS specify that licensed and proprietary criteria should not be made available unless such criteria are relevant to specific treatments or services and are requested by current or prospective insured patients, or healthcare providers with appropriate notice of disclosure of confidential and proprietary information.

*Response:* We agree with the commenter that this final rule requires information regarding the medical necessity criteria for specific treatments be made available upon request to current or prospective beneficiaries or health care provider; this final rule does not require that this information be more broadly disseminated to the general public.

*Comment:* Another commenter recommended that CMS require states to engage all stakeholders in an open and public process on the state's plans to comply with the parity requirements.

*Response:* While the regulation requires states to post information on their parity analysis on the state Web site, the proposed rule did not address stakeholder engagement regarding states' efforts to determine if MCOs or other delivery systems were parity compliant. Without prior notice and opportunity for comment, we do not believe it appropriate to finalize a requirement that states develop stakeholder engagement processes regarding their efforts to review compliance with the final regulation. However, we do encourage states to undertake these efforts and to include stakeholders as much as possible.

*Comment:* One commenter recommended that CMS require states to educate both beneficiaries and providers regarding any new benefit changes.

*Response:* We agree that beneficiary education is important which is shown in current managed care regulations under § 438.10. Section 438.10(f) currently specifies that enrollees must be notified of their benefits available under the MCO, PIHP or PAHP contract, how to obtain a prior authorization, how the enrollee can obtain benefits including benefits that are available under the state plan but not covered under the contract. Enrollees must be notified at the time of enrollment and also at any time a change to the benefits or processes listed here is considered significant.

*Comment:* Another commenter recommended CMS consider including, or clarifying, the ability of a Medicaid beneficiary to designate a personal representative with the legal authority to request information from the MCOs

regarding medical necessity criteria and the basis of service denials.

*Response:* Currently parents or legal guardians of children participating in the Medicaid or CHIP program may request the medical necessity criteria or receive information on service denials. Individuals that have a power of attorney for an individual would also have authority to make these requests. In addition, § 438.406(b)(4) provides that the enrollee and his or her representative must be included in the appeals process.

As indicated in the response to comments, we are finalizing the provisions regarding availability of information at § 438.915, § 440.395(d), § 457.496(e) as proposed with a technical change in § 457.496(e)(1) to use the term "deemed" in place of "determined." There was an oversight of an inconsistency between the corresponding Medicaid regulations at § 438.915 that has been corrected in this final rule.

#### *I. Application to EHBs and Other ABP Benefits (§ 440.395(c), § 440.395(e)(1))*

Section 1937(b)(6) of the Act, as added by section 2001(c) of the Affordable Care Act, and implemented through regulations at § 440.345(c) directs that ABPs that provide both medical and surgical benefits and MH or SUD benefits must comply with certain parity requirements. Further, ABPs must provide the 10 EHBs, including MH/SUD services. As states determine their ABP service package, states must use all of the EHB services from the base-benchmark plan selected by the state to define EHBs, consistent with the applicable requirements in 45 CFR part 156.

Section 1937 of the Act offers flexibility for states to provide medical assistance by designing different benefit packages, including other services beyond the EHBs for different groups of eligible individuals, as long as each benefit package contains all of the EHBs and meets certain other requirements, including parity provisions under section 2726 of the PHS Act.

While we did not request comment specifically on this section, we did receive many comments on ABPs. For the reasons set forth below, we are finalizing the proposed provisions at paragraphs (c) and (e)(1), with modification, which we describe below.

*Comment:* Several commenters remarked on various topics regarding the intersections between MHPAEA requirements and ABPs. Several commenters requested that we clarify if parity requirements differ by type of ABP such as ABPs that offer only state



plan benefits or ABPs that serve medically frail beneficiaries and have benefits that are more than the state plan benefits.

*Response:* Consistent with the proposed rule, the final regulation requires every approved ABP to meet parity requirements, regardless of the benefit package offered by the ABP. In final § 440.395, we address ABPs that are provided other than through a managed care delivery system and in final § 438.900 through § 438.930, we address ABPs that are delivered through MCOs, PIHPs and PAHPs. As noted throughout this rule, the parity standards are virtually identical in these different regulations.

*Comment:* Additional commenters noted that section 1937(b)(6)(B) of the Act specifies that ABP coverage providing EPSDT should be deemed compliant with parity.

*Response:* We agree with the commenter. We are therefore finalizing § 440.395(c) to implement the statutory deeming provision for ABPs.

*Comment:* Many commenters believed that CMS afforded states too much discretion regarding how parity analyses are conducted for EHB in ABPs and provided too little oversight of state processes used and how services are offered (that is, whether services are offered through managed care contracts or in fee for service (FFS) arrangements). Several commenters requested that CMS provide more structured requirements or a mandatory methodology for such analyses in ABPs; one commenter wanted CMS to conduct a comprehensive review of EHBs in all ABPs with special attention on intermediate behavioral healthcare services.

*Response:* We are not adding additional requirements or a mandatory methodology in this final rule with regard to our proposal that states oversee the parity analysis for EHBs in ABPs. This final rule provides that states have oversight responsibility for ensuring parity in ABPs, similar to their responsibility for ensuring parity in managed care contracts. However, we will provide technical assistance to states regarding the implementation of these provisions and questions or issues that may arise. This technical assistance may include the identification and promotion of best practices, tools, and/or other assistance for analyzing ABPs for compliance with the requirements of this rule.

*Comment:* One commenter noted that the proposed rule NQTL requirements for ABPs mirrors the requirements for group health insurance plans, offering

states flexibility in designing NQTLs on a benefit by benefit basis.

*Response:* We appreciate the commenter's feedback and agree this was the intent of the proposed rule and is maintained in the final rule.

*Comment:* One commenter asked CMS to confirm that § 440.396 Benchmark and Benchmark-Equivalent Coverage that was reviewed and approved by CMS has been determined to be in compliance with parity.

*Response:* We have reviewed all approved ABPs for parity compliance and states have attested to their compliance with MHPAEA in the ABP SPAs. New SPA applications that are submitted to create ABPs will be reviewed by CMS to determine if the plan complies with this final rule.

*Comment:* Many commenters requested clarification and examples about how parity applied to long term services and supports in ABPs for EHB. The commenters believe that many of the EHBs in ABPs include long term services and that the Affordable Care Act does not allow such long term benefits offered for SUD/mental health to be more restrictive than long term medical/surgical benefits.

*Response:* We have included long term services and supports in the definition of medical/surgical benefits, mental health benefits and substance use disorder benefits as such terms are defined and used in this final rule. (See section III.A. of this final rule for a more detailed discussion). Therefore, this rule is clear that parity standards apply to these services.

As indicated in the response to comments, we are finalizing the substance of the applicability standard as proposed in § 440.395(d)(1); we note that this provision is being designated as § 440.395(e)(1) in this final rule because of the addition of regulation text to address EPSDT in the context of ABPs and the parity requirements. In addition, a comma was added to this text (which follows the word "PAHP") for grammatical reasons. Further, we are finalizing regulation text, in § 440.395(c), to deem compliance with the parity provisions when an ABP covers EPSDT.

#### *J. ABP State Plan Requirements (§ 440.395(e)(3))*

We proposed to require states using ABPs to provide sufficient information in the ABP state plan amendment to assure and document compliance with parity provisions. The requirement was included in the proposed rule at § 440.395(d)(3) and is being redesignated as § 440.395(e)(3) in the final rule.

*Comment:* Some commenters stated that there is no stipulation in the preamble or proposed regulations that define a required methodology and/or documentation of the analysis to determine if an ABP complied with parity where ABPs are provided on a FFS basis. The commenters maintained that the state has no responsibility to the public to disclose its documentation of compliance other than providing sufficient information to CMS.

*Response:* To clarify, where ABPs are provided on a FFS basis, this regulation would require states to provide sufficient information in the ABP state plan amendment request to assure and document compliance with parity requirements. We will review the plan amendment to assure compliance with parity requirements and EHB anti-discrimination provisions.

We are finalizing this provision as proposed, with a different designation, at § 440.395(e)(3).

#### *K. Application of Parity Requirements to the Medicaid State Plan*

The provisions of section 2726 of the PHS Act that are incorporated through sections 1932 and 1937 of the Act do not apply directly to the benefit design for Medicaid fee-for-service and non-ABP state plan services. Under the proposed rule, the requirements would apply to the benefits offered by the MCO (or, as discussed above, if benefits are carved out, to all benefits provided to MCO enrollees regardless of service delivery system) but did not apply to all Medicaid state plan benefit designs; for states that did not use an MCO at all in connection with delivery of services, the proposed rule at § 438.900 through § 438.930 would have not been applicable. States that have individuals enrolled in MCOs and have MH/SUD services offered through FFS would, under the proposed rule, have the option of amending their non-ABP state plan to be consistent with the proposed regulations or offering MH/SUD services through a managed care delivery system (MCOs, PIHPs, and/or PAHPs) to be compliant with the proposed rules.

As noted in the proposed rule, for beneficiaries who are not enrolled in a MCO, and thus not covered by section 1932(b)(8) of the Act, this rule would not affect coverage (other than when the services are part of an ABP). However, we encourage states to provide state plan benefits in a way that comports with the mental health parity requirements of section 2726 of the PHS Act.

*Comment:* Many commenters expressed gratitude to CMS for including important language in the



proposed rule encouraging states to provide state Medicaid plan benefits in compliance with parity even when they are not required to do so under the MHPAEA or regulations. Many commenters supported application of parity requirements to all benefits for Medicaid managed care enrollees, including benefits that are provided by PIHPs, PAHPs, or FFS. Some commenters recommended that CMS work closely with states to ensure that all Medicaid beneficiaries have strong coverage for MH/SUD services.

*Response:* We will to continue to provide support and technical assistance to states to strengthen coverage of MH/SUD services for all Medicaid participants even when states are not required to do so through this rule.

*Comment:* Many commenters encouraged CMS to apply parity protections beyond what is required under federal law. The commenters indicated that CMS should encourage states to apply parity benefits equally for all Medicaid enrollees, regardless of whether they are enrolled in managed care, ABPs or traditional FFS. Some commenters were concerned that individuals being served entirely in the FFS environment are being denied the same protections as individuals who get some portion of their care through a managed care arrangement. The commenters maintained that the proposed rule did not promote a level playing field between managed care arrangements and FFS. In addition, the commenters stated that exempting Medicaid FFS from the proposed mental health parity requirements will create inequality in service delivery for Medicaid beneficiaries and could have serious implication for the viability of Medicaid managed care plans. A commenter suggested that requiring Medicaid FFS to comply with the parity requirements outlined in the proposed rule would allow for continuity of care, increased access to care and services, care coordination and improved quality of MH/SUD services for all beneficiaries.

*Response:* We acknowledge that this final rule does not provide the same protections to Medicaid beneficiaries receiving only FFS benefits as it does for those enrolled in MCOs. However, section 1932(b)(8) of the Act does not provide authority to apply parity protections to beneficiaries who are not enrolled in an MCO and section 1937 of the Act limits the application of parity requirements to ABPs.

While the provisions of this rule do not apply directly to the benefit design for Medicaid non-ABP state plan

services, the requirements would apply to all benefits provided to the majority of Medicaid participants because that majority of enrollees are MCO enrollees. The rule, as proposed and as finalized, imposes parity requirements in terms of the total benefits package provided to MCO enrollees, regardless of service delivery system. States that have individuals enrolled in MCOs and have MH/SUD services offered through FFS will have the option of amending their non-ABP state plan to be consistent with these regulations or offering MH/SUD services through a managed care delivery system (MCOs, PIHPs, and/or PAHPs) to be compliant with these final rules. We also encourage states that have some beneficiaries not enrolled in an MCO to offer these beneficiaries the protections afforded under parity.

*Comment:* Some commenters strongly suggested that CMS work with states and other interested parties to find alternative means to ensuring quality and access to MH/SUD services in states that have chosen to provide those services outside of a managed care product.

*Response:* As indicated above, the provisions of the Act impose parity requirements in limited cases. Therefore, we can only encourage states to take the necessary actions to apply parity to MH/SUD benefits for FFS beneficiaries. States can choose to maintain these services on a FFS basis in their state plan and make the necessary changes to their state plan to comply with this final regulation. Nothing in this final regulation prohibits states from including additional MH/SUD services in their state plan or in managed care arrangements.

*Comment:* Many commenters stated that CMS's proposed mental health parity rules impermissibly encroach on states' flexibility to decide how to operate their Medicaid programs. The commenters indicated that the various delivery system arrangements that states use will become significantly more complex and difficult to administer under CMS's proposal to apply the mental health parity standards to state plan services delivered outside of a Medicaid MCO. Specifically, in some states, the administrative complexity of applying the rules to services delivered outside of an MCO may drive behavioral health services into the MCO contracts to the detriment of a longstanding, publicly operated service delivery system. Another commenter indicated that requiring that all state plan MH/SUD services to be included in all MCO contracts diminishes the state's flexibility and ability to develop new

and innovative programs based on new evidence-based models. The commenter suggested that the state's flexibility to develop new models should be preserved.

*Response:* We disagree that the proposed mental health parity rules impermissibly encroach on states' flexibility to decide how to operate their Medicaid programs. We maintain that applying various parity provisions across the different delivery systems would allow states the most flexibility in designing delivery systems while ensuring that parity in coverage of medical/surgical and MH/SUD services is provided to MCO enrollees. Under this final rule, parity requirements apply to the entire package of services MCO enrollees receive, whether from the MCO, PIHP, PAHP, or FFS. If states carve out some MH/SUD services from the MCO contract and furnish those services by PIHPs, PAHPs, or through FFS, we are applying the parity requirements to the entire package of services MCO enrollees receive. Requiring the standards for parity to be applied to the overall package of benefits received by MCO enrollees will allow MCOs to comply with MHPAEA requirements without requiring inclusion of additional MH/SUD benefits in the MCO benefit package, as long as these MH/SUD benefits are provided elsewhere within the delivery system. In states where MH/SUD benefits are provided across multiple delivery systems (including FFS), states are required under § 438.920(b)(1) to review the full scope of benefits provided to MCO enrollees to ensure compliance with the parity requirements. As part of complying with this regulation, we expect states to work with their MCOs (or PIHPs and PAHPs) to determine the best method of achieving compliance with parity requirements for benefits provided to the MCO enrollees. Based on the commenter noting that services may be driven into the MCO and in light of our policy in this final rule, we reviewed the proposed § 438.920(b)(2) and discovered that proposed (b)(2) was written to indicate a state responsibility only when some services are carved out of the MCO. We finalize this rule without that limitation; all states, regardless of how services are delivered to MCO enrollees; have the responsibility to ensure that the program is in compliance with these requirements. We believe that because of this oversight requirement and the flexibility found in these final rules, the state should not have incentives to either move benefits into the MCO or

outside of the MCO for purposes of complying with these rules. Because of these reasons we are finalizing § 438.920(b)(2) in the final rule with revisions to require states to monitor the program in any instance where an enrollee is receiving benefits through an MCO.

For MH/SUD benefits offered through FFS, states would not necessarily be required to amend their non-ABP state plan to meet parity requirements, but could use their existing state plan or waiver services to achieve parity when individuals are receiving some benefits (whether MH/SUD or medical/surgical) from a MCO and also some benefits through FFS (or through PIHPs or PAHPs)). However, if a state did not have MH/SUD benefits in every classification in which medical/surgical benefits are provided across all authorities, the state would have to choose either to offer these services through a MCO, PIHP or PAHP or amend its state plan (or a waiver of its state plan) to include these benefits to achieve compliance with proposed § 438.920(a) and (b).

*Comment:* Several commenters indicated that the Medicaid statute provides that each Medicaid managed care organization shall comply with the mental health parity requirements. The commenters indicated that Congress did not mean for the statute to be interpreted the way it was in the proposed rule and that only individuals that received all of their services through the MCO would be subject to the requirements in these rules. The commenters stated that CMS acknowledges the Congress' intent, but nonetheless applies the mental health parity rules more broadly based on the section 1902(a)(4) authority to provide for methods of administration that are necessary for the proper and efficient operation of the Medicaid state plan. The commenters stated that CMS cannot use its section 1902(a)(4) authority to specify Medicaid methods of administration that are inconsistent with a clear congressional directive.

*Response:* We disagree that this rule is contrary to the purpose of section 1932(b)(8) of the Act. We also disagree that the authority of section 1902(a)(4) cannot be employed to link the delivery systems that would furnish MH/SUD services to individuals enrolled in a Medicaid MCO to ensure that enrollees in an MCO receive benefits that are consistent with the parity standards. To ensure that the goal of parity is met and avoid incentives to carve out all MH/SUD services from an MCO contract, we are requiring, through our authority in section 1902(a)(4) of the Act to specify

methods necessary for the proper and efficient operation of the state plan, that if MH/SUD state plan services are provided to MCO enrollees through a PIHP, PAHP, or under FFS Medicaid (because such services are carved out of the MCO contract scope), MCO enrollees will still receive the MHPAEA parity protections with respect to MH/SUD state plan services. We are committed to and agree with commenters' recommendations to work with states and other interested parties to ensure quality and access to mental health and SUD services in states that have chosen to provide those services outside of a managed care product.

*Comment:* Several commenters requested CMS to clarify in the final rule that only beneficiaries receiving both their MH/SUD and medical surgical benefits through a FFS delivery system are not provided parity protections.

*Response:* To clarify, the rule does not apply to Medicaid state plan beneficiaries who are not enrolled in an MCO, and thus, not covered by section 1932(b)(8) of the Act. However, this rule does apply to all beneficiaries enrolled in ABPs and CHIP, regardless of the benefit delivery system. We encourage states to provide all state plan benefits in a way that comports with the mental health parity requirements of section 2726 of the PHS Act.

*Comment:* A commenter recommended CMS develop a chart for beneficiaries, providers, authorized representatives and plans to explain which insurance arrangements must meet parity and which do not. The commenter indicated there is much confusion among beneficiaries about whether MHPAEA applies to such plans as Medicare, Department of Defense and Federal Employee Health Benefits Program.

*Response:* We appreciate the commenters' recommendations for CMS to provide further guidance to states on ensuring and applying parity requirements through all service delivery systems in Medicaid and CHIP programs, including to individuals receiving services as part of an ABP. We will be providing additional information and technical assistance to states and MCOs regarding this final rule. Medicare, Department of Defense, and the Federal Employee Health Benefits Programs are outside the scope of this rule.

*Comment:* A few commenters requested further guidance for ensuring parity for services authorized as part of a mental health rehabilitation and mental health targeted case management as a package of services and when

services needed outside of the package are referred to the MCO organization for prior authorization.

*Response:* In this final regulation we are requiring states to apply parity to all MH/SUD services offered in their non-ABP state plan for individuals that are enrolled in an MCO.

As indicated throughout this final rule, we are finalizing the overall scope of the parity requirements as proposed. Specifically, the parity requirements will apply to benefits provided to MCO enrollees (regardless of the delivery system of those benefits), to ABPs and to CHIP. As discussed in the responses to comment, § 438.920(b)(2) is being finalized with changes to require states to monitor the program in any instance where an enrollee is receiving benefits through an MCO.

*L. Scope and Applicability of the Final Rule (§ 438.920(a) and (b), § 440.395(e)(2), and § 457.496(f)(1))*

Sections 438.920, 440.395(d), and 457.496(f) of the proposed rule addressed the applicability and scope of the rule. Specifically:

- Section 438.920(a) proposed that the requirements of the subpart apply to delivery of Medicaid services when an MCO is used to deliver some or all of the Medicaid services; section 438.920(b) proposed state responsibilities when the MCO delivers only some of the Medicaid services. Section 438.920(b)(1) proposed that in the cases where some services are delivered outside of the MCO, the state must complete the parity analysis and provide evidence to the public. States completing the parity analysis must do so consistently with the parameters discussed in this rule, meaning they need to review the MH/SUD benefits to ensure they are included in the contracts with limitations or financial requirements that are no more stringent than the predominant limitations or financial requirements applied to substantially all of the medical/surgical benefits provided to the MCO enrollees. Under section 439.920(b)(2), we proposed that the state must ensure that MCO enrollees receive services in compliance with subpart K when the MCO did not provide all medical/surgical and mental health/substance use disorder benefits. Our proposal contemplated that these responsibilities could be met through appropriate reporting from the MCOs in order for the state to adequately oversee the program.

- Proposed § 440.395(d)(1) indicated that § 440.395 applied to ABPs that are not delivered through managed care.

- Proposed § 457.496(f)(1) indicated that § 457.496 applied to CHIP state plans, including when benefits are furnished under a contract with MCEs.

The tri-Department MHPAEA final rules state that if a group health plan or health insurance coverage provides MH/SUD benefits in any classification of benefits, MH/SUD benefits must be provided in every classification in which medical/surgical benefits are provided. Under our proposed amendments to part 438, for parity standards to apply, a beneficiary must be enrolled in an MCO, as defined in § 438.2, under a Medicaid contract. Enrollment in a PIHP or PAHP alone would not be sufficient for parity to apply if a beneficiary were not also enrolled in an MCO. The proposed rule noted that whether the MCO provides medical/surgical or MH/SUD benefits under that contract is irrelevant for the MCO coverage to trigger parity requirements.

While many Medicaid MCOs are contracted to offer benefits in each of the classifications of benefits described in this rule, there are other state-initiated “carve out” arrangements (for example, PIHPs, PAHPs, or FFS) in which the MCOs are only contracted to provide benefits in one MH/SUD classification, while PIHPs, PAHPs, FFS, or a combination of all three provide coverage of benefits in other classifications; the division of coverage might be across the classifications identified in § 438.910(b), § 440.395(b)(2)(ii), and § 457.496(d)(2) or might be based on the nature of services as medical/surgical services, mental health services or substance use disorder services. For example, MCOs in these carve-out arrangements could have contracts that include MH/SUD benefits in the prescription drug and emergency care classifications of benefits, but some or all of the MH/SUD outpatient or inpatient benefits may be covered instead through a PIHP, PAHP, or FFS delivery system.

In instances where the MH/SUD services are delivered through multiple managed care delivery vehicles, we proposed in § 438.920(a) that parity provisions apply across the managed care delivery systems; this rule was proposed to apply for managed care delivery in the Medicaid program and in CHIP. Coverage parity requirements would apply to the entire package of services MCO enrollees receive, whether from the MCO, PIHP, PAHP, or FFS. If states carve out some MH/SUD services from the MCO contract and furnish those services by PIHPs, PAHPs, or FFS, we proposed to apply the foregoing parity requirements to the entire

package of services MCO enrollees receive. Requiring the standards for parity to be applied to the overall package of benefits received by MCO enrollees allows MCOs to comply with these requirements without requiring inclusion of additional MH/SUD benefits in the MCO benefit package, as long as these MH/SUD benefits are provided elsewhere within the delivery system. In states where MH/SUD benefits are provided across multiple delivery systems (including FFS), we proposed in § 438.920(b)(1) that states would be required to review the full scope of benefits provided to MCO enrollees to ensure compliance with the requirements of this rule. We noted that we would expect states to work with their MCOs (or PIHPs and PAHPs) to determine the best method of achieving compliance with these parity requirements for benefits provided to the MCO enrollees. For MH/SUD benefits offered through FFS, states would not be required under the proposed rule to amend their non-ABP state plan to meet parity requirements, but could use their existing state plan or waiver services to achieve parity when individuals are receiving some MH/SUD benefits from a MCO (including PIHPs or PAHPs) and also some benefits through FFS. However, if a state does not have MH/SUD benefits in every classification in which medical/surgical benefits are provided across all authorities, the state would have to choose either to offer these services through a MCO, PIHP or PAHP or to amend its state plan (or a waiver of its state plan) to include these benefits to achieve compliance with proposed § 438.920(a) and (b). Applying various parity provisions across the different delivery system allows states the most flexibility in designing delivery systems while ensuring that parity in medical/surgical and MH/SUD services is provided to MCO enrollees. Given that there are many different delivery system configurations that carve out MH/SUD services, this allows compliance with parity requirements while reducing incentives for states to completely carve in all MH/SUD benefits to a MCO or carve out or terminate coverage of MH/SUD services.

In states where the MCO has responsibility for offering all medical/surgical and MH/SUD benefits, we noted in the proposed rule that compliance with our proposal would mean that the MCO is responsible for undertaking the parity analysis and working with the state on changes found to be necessary to the MCO contract for it to be compliant with parity

requirements. Underlying our proposal was an anticipation that states would need to include contract provisions in these MCO contracts to make sure they can see the results of the parity analysis completed by the MCO and have adequate oversight of the program to ensure that enrollees are receiving services in compliance with these rules so they can be in compliance with the rules as amended in § 438.920(b)(2). In states where some or all MH/SUD benefits are provided to MCO enrollees through PIHPs, PAHPs, or FFS, we proposed in § 438.920(b)(1) that the state would have the responsibility for undertaking the parity analysis across these delivery systems and determining if the existing benefits and any financial or treatment limitations are consistent with MHPAEA. The state, based on this analysis, would have to make the necessary changes to ensure compliance with parity requirements for its Medicaid MCO enrollees. We also proposed in § 438.920(b)(1) that the state provide documentation of its compliance with this analysis to the general public within 18 months of the effective date of this rule.

For ABPs and CHIP state plans, we proposed to require states to apply the provisions of this rule across all delivery systems to ensure that beneficiaries have access to MH/SUD benefits in every classification in which medical/surgical benefits are provided. If states offer services through an ABP or CHIP state plan with various delivery systems (managed care and non-managed care), the state must apply the provisions of the rule across the delivery systems utilized for its ABP and CHIP state plan. The proposed rule included an example of how the proposal would apply across the delivery system in Medicaid:

*Example 1. Facts.* A Medicaid MCO enrollee can access Medicaid benefits in the following way at any given time during their MCO enrollment:

- The MCO comprehensive benefits include inpatient medical/surgical benefits; outpatient medical/surgical benefits; emergency for medical/surgical and MH/SUD benefits; and prescription drugs for medical/surgical and MH/SUD benefits.
- The PIHP carve out benefits include inpatient MH benefit and the outpatient MH benefit.
- The PAHP carve out benefits include outpatient SUD benefits.
- The FFS system provides access to inpatient SUD benefits.

For purposes of this example, we assume there are no financial requirements or treatment limitations

imposed on any of the benefits in any of the delivery systems noted above.

*Example 1. Conclusion.* In this example, the MCO, PIHP or PAHP would not need to add any additional services to its benefit package because the MCO enrollee has access to MH/SUD services through PIHPs, PAHPs and FFS. The state is responsible for undertaking the parity analysis across delivery systems and making sure the coverage complies with parity requirements under § 438.920(a) and (b). The example would apply in the same way to a CHIP enrollee.

*Comment:* We received several comments regarding the proposal to apply the protections of MHPAEA to all MCO enrollees regardless of the delivery system for MH/SUD services. Most comments received were in support of CMS' interpretation and expressed that if CMS limited the protections of MHPAEA to apply only to the benefits provided by the MCO, this would not fulfill the intent of the law. In contrast, some commenters did not support CMS' interpretation and felt that the rule should require all services for both medical/surgical and MH/SUD conditions to be provided by the MCO, based primarily on the premise that it is easier to provide a level of care coordination that is appropriate for the needs of people requiring intensive levels of MH/SUD services if all benefits are provided by one entity.

*Response:* We appreciate the comments related to the application of this rule to all MCO enrollees regardless of how the MH/SUD services are delivered. We believe that our interpretation is in line with the intent of section 1932(b)(8) of the Act and allows the most flexibility to states to determine the best delivery system in their state. Therefore, we are maintaining this interpretation in the final rule. In any system that the state chooses, we recommend that the state pay close attention to the care coordination aspects of the program to ensure that medical/surgical services and MH/SUD services are coordinated and integrated to the greatest extent possible.

*Comment:* One commenter suggested CMS require parity compliance for all managed care entities that contract with a PIHP or PAHP to deliver behavioral health services. This would include primary care case management (PCCM) entities or providers.

*Response:* While we encourage states to apply parity broadly across the state plan and to any service delivery system, section 1932(b)(8) of the Act only applies MHPAEA parity requirements to MCOs; therefore, we cannot extend its

reach to services provided to beneficiaries who do not enroll with MCOs. In situations where a state uses a PCCM program to provide medical/surgical services and uses a PIHP or PAHP to provide MH/SUD services (meaning that the state does not use an MCO at all), the state would not be required to meet the requirements in part 438 this final rule. Similarly, accountable care collaborative models using managed FFS authority such as PCCM are not considered MCO contracts under the definition provided in § 438.2, and therefore, are not required to comply with part 438, subpart K. However, as noted above, we do encourage states to consider applying the MHPAEA protections to the state plan so that individuals using a PCCM will still benefit from provisions in this final rule.

*Comment:* Some commenters were unclear if parity requirements were applicable, and if so how those requirements would be applied, to section 1115 demonstrations and other waiver authorities. Commenters were concerned because many states use these programs to provide a variety of services to vulnerable populations or to treat specific behavioral health conditions, such as autism spectrum disorder.

*Response:* Parity requirements set forth in this final regulation apply to MCOs and ABP regardless of the authority a state employs for its Medicaid program. While we welcome Demonstrations and other Waivers that that seek better outcomes for beneficiaries in need of MH/SUD, we believe these parity requirements are necessary to provide adequate protections for beneficiaries enrolled in demonstration and waiver programs. Therefore, we will not approve any Waivers of the parity requirements set forth in this final regulation in a request for an 1115 Waiver.

*Comment:* We received several comments about who should be responsible for the parity analysis in varying situations. Some commenters believed that the state should be able to delegate the responsibility to other parties when using a carve-out system, such as the entities themselves or county agencies, whereas other commenters believed that the state Medicaid Agency should be the sole party completing the parity analyses, even in the case where the MCO is providing all medical/surgical and MH/SUD benefits within its contract. Some comments expressed concern that even in the case of a carve-out system, the MCO will end up needing to do the parity analysis, which commenters

believe will create delays in the 18-month timeline for compliance.

*Response:* We considered affording the state the option of choosing who would have responsibility for the parity analysis in situations when the MCO does not provide all MH/SUD services, but we were concerned about the timeliness and consistency of the parity reviews if the state was not responsible for this analysis under the regulation. Therefore, we are finalizing text in § 438.920(b)(1) to require the state to perform the parity analysis when the MCO is not providing all MH/SUD services to Medicaid beneficiaries; this is the scope and intent of the regulation text requiring states to review all services to ensure compliance with the rule and implicit in the requirement for the state to provide documentation of that compliance. The state may use third parties to gather information and make a preliminary parity analysis on its behalf, but the state must review and accept that preliminary analysis. And, the state will be responsible for providing documentation supporting compliance with these rules when submitting the MCO contracts to us for review and approval. To the extent that a state chooses to use contractor or other resources to complete the analysis, we would expect the state to answer any questions about the analysis and we will hold the state accountable for its accuracy and completeness.

When the MCO provides all medical/surgical and MH/SUD benefits, the statute imposes the parity compliance on the MCO. It is implicit in our final rule, at § 438.920(a), that the MCO perform the analysis in those circumstances. We believe that states should be aware of the timeframe for completing the parity analysis and the outcomes when the MCO does it to be sure the state oversees the delivery of benefits in a manner that is compliant with these rules, including implementing any appropriate contract changes. States should be sure to include contract provisions in their MCO contracts in these cases to be sure they get the necessary reporting during the 18-month implementation period.

*Comment:* One commenter stated that, in cases where an MCO does the parity analysis, the MCO could simply provide an assurance of compliance. This commenter noted that the proposed rule did not require the MCO to tell the state Medicaid Agency what changes needed to be made to their contracts, and that the state Medicaid Agency would need to determine those changes based on their regulatory oversight.

*Response:* While we agree that the final rule does not require specific

documentation from the MCOs when they complete the parity analysis, we believe that it would be in the interest of the states to require the MCOs to report the findings and the analysis that they complete. We encourage states to include contract provisions that they believe are necessary during the implementation period to get the information necessary to make changes to the contract that would demonstrate compliance with these rules. We are not including any additional regulatory reporting requirements in this rule as we believe states should be at liberty to collect the appropriate reporting they deem necessary for the oversight and implementation of their programs consistent with these requirements. We are available to help states consider contract language to achieve this if necessary during the 18 month transition period.

*Comment:* The proposed rule would have required states to provide documentation to CMS with their contract submission in cases where some or all MH/SUD benefits are provided to MCO enrollees through PIHPs, PAHPs, or FFS. We received several comments requesting guidance on what documents must be provided with contracts and state plan amendments to document compliance with the requirements of this rule. Some commenters requested that these documents be required to be submitted on an annual basis. Commenters also raised concerns about situations where the MCO provides the full scope of services, stating that an assurance of parity compliance from the state in these cases is insufficient and creates inconsistency in documentation of compliance requirements. Another commenter requested that CMS provide technical assistance to states as they complete their parity analyses in order to give “best practices” in determining compliance.

*Response:* We will provide technical assistance and tools for states and MCOs that clarify expectations around the types of documentation that must be submitted with the MCO contracts and ABP state plan amendments to demonstrate compliance with parity. MCO contracts are typically submitted on an annual basis, and should include materials that demonstrate that the state is confident in the parity analysis. We do not believe that the parity analysis needs to be completed on an annual basis if the state can show that the plans or state did not change their operations in a way that would affect compliance with this rule. We will use the submitted documentation as part of our MCO contract review and approval

process. As noted in a previous response, states should consider including provisions in their contract for MCOs to report on the outcome of the parity analysis to ensure that parity is achieved and can be overseen appropriately. States may want to consider requiring the MCOs to complete the analysis in a way that is consistent with how the state completes the analysis for its ABP or CHIP state plans.

*Comment:* We received some comments noting that, in the proposed rule, states were only required to review MH/SUD services to ensure the full scope of services meets the requirements. Commenters believed that states need to review both the medical/surgical criteria and the MH/SUD criteria to determine full compliance with this rule.

*Response:* We agree with the commenters, and in the final rule we have revised to § 438.920(b)(1) to provide that the state must review both medical/surgical and MH/SUD benefits provided to determine compliance with the final rules where in the proposed rule we only indicated that the state would review the MH/SUD benefits. States should consider including contract provisions in all MCO and applicable PIHP and PAHP contracts to achieve this requirement.

*Comment:* One commenter expressed concern over the term “scope of services,” citing the fact that it has become a term of art within the context of parity and may be misconstrued when reviewing the regulation text in § 438.920(b).

*Response:* We appreciate that “scope of services” may have different meanings in different contexts, but we believe that for the purposes of this regulation, it is sufficiently clear that we mean the full set of benefits available to the Medicaid beneficiary.

*Comment:* We received several comments that requested that CMS require states to publicly report on the progress of compliance during the 18-month period between the publication date of the final rule and date of compliance, and to make sure states engage the public on the progress towards compliance with the requirements of this rule. Several commenters urged CMS to develop a common methodology for federal and state regulators to provide identifiable transparent information on parity compliance investigations to encourage uniform compliance practices. Commenters requested that CMS post the compliance plans on Medicaid.gov and on state Medicaid Web sites, and to closely monitor states on their progress.

*Response:* To make compliance information available to the public more quickly, and to simplify compliance deadlines across requirements for MCOs, ABPs, and CHIP, we have changed the date by which states must provide such information from 18 months from the effective date of the final rule to 18 months from the publication date of the final rule. Because the provisions of the final rule do not become effective until 60 days after publication, this change will ensure that information regarding states’ compliance with this subpart becomes available to the public in a timely manner.

As specified in § 438.920(b)(1) of this final rule, states must make documentation available to the public within 18 months after the publication of this final rule about compliance with these rules; this means that states must report how they are complying in order to document compliance. We have clarified in the final regulation at § 438.920(b)(1) that this documentation must be updated when benefits change.

We do not require through regulation that states consult with stakeholders on how to comply with these rules because in doing so we believe we would have needed to specify how and when that public input process occurred which could create further delays in the implementation timeline, making it longer than 18 months. Although we are not requiring states to work with stakeholders and other public interests to determine the best way to comply with these rules, we believe that states will need to discuss options with stakeholders in their current delivery systems to be able to ascertain the best delivery system for any additional benefits that may be required. We also encourage states to have discussions with stakeholders other than their providers and plans to ensure they achieve compliance in the best way for their beneficiaries. We do not believe we also need to post the materials on Medicaid.gov, as states will be posting their documentation on their own Web sites. Posting on state Web sites is more targeted and would be more effective in facilitating discussions with the stakeholders in that state. We are not mandating the use of a common methodology for state oversight of parity compliance, given the diversity of approaches that states use to structure their treatment delivery systems, and given our desire to provide states flexibility to tailor their administrative processes to the context and needs in their state. However, as noted in other sections, we will make technical

assistance available to states that wish to discuss compliance strategies.

*Comment:* We received comments about the use of a Web site for the location of where states make the documentation of compliance available to the public. One commenter noted that the use of a Web site would be too administratively burdensome on states and questioned why this particular provision would be called out when others do not require to be posted on a state's Web site. Another commenter requested that CMS clarify in the text of the regulation that the state must use a Web site, noting that the proposed language only indicates that the state must make the documentation available but did not specify the location.

*Response:* We believe that the use of a Web site operated by the state is consistent with other managed care proposed rules and in line with other requirements. Therefore, we are modifying the regulation in this final rule to require, in § 438.920(b)(1), that the documents demonstrating compliance must be made available to the general public through the state's Web site.

As indicated in the response to comments here and in other sections, we are finalizing these provisions in § 438.920(a) and (b), § 440.395(e), and § 457.496(f)(1) as proposed with several revisions. We revised § 438.920(b)(1) to clarify that the state must review both medical/surgical and MH/SUD services delivered to MCO enrollees to determine compliance with the final rules and we revised § 438.920(b)(2) to clarify that the state needs to complete oversight to ensure enrollees receive services in compliance with these rules in every instance that there is an enrollee of an MCO. The requirements of § 457.496(f)(1) were also modified to require states to indicate in their state plan the standard used, such as state guidelines or the most current versions of the DSM or ICD, when classifying benefits into their respective category as a medical/surgical, mental health, or substance abuse disorder benefit. The intent of this requirement is to capture this information within the state plan in order to increase transparency and facilitate our understanding of the state's parity analysis during our review of their compliance SPA. Furthermore, the collection of this standard is consistent with the approach taken in CHIP to describe other required benefits provided in separate CHIPs. We are also finalizing § 438.920(b)(1) with a change in the date by which the state must publish the documentation of its compliance with part 438, subpart K

and a requirement for the state to update its analysis and documentation.

*M. Scope of Services (§ 438.920(c), § 440.395(e)(2), § 457.496(f)(2))*

In the proposed rule, we included provisions relating to the scope of the parity requirements for Medicaid MCOs and CHIP state plans that were similar to the provisions set forth in the MHPAEA final regulations (§ 146.136(e)(3)). Specifically, the proposed regulations did not require a MCO, PIHP, or PAHP to provide any MH/SUD benefits for conditions or disorders beyond the conditions or disorders that are covered as required by their contract with the state. For MCOs, PIHPs, or PAHPs that provide benefits for one or more specific MH conditions or SUDs under their contracts, the proposed regulations did not require the MCO, PIHP, or PAHP to provide benefits for additional MH conditions or SUDs. The proposed regulations did not affect the terms and conditions relating to the amount, duration, or scope of MH/SUD benefits under the MCO, PIHP or PAHP contract except as specifically provided in § 438.905 and § 438.910 of part K. For states providing benefits through ABPs, we clarified in proposed § 440.395(d)(2) (which is being redesignated as § 440.395(e)(2) in this final rule), that § 440.395 does not require a state to provide any specific MH/SUD benefits; however in providing coverage through an ABP, the state must include EHBs based on the applicable EHB reference benchmark plan, including the ten EHBs specifically required in § 440.347.

*Comment:* We received comments requesting that CMS strengthen its requirements around prescription drug coverage for MH/SUD conditions and require that the full range of mental health and addiction medications approved by the FDA must be covered.

*Response:* Under Federal Medicaid law, states are required to comply with the requirements of section 1927(g)(1) of the Act to the extent that they provide assistance for covered outpatient drugs under their Medicaid FFS programs or Medicaid managed care plans. Therefore, states are required to provide coverage of all drugs that meet the definition of covered outpatient drugs as outlined in section 1927 of the Act, when such drugs are prescribed for medically accepted indications, including those indicated for the treatment of mental health conditions and substance use disorders. Consistent with section 1927(d) of the Act, state Medicaid FFS programs and Medicaid managed care plans have the discretion to establish certain utilization

management techniques that include preferred drug lists and prior authorization processes for the coverage of covered outpatient drugs.

However, under the requirements of this rule, a regulated entity may not impose NQTLs (including prior authorization or other utilization management strategies) for drugs used to treat MH/SUD conditions unless any processes, strategies, evidentiary standards, or other factors used in applying the NQTL to the MH/SUD benefit are comparable to, and are applied no more stringently than, the processes, strategies, evidentiary standards, or other factors used in applying the limitation for medical/surgical benefits in the same classification. Similarly, under certain circumstances, regulated entities may apply different levels of financial requirements and treatment limitations to different tiers of prescription drugs and still satisfy the parity requirements. Regulated entities may subdivide the prescription drug classification into tiers based on reasonable factors as described in this rule and without regard to whether a drug is generally prescribed for medical/surgical benefits or for MH/SUD benefits.

*Comment:* We received a few comments that wanted CMS to encourage states to cover MH/SUD services through a broad range of providers as a way to ensure adequate access to services.

*Response:* Although we believe that this comment is outside the scope of this rule, we have issued guidance over the past several years and provided states with information to encourage access to mental health and substance use services, including clarifications regarding additional agencies and practitioners that can render MH/SUD services.

*Comment:* One commenter expressed concern with language at § 438.920(c)(1) that stated that MCOs are not required to provide any services beyond what is described in their contract. This commenter believed that this could provide a loophole for MCOs looking to reduce benefits.

*Response:* We included this provision based on the ability of the state to determine compliance with the requirements in Subpart K of 42 CFR part 438 across multiple delivery systems. If a state is using a PIHP, PAHP, or FFS benefits to comply with these rules, the MCO should not also have to provide additional benefits on the basis that its contract, on its own, does not comply with the requirements in this subpart. We believe that other areas of 42 CFR part 438 protect against

the MCO arbitrarily reducing benefits, most notably § 438.210, which provides that the MCO may not arbitrarily deny or reduce the amount, duration or scope of a required service solely because of the diagnosis of a beneficiary.

As indicated in the response to comments, we are finalizing the provisions regarding scope of services at § 438.920(c), § 440.395(e)(2), and § 457.496(f)(2) as proposed.

#### *N. Increased Cost Exemption*

The proposed rule did not include an increased cost exemption for MCOs, PIHPs, or PAHPs. However, the proposed rule did include changes to payment provisions in part 438 to allow states to include the cost of providing additional services or removing or aligning treatment limitations in their actuarially sound rate methodology where such costs are necessary to comply with the MHPAEA parity provisions. These proposed changes to the managed care rate setting process would give states and MCOs the ability to fully comply with these mental health parity requirements by giving them flexibility to provide services compliant with this regulation or remove or align service limits. We stated that the Medicaid program rather than the plan should bear the costs of these changes, and proposed to provide up to 18 months after the date of the publication of the final rule for states to establish compliance with the provisions of this final rule (see discussion in section P: “Applicability and Compliance”). This would allow states to take the actions to make the policy and budgetary changes needed for compliance. The proposed rule also excluded permission for states delivering services through an ABP or CHIP State plan to apply for a cost exemption due to the mandatory delivery of EHB and the requirement that ABPs be compliant with MHPAEA.

*Comment:* Many commenters agreed that an increased cost exemption for parity was not needed. The commenters supported building in increased costs associated with parity into the state’s rate setting structure. In addition, the commenters recommended that the regulation require a behavioral health medical loss ratio of 90 percent for clinical services, MH/SUD services and activities that improve health care quality in their MCO contracts. One commenter recommended that CMS allow cost exemptions for administrative expenses to MCOs in instances where states may not develop rates that adequately support the additional care management and

coordination required to ensure compliance with parity requirements.

*Response:* We affirm that this rule does not include an increased cost exemption for MCOs, PIHPs, or PAHPs. We do not expect Medicaid managed care entities to incur any net increase in costs because we are finalizing a provision stating that the costs of complying with parity requirements may be taken into account within an actuarially sound payment methodology. However, recommendations regarding requirements for medical loss ratios or reimbursement rates are beyond the scope of this final regulation.

*Comment:* Many commenters disagreed with denying states access to a cost exemption. The commenters maintained that MHPAEA allows group health plans and insurance issuers to seek a cost exemption, and the Medicaid statute specifies that the mental health requirements apply to Medicaid MCOs, ABPs, and CHIP “insofar as such requirements apply and are effective with respect to a health insurance issuer that offers group health insurance coverage,” or “in the same manner as such requirements apply to a group health plan.” The commenters explained that there was no basis for CMS to apply MHPAEA to Medicaid and CHIP, but then for CMS to refuse to apply MHPAEA’s cost exemption provision.

The commenters suggested that although MCOs may receive increased capitation payments to comply with the parity requirements in this final rule, there is still an increased cost for the state (and the federal government). In addition, the commenters indicated that it does not make sense to prevent ABPs from accessing the cost exemption simply because they must cover EHBs and must comply with parity requirements. The commenters reasoned that Federal law also requires commercial group plans to comply with MHPAEA, and it requires commercial small group and individual plans to cover EHBs, but that does not exclude them from seeking for a cost exemption under MHPAEA. The commenters applied the same logic to CHIP.

*Response:* As we proposed, we are not extending the cost exemption provision to MCOs, PIHPs, PAHPs, or states. We require MCOs to be paid on an actuarially sound basis, which would include the cost of adding services or removing or aligning treatment limitations in managed care benefits so long as those additional benefits are necessary to comply with mental health parity requirements. States have the ability to make changes to their

capitation payments during the course of the contract year to account for unexpected changes in benefits, costs, and utilization if they find that the assumptions included in the initial rate development are different than actual experience. This final rule authorizes states, in instances where they choose not to change their state plan, to include the cost of services that are necessary to comply with this rule but are beyond what is specified in the state plan into the development of actuarially sound rates. This is different from the circumstances of the commercial market and removes the rationale for an increased cost exemption for Medicaid MCOs, PIHPs, and PAHPs. States may also choose to use a risk mitigation strategy in their rates the first year(s) that the additional benefits are added to a MCO, PIHP, or PAHP contract. This would ensure that any over- or under-payments are reconciled at the end of the year and give the state a more accurate sense of the utilization of services for future years of rate setting.

As indicated in the response to comments, as proposed, we do not include provisions in the final rule for an increased cost exemption.

#### *O. Enforcement, Managed Care Rate Setting (§ 438.6(e)) and Contract Review and Approval (§ 438.6(n))*

Proposed § 438.6(e) allowed a state’s rate-setting structure to account for services covered by an MCO, PIHP, or PAHP in excess of services and/or treatment limits that are listed in the State plan if such services are necessary for the MCO, PIHP or PAHP to comply with this rule. However, the proposed rule only allowed the state to adjust its capitation rates to provide for additional services to the extent that these services would not be included but for the requirements of this rule.

Proposed § 438.6(n) required states to include contract provisions requiring compliance with parity requirements in all applicable MCO, PIHP, and PAHP contracts. We noted that we expected states, in order to comply with the proposal, to include a methodology for the MCO, PIHP, or PAHP to establish and demonstrate compliance with parity requirements within the contracts. This methodology would have to provide a mechanism for all MCOs, PIHPs, or PAHPs included in the delivery system to work together to ensure that any MCO enrollee in a state is provided access to a set of benefits that meets the requirements of this rule regardless of the MH/SUD benefits provided by the MCO. If it was not shown through the MCO contract itself that an enrollee has access to parity-compliant MH/SUD



services in each classification in which medical and surgical services are provided, the state would be asked to provide supplemental materials to the MCO contract or an amendment to the contract to demonstrate that the standards provided here are met.

If a state did not adequately demonstrate that an MCO's contract and practices are in compliance with the proposed rule, CMS proposed to defer federal financial participation (FFP) on expenditures for the MCO contract because compliance with section 1932 is a requirement for FFP payment under section 1903(m)(2)(A)(xii) of the Act. Where there are services outside of the MCO contract that are needed to demonstrate compliance, the state would be required to show how the MCO enrollees are provided all the services needed to comply with the requirements in this rule.

*Comment:* We received a number of comments in support of CMS's proposal to allow states to include the costs of coming into compliance with the requirements of this rule into the actuarially sound capitation rates paid to the MCO, PIHP or PAHP providing MH/SUD services under § 438.6(e). One commenter noted that CMS can use its review and approval of managed care contracts to ensure FFP is being used solely for state plan items and services and those services necessary to satisfy the parity requirements. Commenters further stated that they believe the costs of coming into compliance will be minimal, and over time may save money as timely access to MH/SUD services may reduce the need for costly emergency and crisis care. One commenter added that this was an opportunity for plans to enhance care coordination, to the extent that these requirements ensure access to a wider range of specialists than previously covered. Some commenters requested that CMS require states to include the cost of any additional services in § 438.6(e)(3) rather than providing states the option to adjust these rates. Other commenters believed that the language was too broad and CMS should follow the guidance issued in the 2013 State Health Official letter which encouraged states to make changes to their state plan. Finally, others thought that the language was sufficiently clear and strongly requested that CMS refrain from adopting more prescriptive language regarding what additional benefits may be included because it is clear that the services need to be included to ensure parity.

*Response:* We believe that allowing capitation rates to reflect additional compliance costs related to non-state

plan services was necessary for plans and states to meet the requirements of Subpart K when changes to the Medicaid state plan are not required by federal law. We do not agree that it is necessary to explicitly amend § 438.6(e)(3) as suggested by the commenter to achieve this result, because we believe it will be inherent in 438.6(n). If services are necessary beyond what is included in the state plan to ensure compliance with this rule, states and their actuaries must take the expected reasonable and appropriate cost of those additional services into consideration while setting actuarially sound rates. In addition, as noted in other areas of the rule, states have the flexibility to include those additional services either through the MCO, PIHP, or PAHP benefit package, or they can add them to the state plan by completing a state plan amendment. To make the payment rate adjustment under § 438.6(e)(3) a requirement could prohibit states from making changes to their state plan which could allow for a broader application of parity than is required through this rule.

*Comment:* We received several comments requesting model contract language that states can use to be able to demonstrate compliance with these rules. Contract language is requested to clarify which additional MH/SUD services plans would be required to provide when a carve-out approach is used, and to require states to reimburse the plan in an actuarially sound manner.

*Response:* Considering there are a number of different models the states can choose to demonstrate compliance, we would not be able to provide model contract language for every situation. However, we are working with a contractor to develop technical assistance materials, and we are available to states during the transition period if states would like to discuss their plans for compliance and possible contract language.

*Comment:* We received a number of comments requesting CMS to provide more clarity on what documentation it expects states to provide to show that it complies with the regulations when submitting MCO contracts.

*Response:* We will release subregulatory guidance around documentation that will be required to show compliance with these regulations. Additionally, we are working with a contractor to develop tools and provide technical assistance to states in completing the analysis of their delivery systems to ensure the benefit design and medical management

techniques meet the requirements of these rules.

*Comment:* We received some comments requesting CMS clarify its role in oversight of these regulations and urged CMS to improve enforcement in the commercial market, as well as for Medicaid and CHIP.

*Response:* Oversight of commercial products and compliance with the tri-Department MHPAEA final rules are outside the scope of this final rule.

As with other Medicaid MCO contracts and state plan amendments, we will review associated and relevant documents submitted by the state. This will include the review of the MCO contracts and SPA documents, as well as any documentation of the parity analysis the state has done to determine that their system and/or benefit design meet the requirements of this rule. States will be the primary oversight entity to ensure that services are delivered in compliance with these rules. Beneficiaries and/or stakeholders should first direct any issues related to compliance with this rule to the state. We are willing to accept complaints around compliance with this rule and we may discuss these issues with states to determine if any corrective actions need to take place.

*Comment:* There were several comments that CMS should specify that CMS, states, MCOs, PIHPs, and PAHPs pay particular attention to MH/SUD parity requirements for children and adolescents as a distinct population group. The commenters encouraged CMS and states, when assessing compliance with these rules, to obtain input on delivery of services from child and adolescent MH/SUD providers, including pediatric medical providers. In addition, the commenters strongly suggested CMS regularly monitor pediatric MH/SUD network adequacy, access standards for children and adolescents (including inpatient admission), EPSDT service coverage mandate and prior authorization criteria, data showing the number of reasons for child and adolescent denials, and pre- and post-utilization patterns by children of intensive home and community based services, and inpatient MH/SUD services.

*Response:* This final rule does not create specific oversight requirements for distinct population groups, nor does it provide for access reviews to needed services. States are required to ensure compliance with the requirements of this rule for all enrollees whose benefits are subject to this rule. However, we will provide technical assistance to states upon request to assist with the implementation of this rule. If questions



or confusion persist about the requirements of this rule for pediatric populations, we may provide tools or guidance to respond to those questions. CHIP and ABP programs that include full coverage of EPSDT, in the same manner as in regular Medicaid coverage, will be deemed compliant with this rule in accordance with the statutory authority. However, we will review a state's assurance carefully as a part of the CHIP or ABP SPA review process to ensure compliance with all EPSDT requirements, including the methods and procedures for implementing the EPSDT benefit. We also anticipate providing clarification through subregulatory guidance to states about the proper implementation of the EPSDT benefit. With regard to the comments on the issue of monitoring access to services that issue is outside the scope of this final rule. We are engaged in separate rulemaking to strengthen state and federal reviews of beneficiary access to needed services.

*Comment:* We received a number of comments that requested CMS strengthen its oversight role of the rate setting process to ensure that rates are set on an actuarially sound basis when services beyond the state plan are included. These comments included a variety of suggested approaches and requirements, including: Not requiring MCOs to cover additional services until actuarially sound rates are in place; greater transparency about how states will accommodate the additional costs of compliance in their rate setting approaches; requirements that rates be set based on the specific benefit set instead of a historical look-back; development of a template that translates service changes into rate-setting formulations; annual end-of-year reconciliations of the increased costs associated with the additional benefits added to be in compliance with this rule compared to capitation rates; requiring states to consult with MCOs to select appropriate proxy data prior to development of the capitation rates; or requiring a robust analysis of past and projected claims experience.

*Response:* We believe that these comments stem from a perceived lack of transparency on the rate setting process in general, and that the majority of these concerns are not specific to this rule. These issues are beyond the scope of this rule; we note that we are working to increase the transparency and oversight of Medicaid managed care rate setting. We believe that the suggestions included in the comments are all helpful, but that no single approach will be appropriate for all states, and therefore, decline to require a specific

methodology for including additional services required by parity into the capitation rates. States should work with their MCOs, PIHPs and PAHP as well as their actuaries when they develop their rates, which are required to be actuarially sound.

*Comment:* One commenter expressed concern that the rate setting provisions in this rule may limit states' ability to pursue innovation, and stated that states should remain free to continue to allow MCOs to provide additional non-covered services, in-lieu of covered benefits, or value added additional benefits with their savings.

*Response:* We do not believe that this rule limits a state's ability to pursue innovation by allowing MCOs to offer additional services not specified under the state plan or contract, commonly referred to as in-lieu of benefits or value added benefits. States and MCOs are still permitted to provide these benefits under this rule. This final rule only specifies that states must include the cost of additional benefits necessary for compliance with parity in the capitation rate development process. Comments about the rate setting process in general are outside the scope of this final rule.

*Comment:* CMS should articulate penalties for violations of parity and publish announcements about the remedies implemented and sanctions imposed to deter parity non-compliance.

*Response:* In the proposed rule and as remains in the final rule, where there are services outside of the MCO contract that are needed to demonstrate compliance, the state is required to show how the MCO enrollees are expected to receive all the services needed to comply with the requirements in this rule. States would be able to do this by providing evidence of the other services provided through a FFS system, or included in contracts with other types of managed care entities such as through a PIHP or a PAHP. We would also expect that the state provide the analysis that shows services provided through the MCO meet the requirements of this final rule. We clarify our intent that this demonstration would be a precondition to CMS approval of the MCO contract under § 438.6. If the state cannot provide evidence of this compliance outside of the MCO contract, then the state has not demonstrated that the contract complies with parity requirements and we will not approve the contract until evidence of compliance is provided. We may defer claims for FFP in expenditures for capitation rates paid based on unapproved MCO contracts in this circumstance.

*Comment:* Some commenters expressed concern about the potential to defer FFP on MCO contracts when a carve-out delivery system is in place and the MCO is not the party that is determined to be out of compliance. These commenters requested that in these cases states be required to continue to pay the contracting plan actuarially sound capitation payments.

*Response:* Payment obligations under contracts between the state and the MCO are governed by state law, and contracts are subject to CMS approval. States and plans will want to discuss payment arrangements to ensure both parties understand if and when payments to the MCOs may or may not be paid which could include instances where a compliance issue with these rules is discovered either in the MCO contract or another delivery system that the MCO enrollee receives services from.

*Comment:* Several commenters recommend that CMS instruct states to establish specific capitation rates for children and adolescents due to concerns about assuring network participation for appropriate providers for that age range, recognizing other pediatric providers not typically considered MH/SUD providers, and accounting for appropriate utilization of MH/SUD services through EPSDT in those specific rate cells.

*Response:* Current rules, at § 438.6(c)(3)(iii), require that when states set actuarially sound rates they must apply rate cells by eligibility category, age, gender, locality and risk adjustment or explain why they are not applicable. We do not require states to use a specific rate cell structure when developing their rates for MCOs, PIHPs, and PAHPs. States will want to consider all factors of their program when determining their rate cell structure and ensure that it is done in compliance with the managed care rules and in consideration of anticipated utilization of a benefit package in compliance with this final rule.

*Comment:* We received several comments about care coordination when states are using a carve-out system. This includes ensuring there is appropriate care coordination with providers of all types, including pediatric primary care providers, other managed care entities, and MH/SUD providers. Commenters urged CMS to consider care coordination as service costs to ensure they are included in the costs when developing actuarially sound capitation rates.

*Response:* Care coordination is typically considered part of the non-benefit costs when developing

actuarially sound capitation payments, though states have some ability to include care coordination as a service if they include targeted case management in the benefit package. When states develop their non-benefit costs, including care coordination, states should consider the costs directly related to providing the services covered by the contract. Additionally, when states include targeted case management as a benefit, they must adequately price the service. Requiring states to account for care coordination as a service is outside the scope of this regulation.

*Comment:* Some commenters requested that CMS provide additional guidance on care coordination with pediatric primary care providers and how states should require their plans to coordinate with these provider types.

*Response:* We do not believe there is any one way to provide appropriate care coordination for individuals with MH/SUD conditions. However, we do agree that when services are better coordinated and all providers caring for the individual are informed of treatment planning, the beneficiary is likely to have better outcomes. Therefore, we encourage states to include contract provisions to ensure that MCOs, PIHPs and PAHPs work to coordinate among themselves and with providers to deliver an integrated set of benefits to enrollees. For more detail regarding care coordination in a Medicaid managed care environment, please refer to § 438.208.

*Comment:* We received several comments requesting that CMS prioritize oversight and transparency in the delivery of services, including pharmacy services and formulary design/benefit tiering. Commenters requested that CMS carefully monitor claims data to quickly identify and remedy any problems.

*Response:* States provide the first level of oversight under this rule, and we expect states to monitor all aspects of service delivery to ensure compliance with this rule. We are always available for technical assistance to states for assistance in monitoring and if necessary to develop corrective action plans if issues are identified. In addition, we will review all areas of compliance with this rule, including whether the delivery of pharmacy services is compliant with parity requirements. As with other service classifications under this rule, states will be required to provide evidence that covered pharmacy benefits meet the requirements of this rule. We may consider using data reported through CMS claims and encounter data reporting systems to monitor service

delivery, and we will work with states if any issues are identified.

*Comment:* Some commenters expressed concern that plans and states may put in place additional administrative measures or limits on medical/surgical benefits as a way to comply with these rules. Commenters requested that we put in place a maintenance-of-effort provision, or a requirement that states and plans can only comply with this rule by reducing restrictions on MH/SUD services to ensure that plans are not able to use administrative processes to deny access to services.

*Response:* MCOs must provide benefits in the same amount, duration, and scope as the benefits offered under the state plan. States may have some restrictions on services provided under their state plan, particularly services that are optional. If a state chooses to reduce or restrict the amount, duration or scope of covered medical/surgical services it must do so through an amendment to its state plan. When reducing benefits in the state plan, a state must meet sufficiency requirements, so any reduction in medical/surgical benefits must be reviewed and approved by CMS. Consistent with the experience we have seen in the commercial market around reductions of benefits, we believe that states will not typically choose to go through the state plan amendment process to reduce medical/surgical benefits in order to make it easier for MCO coverage to meet the requirements of this rule. As some commenters noted previously, states may also realize savings over time because of increased access to MH/SUD services.

*Comment:* One commenter requested that CMS undertake an annual state-by-state analysis of benefit packages to determine that states and MCOs are in compliance with the requirements of this rule.

*Response:* Although we agree that regular monitoring of the provisions of this rule is important, we do not agree that this needs to be done on an annual basis. All managed care contracts must be reviewed and approved to be in compliance with these rules. However, mature programs do not make frequent changes in their operation that would cause them to come out of compliance with this final rule. We may ask a state to affirm that the delivery system is still in compliance at any time, including during the state plan amendment process and annual contract reviews; further we will undertake reviews as needed. However, states will be permitted to attest that there are no changes in benefit design or

requirements that affect parity compliance.

*Comment:* A few commenters requested that additional reporting requirements be included to increase health plan transparency and enhance enforcement for NQTLs.

*Response:* We believe that sufficient guidance exists regarding the recording of NQTLs in plan materials to provide transparency to beneficiaries and the public. We will make technical assistance available to states to help them develop strategies for providing proper oversight of parity requirements regarding the application of NQTLs to MH/SUD benefits.

*Comment:* One commenter requested that CMS require states to share with MCOs the methodology the state used to determine that the delivery system was in compliance with this rule.

*Response:* As states will be required to report publicly, under § 438.920(b)(1), how they are complying with the requirements in this final rule in cases where not all benefits are provided through the MCO, we believe that MCOs will be able to see the information just as other stakeholders do. As plans in that delivery system (such as MCOs, PIHPs and PAHPs) will be reporting information to the state for the state to complete the analysis, the plans will have an opportunity to discuss the methodology with the state to report information; we anticipate that discussions will occur as the nature and extent of the analysis will determine the nature and scope of the underlying data needed from plans. We do not believe our regulation should require states to share the methodology with the plans just as we are not requiring the MCOs to share their methodology with the state in instances where all benefits are provided through the MCO through this rule.

*Comment:* One commenter was concerned that CMS did not propose to include additional administrative funding within the capitated rate setting process to cover the costs of providing the additional services through the MCO, PIHP or PAHP.

*Response:* As part of an actuarially sound rate setting process, states should cover the costs of providing what is included in the contract. If a state believes that additional administrative funding is necessary on the part of the MCO, PIHP or PAHP to provide any additional services necessary to comply with this rule, those costs should be included as part of their regular rate setting process.

*Comment:* One commenter requested that CMS revise § 438.6(n) to state that contracts must “specify that services

must be provided in compliance with Subpart K” as opposed to requiring that they “ensure that enrollees receive services that are compliant with subpart K.”

*Response:* We agree that the use of “ensure” when discussing contract provisions is not consistent with other provisions in § 438.6 and that it is more appropriate to target the requirement on the provision, rather than the receipt, of services. To be consistent with the phrasing throughout § 438.6 and to address the commenter’s concern that a contract cannot ensure that appropriate services are received, we are finalizing § 438.6(n) with modifications to state that contracts must provide for services to be delivered in compliance with subpart K.

*Comment:* One commenter encouraged state departments of insurance to take a stronger role in monitoring parity compliance. For example, the commenter requested that a report be made to the state department of insurance when a plan has medical necessity criteria that are more stringent than generally accepted medical standards.

*Response:* We believe that states may choose to use a number of ways to monitor compliance with these rules. A state Medicaid agency may choose to use the state department of insurance to help monitor compliance, but we are not requiring this approach. It is not within the scope of this final rule to address how state departments of insurance may have a role in monitoring compliance by private insurers or group health plans with the tri-Department MHPAEA rules.

*Comment:* One commenter requested CMS postpone the application of these rules until there is an opportunity for stakeholders to comment on the combined impact of these changes with the proposed changes to rate setting requirements included in the proposed rule titled “Medicaid and Children’s Health Insurance Program (CHIP) Programs; Medicaid Managed Care, CHIP Delivered in Managed Care, Medicaid and CHIP Comprehensive Quality Strategies, and Revisions Related to Third Party Liability” (80 FR 31098 through 31297).

*Response:* We do not believe that an opportunity for states and stakeholders to comment on the combination of these two proposed rules is needed. The changes proposed to Medicaid managed care rate setting in the proposed rule entitled “Medicaid and Children’s Health Insurance Program (CHIP) Programs; Medicaid Managed Care, CHIP Delivered in Managed Care, Medicaid and CHIP Comprehensive

Quality Strategies, and Revisions Related to Third Party Liability” (80 FR 31098 through 31297) are intended to increase the overall transparency of the rate setting process and should not impact the specific provisions of this rule. We have included the rate setting provisions that are specific to compliance with parity standards in this final rule.

*Comment:* One commenter requested that CMS broaden the scope of the payment for services to MCOs so that it also includes payment to providers.

*Response:* We believe that payment to providers is addressed through our discussion of NQTLs in this rule. Payments for services are negotiated between the health care provider and the MCO, PIHP, or PAHP, and plans and providers have the autonomy to negotiate payment rates so long as they are adequate to cover services in an amount, duration and scope that is at least equal to what is provided in the state plan which is consistent with § 438.210.

As indicated in the response to comments, we are finalizing the provisions regarding enforcement and managed care rate setting at § 438.6(e) and the provisions regarding contract review and approval at § 438.6(n) as proposed, with the exception of the revision in § 438.6(n) to target contract requirements on the provision, rather than the receipt, of services.

#### *P. Applicability and Compliance (§ 438.930, § 440.395(d), § 457.496(f))*

The proposed rule noted that MCOs, PIHPs, PAHPs, and states would have up to 18 months after publication of the final rule to establish compliance with the provisions of the final rule before we would take enforcement action.

Specifically, we proposed as follows:

- *Managed care:* Although the requirements of MHPAEA have applied to Medicaid MCOs through section 1932(b)(8) of the Act since 2008, for Medicaid MCOs, PIHPs, or PAHPs with existing contracts, states would have to establish compliance with the specific provisions in this final rule no later than the beginning of the contract year starting 18 months after the publication of the final rule. New managed care contracts, or amendments, would be required to be compliant.

- *ABPs:* Although the requirements of MHPAEA have applied since January 1, 2014, states would have up to 18 months after the publication of the final rule to establish that its ABPs are compliant with provisions in the final rule.

- *CHIP:* The requirements of MHPAEA have applied to CHIP since

October 1, 2009, however, states would have up to 18 months after the publication date of the final rule for CHIP plans to establish compliance with provisions in the final rule.

*Comment:* Commenters recommended a range of timeframes for states to come into compliance with these final regulations from 6 months to 24 months. Many of these commenters suggested that states that illustrate that they are making a good faith effort at compliance should be granted an extension no matter what the final rule states in terms of timeline for compliance. Several commenters noted that they believed the 18-month timeline would be sufficient to come into compliance. One commenter noted that the rules lacked a timeline for CMS to complete its review and approval process for state compliance. Depending on policies and structures, states will need to conduct thorough policy analysis and may need state plan amendments, systems changes and contract revisions.

An overwhelming number of commenters urged CMS to shorten the timeframe for states to come into compliance with the parity rules. Many referenced the fact that the proposed rule comes more than 5 years after the MHPAEA parity protections were applied to MCOs in 2008. States have been aware since passage of MHPAEA that its requirements apply to Medicaid MCOs and CHIP programs. Additionally states have known that these requirements apply to Medicaid ABPs since the passage of the Affordable Care Act in 2010. Recommendations to CMS from these commenters proposed a range of 6 to 12 months for states to come into compliance with this final regulation.

Several commenters recommended to CMS that health plans and their subcontractors not be penalized as a result of a state Medicaid agency experiencing delays in implementing the final rule in the required timeline. Additionally, it was requested that CMS allow plans an additional six months after a state has completed the parity analysis and developed the necessary standards to come into compliance.

*Response:* We are finalizing § 438.930 with a modification from the proposed text; § 438.930, as finalized, states that contracts with MCOs, PIHPs, and PAHPs offering Medicaid state plan services to enrollees, and those entities, must comply with the requirements of this subpart no later than 18 months after the date of publication of this final rule. The proposed rule required such compliance no later than the beginning of the contract year starting 18 months after the date of publication of this final

rule. Because a contract year could begin just before the date of publication of this final rule, the proposed rule could potentially have allowed a plan an additional period of up to 12 months beyond expected compliance date (that is, roughly 18 months after the publication date of this final rule) before being subject to any CMS enforcement action. Therefore, this change responds to commenter concerns about delays in implementation by ensuring that necessary changes are implemented no more than 18 months after the date of publication of this final rule. This change also aligns the compliance date for MCOs, PIHPs, and PAHPs with the compliance dates proposed for ABPs and CHIP, finalized here in § 440.395(e)(4) and § 457.496(g). We note that it is common practice for states to amend MCO contracts mid-year, so we do not anticipate that it will cause an undue burden to states to make any needed changes to their MCO, PIHP, or PAHP contracts by the stated compliance date.

For ABPs and CHIP, we will finalize the proposed policy to allow 18 months from the publication date of this final rule for states to establish compliance with the provisions of this final rule. While we understand that many commenters believe that states and MCOs should be complying with parity given the statute and subregulatory guidance, we believe that the regulations will require states and plans to make additional changes to their benefits and how they manage these benefits. In addition, the major reasons for allowing states 18 months to establish compliance with these rules are still relevant, including states' ability to get the necessary information to perform the parity analysis across delivery systems. As noted in other sections of the preamble, we may decline to approve MCO contracts and defer FFP if the state cannot establish that the benefits and delivery system are compliant with these rules. States may want to consider including penalties in their contracts if it is found that one of the managed care plans is the reason for the non-compliance.

*Comment:* Many commenters suggested that CMS include in the final rule language describing the CMS process for review and oversight of state attestations of compliance including benchmarks for states to follow for complying with this final regulation. The commenters recommended that benchmarks include the state's actions to bring coverage into compliance with the final regulation. Recommended actions included having all MCO contracts implemented or renewed prior

to the deadline in order to fully comply, ensuring that all FFS CHIP and ABP coverage meets parity and that states have taken all steps for compliance except some of the more time consuming steps such as renegotiating MCO contracts or passing authorizing legislation.

*Response:* We understand the utility of providing states with guidance about the states' role in ensuring that compliance is achieved in a timely manner. We have procured a contractor to provide technical assistance as requested by the states that may include toolkits or guidance regarding the creation of a parity implementation plan.

As indicated in the response to comments, we are finalizing the provisions regarding applicability and compliance at § 438.930, § 440.395(d), § 457.496(f) as proposed, with two exceptions. First, we are finalizing the ABP compliance provision with a different paragraph designation, § 440.395(e). Second, we are modifying the MCO compliance provision to align with the timing in final § 440.395(e) and § 457.496(g), applicable to ABPs and CHIP respectively.

#### *Q. Utilization Control*

Current Medicaid regulations concerning utilization control include requirements for the review of need for admission into mental hospitals (§ 456.171). These regulations specifically require medical and other professionals within the Medicaid agency (or its designee) to evaluate each beneficiary's need for admission into inpatient services in a mental hospital. There is not a similar requirement for the Medicaid agency to review each beneficiary's medical/surgical admission to other hospitals. States have indicated that this regulation presents challenges to achieving parity for inpatient services rendered in a mental hospital. We proposed to eliminate § 456.171 (namely, the current regulatory language that requires Medicaid agencies to evaluate each applicant's or beneficiary's need for admission into inpatient services in a mental hospital by reviewing and assessing the hospital's medical, psychiatric and social evaluations). A state could continue these evaluations, but would have to ensure that the standards and processes are consistent with the provisions in this regulation regarding nonquantitative treatment limits when parity requirements under this rule are applicable.

*Comment:* Several commenters supported the elimination of the requirement at § 456.171 regarding the

Medicaid agency review of the need for admission to a mental hospital. The commenters supported the elimination of required review for inpatient admissions because the requirement would be inconsistent with the proposed rule's provisions that utilization management techniques need to be applied in a comparable and no more restrictive manner with respect to mental health and substance use services as compared to medical/surgical services.

*Response:* This final rule removes the Medicaid regulation at § 456.171 which prescribed requirements for medical and other professionals within the Medicaid agency (or its designee) evaluating the need for admission of each applicant or beneficiary into inpatient services in a mental hospital. The Medicaid agency (or its designee) was required to review and assess the hospital's medical, psychiatric, and social evaluations. There was not a similar requirement for the Medicaid agency to review the hospital's evaluation of each applicant's or beneficiary's need for medical/surgical admissions. As a result, this requirement presented a challenge to achieving parity for inpatient services rendered in a mental hospital.

*Comment:* Some commenters opposed the elimination of the requirement at § 456.171. Specifically, the commenters believed in the importance of this pre-admission evaluation to protect individual rights, which is also required under state law. The commenters recognized that the proposed rule allowed states to continue these evaluations as long as the standards and processes for nonquantitative treatment limitations are also met, but were concerned that this may prove difficult to impossible to do. The commenters were concerned that removing the ability for appropriate evaluation of inpatient admissions could remove a certain level of protection for the individual that the regulation currently provides.

Another commenter recommended against the elimination of evaluations of medical necessity of inpatient psychiatric hospital admissions proposed within the proposed regulations. The commenter maintained that the elimination of these evaluations could compromise states' and MCOs' ability to ensure that the services provided are necessary and appropriate within the context of the entire spectrum of behavioral health care provided within the state.

*Response:* This final rule eliminates the requirement at § 456.171. Eliminating this requirement will still allow states to evaluate individuals

need for admission to inpatient psychiatric facilities. However the factors used in states' reviews of the inpatient hospital evaluations for admission must be comparable to and applied no more stringently than factors used in applying the limitation for medical surgical/benefits in the classification. As stated in this final regulation, factors mean the processes, strategies, evidentiary standards, or other considerations used in determining limitations on coverage of services. The phrase "applied no more stringently" requires that any processes, strategies, evidentiary standards, or other factors that are comparable on their face be applied in the same manner to medical/surgical benefits and MH/SUD benefits.

*Comment:* One commenter recommended removing the federal preadmission requirement from 42 CFR part 441 Subpart D, Inpatient Psychiatric Services for Individuals Under Age 21 in Psychiatric Facilities or Programs. In addition, this commenter requested CMS use precise language to avoid confusion and misperceptions that Institution for Mental Disease (IMD) exclusion does not apply to children under 21.

*Response:* To clarify, the final rule does not make changes to the certification of need and other requirements applicable to the Inpatient Psychiatric Services for Individuals under Age 21 benefit described at § 440.160 and Subpart D § 441.150 through 441.182. The Inpatient Psychiatric Services for Individuals under Age 21 benefit remains an exception to the IMD exclusion.

As indicated in the response to comments, we are finalizing the removal of § 456.171 as proposed.

#### *R. Institutions for Mental Disease*

The IMD exclusion is a statutory prohibition on providing Medicaid matching funds for services provided to individuals aged 21 to 64 who are inpatients in IMDs. IMDs are defined in statute as any hospital, nursing facility, or other institution of more than 16 beds, that is primarily engaged in providing diagnosis, treatment, or care of persons with mental diseases, including medical attention, nursing care, and related services. This exclusion has been in place since Medicaid was established in 1965 and was based on amendments to the statute that predated Medicaid and prohibited cash assistance payments for services for individuals in IMDs. The proposed regulation did not address the IMD payment exclusion. We received several comments on the applicability of this

regulation on our IMD payment policy. While we understand commenters' concerns, we are not making changes to this rule on this topic for the reasons set forth below.

*Comment:* Many commenters suggested that CMS revisit IMD policies. The commenters stated that the Medicaid payment exclusion for services in IMDs is a barrier to equitable access to inpatient behavioral health services. The commenters indicated that federal action is needed to remove this obstacle to parity and ensure Medicaid programs can meet the needs of beneficiaries with mental health and substance use disorders across the continuum of care. Several commenters recommended that CMS pursue congressional action to repeal or grant exceptions to the IMD exclusion for psychiatric patients admitted emergently to acute, short-stay psychiatric hospitals regardless of their bed size. A few commenters recommended that the final rule should clearly state that the IMD exclusion does not or should not apply to SUD residential or detoxification services or psychiatric patients admitted to crisis stabilization or other short-term residential rehabilitation services regardless of bed size. Another commenter indicated that the IMD exclusion precludes providers from creating specialized, centers of excellence for treating mental health and substance use disorders when 24-hour care is needed.

*Response:* The text following section 1905(a)(29) of the Act provides that FFP is not available for any medical assistance under title XIX for services provided to an individual ages 21 to 64 who is a patient in an IMD facility. Under this broad exclusion, FFP is generally unavailable for the cost of services (regardless of whether the services address physical or mental health) provided either inside or outside the IMD while the individual is a patient in the facility.

*Comment:* Several commenters were concerned about the IMD exclusion from a parity standpoint because there is no comparable restriction for medical/surgical benefits, and therefore, the exclusion unnecessarily serves to limit access to services based upon a quantitative restriction. Other commenters requested guidance about how to apply the IMD exclusion alongside this rule's guidance that restrictions based on facility type are a NQTL. Commenters also requested information about how parity protections apply to the full range of MH/SUD services typically provided in

facilities that fall under the IMD exclusion.

*Response:* The payment exclusion for Medicaid services provided to beneficiaries in IMDs is a statutory requirement established by the Congress in 1965 and therefore beyond the scope of this regulation. The full range of covered services, including MH/SUD services, could be provided to beneficiaries when they are in facilities that are not IMDs.

*Comment:* Several commenters recommended reconciling the IMD exclusion with the parity rules in the ABP context by interpreting the Medicaid statute as not applying the IMD exclusion to ABPs. The commenters maintained that CMS's current position is inconsistent with section 1937 of the Act, which provides that ABP coverage is provided notwithstanding \* \* \* any other provision of Title XIX that "would be directly contrary to [section 1937]." These commenters also state that section 1937 of the Act requires that ABPs cover EHBs, which must include MH/SUD services based on the benefits in a commercial benchmark plan that is likely to cover some services in psychiatric hospitals or other facilities that would be considered IMDs.

*Response:* States must offer services under ABPs that reflect the ten EHB categories, including MH/SUD services (42 CFR 440.347). As this final rule states, we did not intend to require states to include specific services within EHB categories offered through an ABP. Nor did we specifically require coverage of any particular inpatient or residential mental health services or treatment settings as part of "inpatient services" provided that the coverage complies with MHPAEA parity requirements. States may, however, be required to provide inpatient or residential mental health services that are included in the section 1937 coverage plan that is the basis for the ABP, or that are included in the base-benchmark plan selected by states to define EHBs for Medicaid. We clarified in the preamble of the final rule 42 CFR part 440 published in the **Federal Register** on July 15, 2013 (78 FR 42197) and we clarify for this rule that the IMD payment exclusion applies to all medical assistance, even medical assistance furnished through an ABP. To provide required coverage, a state may thus have to demonstrate that the coverage of inpatient (residential) mental health services is provided in integrated environments that include treatment of both physical and mental health conditions and patients. Finally, we clarify that the requirement that all ABPs comply with MHPAEA parity

requirements includes compliance with MHPAEA requirements regarding treatment limits.

*Comment:* Many commenters requested that CMS clarify how parity could be achieved given the coverage and payment exclusion for services to individuals in IMDs. The commenters requested clarification on access to out-of-network benefits where networks are inadequate.

*Response:* To clarify, in a Medicaid managed care environment, if a provider network is unable to provide necessary services covered under the contract to a particular enrollee, the MCO, PIHP, or PAHP must adequately (and on a timely basis) cover these services out-of-network for the enrollee as long as the MCO, PIHP, or PAHP is unable to provide them in-network. Therefore if a beneficiary needs a specific service covered under the contract but the service or provider is not available in the current network, such as inpatient mental health services, the MCO, PIHP, or PAHP will need to cover such services in a non-network hospital that provides inpatient mental health services. However, the IMD payment exclusion would apply regardless of whether the facility that provides inpatient mental health services is in network or out-of-network.

*Comment:* Several commenters requested guidance about how to align parity requirements with policies that will be finalized regarding IMDs in the Medicaid managed care proposed rule.

*Response:* Because the proposed rule, Medicaid and Children's Health Insurance Program (CHIP) Programs; Medicaid Managed Care, CHIP Delivered in Managed Care, Medicaid and CHIP Comprehensive Quality Strategies, and Revisions Related to Third Party Liability (80 FR 31098 through 31297) has not yet been finalized, we are unable to comment on the alignment of those requirements with this final rule at this time. When the Medicaid managed care rule is finalized, CMS will provide guidance and technical assistance as needed to help states understand the interplay between the requirements of these rules.

*Comment:* A few commenters urged CMS to continue to examine, through the Medicaid Emergency Psychiatric Demonstration project, whether eliminating or restricting the scope of the IMD exclusion can improve access to care and help reduce costs.

*Response:* In December 2013, we provided an interim Report to Congress on the Medicaid Emergency Psychiatric

Demonstration project,<sup>9</sup> and we will submit a final report in 2016. This report will provide information on the impact that this demonstration project had on access to care and the cost of these services.

For the reasons indicated in the response to comments, we do not include provisions in the final rule that are specific to IMDs.

#### *S. Medicare-Medicaid Dual Eligible Beneficiaries*

We received a number of comments about individuals who are dually eligible for both Medicaid and Medicare and the provision of both Medicaid and Medicare benefits to such beneficiaries. Mental health parity requirements under section 2726 of the PHS Act do not apply to Medicare Parts A, B, or D services covered by Medicaid MCOs, such as those covered by integrated plans for Medicare-Medicaid beneficiaries. The proposed rule noted that Medicare benefits are controlled by the Medicare statute and regulations, which are not within the scope of this rule.

*Comment:* Several commenters stated that it would be impractical, if not impossible, to isolate Medicare benefits from Medicaid benefits for the purposes of determining which aspects of a Medicare-Medicaid integrated care model must comply with MHPAEA. Other commenters noted that administrative difficulties that could arise under the proposed policy, including the complexity of applying NQTL standards to drugs covered by Medicaid but not covered by Medicare Part D. The commenters raised concerns that situations like this could result in increased fragmentation at a time when CMS has taken steps to better integrate coverage for Medicare-Medicaid beneficiaries. The commenters encouraged CMS to ensure that a beneficiary's entire benefit package of items and services meets parity standards, regardless of the entity or program that is responsible for financing the care, stating that this approach would ensure equitable access to MH/SUD by beneficiaries across all programs, and would also support issuers and states in meeting compliance standards.

*Response:* The MHPAEA statute does not apply to Medicare, and we lack the statutory authority to apply this rule to Medicare benefits. In states participating in the CMS Financial Alignment Initiative that are implementing a

capitated model in which beneficiaries are enrolled in managed care plans, we will provide technical assistance as needed about how to structure and assess those plans for compliance with MHPAEA.

For the reasons indicated in the response to comments, we do not include provisions in the final rule that are specific to coverage provided to Medicare-Medicaid beneficiaries.

#### **IV. Summary of Changes**

For the most part, this rule finalizes the provisions of the proposed rule. Those provisions of this final rule that differ from the proposed rule are as follows:

- We have revised the definitions in § 438.900, § 440.395(a) and § 457.496(a) so that long term services are included in the definition of medical/surgical benefits, mental health benefits, and substance use disorder benefits and that the provisions of this final regulation apply to these services.

- We are finalizing § 438.910(b)(2), § 440.395(b)(2)(ii) and § 457.496(d)(2)(ii) with a modification that requires the standards used to assign mental health/substance use disorder benefits to a classification be reasonable as well as the same as the standards used for medical/surgical benefits.

- We have revised § 438.910(d)(3) and § 457.496(d)(5) to eliminate the deeming provision; as finalized these rules do not provide that MCOs or CHIP state plans will be deemed in compliance with parity solely based on adherence to § 438.206(b)(4); this revision clarifies that the requirements of these two provisions are complementary.

- We have also revised the language in § 438.910(d)(3) and § 457.496(d)(5), as proposed it included a requirement to use the "same" standards regarding access to out-of-network providers, to more closely align with the general requirement for NQTLs; the rule is finalized to require the use of "comparable" standards.

- We have revised § 438.6(n) to require MCO contracts to provide for services to be delivered in compliance with this rule and new subpart K, rather than requiring those contracts to ensure that enrollees actually receive such services.

- We have modified § 438.905(a) to change the heading and delete designation of (a)(1).

- We have revised § 438.920(b)(1) to clarify that states have to review both medical/surgical benefits and MH/SUD benefits when completing the parity analysis. We have also specified in § 438.920(b)(1) that information on compliance with the rule must be made

<sup>9</sup>This interim report can be accessed online at [http://innovation.cms.gov/files/reports/mepd\\_rtc.pdf](http://innovation.cms.gov/files/reports/mepd_rtc.pdf).

available on a state's Web site, that such documentation must be provided within 18 months of the date of publication of this final rule, and that the documentation must be updated with any change in MCO, PIHP, PAHP or Medicaid state plan benefits. Minor revisions have also been made to the wording of this provision.

- We have revised § 438.920(b)(2) to require the state to ensure that all services be delivered to the enrollees of the MCO in compliance with this rule, regardless of whether the MCO covers all services or only a portion of the services.

- We have modified § 438.930 to provide that contracts with MCOs, PIHPs, and PAHPs offering Medicaid state plan services to enrollees, and those entities, must comply with the requirements of this subpart no later than 18 months after the date of publication of this final rule, regardless whether that date is the start or middle of a contract year.

- Consistent with the statute, we have added a new provision at § 440.395(c) to state that when ABPs are offering EPSDT services, they will be deemed in compliance with parity. We have also redesignated the remaining paragraphs and references accordingly.

- We have modified § 440.935(d)(1) to replace "Alternative Benefit Plans" with "ABPs" in the heading.

- We have revised 440.395(e)(2) to reflect that Essential Health Benefits are defined to potentially include more than the minimum 10 EHBs.

- We have modified § 457.496 throughout to replace "CHIP state plans" with "state plan."

- We have added clarifying language to the definition of EPSDT benefits within § 457.496(a) to indicate that states must provide services described in section 1905(r) of the Act in manner that is compliant with section 1902(a)(43) of the Act.

- We have modified § 457.496(b) to specify the requirements states must

follow in order for their separate CHIP to be deemed compliant with the MHPAEA parity requirements. These modifications include not excluding benefits on the basis of condition or diagnosis, and including a description of their efforts to comply with the deeming requirements within the state plan.. We also provide that if a state has elected in its state child health plan to cover EPSDT benefits only for certain children eligible under the state child health plan, the state is deemed compliant with this section only with respect to such children.

- We have modified § 457.496(d)(5) to refer to "providers for mental health or substance use disorder benefits" instead of "providers for mental health and substance use disorder benefits."

- We have modified § 457.496(f)(1) to specify that states must describe the standard being used to define medical/surgical, MH, and SUD benefits in their state plan.

- We have modified § 457.496(f)(1) to replace "State Medicaid agency" with "State."

- We have added a new § 457.496(f)(1)(i) and (ii) and redesignated the remaining provisions of this section.

- We have revised the regulatory text as applicable throughout to replace the acronym "MH/SUD" with the full phrase "mental health and substance use disorder" or "mental health or substance use disorder"

#### V. Collection of Information Requirements

Under the Paperwork Reduction Act of 1995 (PRA), we are required to provide 60-day notice in the **Federal Register** and solicit public comment before a collection of information requirement is submitted to the Office of Management and Budget (OMB) for review and approval. To fairly evaluate whether an information collection should be approved by OMB, section 3506(c)(2)(A) of the PRA requires that

we solicit comment on the following issues:

- The need for the information collection and its usefulness in carrying out the proper functions of our agency.
- The accuracy of our estimate of the information collection burden.
- The quality, utility, and clarity of the information to be collected.
- Recommendations to minimize the information collection burden on the affected public, including automated collection techniques.

In our April 10, 2015, proposed rule (80 FR 19418) we solicited public comment on each of the section 3506(c)(2)(A) required issues for the following information collection requirements. PRA-related comments were received as indicated below in section V.D. under "Comments Associated with the Proposed Collection of Information Requirements." While the changes that were made as a result of these comments did not revise the majority of the proposed requirements and burden estimates, burden for the requirements under § 438.920 (specific to performing and posting the parity analysis on the state's Web site) have been added to this final rule based on the comments received. Commenters raised concerns that the cost analysis of the proposed rule fails to consider the administrative cost to the states of providing MH/SUD services through MCOs and through FFS delivery systems. The proposed rule did not set forth such burden since we requested comments on our proposed approach.

#### A. Wage Estimates

To derive average costs, we used data from the U.S. Bureau of Labor Statistics' (BLS) May 2014 National Occupational Employment and Wage Estimates for all salary estimates ([www.bls.gov/oes/current/oes\\_nat.htm](http://www.bls.gov/oes/current/oes_nat.htm)). In this regard, Table 2 presents the mean hourly wage, the cost of fringe benefits, and the adjusted hourly wage.

TABLE 2—HOURLY WAGE ESTIMATES \*

Occupation title	Occupation code	Mean hourly wage	Fringe benefit (at 100%) (per hour)	Adjusted hourly wage
Business Operations Specialists .....	13–1000	\$33.69	\$33.69	\$67.38
Medical Secretaries .....	43–6013	16.12	16.12	32.24
Social Scientists and Related Workers .....	19–3099	38.48	38.48	76.96

\* The wage estimates from the proposed rule have been revised to account for more recent BLS data.

We have adjusted all our employee hourly wage estimates by a factor of 100 percent. This is necessarily a rough adjustment, both because fringe benefits

and overhead costs vary significantly from employer to employer, and because methods of estimating these costs vary widely from study to study.

Nonetheless, there is no practical alternative and we believe that doubling the hourly wage to estimate total cost is



a reasonably accurate estimation method.

#### B. Information Collection Requirements (ICRs)

1. ICRs Regarding the Availability of Information and the Criteria for Medical Necessity Determinations (§ 438.915(a), § 440.395(c)(1), and § 457.496(e)(1))

Sections 438.915(a), 440.395(c)(1), and 457.496(e)(1) require that the medical necessity determination criteria used by regulated entities for MH/SUD benefits be made available to potential participants, beneficiaries, or contracting providers upon request.

In the tri-Department MHPAEA final rule, the regulatory impact analysis (78 FR 68253 through 68266) quantified the costs for health insurance issuers and group health plans to disclose medical necessity criteria. For consistency and comparability, we are using the same method for determining this rule's disclosure costs, with adjustments to account for Medicaid MCOs, PIHPs and PAHPs, ABPs and CHIP, and the population covered.

**Labor Costs for Medical Necessity Disclosures.** Consistent with our proposed rule, we are unable to estimate with certainty the number of requests for medical necessity criteria disclosures that will be received by

regulated entities. While we did not receive any public comments on this point, the MHPAEA final rule's impact analysis set forth assumptions that we believe are relevant for calculating costs for the Medicaid and CHIP program. The impact analysis assumed that each plan would receive 3 medical necessity criteria disclosure requests for every 1,000 beneficiaries. This assumption equated to 0.003 requests per enrollee which was applied to the number of beneficiaries enrolled in Medicaid MCOs (33.1 million), ABP (8.7 million) and CHIP (5.7 million) to project 142,403 expected requests (99,328 for MCOs + 26,100 for ABPs +16,975 for CHIP).

To estimate the time it will take medical staff to respond to each request, we used the assumption in the MHPAEA final rule's impact analysis. Specifically, we assumed that it took a staff member (in this case, a medical secretary) 5 minutes to respond to the request. In this rule, this results in a total annual burden of 11,867 hours (142,403 requests × 5 min/60) at a cost of \$382,592.08 (11,867 hours × \$32.24/hour) for all Medicaid and CHIP programs. The state costs for this burden is \$153,037 (state match is 40 percent of costs).

**Mailing and Supply Costs.** The MHPAEA final rule's impact analysis

estimated that 38 percent of the requests would be delivered electronically with *de minimis* cost. The remaining requests would require materials, printing, and postage amounting to approximately 66 cents per request. We believe that the same mailing and supply costs per request will apply to the disclosure requirements of this rule. As shown in Table 3, mailing and supply costs are \$58,272 (88,291 responses × \$.66). State share for this cost is \$23,309. Total state share costs are \$176,346 (\$153,037 in labor costs and \$23,309 in mailing costs)

Table 3 also displays the added burden estimates, nationally and per program, for Medicaid MCOs and CHIP to comply with the medical necessity determination criteria's disclosure procedures. These estimates reflect the requests for medical necessity determination criteria's disclosure procedures by beneficiaries or contracting providers. The number of enrollees for MCOs/HIOs is based on the CMS national breakout as of July 2012 while the number for ABPs is based on the estimated enrollment growth due to Medicaid expansion ("National Health Expenditure Projections 2012–2022," CMS).<sup>10</sup> CHIP enrollment is based on Medicaid and CHIP Payment and Access Commission's 2014 estimates.

TABLE 3—NATIONAL AND PER PROGRAM BURDEN FOR THE MEDICAL NECESSITY DETERMINATION CRITERIA'S DISCLOSURE REQUIREMENTS

Plan type	Number of enrollees	Number of expected requests (0.003 requests per enrollee)	Time (@ 5 min/response) (hours)	Labor cost (\$) @ \$32.24/hr	Mailed responses (62% of expected enrollees)	Mailing and supply cost (\$) @ \$.66/ mailing	Total cost	State costs *
MCO/HIO .....	33,109,462	99,328	8,277	\$266,850.48	61,584	\$40,645	\$307,496	\$122,998
ABP .....	8,700,000	26,100	2,175	70,122.00	16,182	10,680	80,802	32,321
CHIP .....	5,658,460	16,975	1,415	45,619.60	10,525	6,947	52,567	21,027
Total .....	47,467,922	142,403	11,867	382,592.08	88,291	58,272	440,865	176,346

**Submitting Requests for Medical Necessity Disclosures (Potential Participants, Beneficiaries, and Contracting Providers).** Table 4 displays the added burden estimates, nationally and per program, for Medicaid and

CHIP potential participants, beneficiaries and providers to request the medical necessity determination criteria. It is difficult to determine the financial impact on providers since the proportion of providers that would

submit this request is unknown and the staff costs in these agencies would vary based on the level of professional (physician, licensed clinician, or medical claims staff) that may request this information.

<sup>10</sup> Estimates are based on the most recent data available at the time of the analysis.



TABLE 4—NATIONAL AND PER POTENTIAL PARTICIPANT, BENEFICIARIES AND PROVIDER BURDEN FOR THE MEDICAL NECESSITY DETERMINATION CRITERIA'S DISCLOSURE REQUIREMENTS

Plan type	Number of enrollees	Number of expected requests (0.003 requests per enrollee)	Time (@ 15 min/request) (hours)
MCO/HIO .....	33,109,462	99,328	24,832
ABP .....	8,700,000	26,100	6,525
CHIP .....	5,658,460	16,975	4,244
Total .....	47,467,922	142,403	35,601

The aforementioned requirements and burden will be submitted to OMB for approval under control number 0938–1280 (CMS–10556).

2. ICRs Regarding the Availability of Information and Reason for Any Denial (§§ 438.915(b), 440.395(c)(2), and 457.496(e)(2))

MHPAEA requires that the reason for any denial—under a group health plan or health insurance coverage—of reimbursement or payment for MH/SUD benefits must be made available (upon request or as otherwise required) by the plan administrator (or the health insurance issuer) to the beneficiary in accordance with MHPAEA regulations (45 CFR 146.136(d)(2)).

This final rule only addresses disclosure of information concerning the denial of reimbursement or payment for MH/SUD benefits. We believe that these requirements are already met by complying with existing disclosure requirements in parts 438 and 431, and therefore, do not create any new or revised requirements or burden beyond what is currently approved by OMB under control number 0938–1080 (CMS–10307). We also believe that these requirements are already met for CHIP by complying with existing notification and disclosure requirements in § 457.110 and § 457.1130, and therefore, do not create any requirements or burden beyond what is currently approved by OMB under control number 0938–1148 (CMS–10398 #34) (formerly, CMS–R–211, control number 0938–0707). For ABPs, these provisions do not create any new or revised third-party disclosure requirements beyond what is currently approved by OMB under control number 0938–1188 (CMS–10434).

3. ICRs Regarding Parity in Mental Health and Substance Use Disorder Benefits in Alternative Benefit Plans (§ 440.395)

When a state plan provides for an ABP, the state must provide sufficient information in an ABP state plan

amendment (§ 440.300) request to assure compliance with the requirements of (§ 440.395(e)(3)), including the application of parity to treatment limitations as addressed in this rule. The ABP state Plan Application is employed by states to identify benefits offered to Medicaid beneficiaries receiving services under section 1937 of the Act. The application requires that states identify the MH/SUD services that will be offered under the plan. The plan also collects information on any limitations (quantitative and nonquantitative treatment limitations) and financial requirements across all benefit categories (including all medical/surgical services).

The parity requirements in § 440.395 do not impose any new or revised reporting, recordkeeping, or third-party disclosure requirements for 10 or more states since only one state and three territories operates their ABP state plan in FFS, and therefore, do not require additional OMB review under the authority of the Paperwork Reduction Act of 1995 (44 U.S.C. 3501 *et seq.*). These states that operate the ABP programs in a fee-for-service only delivery system would not have to perform an additional parity analysis across the various delivery systems. States that operate their ABP programs through a managed care arrangement would be required to attest that they are compliant with parity, and to solicit comments on their ABP state plan (which includes requests for comments on this attestation), but that attestation is in an existing PRA: OMB under control number 0938–1188 (CMS–10434). While states are required to solicit public comment, we maintain that the information collection requirement is exempt from the requirements of the Paperwork Reduction Act of 1995 (44 U.S.C. 3501 *et seq.*) since we estimate fewer than ten annual respondents (5 CFR 1320.3(c)). As ABPs are most often used by states to expand Medicaid to the adult population, we project that this would

apply to no more than 1 to 2 states per year.

4. ICRs Regarding State Plan Amendments (SPAs)

This rule does not impose any new or revised SPA-specific reporting, recordkeeping, or third-party disclosure requirements and therefore does not require additional OMB review under the authority of the Paperwork Reduction Act of 1995 (44 U.S.C. 3501 *et seq.*). The rule does not require a state to amend its current non-ABP SPA since states have the option of including additional services necessary to meet parity requirements in the MCO, PIHP or PAHP contracts. The burden for amending such contracts is set out below under § 438.6(n).

The currently approved ABP SPA template was designed to capture the MHPAEA final rule classifications and identify if there are specific treatment limitations or financial requirements. The ABP SPA template's information collection requirements and burden are not affected by this rule and are approved by OMB under control number 0938–1188 (CMS–10434).

States are required to review their respective CHIP state plans to determine if they are in compliance with federal law, and states must submit a CHIP SPA to make the necessary changes to the state plan to comply with changes in federal law as described in § 457.60(a). Section 502 of the CHIPRA amended section 2103(c) of the Act, which was described in SHO letters #09–014 and #13–001. Many states have performed parity analyses based on that guidance and submitted SPAs to come into compliance with MHPAEA.

However, as described in section III. G of this final rule, we plan on developing state plan pages specific to MHPAEA, so all states with a separate CHIP must submit a SPA to update their state plan. We anticipate that up to 42 states will need to submit a SPA, which may add up to 160 hrs. of additional burden on states based on the estimated burden of submitting a SPA (80 hrs.)

approved by OMB under control number 0938–1148 (CMS–10398 #34) (formerly CMS–R–211, control number 0938–0707). This additional SPA burden is estimated to cost \$12,313.60 (160 hrs × \$76.96/hr.) for a social science analyst to submit a complete SPA package; however, the final costs for the states will be much lower because in CHIP it is important to take into account the Federal government's contribution to the cost of administering CHIP. States receive an enhanced FMAP for administering their CHIP program that now includes a 23 percentage increase beginning in FFY 2016, which was maintained through the passage of the Medicare Access and CHIP Reauthorization Act of 2015 (MACRA). The average enhanced FMAP has increased to 92.7 percent, decreasing the state's share of this additional burden to a nominal cost of \$898.89 (\$12,313.60 × 0.073). When ready, the SPA template along with the associated requirements and burden will be submitted to OMB for approval under control number 0938–1148 (CMS–10398 #34). This is a preliminary estimate that is based on our experience with existing SPA templates.

5. ICRs Regarding State Health Official (SHO) Letters SHO #09–014 (November 4, 2009) and SHO #13–001 (January 16, 2013)

The January 2013 SHO letter addressed the application of the MHPAEA requirements in Medicaid and expanded upon the CHIP guidance that

was provided in the November 2009 letter regarding section 502 of CHIPRA. Since the letters are discussed in section II.A. of this final rule (as background), we wish to clarify that this rule does not include any new or revised reporting, recordkeeping, or third-party disclosure requirements pertaining to either of the letters. Consequently, the PRA does not apply.

#### 6. ICRs Regarding Contract Requirements (§ 438.6(n))

In § 438.6(n), states are now required to include contract provisions in all applicable MCO, PIHP, and PAHP contracts to comply with part 438, subpart K. We estimate a one-time state burden of 30 minutes at \$67.38/hour for a business operations specialist to amend each contract with provisions that implement the requirements outlined in part 438, subpart K. Applicable to 36 states (which is the number of states that have an MCO model), and to a total of 602 contracts in those states, in aggregate we estimate 301 hours (602 contracts × 0.5 hours) and \$20,281 (301 hours × \$67.38/hr.). State costs for this burden is \$8,112 (40 percent of costs are state match). The requirements and burden will be submitted to OMB for approval under control number 0938–1280 (CMS–10556).

#### 7. ICRs for State Responsibilities (§ 438.920)

In any instance where the full scope of medical/surgical and MH/SUD

services are not provided through the MCO, § 438.920 specifies that the state must review the MH/SUD and medical/surgical benefits provided through the MCO, PIHP, PAHP, and fee-for service (FFS) coverage to ensure that the full scope of services available to all enrollees of the MCO complies with the requirements in this subpart K. The state is also expected to review the parity analysis provided by an MCO that is responsible for delivering all MH/SUD Medicaid services. The state must provide documentation of compliance with the requirements under this subpart to the general public and post this information on the state's Medicaid Web site. The 36 states that have an MCO model would be responsible for developing or reviewing the benefits offered by MCOs, PIHPs, PAHPs and FFS to ensure the benefits offered to enrollees of the MCO comply with requirements in this subpart. We estimate a state burden of 8 hours at \$67.38/hour for a business operations specialist to perform this analysis and document compliance and, on an ongoing basis, update the documentation. In aggregate, we estimate 384 hours (36 states × 8 hours) and \$19,405 (288 hours × \$67.38/hr.). State costs for this burden is \$7,762. The requirements and burden will be submitted to OMB for approval under control number 0938–1280 (CMS–10556).

#### C. Summary of Burden Estimates

TABLE 5—ANNUAL RECORDKEEPING AND REPORTING REQUIREMENTS

Regulation section(s) under title 42 of the CFR	OMB control No.	Potential respondents	Total responses	Burden per response	Total annual burden (hours)	Hourly labor cost of reporting (\$/hr)	Total labor cost of reporting	Total mailing and supply costs*	Total cost	State share
438.915(a), 440.395(c)(1), and 457.496(e)(1) (States and Plans).	0938–1280	602	142,403	5 min .....	11,867	32.24	\$382,592	\$58,272	\$440,864	176,346
438.915(a), 440.395(c)(1), and 457.496(e)(1) (Potential participants, beneficiaries and providers).	0938–1280	47,467,922	142,403	15 min .....	35,601	N/A	N/A	N/A	N/A	.....
438.6(n) (States) .....	0938–1280	36	602	30 min .....	301	67.38	20,281	0	20,281	8,112
438.920 (States) .....	0938–1280	36	36	8 hours .....	288	67.38	19,405	0	19,405	7,762
457.496 (State Plan Amendments).	0938–1148	42	2	80 hours .....	160	76.96	12,314	0	12,314	899
Total .....	.....	47,468,638	285,446	88 hrs 50 min	48,217	.....	434,592	58,272	492,864	193,119

\* This rule does not set forth any capital/maintenance costs.

#### D. Comments Associated With the Proposed Collection of Information Requirements

*Comment:* Two commenters expressed concerns that the cost

analysis of the proposed rule fails to consider the administrative cost to the states of providing MH/SUD services through MCOs and through FFS delivery systems. They stated that significant administrative costs would

be associated with creating new ongoing reporting mechanisms for states and MCOs to provide detailed information on their quantitative and nonquantitative limits across multiple MCOs and the FFS structure, perform

the parity analysis, post on the states Web site and report to CMS. Commenters also stated that these requirements would require state staff to review the rule, review each contract, develop appropriate language needed in each contract, and process the amended contract through the administrative channels. The actual time needed to address this would be many times greater than the proposed estimate.

*Response:* We recognize that the administrative burden of implementing this rule will vary across states and MCOs, and intend for the numbers cited above are a national estimate of burden across all impacted entities. We note that efficiencies can be achieved regarding implementation of this rule through the use of standardized processes, and that technical assistance provided to states is intended to help to reduce the administrative burden. However, we do agree with the commenters that there will be an additional burden to states to perform and/or review the parity analysis, document compliance and post it to the state's Web site. We have included the projections of this additional burden in section V.B.7 of this final rule.

#### *E. Submission of PRA-Related Comments*

We submitted a copy of this final rule's information collection and recordkeeping requirements to OMB for review and approval. The requirements are not effective until they have been formally approved by the OMB.

To obtain copies of the supporting statement and any related forms for the proposed collections discussed above, please visit CMS' Web site at [www.cms.hhs.gov/Paperwork@cms.hhs.gov](http://www.cms.hhs.gov/Paperwork@cms.hhs.gov), or call the Reports Clearance Office at 410-786-1326.

We invite public comments on these potential information collection requirements. If you wish to comment, please identify the rule (CMS-2333-F) and submit your comments to the OMB desk officer via one of the following transmissions:

*Mail:* OMB, Office of Information and Regulatory Affairs; Attention: CMS Desk Officer.

*Fax Number:* 202-395-5806 OR

*Email:* [OIRA\\_submission@omb.eop.gov](mailto:OIRA_submission@omb.eop.gov).

ICR-related comments are due April 29, 2016.

## **VI. Regulatory Impact Analysis**

### *A. Statement of Need*

This final rule addresses the applicability of the requirements under the MHPAEA to Medicaid non-managed

care benchmark and benchmark-equivalent plans (referred to in this final rule as Medicaid ABPs) as described in section 1937 of the Act, CHIP under title XXI of the Act, and Medicaid MCOs as described in section 1932 of the Act.

In 2013, we released a SHO letter that provided guidance to states regarding the implementation of requirements under MHPAEA to Medicaid benchmark and benchmark-equivalent plans (referred to in this letter as ABPs), CHIP, and Medicaid MCOs.

Final regulations implementing MHPAEA were published in the tri-Department MHPAEA final regulations that do not apply to Medicaid MCOs, ABPs, or CHIP state plans.

We believe that in absence of a regulation specific to the application of the parity requirements under MHPAEA to Medicaid and CHIP, states would not be compelled to implement the necessary changes to these programs, resulting in an inequity between beneficiaries who have MH/SUD conditions in the commercial market (including the state and federal marketplace) and Medicaid and CHIP. Even for states that are attempting to comply with parity requirements under MHPAEA, the absence of regulation could lead to inconsistent state-specific policies.

This final rule provides the specificity and clarity needed to effectively implement the policies set forth by MHPAEA and prevent the use of prohibited limits on coverage, including nonquantitative treatment limitations that disproportionately limit coverage of treatment for MH/SUD conditions. The Department's assessment of the expected economic effects of this final rule is discussed in detail below.

### *B. Overall Impact*

We have examined the impacts of this final rule as required by Executive Order 12866 on Regulatory Planning and Review (September 30, 1993), Executive Order 13563 on Improving Regulation and Regulatory Review (January 18, 2011), the Regulatory Flexibility Act (RFA) (September 19, 1980, Pub. L. 96-354), section 1102(b) of the Act, section 202 of the Unfunded Mandates Reform Act of 1995 (March 22, 1995; Pub. L. 104-4), Executive Order 13132 on Federalism (August 4, 1999) and the Congressional Review Act (5 U.S.C. 804(2)).

Executive Orders 12866 and 13563 direct agencies to assess all costs and benefits of available regulatory alternatives and, if regulation is necessary, to select regulatory approaches that maximize net benefits (including potential economic,

environmental, public health and safety effects, distributive impacts, and equity). Section 3(f) of Executive Order 12866 defines a "significant regulatory action" as an action that is likely to result in a rule: (1) (Having an annual effect on the economy of \$100 million or more in any 1 year, or adversely and materially affecting a sector of the economy, productivity, competition, jobs, the environment, public health or safety, or state, local or tribal governments or communities (also referred to as "economically significant")); (2) creating a serious inconsistency or otherwise interfering with an action taken or planned by another agency; (3) materially altering the budgetary impacts of entitlement grants, user fees, or loan programs or the rights and obligations of recipients thereof; or (4) raising novel legal or policy issues arising out of legal mandates, the President's priorities, or the principles set forth in the Executive Order.

A regulatory impact analysis (RIA) must be prepared for major rules with economically significant effects (\$100 million or more in any 1 year). We estimate that this final rule is "economically significant" as measured by the \$100 million threshold, and hence, also a major rule under the Congressional Review Act. Accordingly, we have prepared a RIA, which to the best of our ability presents the costs and benefits of the rulemaking.

Because the application of parity requirements to ABPs; MCOs and PIHPs and PAHPs providing services to MCO enrollees; and the CHIP is likely to have an effect on the economy of \$100 million or more in any given year, this final rule is economically significant within the meaning of section 3(f)(1) of the Executive Order as elaborated below, we believe the benefits of the rule justify the costs.

### *C. Anticipated Effects*

This final rule would benefit approximately 22.3 million Medicaid beneficiaries and 880,000 CHIP beneficiaries in 2016, based on service utilization estimates from 2012 Medicaid and CHIP enrollment. We expect that a significant benefit associated with the application of the parity requirements under MHPAEA and these final regulations will be derived from applying parity requirements to the quantitative treatment limits such as annual or lifetime day or visit limits. Applying parity requirements to visit or stay limits will help ensure that vulnerable populations—those accessing substantial amounts of MH/SUD

services—have better access to appropriate care. Among adults aged 18 through 64 with Medicaid coverage, approximately 9.6 percent have a serious mental illness, 30.5 percent have any mental illness, and 11.9 percent have a substance use disorder.<sup>11</sup> Among CHIP beneficiaries, approximately 8 percent of children experience serious behavioral or emotional difficulties.<sup>12</sup>

Evidence-based treatment for severe and persistent mental illness, and for substance use disorders, often requires prolonged (possibly lifetime) treatment that consists of pharmacotherapy, supportive counseling, and often rehabilitative services. Individuals with severe MH/SUD conditions often quickly exhaust their benefits under Medicaid managed care. In addition, CHIP programs may restrict coverage, such as covering only 40 hours of psychotherapy or 5 days of detoxification per year. These coverage restrictions often result in people forgoing outpatient treatment and a higher likelihood of non-adherence to treatment regimes, which produce poor health and welfare outcomes and create the potential for increased hospitalization costs.<sup>13 14</sup> For those with substance use disorders, treatment retention is of key importance when assessing outcomes, where those who stayed in treatment longer had more success in decreasing their substance use.<sup>15 16</sup> In 2011, approximately 8 percent of adults with Medicaid coverage reported at least one occurrence in the past 12 months of feeling the need for MH/SUD treatment or counseling but not receiving it.<sup>17</sup>

<sup>11</sup> Calculations were based on the Substance Abuse and Mental Health Services Administration (SAMHSA) National Survey of Drug Use and Health.

<sup>12</sup> Pastor P.N., Reuben C.A., Duran C.R. Identifying Emotional And Behavioral Problems in Children Aged 4–17 Years: United States, 2001–2007. National Health Statistics Report No. 48. Hyattsville, MD: National Center for Health Statistics; 2012.

<sup>13</sup> Medication-Assisted Treatment for Opioid Addiction in Opioid Treatment Programs. Rockville (MD): Substance Abuse and Mental Health Services Administration (US); 2005. Treatment Improvement Protocol (TIP) Series, No. 43.

<sup>14</sup> Trivedi A.N., Swaminathan S, Mor V. Insurance parity and the use of outpatient mental health care following a psychiatric hospitalization. JAMA. 2008 Dec 24;300(24):2879–85.

<sup>15</sup> Simpson D, Joe G.W., Rowan-Szal G. Drug abuse treatment retention and process effects on follow-up outcomes. Drug and Alcohol Dependence. 1997b;47(3):227–235.

<sup>16</sup> Hartel D.M., Schoenbaum E.E. Methadone treatment protects against HIV infection: Two decades of experience in the Bronx, New York City. Public Health Reports. 1998;113(Suppl. 1):107–115.

<sup>17</sup> Substance Abuse and Mental Health Services Administration (SAMHSA). Behavioral Health United States 2012. HHS Publication No. (SMA)13–4797. Rockville, MD: SAMHSA; 2013.

Between 2007 and 2009, approximately 72 percent of children in Medicaid with a potential mental health need did not receive mental health services.<sup>18</sup> The most frequently cited reasons for not seeking MH/SUD treatment are cost and/or a lack of health insurance coverage, low perceived need, stigma, or structural barriers (for example, no transportation, did not know where to go).<sup>19 20</sup> Removing quantitative limits on treatment may be particularly beneficial for individuals with severe mental illness and substance use disorders who may need to receive more services than the average individual.<sup>21 22</sup> Improved coverage may also reduce the financial burden on individuals and families, particularly those families of children with mental health service needs.<sup>23</sup> Finally, improving coverage of MH/SUD treatment may also improve employment, productivity, and earnings among those with these conditions.<sup>24</sup> Wang, *et al*, found that implementing a care program for those identified with depression yielded not only enhanced clinical outcomes relative to depression, but also produced positive outcomes relative to decreased sick leave and increased productivity.<sup>25</sup> Similarly, the State of Washington implemented a substance abuse treatment program for those receiving Aid to Families with Dependent Children (AFDC), and found

<sup>18</sup> GAO. Children's Mental Health: Concerns Remain about Appropriate Services for Children in Medicaid and Foster Care. December 2012. <http://www.gao.gov/assets/660/650716.pdf>. Accessed June 27, 2014.

<sup>19</sup> Affordability Most Frequent Reason for Not Receiving Mental Health Services. Rockville (MD): Substance Abuse and Mental Health Services Administration (US); 2013. The NSDUH Report Data Spotlight.

<sup>20</sup> Results from the 2012 National Survey on Drug Use and Health: Summary of National Findings and Detailed Tables. Rockville (MD): Substance Abuse and Mental Health Services Administration (US); 2013.

<sup>21</sup> Zuvekas S.H., Banthin J.S., Selden T.M. How would mental health parity affect the marginal price of care? Health Serv Res. 2001 Feb;35(6):1207–27. Review.

<sup>22</sup> McConnell K.J. The effect of parity on expenditures for individuals with severe mental illness. Health Serv Res. 2013 Oct;48(5):1634–52. doi: 10.1111/1475–6773.12058. Epub 2013 Apr 5.

<sup>23</sup> Barry C.L., Busch S.H. Do state parity laws reduce the financial burden on families of children with mental health care needs? Health Serv Res. 2007 Jun;42(3 Pt 1):1061–84.

<sup>24</sup> Dunigan R, Acevedo A, Campbell K, Garnick D.W., Horgan C.M., Huber A, Lee M.T., Panas L, Ritter G.A. Engagement in outpatient substance abuse treatment and employment outcomes. J Behav Health Serv Res. 2014 Jan;41(1):20–36. doi: 10.1007/s11414-013-9334-2.

<sup>25</sup> Wang P, Simon G.E., Avorn J, Azocar F, Ludman E.J., McCulloch J, Petukhova M.Z., Kessler R.C. Telephone screening, outreach and care management for depressed workers and impact on clinical and work productivity outcomes. JAMA 2007;298(12):1401–11.

that access to treatment increased earnings for those with jobs, as well as increased rates of employment.<sup>26</sup>

Application of parity requirements may also result in changes to payers' utilization management approaches, specifically when requiring preauthorization of mental health services. It was found that even when approval for continued access to mental health services was in essence guaranteed, patients required to obtain prior approval sought out less treatment, perhaps believing they “should not” access further needed treatment.<sup>27</sup> Hodgkin, *et al*, found that removal of utilization management approaches (including preauthorization for the first set of mental health visits) increased use of mental health services.<sup>28</sup> Cuffel, *et al*, note that there are various reasons for why an approach like preauthorization can impact provider behavior relative to mental health service. Providers may believe that the preauthorization process is too laborious and not worth their time; they may fear that those reviewing the request will penalize them for submitting a preauthorization request; they may assume that the set limits on services preclude additional requests for services; providers may believe that the initial limits are in place as an implied recommendation towards shorter treatment cycles; and some may believe requests for preauthorization simply will not be approved at all.<sup>29</sup> Liu, *et al*, found a significant correlation between preauthorization processes and the probability of ending mental health treatment prematurely.<sup>30</sup>

Application of parity requirements under MHPAEA may also have benefits in terms of reduced medical costs. Mental health and physical health are interrelated, and individuals with poor mental health are likely to have physical

<sup>26</sup> Wickizer TM, Campbell K, Krupski A, Stark K. Employment outcomes among AFDC recipients treated for substance abuse in Washington State. Milbank Q. 2000;78(4):585–608. iv. PubMed PMID: 11191450.

<sup>27</sup> Liu, X., R. Sturm, and B.J. Cuffel. 2000. “The Impact of Prior Authorization on Outpatient Utilization in Managed Behavioral Health Plans.” Medical Care Research Review 57: 182–95.

<sup>28</sup> Hodgkin D., Merrick E.L., Horgan C.M., Garnick D.W., McLaughlin T.J. “Does Type of Gatekeeping Model Affect Access to Outpatient Specialty Mental Health Services?” *Health Services Research* 42. 1 (2007): 104–123.

<sup>29</sup> Cuffel, B., McCulloch, J., Wade, R., Tam, L., Brown-Mitchell, R., & Goldman, W. (2000). Patients' and providers' perceptions of outpatient treatment termination in a managed behavioral health organization. *Psychiatric Services*, 51(4), 469–473.

<sup>30</sup> Liu, X., Sturm, R., Cuffel, B. (2000) *The impact of prior authorization on outpatient utilization in managed behavioral health plans*. Med Care Res Rev. Jun;57(2):182–95.

health problems as well.<sup>31 32 33</sup> Increased access to and utilization of MH/SUD benefits may result in a reduction of medical and surgical costs for individuals with mental health conditions and substance use disorders (so called “medical cost offsets”). For example, after receiving treatment, individuals with substance use disorders may experience fewer hospitalizations and emergency room visits stemming from unintended injuries such as accidents and drug overdose. The evidence that treatment results in medical care offsets is stronger for substance abuse treatment than for mental health treatment. For example, an evaluation on the expansion of substance abuse treatment in Washington State’s Medicaid program found per member per month savings of \$160 to \$385 depending on the welfare cohort.<sup>34</sup> Another study done on welfare clients in Washington State found that those accessing substance use disorder treatment had on average \$2500 less in medical costs than those who did not access treatment. This estimated savings equaled the cost of SUD treatment for individuals accessing SUD treatment.<sup>35</sup> While a similar reduction in medical costs may be expected from mental health treatment, most empirical studies have not found a significant medical cost offset from mental health treatment.<sup>36 37</sup>

## 1. Costs

### a. Cost Associated With Increased Utilization of MH/SUD Benefits

A primary objective of Congress in enacting MHPAEA was to eliminate barriers that impeded access to and

utilization of MH/SUD benefits. Cost increases and increases in capitated rates may occur as a result of increased access and utilization from the application of parity requirements and these regulations, but the evidence suggests that any increases will not be large. The impact of parity requirements will depend on the extent to which MCOs, ABPs, and CHIP plans lack benefits in some classifications or manage these benefits inconsistent with such parity requirements.

In the April 30, 2010 final rule on State Flexibility for Medicaid Benefit Packages (75 FR 23068), the assumptions utilized in modeling the estimated economic impact of the associated provisions took into account the costs of the benefit package for the new adult group served through ABPs. Coverage of these benefits was already accounted for in the April 30, 2010 final rule, and therefore, does not need to be repeated here. Because we approved ABPs only after ensuring compliance with MHPAEA, we project that this regulation will result in no additional costs to ABPs.

#### (1) Effect of Removing Non-Compliant Quantitative Treatment Limitations

A review of Medicaid managed care benefits in all 50 states and the District of Columbia revealed that a subset of states (18 states) had Medicaid managed care plans that imposed quantitative treatment limits on outpatient visits, inpatient stays, and intermediate services (for example, intensive outpatient treatment). As indicated in the preamble, some of these quantitative treatment limits are a result of what is currently in a state’s Medicaid plan.

A review of CHIP plans indicated that most are already compliant with MHPAEA. CHIP plans that include Medicaid EPSDT are already required to cover mental health and substance abuse services as needed and they are deemed compliant with MHPAEA parity requirements for financial requirements and treatment limitations. It is not permissible to apply annual or lifetime limits to the EPSDT benefit. CHIP stand-alone programs are also already compliant with MHPAEA because of changes to treatment limitations for both MH/SUD benefits and medical and surgical benefits required under the Affordable Care Act.<sup>38</sup> Among CHIP plans that are Medicaid expansion plans, we found

only one to have an explicit quantitative limit.<sup>39</sup>

We conducted an analysis to determine how the use of services might increase if quantitative limits on Medicaid MCO and CHIP programs were eliminated. Where quantitative limits exist that are non-compliant with parity requirements, states also have the option to align these limits for MH/SUD and medical/surgical benefits consistent with the provisions of this final rule. However, to estimate the highest possible cost impact that could be expected, we simulated the effect of removing visit and day limits in states with limits for treatment users by anticipating that utilization would increase for beneficiaries who were near or exceeded current limits to equal utilization patterns observed in states without limits for Medicaid managed care beneficiaries. This simulation indicated the maximum impact of removing quantitative day and visit limits on MH/SUD services by Medicaid MCOs to be \$109.0 million nationwide (including federal and state costs) in undiscounted dollars in 2016. Using a similar approach, we estimated the maximum impact of removing quantitative limits on CHIP expenditures to be \$42.1 million in undiscounted dollars in 2016.

However, these estimates are the largest possible cost impacts and the actual impact is likely to be lower. One reason is that some states with quantitative limits may have mechanisms in place for beneficiaries to obtain hospital days or outpatient visits beyond the state’s limit if such care is determined to be medically necessary. In practice, we anticipate a potentially lower impact than estimated currently, given that quantitative limits may already be routinely exceeded. We found that in most of the 18 states with visit limits, a number of recipients (ranging from 5 to 20 percent) used services beyond the treatment limit, suggesting that exceptions to the quantitative limits may occur in these states. This does not appear to be the case in all states, because in a few states with visit limits ranging from approximately 24 to 40 visits, only 1 or 2 percent of recipients exceeded the limit.

There are no studies to date on how the application of federal parity requirements affects Medicaid spending.

<sup>31</sup> Druss BG, Walker ER. Mental disorders and medical comorbidity. *Synth Proj Res Synth Rep*. 2011 Feb;(21):1–26. Review.

<sup>32</sup> National Institute on Drug Abuse. (December 2012). *Medical Consequences of Drug Abuse*. Retrieved from <http://www.drugabuse.gov/related-topics/medical-consequences-drug-abuse>.

<sup>33</sup> Bouchery, E.E., Harwood, H.J., Sacks, J.J., Simon, C.J., & Brewer, R.D. (2011). Economic costs of excessive alcohol consumption in the US, 2006. *American Journal of Preventive Medicine*, 41(5), 516–524.

<sup>34</sup> Wickizer, T.M., Mancuso, D., & Huber, A. (2012). Evaluation of an innovative Medicaid health policy initiative to expand substance abuse treatment in Washington State. *Medical Care Research and Review*, 69(5), 540–559.

<sup>35</sup> Wickizer, T.M., Krupski, A., Stark, K.D., Mancuso, D., & Campbell, K. (2006). The effect of substance abuse treatment on Medicaid expenditures among general assistance welfare clients in Washington State. *Milbank Quarterly*, 84(3), 555–576.

<sup>36</sup> Simon GE, Katzelnick DJ. Depression, use of medical services and cost-offset effects. *J Psychosom Res*. 1997 Apr;42(4):333–44. Review.

<sup>37</sup> Sturm R. Economic grand rounds: The myth of medical cost offset. *Psychiatry Serv*. 2001 Jun;52(6):738–40.

<sup>38</sup> Sarata AK. Mental health parity and the Patient Protection and Affordable Care Act of 2010. Washington, DC: Congressional Research Service; 2011.

<sup>39</sup> McConnell KJ, Gast SH, Ridgely MS, Wallace N, Jacuzzi N, Rieckmann T, McFarland BH, McCarty D. Behavioral health insurance parity: does Oregon’s experience presage the national experience with the Mental Health Parity and Addiction Equity Act? *Am J Psychiatry* 2012 Jan;169(1):31–8.

However information from states that have passed state-specific parity legislation (which includes application to Medicaid) provides additional support for the projected impact of these regulations on service utilization and spending. For instance, an evaluation of the Oregon parity law found no significant increases in aggregate behavioral health spending or in the percent of individuals using behavioral health services associated with its implementation.<sup>40</sup> The evaluators surmised that the flexibility in quantitative limits prior to the parity law may be one reason that the implementation of parity did not lead to large increases in spending. Specifically, they found that prior to the implementation of the state parity law; approximately 5 percent of beneficiaries with any behavioral health visits exceeded the specified limits of that plan.

Vermont's parity law is also very similar to MHPAEA. A study of Vermont's parity law found that the share of spending on mental and substance use disorders increased from 2.30 percent to 2.47 percent of total spending for one health plan.<sup>41</sup>

Finally, a recent evaluation of the effect of MHPAEA on the commercial market revealed a modest increase in spending on substance use disorder treatment per enrollee (\$9.99, 95 percent CI: 2.54, 18.21), but no significant change in the percent of individuals using substance use disorder services.<sup>42</sup>

#### (2) Effect of Classification of Services Requirements

This final rule requires that if the state provides for MH/SUD services under the state plan, MH/SUD services must be provided to MCO enrollees in every classification in which medical/surgical benefits are provided. After reviewing the MH/SUD services provided under Medicaid managed care plans, we

identified only two states providing for MH/SUD services under the state plan in which MH/SUD services were excluded from a classification in which medical/surgical benefits are provided. In both states, the excluded services were substance abuse inpatient services. For the purposes of this analysis, we assumed that substance abuse inpatient services would need to be included to the extent that they were provided in a distinct part or unit of a general hospital or facility with 16 or fewer beds. Using data on current use of Medicaid substance use disorder inpatient services and the cost of those services from Medicaid claims data, we estimated that the additional coverage for these services would have led to an increase of \$11.7 million nationwide in undiscounted dollars in 2012.

Table 6 displays the total costs of removing non-compliant QTLs by service and meeting classification of services requirements in 2012.

TABLE 6—DETAILS OF ESTIMATED COSTS OF MEETING QTL AND CLASSIFICATION OF SERVICES REQUIREMENTS IN 2012

Inpatient	Outpatient	Intermediate	Administrative	Total
<b>Mental Health—Medicaid (\$million/year)</b>				
\$19.8	\$62.3	\$0	\$0.3	\$82.4
<b>Mental Health—CHIP (\$million/year)</b>				
\$0	30.8	0.4	0.04	31.2
<b>Substance Use Disorder—Medicaid (\$million/year)</b>				
\$11.7	0	0	0	11.7
<b>Substance Use Disorder—CHIP (\$million/year)</b>				
\$0	0	0	0	0
<b>Total Costs of Removing Quantitative Limits in 2012 (\$million/year)</b>				<b>125.3</b>

**Note:** Administrative costs are listed once for Medicaid and CHIP because the expense is all-inclusive for each program; costs are not broken down by service.

Costs for complying with parity rules for each service category were estimated based on a simulation of additional utilization states may incur as a result of removing quantitative treatment limits.<sup>43</sup> For the analysis of intermediate services, we examined limits on partial hospitalization and intensive outpatient care.

These figures are calculated based on 2012 Medicaid and CHIP expenditures, which equate to approximately \$125.3 million in additional costs as a result of parity compliance. Given that total Medicaid and CHIP expenditures in 2012 were \$552.6 billion, the impact of this rule would increase Medicaid and CHIP spending by about 0.02 percent each year. As total Medicaid and CHIP

expenditures increase over time, the cost impact of mental health parity is expected to rise proportionally. Accordingly, to determine the anticipated impact of mental health parity in cost in future years, we applied growth in Medicaid and CHIP expenditures from the mid-session review of the President's FY 2016 budget to this cost.<sup>44</sup> Due to the

<sup>40</sup> McConnell KJ, Gast SH, Ridgely MS, Wallace N, Jacuzzi N, Rieckmann T, McFarland BH, McCarty D. Behavioral health insurance parity: does Oregon's experience presage the national experience with the Mental Health Parity and Addiction Equity Act? *Am J Psychiatry* 2012 Jan;169(1):31–8.

<sup>41</sup> Rosenbach M, Lake T, Young C, et al. Effects of the Vermont Mental Health and Substance Abuse Parity Law. DHHS Pub. No. SMA 03–3822,

Rockville, MD: Substance Abuse and Mental Health Services Administration; 2003.

<sup>42</sup> Busch SH, Epstein AJ, Harhay MO, Fiellin DA, Un H, Leader D Jr, Barry CL. The effects of federal parity on substance use disorder treatment. *Am J Manag Care*. 2014 Jan;20(1):76–82.

<sup>43</sup> We chose to estimate the cost of removing these limits rather than the cost of aligning these limits with the predominant level of the quantitative limit that applies to substantially all medical/surgical

benefits in the classification for simplicity, given the complexity of applying the full analysis to every benefit in every state, and because in most cases, less than two-thirds of the medical/surgical benefits in that classification are subject to a quantitative limit.

<sup>44</sup> President's Budget for Fiscal Year 2016, available at <http://www.whitehouse.gov/omb/budget>.

complexity and uncertainty of predicting changes to Medicaid enrollment and spending if CHIP

authorization expires, our estimate assumes that CHIP will be reauthorized in its present form through FY2020.

Costs for 2016 through 2020 are displayed in Table 7.

TABLE 7—ESTIMATED COSTS OF CMS-2333 FY 2016–2020

[In millions]

	FY 2016	FY2017	FY 2018	FY 2019	FY 2020
Federal .....	116.0	121.9	128.7	137.1	131.8
State .....	50.5	53.3	56.5	59.7	76.5
Total .....	166.5	175.2	185.3	196.8	208.3

### (3) Effect of Medical Cost Offsets

As described above, the cost of improving access to MH/SUD treatment may be offset by a decline in the expenditures on treatments for medical conditions resulting from substance use disorders. There is strong evidence from Medicaid programs to assume a cost offset resulting from improved access to substance use disorder benefits. In contrast, the evidence for cost offset resulting from improved access to mental health benefits is weaker. We anticipate that, on balance, costs stemming from increased utilization of substance use disorder services resulting from application of parity requirements will be largely offset by the savings from reduced medical costs, yielding very little increase in overall costs from increased utilization of substance use disorder services. However, given the difficulty of quantifying the precise cost impact of this reduced use of medical services that is expected to result from enhanced access to substance use disorder services, we have not included any cost offset in our estimates.

*Comment:* One commenter believed that proper implementation of parity may save money as more beneficiaries will be able to access appropriate care for their conditions, resulting in fewer emergency department visits and hospitalizations as well as improved physical health.

*Response:* As noted above, we agree that in many cases, additional spending on MH/SUD services may result in savings from reduced medical/surgical costs.

### b. Effect of Aligning NQTLs

Under the MHPAEA final rules, medical management can be applied to MH/SUD benefits if the processes, strategies, evidentiary standards, or other factors used in applying medical management are comparable to, and are applied no more stringently than, the processes, strategies, evidentiary standards, or other factors used in applying medical management to

medical and surgical benefits. It is difficult to determine whether, at baseline, Medicaid MCOs, PIHPs, PAHPs, ABPs and CHIP programs are applying medical management more stringently to MH/SUD benefits than to medical and surgical benefits. A state-by-state search of available Medicaid documents indicated that most states that use inpatient utilization management techniques for MH/SUD services, such as prior approval or continuing utilization review for inpatient stays, have similar restrictions for medical and surgical conditions. Surveys of commercial plans have also found that inpatient managed care restrictions, such as pre-admission prior approval, are common for medical and surgical admissions.<sup>45 46</sup> There may be important distinctions in the processes, strategies, evidentiary standards, or other factors between MH/SUD services and medical and surgical services, but current data do not indicate that this is the case in a way that would lead to a clear cost impact.

Moreover, if some Medicaid plans have stricter management controls for MH/SUD services than for medical services, there is scant evidence at this time as to how utilization management will evolve with the application of parity requirements and whether stricter controls would result in higher costs.<sup>47</sup> For example, stricter controls may lead to underutilization of sub-acute levels of care for MH/SUD conditions, leading to the worsening of both MH/SUD conditions and medical or surgical conditions that ultimately require more costly acute levels of care. Studies of the

effect of utilization review and prior approval on MH/SUD inpatient services have revealed mixed results, with some studies showing that these managed care techniques result in lower costs, quantities of treatment, or both, and other studies finding only weak or no effects, or effects that are short term.<sup>48 49 50 51</sup> As noted above, the studies of Oregon and Vermont, whose parity laws include similar restrictions on medical management, have not shown increases in costs resulting from application of these laws. There is uncertainty regarding the level of increased costs that will result from application of the parity requirement for NQTLs, but there is evidence that any increases may be small.

### 2. Transfers Resulting From Increased Access Under Medicaid

Transfer payments are monetary payments from one group to another that do not affect total resources available to society. There is a potential that application of parity requirements under MHPAEA will result in transfers among different government entities. MH/SUD services receive greater funding from public sources, such as Medicaid, federal government block grants, state government general funds, and local government funding, than do medical and surgical services.<sup>52</sup> Over time, MH/SUD spending has been shifting away from state and local

<sup>48</sup> Dickey B, Azeni H. Impact of managed care on mental health services. *Health Aff* 1992 Fall;11(3):197–204.

<sup>49</sup> Frank R.G., Brookmeyer R. Managed mental health care and patterns of inpatient utilization for treatment of affective disorders. *Soc Psychiatry Psychiatric Epidemiol* 1995 Aug;30(5):220–3.

<sup>50</sup> Wickizer T.M., Lessler D, Travis K.M. Controlling inpatient psychiatric utilization through managed care. *Am J Psychiatry* 1996;153:339–45.

<sup>51</sup> Wickizer T.M., Lessler D. Do treatment restrictions imposed by utilization management increase the likelihood of readmission for psychiatric patients? *Med Care* 1998;36(6):844–50.

<sup>52</sup> Levit KR, Mark TL, Coffey RM, Frankel S, Santora P, Vandivort-Warren R, Malone K. Federal spending on behavioral health accelerated during recession as individuals lost employer insurance. *Health Aff* 2013 May;32(5):952–62.

<sup>45</sup> Baker C.A., Diaz IS. Managed care plans and managed care features: data from the EBS to the NCS. *Compensation and Working Conditions* Spring 2011:30–6.

<sup>46</sup> Claxton, G., DiJulio, B., Whitmore, H., Pickreign, J., McHugh, M., Finder, B., & Osei-Anto, A. (2009). Job-based health insurance: costs climb at a moderate pace. *Health Aff* 2009;28(6):w1002–12.

<sup>47</sup> Hodgkin D. The impact of private utilization management and psychiatric care: a review of the literature. *Journal of Mental Health Administration* 1992;19(2):143–57.



funding, toward federal financing, especially Medicaid.<sup>53</sup> The potential increase in the availability of MH/SUD services under Medicaid and CHIP as a result of the MHPAEA parity requirements may result in a reduction in use of, and spending on, services financed by other public sources such as state and local governments and federal block grants.<sup>54</sup> Limited sound evidence exists about the size of this effect on states.

#### *D. Alternatives Considered*

We considered several other approaches for providing guidance to states regarding the application of the MHPAEA to Medicaid MCOs, ABPs, and CHIP. As stated in the preamble of this final rule, under our current policies, there is no way to ensure that MCO enrollees receive state plan benefits in a way that fully complies with MHPAEA. This is because section 1932(b)(8) of the Act does not apply to the design of the traditional Medicaid state plan, and state plans thus may be designed in a way that does not comply with MHPAEA requirements. Under current guidance, we have said that if an MCO is simply properly applying state plan benefits, there is no violation of section 1932(b)(8) of the Act even if that benefit design does not conform to MHPAEA, because the MCO did not adopt that benefit design and thus was not at fault in its non-compliance. As explained above, we do not believe that this policy effectuates Congressional intent in enacting section 1932(b)(8) of the Act. Further, we believe that implementation of the statute requires that MCO enrollees receive benefits in a manner that complies with MHPAEA.

We considered requiring that all state plan MH/SUD services be included under MCO contracts as the way to ensure that MCO enrollees receive the full protections of MHPAEA. However, we believe that this final rule allows states the most flexibility when applying mental health parity requirements to their Medicaid services across delivery systems. Given that there are many different delivery system configurations that carve out MH/SUD

services, this approach allows states to comport with parity requirements for MCO enrollees without completely carving out MH/SUD services from their MCO or dropping MH/SUD coverage altogether.

Also, under current statutes, regulations and policies, states would not be required under federal law to apply MHPAEA provisions to PIHPs and PAHPs (many of which provide MH/SUD services) since these arrangements were not specifically addressed in section 1932(b)(8) of the Act, and MHPAEA does not directly apply to such contracts. Consideration of these unique state MH/SUD delivery systems is an important distinction in Medicaid when compared to the commercial market. Further, because the statutory provisions making mental health parity requirements applicable to MCOs do not explicitly address these situations, additional interpretation is needed.

In addition to the delivery system issues, states would not be required to remove or align limits on services that were in the state plan for individuals enrolled in an MCO. As stated previously in this regulation, these limits are carried through in the development of rates, and cost of services outside of the state plan or a waiver of the state plan cannot be included. Without the change in this rule, individuals enrolled in an MCO could still be subject to treatment limitations that are not compliant with parity requirements, which we believe is inconsistent with the intent of Congress in requiring in section 1932(b)(8) of the Act that MCOs deliver services in a manner consistent with MHPAEA requirements and the policies regarding application of MHPAEA to ABPs and CHIP that operate in a FFS arrangement. In addition, without these changes to the managed care rate setting process, it will be difficult for MCOs to comply with statutory requirements regarding financial requirements and treatment limitations.

Finally, there are mental health parity provisions that are not applicable to the FFS delivery systems for Medicaid ABP benefits; these include annual and lifetime dollar limits, availability of plan information, and access to out-of-network providers.

In addition, we considered the ability to provide guidance and enforce the provisions of MHPAEA's application to Medicaid and CHIP through sub-regulatory guidance. Over the past 6

years, we have used two SHO letters to provide guidance to states regarding MHPAEA and Medicaid and CHIP. While states and other stakeholders found this guidance useful, there were many questions or concerns regarding the lack of specificity regarding application of MHPAEA parity requirements to Medicaid and CHIP. There were several issues that states raised regarding this sub-regulatory guidance. One issue was the actuarial soundness requirements, which mandate that MCO payments be based on services as covered under state plans. Another was additional clarification of NQTLs and states' concerns regarding existing federal and state policies that required utilization management strategies that were inconsistent with the intent of MHPAEA. States also raised additional questions regarding application of MHPAEA parity requirements to other delivery systems including PIHPs, PAHPs, and FFS. We do not believe that additional subregulatory guidance would provide the necessary authority for MCOs and states to implement or enforce MHPAEA parity requirements for Medicaid beneficiaries enrolled in an MCO.

#### *E. Accounting Statement and Table*

As required by OMB Circular A-4 (available at [http://www.whitehouse.gov/omb/circulars\\_a004\\_a-4/](http://www.whitehouse.gov/omb/circulars_a004_a-4/)), in Table 8 we have prepared an accounting statement showing the classification of the impacts associated with implementation of this final rule.

The projected impact on costs in 2016 was calculated by multiplying the percent anticipated increase in cost due to the application of parity requirements by expected Medicaid expenditures in 2016. Based on our analysis, the parity rule will lead to an increase of approximately 0.03 percent in total Medicaid spending each year over 10 years. In 2016, Medicaid expenditures overall are projected to equal approximately \$540.3 billion.<sup>55</sup> Thus, the undiscounted cost of the rule is estimated to be \$178.1 million in 2016, and to rise proportionate to the growth in overall Medicaid spending in future years. These costs are split between the federal and state governments based on the population covered and the statutory matching rate.

<sup>54</sup> Frank RG, Goldman HH, Hogan M. Medicaid and mental health: be careful what you ask for. *Health Aff* 2003 Jan-Feb;22(1):101-13.

<sup>52</sup> Levit KR, Mark TL, Coffey RM, Frankel S, Santora P, Vandivort-Warren R, Malone K. Federal spending on behavioral health accelerated during recession as individuals lost employer insurance. *Health Aff* 2013 May;32(5):952-62.

<sup>53</sup> Levit KR, Mark TL, Coffey RM, Frankel S, Santora P, Vandivort-Warren R, Malone K. Federal spending on behavioral health accelerated during recession as individuals lost employer insurance. *Health Aff* 2013 May;32(5):952-62.



TABLE 8—ACCOUNTING STATEMENT: CLASSIFICATION OF ESTIMATED BENEFIT, COSTS, AND TRANSFERS

Category	Estimates	Units		
		Year dollar	Discount rate (%)	Period covered
Transfers From Federal Government to Providers				
Annualized Monetized (\$million/year) .....	126.5	2016	7	2016–2020
	126.8	2016	3	2016–2020
Transfers From State Government to Providers				
Annualized Monetized (\$million/year) .....	58.5	2016	7	2016–2020
	59.0	2016	3	2016–2020

**Note.** The displayed numbers are rounded to the nearest thousand and therefore may not add up to the totals.

#### F. Regulatory Flexibility Act (RFA)

The RFA requires agencies to analyze options for regulatory relief for small entities, if a rule has a significant impact on a substantial number of small entities. The great majority of hospitals and most other health care providers and suppliers are small entities, either by being nonprofit organizations or by meeting the SBA definition of a small business (having revenues of less than \$7.5 million to \$38.5 million in any 1 year). States are not included in the definition of a small entity. This final rule does not change the rates at which providers would be reimbursed for any additional treatments and services that may be required, and MCOs, PIHPs, and PAHPs will be paid on an actuarially sound basis for any additional coverage that they will be required to provide. As indicated previously in this final rule, the increased costs will be borne by states and the federal government, which are not considered small entities. Therefore, the Secretary has determined that this final rule will not have a significant economic impact on a substantial number of small entities as that term is used in the RFA.

In addition, section 1102(b) of the Act requires us to prepare a regulatory impact analysis if a rule may have a significant impact on the operations of a substantial number of small rural hospitals. This analysis must conform to the provisions of section 604 of the RFA. For purposes of section 1102(b) of the Act, we define a small rural hospital as a hospital that is located outside of a metropolitan statistical area and has fewer than 100 beds. The Secretary has determined that this final rule will not have a significant impact on the operations of a substantial number of small rural hospitals.

#### G. Unfunded Mandates Reform Act (UMRA)

Section 202 of the Unfunded Mandates Reform Act of 1995 (UMRA)

also requires that agencies assess anticipated costs and benefits before issuing any rule whose mandates require spending in any 1 year of \$100 million in 1995 dollars, updated annually for inflation. Currently, that is approximately \$144 million. UMRA does not address the total cost of a rule. Rather, it focuses on certain categories of cost, mainly those “Federal mandate” costs resulting from (A) imposing enforceable duties on state, local, or tribal governments, or on the private sector, or (B) increasing the stringency of conditions in, or decreasing the funding of, state, local, or tribal governments under entitlement programs. The average state share of total Medicaid spending in 2016 is projected to be 38.2 percent. The total cost impact of this rule is estimated to be \$178.1 million in 2016. Therefore, the total cost to states is projected to be approximately \$68.0 million. Therefore, this final rule is not subject to UMRA.

#### H. Federalism

Executive Order 13132 establishes certain requirements that an agency must meet when it issues a final rule that imposes substantial direct requirement costs on state and local governments, preempts state law, or otherwise has federalism implications.

In the Secretary’s view, this final rule has Federalism implications, because it has direct effects on the states, the relationship between the federal government and states, or on the distribution of power and responsibilities among various levels of government. However, in the Secretary’s view, the Federalism implications of this final rule are substantially mitigated because, with regards to MCOs, ABPs, and CHIP, the Secretary expects that many states already offer benefits under their state plan and MCO contracts that meet or exceed the Federal mental health parity standards that would be implemented in this rule.

Throughout the process of developing these regulations, to the extent feasible within the relevant provisions of the Act, PHS Act and MHPAEA, the Secretary has attempted to balance the latitude for states to structure their state plan services and MCO contracts according to the needs and preferences of the state, and the Congress’ intent to provide uniform minimum protections to Medicaid and CHIP beneficiaries in every state. By doing so, it is the Secretary’s view that this final rule complies with the requirements of Executive Order 13132.

#### I. Conclusion

In accordance with the provisions of Executive Order 12866, this regulation was reviewed by the Office of Management and Budget.

#### List of Subjects

##### 42 CFR Part 438

Grant programs-health, Medicaid, Reporting and recordkeeping requirements.

##### 42 CFR Part 440

Grant programs-health, Medicaid reporting.

##### 42 CFR Part 456

Administrative practice and procedure, Drugs, Grant programs-health, Health facilities, Medicaid, Reporting and recordkeeping requirements.

##### 42 CFR Part 457

Administrative practice and procedure, Grant programs-health, Health insurance, Reporting and recordkeeping requirements.

For the reasons set forth in the preamble, the Centers for Medicare & Medicaid Services amends 42 CFR chapter IV as set forth below:

**PART 438—MANAGED CARE**

■ 1. The authority citation for part 438 continues to read as follows:

**Authority:** Sec. 1102 of the Social Security Act (42 U.S.C. 1302).

■ 2. Section 438.6 is amended by revising paragraph (e) and adding paragraph (n) to read as follows:

**§ 438.6 Contract requirements.**

\* \* \* \* \*

(e) *Additional services that may be covered by a MCO, PIHP, or PAHP.* A MCO, PIHP, or PAHP may cover, for enrollees, services that are in addition to those covered under the state plan as follows:

(1) Any services necessary for compliance by the MCO, PIHP, or PAHP with the requirements of subpart K of this part and only to the extent such services are necessary for the MCO, PIHP, or PAHP to comply with § 438.910; and

(2) Any services that the MCO, PIHP, or PAHP voluntarily agrees to provide.

(3) Only the costs associated with services in paragraph (e)(1) of this section may be included when determining the payment rates under paragraph (c) of this section.

\* \* \* \* \*

(n) *Parity in mental health and substance use disorder benefits.* (1) All MCO contracts, and any PIHP and PAHP contracts providing services to MCO enrollees, must provide for services to be delivered in compliance with the requirements of subpart K of this part insofar as those requirements are applicable.

(2) Any State providing any services to MCO enrollees using a delivery system other than the MCO delivery system must provide documentation of how the requirements of subpart K of this part are met with the submission of the MCO contract for review and approval under paragraph (a) of this section.

■ 3. Subpart K is added to part 438 to read as follows:

**Subpart K—Parity in Mental Health and Substance Use Disorder Benefits**

Sec.

438.900 Meaning of terms.

438.905 Parity requirements for aggregate lifetime and annual dollar limits.

438.910 Parity requirements for financial requirements and treatment limitations.

438.915 Availability of information.

438.920 Applicability.

438.930 Compliance dates.

**Subpart K—Parity in Mental Health and Substance Use Disorder Benefits****§ 438.900 Meaning of terms.**

For purposes of this subpart, except where the context clearly indicates otherwise, the following terms have the meanings indicated:

*Aggregate lifetime dollar limit* means a dollar limitation on the total amount of specified benefits that may be paid under a MCO, PIHP, or PAHP.

*Annual dollar limit* means a dollar limitation on the total amount of specified benefits that may be paid in a 12-month period under a MCO, PIHP, or PAHP.

*Cumulative financial requirements* are financial requirements that determine whether or to what extent benefits are provided based on accumulated amounts and include deductibles and out-of-pocket maximums. (However, cumulative financial requirements do not include aggregate lifetime or annual dollar limits because these two terms are excluded from the meaning of financial requirements.)

*Early and Periodic Screening, Diagnostic and Treatment (EPSDT) benefits* are benefits defined in section 1905(r) of the Act.

*Financial requirements* include deductibles, copayments, coinsurance, or out-of-pocket maximums. Financial requirements do not include aggregate lifetime or annual dollar limits.

*Medical/surgical benefits* means benefits for items or services for medical conditions or surgical procedures, as defined by the State and in accordance with applicable Federal and State law, but do not include mental health or substance use disorder benefits. Any condition defined by the State as being or as not being a medical/surgical condition must be defined to be consistent with generally recognized independent standards of current medical practice (for example, the most current version of the International Classification of Diseases (ICD) or State guidelines). Medical/surgical benefits include long term care services.

*Mental health benefits* means benefits for items or services for mental health conditions, as defined by the State and in accordance with applicable Federal and State law. Any condition defined by the State as being or as not being a mental health condition must be defined to be consistent with generally recognized independent standards of current medical practice (for example, the most current version of the Diagnostic and Statistical Manual of Mental Disorders (DSM), the most current version of the ICD, or State

guidelines). Mental health benefits include long term care services.

*Substance use disorder benefits* means benefits for items or services for substance use disorders, as defined by the State and in accordance with applicable Federal and State law. Any disorder defined by the State as being or as not being a substance use disorder must be defined to be consistent with generally recognized independent standards of current medical practice (for example, the most current version of the DSM, the most current version of the ICD, or State guidelines). Substance use disorder benefits include long term care services.

*Treatment limitations* include limits on benefits based on the frequency of treatment, number of visits, days of coverage, days in a waiting period, or other similar limits on the scope or duration of treatment. Treatment limitations include both quantitative treatment limitations, which are expressed numerically (such as 50 outpatient visits per year), and nonquantitative treatment limitations, which otherwise limit the scope or duration of benefits for treatment under a plan or coverage. (See § 438.910(d)(2) for an illustrative list of nonquantitative treatment limitations.) A permanent exclusion of all benefits for a particular condition or disorder, however, is not a treatment limitation for purposes of this definition.

**§ 438.905 Parity requirements for aggregate lifetime and annual dollar limits.**

(a) *General parity requirement.* Each MCO, PIHP, and PAHP providing services to MCO enrollees must comply with paragraphs (b), (c), or (e) of this section for all enrollees of a MCO in States that cover both medical/surgical benefits and mental health or substance use disorder benefits under the State plan. This section details the application of the parity requirements for aggregate lifetime and annual dollar limits.

(b) *MCOs, PIHPs, or PAHPs with no limit or limits on less than one-third of all medical/surgical benefits.* If a MCO, PIHP, or PAHP does not include an aggregate lifetime or annual dollar limit on any medical/surgical benefits or includes an aggregate lifetime or annual dollar limit that applies to less than one-third of all medical/surgical benefits provided to enrollees through a contract with the State, it may not impose an aggregate lifetime or annual dollar limit, respectively, on mental health or substance use disorder benefits.

(c) *MCOs, PIHPs, or PAHPs with a limit on at least two-thirds of all medical/surgical benefits.* If a MCO,

PIHP, or PAHP includes an aggregate lifetime or annual dollar limit on at least two-thirds of all medical/surgical benefits provided to enrollees through a contract with the State, it must either—

(1) Apply the aggregate lifetime or annual dollar limit both to the medical/surgical benefits to which the limit would otherwise apply and to mental health or substance use disorder benefits in a manner that does not distinguish between the medical/surgical benefits and mental health or substance use disorder benefits; or

(2) Not include an aggregate lifetime or annual dollar limit on mental health or substance use disorder benefits that is more restrictive than the aggregate lifetime or annual dollar limit, respectively, on medical/surgical benefits.

(d) *Determining one-third and two-thirds of all medical/surgical benefits.* For purposes of this section, the determination of whether the portion of medical/surgical benefits subject to an aggregate lifetime or annual dollar limit represents one-third or two-thirds of all medical/surgical benefits is based on the total dollar amount of all combinations of MCO, PIHP, and PAHP payments for medical/surgical benefits expected to be paid under the MCO, PIHP, or PAHP for a contract year (or for the portion of a contract year after a change in benefits that affects the applicability of the aggregate lifetime or annual dollar limits). Any reasonable method may be used to determine whether the dollar amount expected to be paid under the MCOs, PIHPs, and PAHPs will constitute one-third or two-thirds of the dollar amount of all payments for medical/surgical benefits.

(e) *MCO, PIHP, or PAHP not described in this section—*(1) *In general.* A MCO, PIHP, or PAHP that is not described in paragraph (b) or (c) of this section for aggregate lifetime or annual dollar limits on medical/surgical benefits, must either—

(i) Impose no aggregate lifetime or annual dollar limit, on mental health or substance use disorder benefits; or

(ii) Impose an aggregate lifetime or annual dollar limit on mental health or substance use disorder benefits that is no more restrictive than an average limit calculated for medical/surgical benefits in the following manner. The average limit is calculated by taking into account the weighted average of the aggregate lifetime or annual dollar limits, as appropriate, that are applicable to the categories of medical/surgical benefits. Limits based on delivery mechanisms, such as inpatient/outpatient treatment or normal

treatment of common, low-cost conditions (such as treatment of normal births), do not constitute categories for purposes of this paragraph (e)(1)(ii). In addition, for purposes of determining weighted averages, any benefits that are not within a category that is subject to a separately-designated dollar limit under the contract are taken into account as a single separate category by using an estimate of the upper limit on the dollar amount that a MCO, PIHP, or PAHP may reasonably be expected to incur for such benefits, taking into account any other applicable restrictions.

(2) *Weighting.* For purposes of this paragraph (e), the weighting applicable to any category of medical/surgical benefits is determined in the manner set forth in paragraph (d) of this section for determining one-third or two-thirds of all medical/surgical benefits.

**§ 438.910 Parity requirements for financial requirements and treatment limitations.**

(a) *Clarification of terms—*(1) *Classification of benefits.* When reference is made in this section to a classification of benefits, the term “classification” means a classification as described in paragraph (b)(2) of this section.

(2) *Type of financial requirement or treatment limitation.* When reference is made in this section to a type of financial requirement or treatment limitation, the reference to type means its nature. Different types of financial requirements include deductibles, copayments, coinsurance, and out-of-pocket maximums. Different types of quantitative treatment limitations include annual, episode, and lifetime day and visit limits. See paragraph (d)(2) of this section for an illustrative list of nonquantitative treatment limitations.

(3) *Level of a type of financial requirement or treatment limitation.* When reference is made in this section to a level of a type of financial requirement or treatment limitation, level refers to the magnitude of the type of financial requirement or treatment limitation.

(b) *General parity requirement—*(1) *General rule and scope.* Each MCO, PIHP and PAHP providing services to MCO enrollees in a State that covers both medical/surgical benefits and mental health or substance use disorder benefits under the State plan, must not apply any financial requirement or treatment limitation to mental health or substance use disorder benefits in any classification that is more restrictive than the predominant financial requirement or treatment limitation of

that type applied to substantially all medical/surgical benefits in the same classification furnished to enrollees (whether or not the benefits are furnished by the same MCO, PIHP, or PAHP). Whether a financial requirement or treatment limitation is a predominant financial requirement or treatment limitation that applies to substantially all medical/surgical benefits in a classification is determined separately for each type of financial requirement or treatment limitation. The application of the rules of this paragraph (b) to financial requirements and quantitative treatment limitations is addressed in paragraph (c) of this section; the application of the rules of this paragraph (b) to nonquantitative treatment limitations is addressed in paragraph (d) of this section.

(2) *Classifications of benefits used for applying rules.* If an MCO enrollee is provided mental health or substance use disorder benefits in any classification of benefits described in this paragraph (b)(2), mental health or substance use disorder benefits must be provided to the enrollee in every classification in which medical/surgical benefits are provided. In determining the classification in which a particular benefit belongs, a MCO, PIHP, or PAHP must apply the same reasonable standards to medical/surgical benefits and to mental health or substance use disorder benefits. To the extent that a MCO, PIHP, or PAHP provides benefits in a classification and imposes any separate financial requirement or treatment limitation (or separate level of a financial requirement or treatment limitation) for benefits in the classification, the rules of this section apply separately for that classification for all financial requirements or treatment limitations. The following classifications of benefits are the only classifications used in applying the rules of this section:

(i) *Inpatient.* Benefits furnished on an inpatient basis.

(ii) *Outpatient.* Benefits furnished on an outpatient basis. See special rules for office visits in paragraph (c)(2) of this section.

(iii) *Emergency care.* Benefits for emergency care.

(iv) *Prescription drugs.* Benefits for prescription drugs. See special rules for multi-tiered prescription drug benefits in paragraph (c)(2) of this section.

(c) *Financial requirements and quantitative treatment limitations—*(1) *Determining “substantially all” and “predominant”—*(i) *Substantially all.* For purposes of this section, a type of financial requirement or quantitative treatment limitation is considered to

apply to substantially all medical/surgical benefits in a classification of benefits if it applies to at least two-thirds of all medical/surgical benefits in that classification. If a type of financial requirement or quantitative treatment limitation does not apply to at least two-thirds of all medical/surgical benefits in a classification, then that type cannot be applied to mental health or substance use disorder benefits in that classification.

(ii) *Predominant.* (A) If a type of financial requirement or quantitative treatment limitation applies to at least two-thirds of all medical/surgical benefits in a classification as determined under paragraph (c)(1)(i) of this section, the level of the financial requirement or quantitative treatment limitation that is considered the predominant level of that type in a classification of benefits is the level that applies to more than one-half of medical/surgical benefits in that classification subject to the financial requirement or quantitative treatment limitation.

(B) If, for a type of financial requirement or quantitative treatment limitation that applies to at least two-thirds of all medical/surgical benefits in a classification, there is no single level that applies to more than one-half of medical/surgical benefits in the classification subject to the financial requirement or quantitative treatment limitation, the MCO, PIHP, or PAHP may combine levels until the combination of levels applies to more than one-half of medical/surgical benefits subject to the financial requirement or quantitative treatment limitation in the classification. The least restrictive level within the combination is considered the predominant level of that type in the classification. (For this purpose, a MCO, PIHP, or PAHP may combine the most restrictive levels first, with each less restrictive level added to the combination until the combination applies to more than one-half of the benefits subject to the financial requirement or treatment limitation.)

(iii) *Portion based on MCO, PIHP or PAHP payments.* For purposes of this section, the determination of the portion of medical/surgical benefits in a classification of benefits subject to a financial requirement or quantitative treatment limitation (or subject to any level of a financial requirement or quantitative treatment limitation) is based on the total dollar amount of all combinations of MCO, PIHP, and PAHP payments for medical/surgical benefits in the classification expected to be paid under the MCOs, PIHPs, and PAHPs for a contract year (or for the portion of a

contract year after a change in benefits that affects the applicability of the financial requirement or quantitative treatment limitation).

(iv) *Clarifications for certain threshold requirements.* For any deductible, the dollar amount of MCO, PIHP, or PAHP payments includes all payments for claims that would be subject to the deductible if it had not been satisfied. For any out-of-pocket maximum, the dollar amount of MCO, PIHP, or PAHP payments includes all payments associated with out-of-pocket payments that are taken into account towards the out-of-pocket maximum as well as all payments associated with out-of-pocket payments that would have been made towards the out-of-pocket maximum if it had not been satisfied. Similar rules apply for any other thresholds at which the rate of MCO, PIHP, or PAHP payment changes.

(v) *Determining the dollar amount of MCO, PIHP, or PAHP payments.* Subject to paragraph (c)(1)(iv) of this section, any reasonable method may be used to determine the dollar amount expected to be paid under a MCO, PIHP, or PAHP for medical/surgical benefits subject to a financial requirement or quantitative treatment limitation (or subject to any level of a financial requirement or quantitative treatment limitation).

(2) *Special rules—(i) Multi-tiered prescription drug benefits.* If a MCO, PIHP, or PAHP applies different levels of financial requirements to different tiers of prescription drug benefits based on reasonable factors determined in accordance with the rules in paragraph (d)(1) of this section (relating to requirements for nonquantitative treatment limitations) and without regard to whether a drug is generally prescribed for medical/surgical benefits or for mental health or substance use disorder benefits, the MCO, PIHP, or PAHP satisfies the parity requirements of this section for prescription drug benefits. Reasonable factors include cost, efficacy, generic versus brand name, and mail order versus pharmacy pick-up/delivery.

(ii) *Sub-classifications permitted for office visits, separate from other outpatient services.* For purposes of applying the financial requirement and treatment limitation rules of this section, a MCO, PIHP, or PAHP may divide its benefits furnished on an outpatient basis into the two sub-classifications described in this paragraph (c)(2)(ii). After the sub-classifications are established, the MCO, PIHP or PAHP may not impose any financial requirement or quantitative treatment limitation on mental health or substance use disorder benefits in any

sub-classification that is more restrictive than the predominant financial requirement or quantitative treatment limitation that applies to substantially all medical/surgical benefits in the sub-classification using the methodology set forth in paragraph (c)(1) of this section. Sub-classifications other than these special rules, such as separate sub-classifications for generalists and specialists, are not permitted. The two sub-classifications permitted under this paragraph (c)(2)(ii) are:

(A) Office visits (such as physician visits); and

(B) All other outpatient items and services (such as outpatient surgery, facility charges for day treatment centers, laboratory charges, or other medical items).

(3) *No separate cumulative financial requirements.* A MCO, PIHP, or PAHP may not apply any cumulative financial requirement for mental health or substance use disorder benefits in a classification that accumulates separately from any established for medical/surgical benefits in the same classification.

(4) *Compliance with other cost-sharing rules.* Each MCO, PIHP, and PAHP must meet the cost-sharing requirements in § 438.108 when applying Medicaid cost-sharing.

(d) *Nonquantitative treatment limitations—(1) General rule.* A MCO, PIHP, or PAHP may not impose a nonquantitative treatment limitation for mental health or substance use disorder benefits in any classification unless, under the policies and procedures of the MCO, PIHP, or PAHP as written and in operation, any processes, strategies, evidentiary standards, or other factors used in applying the nonquantitative treatment limitation to mental health or substance use disorder benefits in the classification are comparable to, and are applied no more stringently than, the processes, strategies, evidentiary standards, or other factors used in applying the limitation for medical/surgical benefits in the classification.

(2) *Illustrative list of nonquantitative treatment limitations.* Nonquantitative treatment limitations include –

(i) Medical management standards limiting or excluding benefits based on medical necessity or medical appropriateness, or based on whether the treatment is experimental or investigative;

(ii) Formulary design for prescription drugs;

(iii) For MCOs, PIHPs, or PAHPs with multiple network tiers (such as preferred providers and participating providers), network tier design;

(iv) Standards for provider admission to participate in a network, including reimbursement rates;

(v) MCO, PIHP, or PAHP methods for determining usual, customary, and reasonable charges;

(vi) Refusal to pay for higher-cost therapies until it can be shown that a lower-cost therapy is not effective (also known as fail-first policies or step therapy protocols);

(vii) Exclusions based on failure to complete a course of treatment;

(viii) Restrictions based on geographic location, facility type, provider specialty, and other criteria that limit the scope or duration of benefits for services provided under the MCO, PIHP, or PAHP; and

(ix) Standards for providing access to out-of-network providers.

(3) *Application to out-of-network providers.* Any MCO, PIHP or PAHP providing access to out-of-network providers for medical/surgical benefits within a classification, must use processes, strategies, evidentiary standards, or other factors in determining access to out-of-network providers for mental health or substance use disorder benefits that are comparable to, and applied no more stringently than, the processes, strategies, evidentiary standards, or other factors in determining access to out-of-network providers for medical/surgical benefits.

#### **§ 438.915 Availability of information.**

(a) *Criteria for medical necessity determinations.* The criteria for medical necessity determinations, made by a MCO or by a PIHP or PAHP providing services to an MCO enrollee, for mental health or substance use disorder benefits must be made available by the MCO, PIHP, or PAHP administrator to any enrollee, potential enrollee, or contracting provider upon request. MCOs, PIHPs, and PAHPs operating in compliance with § 438.236(c) will be deemed compliant with the requirements in this paragraph (a).

(b) *Reason for any denial.* The reason for any denial by a MCO, PIHP, or PAHP of reimbursement or payment for services for mental health or substance use disorder benefits in the case of any enrollee must be made available by the MCO, PIHP, or PAHP administrator to the enrollee.

(c) *Provisions of other law.* Compliance with the disclosure requirements in paragraphs (a) and (b) of this section is not determinative of compliance with any other provision of applicable Federal or State law.

#### **§ 438.920 Applicability.**

(a) *MCOs, PIHPs, and PAHPs.* The requirements of this subpart apply to each MCO, PIHP, and PAHP offering services to enrollees of a MCO, in States covering medical/surgical and mental health or substance use disorder services under the State plan. These requirements regarding coverage for services that must be provided to enrollees of an MCO apply regardless of the delivery system of the medical/surgical, mental health, or substance use disorder services under the State plan.

(b) *State responsibilities.* (1) In any instance where the full scope of medical/surgical and mental health and substance use disorder services are not provided through the MCO, the State must review the mental health and substance use disorder and medical/surgical benefits provided through the MCO, PIHP, PAHP, and fee-for service (FFS) coverage to ensure the full scope of services available to all enrollees of the MCO complies with the requirements in this subpart. The State must provide documentation of compliance with requirements in this subpart to the general public and post this information on the State Medicaid Web site by October 2, 2017. Such documentation must be updated prior to any change in MCO, PIHP, PAHP or FFS State plan benefits.

(2) The State must ensure that all services are delivered to the enrollees of the MCO in compliance with this subpart.

(c) *Scope.* This subpart does not—

(1) Require a MCO, PIHP, or PAHP to provide any mental health benefits or substance use disorder benefits beyond what is specified in its contract, and the provision of benefits by a MCO, PIHP, or PAHP for one or more mental health conditions or substance use disorders does not require the MCO, PIHP or PAHP to provide benefits for any other mental health condition or substance use disorder;

(2) Require a MCO, PIHP, or PAHP that provides coverage for mental health or substance use disorder benefits only to the extent required under 1905(a)(4)(D) of the Act to provide additional mental health or substance use disorder benefits in any classification in accordance with this section; or

(3) Affect the terms and conditions relating to the amount, duration, or scope of mental health or substance use disorder benefits under the Medicaid MCO, PIHP, or PAHP contract except as specifically provided in §§ 438.905 and 438.910.

#### **§ 438.930 Compliance dates.**

In general, contracts with MCOs, PIHPs, and PAHPs offering Medicaid State plan services to enrollees, and those entities, must comply with the requirements of this subpart no later than October 2, 2017.

### **PART 440—SERVICES: GENERAL PROVISIONS**

■ 4. The authority citation for part 440 continues to read as follows:

**Authority:** Sec. 1102 of the Social Security Act (42 U.S.C. 1302).

■ 5. Section 440.395 is added to read as follows:

#### **§ 440.395 Parity in mental health and substance use disorder benefits.**

(a) *Meaning of terms.* For purposes of this section, except where the context clearly indicates otherwise, the following terms have the meanings indicated:

*Aggregate lifetime dollar limit* means a dollar limitation on the total amount of specified benefits that may be paid under an ABP.

*Annual dollar limit* means a dollar limitation on the total amount of specified benefits that may be paid in a 12-month period under an ABP.

*Alternative Benefit Plans (ABPs)* mean benefit packages in one or more of the benchmark coverage packages described in §§ 440.330(a) through (c) and 440.335. Benefits may be delivered through managed care and non-managed care delivery systems. Consistent with the requirements of § 440.385, States must comply with the managed care provisions at section 1932 of the Act and part 438 of this chapter, if benchmark and benchmark-equivalent benefits are provided through a managed care entity.

*Cumulative financial requirements* are financial requirements that determine whether or to what extent benefits are provided based on accumulated amounts and include deductibles and out-of-pocket maximums. (However, cumulative financial requirements do not include aggregate lifetime or annual dollar limits because these two terms are excluded from the meaning of financial requirements.)

*EPSDT* means benefits defined in section 1905(r) of the Act.

*Financial requirements* include deductibles, copayments, coinsurance, or out-of-pocket maximums. Financial requirements do not include aggregate lifetime or annual dollar limits.

*Medical/surgical benefits* means benefits for items or services for medical conditions or surgical procedures, as

defined by the State under the terms of the ABP and in accordance with applicable Federal and State law, but does not include mental health or substance use disorder benefits. Any condition defined by the state as being or as not being a medical/surgical condition must be defined to be consistent with generally recognized independent standards of current medical practice (for example, the most current version of the International Classification of Diseases (ICD) or State guidelines). Medical/surgical benefits include long term services.

*Mental health benefits* means benefits for items or services for mental health conditions, as defined by the State under the terms of the ABP and in accordance with applicable Federal and State law. Any condition defined by the State as being or as not being a mental health condition must be defined to be consistent with generally recognized independent standards of current medical practice (for example, the most current version of the Diagnostic and Statistical Manual of Mental Disorders (DSM), the most current version of the ICD, or State guidelines). Mental health benefits include long term care services.

*Substance use disorder benefits* means benefits for items or services for substance use disorder, as defined by the State under the terms of the ABP and in accordance with applicable Federal and State law. Any disorder defined by the State as being or as not being a substance use disorder must be defined to be consistent with generally recognized independent standards of current medical practice (for example, the most current version of the DSM, the most current version of the ICD, or State guidelines). Substance use disorder benefits include long term care services.

*Treatment limitations* include limits on benefits based on the frequency of treatment, number of visits, days of coverage, days in a waiting period, or other similar limits on the scope or duration of treatment. Treatment limitations include both quantitative treatment limitations, which are expressed numerically (such as 50 outpatient visits per year), and nonquantitative treatment limitations, which otherwise limit the scope or duration of benefits for treatment under an ABP. (See paragraph (b)(4)(ii) of this section for an illustrative list of nonquantitative treatment limitations.) A permanent exclusion of all benefits for a particular condition or disorder, however, is not a treatment limitation for purposes of this definition.

(b) *Parity requirements for financial requirements and treatment limitations*—(1) *Clarification of terms*—

(i) *Classification of benefits*. When reference is made in this paragraph (b) to a classification of benefits, the term “classification” means a classification as described in paragraph (b)(2)(ii) of this section.

(ii) *Type of financial requirement or treatment limitation*. When reference is made in this paragraph (b) to a type of financial requirement or treatment limitation, the reference to type means its nature. Different types of financial requirements include deductibles, copayments, coinsurance, and out-of-pocket maximums. Different types of quantitative treatment limitations include annual, episode, and lifetime day and visit limits. See paragraph (b)(4)(ii) of this section for an illustrative list of nonquantitative treatment limitations.

(iii) *Level of a type of financial requirement or treatment limitation*. When reference is made in this paragraph (b) to a level of a type of financial requirement or treatment limitation, level refers to the magnitude of the type of financial requirement or treatment limitation.

(2) *General parity requirement*—(i) *General rule*. A State may not apply within an ABP any financial requirement or treatment limitation to mental health or substance use disorder benefits in any classification that is more restrictive than the predominant financial requirement or treatment limitation of that type applied to substantially all medical/surgical benefits in the same classification. Whether a financial requirement or treatment limitation is a predominant financial requirement or treatment limitation that applies to substantially all medical/surgical benefits in a classification is determined separately for each type of financial requirement or treatment limitation. The application of the rules of this paragraph (b)(2) to financial requirements and quantitative treatment limitations is addressed in paragraph (b)(3) of this section; the application of the rules of this paragraph (b)(2) to nonquantitative treatment limitations is addressed in paragraph (b)(4) of this section.

(ii) *Classifications of benefits used for applying rules*. ABPs must include benefits in every classification of benefits described in this paragraph (b)(2)(ii) in which medical/surgical benefits are provided. In determining the classification in which a particular benefit belongs, the State must apply the same reasonable standards to medical/surgical benefits and to mental health or substance use disorder benefits. To the extent that a State provides ABP

benefits in a classification and imposes any separate financial requirement or treatment limitation (or separate level of a financial requirement or treatment limitation) for benefits in the classification, the rules of this paragraph (b) apply separately for that classification for all financial requirements or treatment limitations. The following classifications of benefits are the only classifications used in applying the rules of this paragraph (b):

(A) *Inpatient*. Benefits furnished on an inpatient basis.

(B) *Outpatient*. Benefits furnished on an outpatient basis. See special rules for office visits in paragraph (b)(3)(ii)(B)(1) of this section.

(C) *Emergency care*. Benefits for emergency care.

(D) *Prescription drugs*. Benefits for prescription drugs. See special rules for multi-tiered prescription drug benefits in paragraph (b)(3)(ii) of this section.

(3) *Financial requirements and quantitative treatment limitations*—(i) *Determining “substantially all” and “predominant”*—(A) *Substantially all*. For purposes of this paragraph (b), a type of financial requirement or quantitative treatment limitation is considered to apply to substantially all medical/surgical benefits in a classification of benefits if it applies to at least two-thirds of all medical/surgical benefits in that classification. If a type of financial requirement or quantitative treatment limitation does not apply to at least two-thirds of all medical/surgical benefits in a classification, then that type cannot be applied to mental health or substance use disorder benefits in that classification.

(B) *Predominant*—(1) If a type of financial requirement or quantitative treatment limitation applies to at least two-thirds of all medical/surgical benefits in a classification as determined under paragraph (b)(3)(i)(A) of this section, the level of the financial requirement or quantitative treatment limitation that is considered the predominant level of that type in a classification of benefits is the level that applies to more than one-half of medical/surgical benefits in that classification subject to the financial requirement or quantitative treatment limitation.

(2) If, for a type of financial requirement or quantitative treatment limitation that applies to at least two-thirds of all medical/surgical benefits in a classification, there is no single level that applies to more than one-half of medical/surgical benefits in the classification subject to the financial requirement or quantitative treatment

limitation, the State may combine levels until the combination of levels applies to more than one-half of medical/surgical benefits subject to the financial requirement or quantitative treatment limitation in the classification. The least restrictive level within the combination is considered the predominant level of that type in the classification. (For this purpose, a State may combine the most restrictive levels first, with each less restrictive level added to the combination until the combination applies to more than one-half of the benefits subject to the financial requirement or treatment limitation.)

(C) *Portion based on ABP payments.* For purposes of this paragraph (b), the determination of the portion of medical/surgical benefits in a classification of benefits subject to a financial requirement or quantitative treatment limitation (or subject to any level of a financial requirement or quantitative treatment limitation) is based on the dollar amount of all ABP payments for medical/surgical benefits in the classification expected to be paid under the ABP for the plan year (or for the portion of the plan year after a change in ABP benefits that affects the applicability of the financial requirement or quantitative treatment limitation).

(D) *Clarifications for certain threshold requirements.* For any deductible, the dollar amount of ABP payments includes all payments for claims that would be subject to the deductible if it had not been satisfied. For any out-of-pocket maximum, the dollar amount of ABP payments includes all payments associated with out-of-pocket payments that are taken into account towards the out-of-pocket maximum as well as all payments associated with out-of-pocket payments that would have been made towards the out-of-pocket maximum if it had not been satisfied. Similar rules apply for any other thresholds at which the rate of payment changes.

(E) *Determining the dollar amount of ABP payments.* Subject to paragraph (b)(3)(i)(D) of this section, any reasonable method may be used to determine the dollar amount expected to be paid for medical/surgical benefits subject to a financial requirement or quantitative treatment limitation (or subject to any level of a financial requirement or quantitative treatment limitation).

(ii) *Special rules—(A) Multi-tiered prescription drug benefits.* If a State or plan administrator applies different levels of financial requirements to different tiers of prescription drug benefits based on reasonable factors determined in accordance with the rules

in paragraph (b)(4)(i) of this section (relating to requirements for nonquantitative treatment limitations) and without regard to whether a drug is generally prescribed for medical/surgical benefits or for mental health or substance use disorder benefits, the ABP satisfies the parity requirements of this paragraph (b) for prescription drug benefits. Reasonable factors include cost, efficacy, generic versus brand name, and mail order versus pharmacy pick-up/delivery.

(B) *Sub-classifications permitted for office visits, separate from other outpatient services.* For purposes of applying the financial requirement and treatment limitation rules of this paragraph (b), a State may divide its benefits furnished on an outpatient basis into the two sub-classifications described in this paragraph (b)(3)(ii)(B). After the sub-classifications are established, the State may not impose any financial requirement or quantitative treatment limitation on mental health or substance use disorder benefits in any sub-classification that is more restrictive than the predominant financial requirement or quantitative treatment limitation that applies to substantially all medical/surgical benefits in the sub-classification using the methodology set forth in paragraph (b)(3)(i) of this section. Sub-classifications other than these special rules, such as separate sub-classifications for generalists and specialists, are not permitted. The two sub-classifications permitted under this paragraph (b)(3)(ii)(B) are:

(1) Office visits (such as physician visits); and

(2) All other outpatient items and services (such as outpatient surgery, laboratory services, or other medical items).

(iii) *No separate cumulative financial requirements.* A State may not apply any cumulative financial requirement for mental health or substance use disorder benefits in a classification that accumulates separately from any established for medical/surgical benefits in the same classification.

(iv) *Compliance with other cost-sharing rules.* States must meet the requirements of §§ 447.50 through 447.57 of this chapter when applying Medicaid cost-sharing.

(4) *Nonquantitative treatment limitations—(i) General rule.* A State may not impose a nonquantitative treatment limitation for mental health or substance use disorder benefits in any classification unless, under the terms of the ABP as written and in operation, any processes, strategies, evidentiary standards, or other factors used in

applying the nonquantitative treatment limitation to mental health or substance use disorder benefits in the classification are comparable to, and are applied no more stringently than, the processes, strategies, evidentiary standards, or other factors used in applying the limitation for medical/surgical benefits in the classification.

(ii) *Illustrative list of nonquantitative treatment limitations.* Nonquantitative treatment limitations include—

(A) Medical management standards limiting or excluding benefits based on medical necessity or medical appropriateness, or based on whether the treatment is experimental or investigative;

(B) Formulary design for prescription drugs;

(C) Standards for provider admission to participate in a network, including reimbursement rates;

(D) Methods for determining usual, customary, and reasonable charges;

(E) Refusal to pay for higher-cost therapies until it can be shown that a lower-cost therapy is not effective (also known as fail-first policies or step therapy protocols);

(F) Exclusions based on failure to complete a course of treatment; and

(G) Restrictions based on geographic location, facility type, provider specialty, and other criteria that limit the scope or duration of benefits or services provided under the ABP.

(c) *ABP providing EPSDT benefits.* An ABP that provides EPSDT benefits is deemed to be compliant with the parity requirements for financial requirements and treatment limitations with respect to individuals entitled to such benefits. Annual or lifetime limits are not permissible in EPSDT benefits.

(d) *Availability of information—(1) Criteria for medical necessity determinations.* The criteria for medical necessity determinations made by the State for beneficiaries served through the ABP for mental health or substance use disorder benefits must be made available by the State to any beneficiary or Medicaid provider upon request.

(2) *Reason for any denial.* The reason for any denial made by the State in the case of a beneficiary served through an ABP of reimbursement or payment for services for mental health or substance use disorder benefits must be made available by the State to the beneficiary.

(3) *Provisions of other law.* Compliance with the disclosure requirements in paragraphs (d)(1) and (2) of this section is not determinative of compliance with any other provision of applicable Federal or State law.

(e) *Applicability—(1) ABPs.* The requirements of this section apply to



States providing benefits through ABPs. For those States providing ABPs through an MCO, PIHP, or PAHP, the rules of 42 CFR part 438, subpart K also apply, and approved contracts will be viewed as evidence of compliance with the requirements of this section.

(2) *Scope.* This section does not—

(i) Require a State to provide any specific mental health benefits or substance use disorder benefits; however, in providing coverage through an ABP, the State must include EHBs, including the ten EHBs as required in § 440.347, which include mental health and substance use disorder benefits; or

(ii) Affect the terms and conditions relating to the amount, duration, or scope of mental health or substance use disorder benefits under the ABP except as specifically provided in paragraph (b) of this section.

(3) *State plan requirement.* If a State plan provides for an ABP, the State must provide sufficient information in ABP State plan amendment requests to assure compliance with the requirements of this subpart.

(4) *Compliance dates—(i) In general.* ABP coverage offered by States must comply with the requirements of this section no later than October 2, 2017.

(ii) [Reserved]

## PART 456—UTILIZATION CONTROL

■ 6. The authority citation for part 456 continues to read as follows:

**Authority:** Sec. 1102 of the Social Security Act (42 U.S.C. 1302), unless otherwise noted.

### § 456.171 [Removed and Reserved]

■ 7. Section 456.171 is removed and reserved.

## PART 457—ALLOTMENTS AND GRANTS TO STATES

■ 8. The authority citation for part 457 continues to read as follows:

**Authority:** Section 1102 of the Social Security Act (42 U.S.C. 1302).

■ 9. Section 457.496 is added to subpart D to read as follows:

### § 457.496 Parity in mental health and substance use disorder benefits.

(a) *Meaning of terms.* For purposes of this section, except where the context clearly indicates otherwise, the following terms have the meanings indicated:

*Aggregate lifetime dollar limit* means a dollar limitation on the total amount of specified benefits that may be paid under a State plan or a Managed Care Entity (MCE) (as defined at § 457.10) that contracts with the State plan. State plans must meet the requirements of § 457.480.

*Annual dollar limit* means a dollar limitation on the total amount of specified benefits that may be paid in a 12-month period under a State plan or a MCE that contracts with a State plan. State plans must meet the requirements at § 457.480.

*Cumulative financial requirements* are financial requirements that determine whether or to what extent benefits are provided based on accumulated amounts and include deductibles and out-of-pocket maximums. (However, cumulative financial requirements do not include aggregate lifetime or annual dollar limits because these two terms are excluded from the meaning of financial requirements.)

*Early and Periodic Screening, Diagnostic and Treatment (EPSDT) benefits* has the meaning defined in section 1905(r) of the Act and must be provided in accordance with section 1902(a)(43) of the Act.

*Financial requirements* include deductibles, copayments, coinsurance, or out-of-pocket maximums. Financial requirements do not include aggregate lifetime or annual dollar limits.

*Medical/surgical benefits* means benefits for items or services for medical conditions or surgical procedures, as defined under the terms of the State plan in accordance with applicable Federal and State law, but does not include mental health or substance use disorder benefits. Any condition defined by the State plan as being or not being a medical/surgical condition must be defined to be consistent with generally recognized independent standards of current medical practice (for example, the most current version of the International Classification of Diseases (ICD) or generally applicable State guidelines). Medical/surgical benefits include long term care services.

*Mental health benefits* means benefits for items or services that treat or otherwise address mental health conditions, as defined under the terms of the State plan in accordance with applicable Federal and State law, and consistent with generally recognized independent standards of current medical practice. Standards of current medical practice can be based on the most current version of the DSM, the most current version of the ICD, or generally applicable State guidelines. The term includes long term care services.

*State Plan* has the meaning assigned at § 457.10 and § 457.50.

*Substance use disorder benefits* means benefits for items or services for substance use disorder, as defined under the terms of the State plan in

accordance with applicable Federal and State law, and consistent with generally recognized independent standards of current medical practice. Standards of current medical practice can be based on the most current version of the DSM, the most current version of the ICD, or generally applicable State guidelines. The term includes long term care services.

*Treatment limitations* include limits on benefits based on the frequency of treatment, number of visits, days of coverage, days in a waiting period, or other similar limits on the scope or duration of treatment. Treatment limitations include both quantitative treatment limitations, which are expressed numerically (such as 50 outpatient visits per year), and nonquantitative treatment limitations, which otherwise limit the scope or duration of benefits for treatment under the State plan. (See paragraph (d)(4)(ii) of this section for an illustrative list of nonquantitative treatment limitations.) A permanent exclusion of all benefits for a particular condition or disorder, however, is not a treatment limitation for purposes of this definition.

(b) *State plan providing EPSDT benefits.* (1) A State child health plan is deemed to be in compliance with this section if—

(i) The State elects in the State child health plan to cover Secretary-approved coverage defined in § 457.450(a) that includes all EPSDT benefits, as defined in section 1905(r) of the Act, in accordance with the requirement applied under section 1905(r)(5) of the Act to provide necessary health care, diagnostic services, treatment, and other measures described in section 1905(a) of the Act to correct or ameliorate defects and physical and mental illnesses and conditions discovered by the screening services, as well as the informing and administrative requirements under 1902(a)(43) of the Act and the approved State Medicaid plan; and

(ii) The State child health plan does not exclude EPSDT benefits for any particular condition, disorder, or diagnosis.

(2) The child health plan must include a description of how the State will comply with paragraph (b)(1)(i) of this section.

(3) If a State has elected in its state plan to cover EPSDT benefits only for certain populations enrolled in the state child health plan, the State is deemed compliant with this section only with respect to such children.

(c) *Parity requirements for aggregate lifetime and annual dollar limits.* This paragraph (c) details the application of the parity requirements for aggregate



lifetime and annual dollar limits. A State plan that provides both medical/surgical benefits and mental health or substance use disorder benefits must comply with paragraph (c)(1), (2), or (4) of this section.

(1) *Plan with no limit or limits on less than one-third of all medical/surgical benefits.* If a State plan does not include an aggregate lifetime or annual dollar limit on any medical/surgical benefits or includes an aggregate lifetime or annual dollar limit that applies to less than one-third of all medical/surgical benefits, it may not impose an aggregate lifetime or annual dollar limit, respectively, on mental health or substance use disorder benefits.

(2) *State plans with a limit on at least two-thirds of all medical/surgical benefits.* If a State plan includes an aggregate lifetime or annual dollar limit on at least two-thirds of all medical/surgical benefits, it must either—

(i) Apply the aggregate lifetime or annual dollar limit both to the medical/surgical benefits to which the limit would otherwise apply and to mental health or substance use disorder benefits in a manner that does not distinguish between the medical/surgical benefits and mental health or substance use disorder benefits; or

(ii) Not include an aggregate lifetime or annual dollar limit on mental health or substance use disorder benefits that is more restrictive than the aggregate lifetime or annual dollar limit, respectively, on medical/surgical benefits. (For cumulative limits other than aggregate lifetime or annual dollar limits, see paragraph (d)(3)(iii) of this section prohibiting separately accumulating cumulative financial requirements.)

(3) *Determining one-third and two-thirds of all medical/surgical benefits.* For purposes of this paragraph (c), the determination of whether the portion of medical/surgical benefits subject to an aggregate lifetime or annual dollar limit represents one-third or two-thirds of all medical/surgical benefits is based on the dollar amount of all plan payments for medical/surgical benefits expected to be paid under the State plan for the State plan year (or for the portion of the plan year after a change in plan benefits that affects the applicability of the aggregate lifetime or annual dollar limits). Any reasonable method may be used to determine whether the dollar amount expected to be paid under the State plan will constitute one-third or two-thirds of the dollar amount of all plan payments for medical/surgical benefits.

(4) *Plan not described in this section—(i) In general.* A State plan that is not described in paragraph (c)(1) or

(2) of this section for aggregate lifetime or annual dollar limits on medical/surgical benefits, must either—

(A) Impose no aggregate lifetime or annual dollar limit, as appropriate, on mental health or substance use disorder benefits; or

(B) Impose an aggregate lifetime or annual dollar limit on mental health or substance use disorder benefits that is no more restrictive than an average limit calculated for medical/surgical benefits in the following manner. The average limit is calculated by taking into account the weighted average of the aggregate lifetime or annual dollar limits, as appropriate, that are applicable to the categories of medical/surgical benefits. Limits based on delivery systems, such as inpatient/outpatient treatment or normal treatment of common, low-cost conditions (such as treatment of normal births), do not constitute categories for purposes of this paragraph (c)(4)(i)(B). In addition, for purposes of determining weighted averages, any benefits that are not within a category that is subject to a separately-designated dollar limit under the plan are taken into account as a single separate category by using an estimate of the upper limit on the dollar amount that a plan may reasonably be expected to incur for such benefits, taking into account any other applicable restrictions under the plan.

(ii) *Weighting.* For purposes of this paragraph (c)(4), the weighting applicable to any category of medical/surgical benefits is determined in the manner set forth in paragraph (c)(3) of this section for determining one-third or two-thirds of all medical/surgical benefits.

(d) *Parity requirements for financial requirements and treatment limitations—(1) Clarification of terms—*

(i) *Classification of benefits.* When reference is made in this paragraph (d) to a classification of benefits, the term “classification” means a classification as described in paragraph (d)(2)(ii) of this section.

(ii) *Type of financial requirement or treatment limitation.* When reference is made in this paragraph (d) to a type of financial requirement or treatment limitation, the reference to type means its nature. Different types of financial requirements include deductibles, copayments, coinsurance, and out-of-pocket maximums. Different types of quantitative treatment limitations include annual, episode, and lifetime day and visit limits. See paragraph (d)(4)(ii) of this section for an illustrative list of nonquantitative treatment limitations.

(iii) *Level of a type of financial requirement or treatment limitation.*

When reference is made in this paragraph (d) to a level of a type of financial requirement or treatment limitation, level refers to the magnitude of the type of financial requirement or treatment limitation.

(2) *General parity requirement—(i) General rule.* A State plan or a MCE that contracts with CHIP through its State plan that provides both medical/surgical benefits and mental health or substance use disorder benefits, including when such benefits are delivered through an MCE, may not apply any financial requirement or treatment limitation to mental health or substance use disorder benefits in any classification that is more restrictive than the predominant financial requirement or treatment limitation of that type applied to substantially all medical/surgical benefits in the same classification. Whether a financial requirement or treatment limitation is a predominant financial requirement or treatment limitation that applies to substantially all medical/surgical benefits in a classification is determined separately for each type of financial requirement or treatment limitation. The application of the rules of this paragraph (d)(2) to financial requirements and quantitative treatment limitations is addressed in paragraph (d)(3) of this section; the application of the rules of this paragraph (d)(2) to nonquantitative treatment limitations is addressed in paragraph (d)(4) of this section.

(ii) *Classifications of benefits used for applying rules.* If a State plan provides mental health or substance use disorder benefits in any classification of benefits described in this paragraph (d)(2)(ii), mental health or substance use disorder benefits must be provided in every classification in which medical/surgical benefits are provided. In determining the classification in which a particular benefit belongs, the same reasonable standards must apply to medical/surgical benefits and to mental health or substance use disorder benefits. To the extent that a State plan provides benefits in a classification and imposes any separate financial requirement or treatment limitation (or separate level of a financial requirement or treatment limitation) for benefits in the classification, the rules of this paragraph (d) apply separately for that classification for all financial requirements or treatment limitations. The following classifications of benefits are the only classifications used in applying the rules of this paragraph (d):

(A) *Inpatient.* Benefits furnished on an inpatient basis.

(B) *Outpatient*. Benefits furnished on an outpatient basis. See special rules for office visits in paragraph (d)(3)(iii) of this section.

(C) *Emergency care*. Benefits for emergency care.

(D) *Prescription drugs*. Benefits for prescription drugs. See special rules for multi-tiered prescription drug benefits in paragraph (d)(3)(iii) of this section.

(3) *Financial requirements and quantitative treatment limitations*—(i) *Determining “substantially all” and “predominant”*—(A) *Substantially all*. For purposes of this paragraph (d), a type of financial requirement or quantitative treatment limitation is considered to apply to substantially all medical/surgical benefits in a classification of benefits if it applies to at least two-thirds of all medical/surgical benefits in that classification. If a type of financial requirement or quantitative treatment limitation does not apply to at least two-thirds of all medical/surgical benefits in a classification, then that type cannot be applied to mental health or substance use disorder benefits in that classification.

(B) *Predominant*. (1) If a type of financial requirement or quantitative treatment limitation applies to at least two-thirds of all medical/surgical benefits in a classification as determined under paragraph (d)(3)(i)(A) of this section, the level of the financial requirement or quantitative treatment limitation that is considered the predominant level of that type in a classification of benefits is the level that applies to more than one-half of medical/surgical benefits in that classification subject to the financial requirement or quantitative treatment limitation.

(2) If, for a type of financial requirement or quantitative treatment limitation that applies to at least two-thirds of all medical/surgical benefits in a classification, there is no single level that applies to more than one-half of medical/surgical benefits in the classification subject to the financial requirement or quantitative treatment limitation, the State plan (or health insurance issuer) may combine levels until the combination of levels applies to more than one-half of medical/surgical benefits subject to the financial requirement or quantitative treatment limitation in the classification. The least restrictive level within the combination is considered the predominant level of that type in the classification. (For this purpose, a State plan may combine the most restrictive levels first, with each less restrictive level added to the combination until the combination

applies to more than one-half of the benefits subject to the financial requirement or treatment limitation.)

(C) *Portion based on plan payments*. For purposes of this paragraph (d), the determination of the portion of medical/surgical benefits in a classification of benefits subject to a financial requirement or quantitative treatment limitation (or subject to any level of a financial requirement or quantitative treatment limitation) is based on the dollar amount of all State plan payments and combinations of MCE payments for medical/surgical benefits in the classification expected to be paid under the plan or MCE or combination that contracts with the State plan for the plan year (or for the portion of the plan year after a change in plan benefits that affects the applicability of the financial requirement or quantitative treatment limitation).

(D) *Clarifications for certain threshold requirements*. For any deductible, the dollar amount of a State plan payments includes all plan payments for claims that would be subject to the deductible if it had not been satisfied. In accordance with the cumulative cost-sharing maximum in § 457.560, or any other out-of-pocket maximum in the State plan, the dollar amount of plan payments includes all State plan payments associated with out-of-pocket payments that are taken into account towards the out-of-pocket maximum as well as all plan payments associated with out-of-pocket payments that would have been made towards the out-of-pocket maximum if it had not been satisfied. Similar rules apply for any other thresholds at which the rate of health plan payment changes.

(E) *Determining the dollar amount of State plan payments*. Subject to paragraph (d)(3)(i)(D) of this section, any reasonable method may be used to determine the dollar amount expected to be paid under a State plan for medical/surgical benefits subject to a financial requirement or quantitative treatment limitation (or subject to any level of a financial requirement or quantitative treatment limitation).

(ii) *Special rules*—(A) *Multi-tiered prescription drug benefits*. If a State plan applies different levels of financial requirements to different tiers of prescription drug benefits based on reasonable factors determined in accordance with the rules in paragraph (d)(4)(i) of this section (relating to requirements for nonquantitative treatment limitations) and without regard to whether a drug is generally prescribed for medical/surgical benefits or for mental health or substance use disorder benefits, the health plan

satisfies the parity requirements of this paragraph (d) for prescription drug benefits. Reasonable factors include cost, efficacy, generic versus brand name, and mail order versus pharmacy pick-up/delivery.

(B) *Sub-classifications permitted for office visits, separate from other outpatient services*. For purposes of applying the financial requirement and treatment limitation rules of this paragraph (d), a State plan may divide its benefits furnished on an outpatient basis into the two sub-classifications described in this paragraph (d)(3)(ii)(B). After the sub-classifications are established, the State plan may not impose any financial requirement or quantitative treatment limitation on mental health or substance use disorder benefits in any sub-classification that is more restrictive than the predominant financial requirement or quantitative treatment limitation that applies to substantially all medical/surgical benefits in the sub-classification using the methodology set forth in paragraph (d)(3)(i) of this section. Sub-classifications other than these special rules, such as separate sub-classifications for generalists and specialists, are not permitted. The two sub-classifications permitted under this paragraph (d)(3)(ii)(B) are:

(1) Office visits (such as physician visits); and

(2) All other outpatient items and services (such as outpatient surgery, facility charges for day treatment centers, laboratory charges, or other medical items).

(iii) *No separate cumulative financial requirements*. A State plan may not apply any cumulative financial requirement for mental health or substance use disorder benefits in a classification that accumulates separately from any established for medical/surgical benefits in the same classification.

(4) *Nonquantitative treatment limitations*—(i) *General rule*. A State plan may not impose a nonquantitative treatment limitation for mental health or substance use disorder benefits in any classification unless, under the terms of the CHIP State plan as written and in operation, any processes, strategies, evidentiary standards, or other factors used in applying the nonquantitative treatment limitation to mental health or substance use disorder benefits in the classification are comparable to, and are applied no more stringently than, the processes, strategies, evidentiary standards, or other factors used in applying the limitation for medical/surgical benefits in the classification.

(ii) *Illustrative list of nonquantitative treatment limitations.* Nonquantitative treatment limitations include—

(A) Medical management standards limiting or excluding benefits based on medical necessity or medical appropriateness, or based on whether the treatment is experimental or investigative;

(B) Formulary design for prescription drugs;

(C) For plans with multiple network tiers (such as preferred providers and participating providers), network tier design;

(D) Standards for provider admission to participate in a network, including reimbursement rates;

(E) Plan methods for determining usual, customary, and reasonable charges;

(F) Refusal to pay for higher-cost therapies until it can be shown that a lower-cost therapy is not effective (also known as fail-first policies or step therapy protocols);

(G) Exclusions based on failure to complete a course of treatment;

(H) Restrictions based on geographic location, facility type, provider specialty, and other criteria that limit the scope or duration of benefits for services provided under the plan or coverage; and

(I) Standards for providing access to out-of-network providers.

(5) *Application to out-of-network providers.* Any State plan providing access to out-of-network providers for medical/surgical benefits within a classification must use processes, strategies, evidentiary standards, or other factors in determining access to out-of-network providers for mental health or substance use disorder benefits that are comparable to, and applied no more stringently than, the processes, strategies, evidentiary standards, or other factors in

determining access to out-of-network providers for medical/surgical benefits.

(e) *Availability of plan information—*

(1) *Criteria for medical necessity determinations.* The criteria for medical necessity determinations made under a State plan including when benefits are furnished through a MCE contractor for mental health or substance use disorder benefits must be made available by the plan administrator (or the State offering the coverage) to any current enrollee or potential enrollee or contracting provider upon request. Health plans operating in compliance with § 438.236(c) of this chapter will be deemed compliant with the requirements in this paragraph (e).

(2) *Reason for any denial.* The reason for any denial under a health plan of reimbursement or payment for services for mental health or substance use disorder benefits in the case of any enrollee must be made available by the plan administrator or the State to the enrollee.

(3) *Provisions of other law.* Compliance with the disclosure requirements in paragraphs (e)(1) and (2) of this section is not determinative of compliance with any other provision of applicable Federal or State law.

(f) *Applicability—*(1) *State plans.* The requirements of this section apply to State plans offering medical/surgical benefits and mental health or substance use disorder benefits to their enrollees including when benefits are furnished under a contract with MCEs. If, under an arrangement or arrangements to provide State plan benefits any enrollee can simultaneously receive coverage for medical/surgical benefits and coverage for mental health or substance use disorder benefits, then the requirements of this section apply separately for each combination of medical/surgical benefits and of mental health or

substance use disorder benefits that any enrollee can simultaneously receive from the State.

(i) *Standard for defining benefits.*

States must indicate the standard used for defining the following benefits in the State plan:

(A) Medical/surgical benefits.

(B) Mental health benefits.

(C) Substance use disorder benefits.

(ii) [Reserved]

(2) *Scope.* This section does not—

(i) Require a State plan or a MCE that contracts with a State plan to provide any mental health benefits or substance use disorder benefits, and the provision of benefits by a State plan or a MCE that contracts with a State plan for one or more mental health conditions or substance use disorders does not require the plan or health insurance coverage under this section to provide benefits for any other mental health condition or substance use disorder;

(ii) Affect the terms and conditions relating to the amount, duration, or scope of mental health or substance use disorder benefits under the State plan or a MCE that contracts with a CHIP State plan except as specifically provided in paragraphs (c) and (d) of this section.

(g) *Compliance dates—*(1) *In general.* State plans (including those that contract with a MCE) must comply with the requirements of this section no later than October 2, 2017.

(2) [Reserved].

Dated: February 4, 2016.

**Andrew M. Slavitt,**

*Acting Administrator, Centers for Medicare & Medicaid Services.*

Dated: February 22, 2016.

**Sylvia M. Burwell,**

*Secretary, Department of Health and Human Services.*

[FR Doc. 2016-06876 Filed 3-29-16; 8:45 am]

**BILLING CODE 4120-01-P**

## Reader Aids

Federal Register

Vol. 81, No. 61

Wednesday, March 30, 2016

## CUSTOMER SERVICE AND INFORMATION

**Federal Register/Code of Federal Regulations**

General Information, indexes and other finding aids **202-741-6000**

Laws 741-6000

## Presidential Documents

Executive orders and proclamations 741-6000

**The United States Government Manual** **741-6000**

## Other Services

Electronic and on-line services (voice) **741-6020**

Privacy Act Compilation **741-6064**Public Laws Update Service (numbers, dates, etc.) **741-6043**

## ELECTRONIC RESEARCH

## World Wide Web

Full text of the daily Federal Register, CFR and other publications is located at: **[www.fdsys.gov](http://www.fdsys.gov)**.

Federal Register information and research tools, including Public Inspection List, indexes, and Code of Federal Regulations are located at: **[www.ofr.gov](http://www.ofr.gov)**.

**E-mail**

**FEDREGTOC-L** (Federal Register Table of Contents LISTSERV) is an open e-mail service that provides subscribers with a digital form of the Federal Register Table of Contents. The digital form of the Federal Register Table of Contents includes HTML and PDF links to the full text of each document.

To join or leave, go to <http://listserv.access.gpo.gov> and select *Online mailing list archives, FEDREGTOC-L, Join or leave the list (or change settings)*; then follow the instructions.

**PENS** (Public Law Electronic Notification Service) is an e-mail service that notifies subscribers of recently enacted laws.

To subscribe, go to <http://listserv.gsa.gov/archives/publaws-l.html> and select *Join or leave the list (or change settings)*; then follow the instructions.

**FEDREGTOC-L** and **PENS** are mailing lists only. We cannot respond to specific inquiries.

**Reference questions.** Send questions and comments about the Federal Register system to: [fedreg.info@nara.gov](mailto:fedreg.info@nara.gov)

The Federal Register staff cannot interpret specific documents or regulations.

**CFR Checklist.** Effective January 1, 2009, the CFR Checklist no longer appears in the Federal Register. This information can be found online at <http://bookstore.gpo.gov/>.

## FEDERAL REGISTER PAGES AND DATE, MARCH

10433–10754.....	1	14689–14946.....	18
10755–11090.....	2	14947–15152.....	21
11091–11406.....	3	15153–15416.....	22
11407–11658.....	4	15417–15612.....	23
11659–12000.....	7	15613–16052.....	24
12001–12404.....	8	16053–17058.....	25
12405–12572.....	9	17059–17360.....	28
12573–12794.....	10	17361–17600.....	29
12795–13262.....	11	17601–18446.....	30
13263–13712.....	14		
13713–13966.....	15		
13967–14368.....	16		
14369–14688.....	17		

## CFR PARTS AFFECTED DURING MARCH

At the end of each month the Office of the Federal Register publishes separately a List of CFR Sections Affected (LSA), which lists parts and sections affected by documents published since the revision date of each title.

<b>2 CFR</b>	246	10433
<b>Proposed Rules:</b>	271	15613
Ch. IV.....	16099	15613
<b>3 CFR</b>	301	15153
<b>Proclamations:</b>	905	10451
9388 (Revoked by	906	13967
9406).....	966	15425
9399.....	1470	12573
9400.....	1703	11000
9401.....	1709	11000
9402.....	1710	11000
9403.....	1717	11000
9404.....	1720	11000
9405.....	1721	11000
9406.....	1724	11000
9407.....	1726	11000
9408.....	1737	11000
9409.....	1738	11000
<b>Executive Orders:</b>	1739	11000
13584 (Revoked by	1740	11000
13721).....	1753	11000
13720.....	1774	11000
13721.....	1775	11000
13722.....	1779	10456, 11000
<b>Administrative Orders:</b>	1780	10456, 11000
Memorandums:	1781	11000
Memorandum of March	1782	11000
1, 2016.....	1784	11000
Memorandum of March	1794	11000
11, 2016.....	1924	11000
Memorandum of March	1940	11000
18, 2016.....	1942	10456, 11000
Memorandum of March	1944	11000
18, 2016.....	1948	11000
Memorandum of March	1951	11000
18, 2016.....	1955	11000
Memorandum of March	1962	11000
18, 2016.....	1970	11000
Memorandum of March	1980	11000
18, 2016.....	3550	11000
Memorandum of March	3555	11000, 17361
21, 2016.....	3560	11000
Notices:	3565	11000
Notice of March 2,	3570	10456, 11000
2016.....	3575	10456, 11000
Notice of March 2,	4274	11000
2016.....	4279	10456, 11000
Notice of March 3,	4280	10456, 11000
2016.....	4284	11000
Notice of March 9,	4287	11000
2016.....	4288	11000
<b>5 CFR</b>	4290	11000
<b>Proposed Rules:</b>	<b>Proposed Rules:</b>	
870.....	Ch. I.....	16099
Ch. LXXIII.....	Ch. II.....	16099
<b>6 CFR</b>	210.....	17564
5.....	215.....	17564
	220.....	17564
<b>7 CFR</b>	225.....	17564
25.....	226.....	17564
65.....	235.....	17564
	251.....	13290
	271.....	13290

272.....	13290	417.....	17338	15631	189.....	14718
277.....	13290	424.....	17338	11415	312.....	17065
Ch. III.....	16099	431.....	17338	<b>Proposed Rules:</b>	320.....	17065
Ch. IV.....	16099	<b>10 CFR</b>		21.....	510.....	17604
Ch. V.....	16099	37.....	13263	23.....	520.....	17604
Ch. VI.....	16099	72.....	13265, 15153	35.....	522.....	17604
Ch. VII.....	16099	429.....	15426	39.....	524.....	17604
Ch. VIII.....	16099	431.....	15426	10540, 10544, 10545, 10549,	528.....	17604
800.....	10530	<b>Proposed Rules:</b>		11132, 11134, 11465, 11467,	529.....	17604
Ch. IX.....	16099	9.....	15457	11469, 11471, 11473, 11475,	556.....	17604
915.....	14019	50.....	10780, 11681	11687, 11690, 12039, 12041,	558.....	11664, 17604
925.....	12605	52.....	11681	12044, 12047, 12833, 12834,	700.....	14718
985.....	15450	54.....	11681	12836, 12838, 12841, 12843,	801.....	11428
989.....	11678	72.....	13295	13298, 13301, 13303, 13764,	830.....	11428
Ch. X.....	16099	100.....	11681	14402, 14404, 14804, 14990,	1308.....	11429
Ch. XI.....	16099	170.....	15457	15171, 16100, 17098, 17107,	<b>Proposed Rules:</b>	
1214.....	10530	171.....	15457	17109, 17412, 17415, 17417	15.....	12430
1250.....	14021	429.....	11686, 14528, 14632,	43.....	73.....	15173
1260.....	14022		14642	71.....	74.....	15173
Ch. XIV.....	16099	430.....	11454, 13763, 14024,	11692, 11694, 11695, 12845,	573.....	14995
Ch. XV.....	16099		14528, 14632	12847, 17111, 17113, 17114,	820.....	11477
Ch. XVI.....	16099	431.....	14642, 15836	17116, 17118, 17420	864.....	10553
Ch. XVII.....	16099	900.....	11686	73.....	878.....	11140, 11151, 15173
Ch. XVIII.....	16099	<b>12 CFR</b>		91.....	880.....	15173
Ch. XX.....	16099	327.....	16059	121.....	888.....	12607
Ch. XXV.....	16099	701.....	13530	135.....	895.....	15173
Ch. XXVI.....	16099	703.....	17601	<b>15 CFR</b>	1308.....	11479, 15188, 15485
Ch. XXVII.....	16099	723.....	13530	19.....	<b>22 CFR</b>	
Ch. XXVIII.....	16099	741.....	13530	701.....	<b>Proposed Rules:</b>	
Ch. XXIX.....	16099	1026.....	11099, 16075	736.....	41.....	12050
Ch. XXX.....	16099	1807.....	14307	740.....	<b>23 CFR</b>	
Ch. XXXI.....	16099	<b>Proposed Rules:</b>		744.....	490.....	13882
Ch. XXXII.....	16099	4.....	13608	746.....	924.....	13722
Ch. XXXIII.....	16099	5.....	13608	2017.....	<b>24 CFR</b>	
Ch. XXXIV.....	16099	7.....	13608	<b>Proposed Rules:</b>	5.....	12354
Ch. XXXV.....	16099	9.....	13608	30.....	880.....	12354
Ch. XXXVI.....	16099	10.....	13608	922.....	884.....	12354
Ch. XXXVII.....	16099	11.....	13608	<b>16 CFR</b>	886.....	12354
Ch. XXXVIII.....	16099	12.....	13608	1112.....	891.....	12354
Ch. XLII.....	16099	16.....	13608	1233.....	903.....	12354
<b>8 CFR</b>		18.....	13608	1610.....	960.....	12354
214.....	13040	31.....	13608	12101.....	966.....	12354
234.....	14948	150.....	13608	<b>Proposed Rules:</b>	982.....	12354
274a.....	13040	151.....	13608	23.....	983.....	12354
<b>Proposed Rules:</b>		155.....	13608	<b>17 CFR</b>	990.....	12354
212.....	12032	162.....	13608	1.....	<b>Proposed Rules:</b>	
<b>9 CFR</b>		163.....	13608	3.....	266.....	12051
<b>Proposed Rules:</b>		193.....	13608	10.....	960.....	12613
1.....	12832	194.....	13608	32.....	<b>25 CFR</b>	
3.....	12832	197.....	13608	200.....	20.....	10475
50.....	12832	252.....	14328	240.....	151.....	10477
51.....	12832	380.....	10798	300.....	169.....	14976
56.....	15652	<b>14 CFR</b>		<b>Proposed Rules:</b>	<b>26 CFR</b>	
71.....	12832	Ch. I.....	13719	241.....	1.....	11104, 11431, 15156,
76.....	12832	11.....	13968	302.....		17066, 17083
77.....	12832	25.....	10761, 13969	<b>18 CFR</b>	301.....	10479
78.....	12832	39.....	10457, 10460, 10465,	11.....	<b>Proposed Rules:</b>	
86.....	12832		10468, 11407, 11409, 12405,	40.....	1.....	11160, 11486, 13305
93.....	12832		12409, 12413, 12583, 12585,	157.....	301.....	11486
Ch. I.....	16099		12795, 12796, 12799, 12802,	284.....	<b>27 CFR</b>	
145.....	15652		12804, 12806, 13271, 13713,	<b>Proposed Rules:</b>	9.....	11110, 11103
146.....	15652		13714, 13717, 14307, 14689,	35.....	<b>28 CFR</b>	
147.....	15652		14693, 14698, 14700, 14702,	<b>19 CFR</b>	2.....	13974
161.....	12832		14704, 14707, 14711, 15154,	12.....	<b>29 CFR</b>	
Ch. II.....	16099		17365, 17367, 17369, 17372	113.....	405.....	15924
Ch. III.....	16099		60.....	122.....	406.....	15924
301.....	17338		71.....	351.....	1910.....	10490, 16085, 16086
303.....	17338		11102, 11103, 11413,	<b>21 CFR</b>		
318.....	17338		11414, 12001, 12002, 12810,	14.....		
319.....	17338		17061, 17374, 17375, 17376,			
320.....	17338		17377, 17602, 17603			
325.....	17338		73.....			
331.....	17338		95.....			
381.....	17338		97.....			

1915.....16085, 16086  
1917.....16085  
1918.....16085  
1926.....16085, 16086  
1985.....14374  
1988.....13976  
4010.....15432  
4022.....13742  
4044.....13742

**Proposed Rules:**

13.....13306

**30 CFR**

550.....18112  
556.....18112  
559.....18112  
560.....18112

**Proposed Rules:**

583.....15190

**31 CFR**

515.....13989  
540.....17384  
605.....11432  
1010.....14389

**Proposed Rules:**

1010.....11496, 12613, 14408

**32 CFR**

104.....10491  
199.....11665  
635.....17385  
706.....11116

**Proposed Rules:**

69.....13765  
89.....11698  
842.....17621

**33 CFR**

110.....12822  
117.....11118, 11434, 11668,  
12007, 12824, 13274, 14732,  
14733, 14976, 17386, 17387  
165.....10498, 10499, 10501,  
10762, 11435, 11437, 12588,  
14734, 17083, 17387  
334.....16093  
401.....13744  
402.....14390

**Proposed Rules:**

100.....10557, 15489  
165.....10820, 11161, 11706,  
14806, 14995, 14998, 15000,  
17120, 17635  
167.....13307  
334.....16102

**34 CFR****Proposed Rules:**

270.....15665  
271.....15665  
272.....15665  
Ch. III.....15491  
300.....10968  
Ch. VI.....12622

**36 CFR**

242.....12590  
1258.....17610  
1275.....12007

**Proposed Rules:**

Ch. II.....16099  
1223.....12432  
1224.....12432  
1227.....12432

1229.....12432  
1232.....12432  
1233.....12432  
1239.....12432

**38 CFR**

17.....10764, 13994  
38.....10765  
70.....10504

**Proposed Rules:**

14.....12625

**39 CFR****Proposed Rules:**

230.....17637  
551.....11164

**40 CFR**

49.....12825  
51.....13275  
52.....11120, 11438, 11445,  
11668, 11671, 11673, 12591,  
12595, 13275, 14392, 14736,  
16094, 17390  
58.....17248  
75.....10508  
82.....14393  
97.....13275  
180.....10771, 10776, 11121,  
12011, 12015, 17084, 17611  
271.....15440  
711.....17392

**Proposed Rules:**

52.....10559, 11497, 11711,  
11716, 11717, 11726, 11727,  
12440, 12626, 12627, 12636,  
12637, 12849, 14025, 15200,  
15205, 16102  
68.....13638  
81.....10563  
85.....10822  
86.....10822  
180.....14030, 17422  
271.....14808, 15497  
300.....14813  
1036.....10822  
1037.....10822  
1065.....10822  
1066.....10822  
1068.....10822

**42 CFR**

136.....14977  
435.....11447, 12599  
438.....18390  
440.....18390  
456.....18390  
457.....18390  
495.....11447  
510.....11449

**Proposed Rules:**

8.....17639  
100.....17423  
136.....12851  
405.....10720, 12024  
410.....12024  
411.....12024  
414.....12024  
424.....10720  
425.....12024  
455.....10720  
457.....10720  
495.....12024  
511.....13230

**43 CFR**

2.....11124

**44 CFR**

64.....14395, 14398, 17395,  
17615

**45 CFR**

144.....12204  
147.....12204  
153.....12204  
154.....12204  
155.....12204  
156.....12204  
158.....12204  
1201.....12599  
Ch. XVI.....15646  
2505.....12599  
2507.....12599  
2508.....12599

**Proposed Rules:**

170.....11056

**46 CFR**

105.....13279  
401.....11908  
403.....11908  
404.....11908  
501.....10508  
502.....10508

**Proposed Rules:**

502.....15002  
503.....15002  
515.....15002  
520.....15002  
530.....15002  
535.....15002  
540.....15002  
550.....15002  
555.....15002  
560.....15002

**47 CFR**

51.....15647, 17617  
64.....14984  
73.....15649, 17088  
76.....13997  
90.....10519  
**Proposed Rules:**  
11.....15792  
15.....11166, 15210  
63.....11500  
64.....12062  
73.....15216  
74.....11166  
76.....14033

**48 CFR**

Ch. 1.....11988, 11993  
1.....11988  
4.....11988, 11992  
9.....11988  
22.....11988, 11992  
25.....11992  
36.....11992  
52.....11988, 11992, 13998  
211.....17042, 17048  
212.....17042, 17045  
217.....17044  
219.....17045  
225.....17047, 17048  
234.....17044  
246.....17042  
252.....17042, 17045  
1802.....13747  
1804.....13747  
1805.....13747  
1806.....13747

1807.....13747  
1808.....13747  
1809.....12420  
1811.....13747  
1812.....10519  
1813.....13747  
1814.....13747  
1815.....13747  
1819.....10519  
1822.....13747  
1824.....13747  
1825.....13747  
1828.....13747  
1830.....13747  
1831.....13747  
1832.....13747  
1833.....13747  
1834.....13747  
1835.....13747  
1836.....13747  
1839.....13747  
1841.....13747  
1843.....13747  
1844.....13747  
1847.....13747  
1849.....13747  
1850.....13747  
1851.....13747  
1852.....10519, 12420, 13747,  
14739  
2404.....13747  
2406.....13747  
2408.....13747  
2409.....13747  
2411.....13747  
2415.....13747  
2427.....13747  
2428.....13747  
2432.....13747  
2437.....13747  
2444.....13747  
2452.....13747

**Proposed Rules:**

Ch. 2.....17051  
216.....17050  
225.....17053  
231.....17055  
236.....17050  
Ch. 4.....16099  
609.....17121  
649.....17121  
1815.....13308  
1817.....17124  
1852.....13308, 17124

**49 CFR**

390.....13998  
578.....10520  
674.....14230  
1111.....13287  
1540.....11364  
**Proposed Rules:**  
218.....13918  
222.....11734  
240.....12642  
242.....12642  
350.....12062  
365.....12062  
380.....11944  
383.....11944, 14052  
384.....11944, 14052  
385.....12062  
386.....12062  
387.....12062  
391.....12642  
393.....15217

395 .....	12062, 12443, 15217	<b>50 CFR</b>	622 .....	11451, 12601, 12826,	<b>Proposed Rules:</b>	
523 .....	10822	17 .....	13124, 14264, 17790	12828, 16095, 17093, 17094	17 .....	13174, 14058
534 .....	10822	20 .....	17302	635 .....	91 .....	13769
535 .....	10822	100 .....	12590	648 .....	223 .....	14820
571 .....	12647	216 .....	15444	660 .....	224 .....	14820
580 .....	16107	223 .....	17091, 17398	679 .....	622 .....	11166, 11502
595 .....	12852	224 .....	17091	13289, 14017, 14740, 14773,	648 .....	11168, 14072, 14409,
1039 .....	17125	300 .....	14000	14988, 14989, 15650, 16096,		14817, 15003
				16097, 17096, 17403, 17617	660 .....	12676

---

**LIST OF PUBLIC LAWS**

---

**Note:** No public bills which have become law were received by the Office of the Federal Register for inclusion

in today's **List of Public Laws**.

Last List March 23, 2016

---

**Public Laws Electronic Notification Service (PENS)**

---

**PENS** is a free electronic mail notification service of newly

enacted public laws. To subscribe, go to <http://listserv.gsa.gov/archives/publaws-l.html>

**Note:** This service is strictly for E-mail notification of new laws. The text of laws is not available through this service. **PENS** cannot respond to specific inquiries sent to this address.