a.m. to 4 p.m. PDT, or until business is completed.

The SAS meeting will be held Monday, September 14, 2026, from 9 a.m. to 4 p.m. PDT, or until business is completed.

ADDRESSES: These meetings will be held online. Specific meeting information, including directions on how to join the meeting and system requirements, will be provided in the meeting announcements on the Pacific Council's website (see *www.pcouncil.org*). You may send an email to Mr. Hayden York (*hayden.york@pcouncil.org*) or contact him at (503) 820–2424 for technical assistance.

Council address: Pacific Fishery Management Council, 7700 NE Ambassador Place, Suite 101, Portland, OR 97220–1384.

FOR FURTHER INFORMATION CONTACT: Angela Forristall, Staff Officer, Pacific Council; telephone: (503) 820–2419.

SUPPLEMENTARY INFORMATION: The primary purpose of these meetings is for the GAP, GMT, EWG, EAS, HMSAS, HMSMT, STT, and SAS to prepare for the September 2026 Pacific Council meeting. The GAP, GMT, EWG, EAS, HMSAS, HMSMT, STT, and SAS will discuss items related to each advisory body's particular management items and other matters on the Pacific Council's September agenda. No management actions will be decided by the GAP, GMT, EWG, EAS, HMSAS, HMSMT, STT, or SAS. The GAP, GMT, EWG, EAS, HMSAS, HMSMT, STT, and SAS recommendations will be considered by the Pacific Council at their September Council meeting. A detailed agenda for each of the GAP, GMT, EWG, EAS, HMSAS, HMSMT, STT, and SAS webinars will be available on the Pacific Council's website prior to the meetings.

Although non-emergency issues not contained in the meeting agendas may be discussed, those issues may not be the subject of formal action during these meetings. Action will be restricted to those issues specifically listed in this document and any issues arising after publication of this document that require emergency action under section 305(c) of the Magnuson-Stevens Fishery Conservation and Management Act, provided the public has been notified of the intent to take final action to address the emergency.

Special Accommodations

Requests for sign language interpretation or other auxiliary aids should be directed to Mr. Hayden York (*hayden.york@pcouncil.org;* (503) 820–2424) at least 10 days prior to the meeting date.

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

Dated: August 6, 2026.

Anna Michelle Harrison,

Acting Deputy Director, Office of Sustainable Fisheries, National Marine Fisheries Service.

[FR Doc. 2026–16343 Filed 8–10–26; 8:45 am]

BILLING CODE 3510–22–P

DEPARTMENT OF COMMERCE

National Oceanic and Atmospheric Administration

[RTID 0648–XF617]

Takes of Marine Mammals Incidental To Specified Activities; Taking Marine Mammals Incidental to the North Barge Expansion Project at Dutch Harbor, Alaska

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

ACTION: Notice; proposed incidental harassment authorization; request for comments on proposed authorization and possible renewal.

SUMMARY: NMFS has received a request from the Qawalangin Tribe of Unalaska (QTU) for authorization to take marine mammals incidental to the North Barge Expansion Project at Dutch Harbor, Alaska. Pursuant to the Marine Mammal Protection Act (MMPA), NMFS is requesting comments on its proposal to issue an incidental harassment authorization (IHA) to take marine mammals incidental to the specified activities. NMFS is also requesting comments on a possible one-time, 1-year renewal that could be issued under certain circumstances and if all requirements are met, as described in the Request for Public Comments section at the end of this notice. NMFS will consider public comments prior to making any final decision on the issuance of the requested MMPA authorization.

DATES: Comments and information must be received no later than September 10, 2026.

ADDRESSES: Comments should be addressed to Howard Goldstein, Biologist, Permits and Conservation Division, Office of Protected Resources (OPR), NMFS and should be submitted via email to *ITP.Goldstein@noaa.gov.* Electronic copies of the application and supporting documents, as well as a list of the references cited in this document, may be obtained online at: *https://www.fisheries.noaa.gov/national/marine-mammal-protection/incidental-take-authorizations-construction-activities.* In case of problems accessing these documents, please call the contact listed below.

Instructions: NMFS is not responsible for comments sent by any other method, to any other address or individual, or received after the end of the comment period. Comments, including all attachments, must not exceed a 25-megabyte file size. All comments received are a part of the public record and will generally be posted online at: *https://www.fisheries.noaa.gov/permit/incidental-take-authorizations-under-marine-mammal-protection-act* without change. All personal identifying information (*e.g.,* name, address) voluntarily submitted by the commenter may be publicly accessible. Do not submit confidential business information or otherwise sensitive or protected information.

FOR FURTHER INFORMATION CONTACT: Howard Goldstein, OPR, NMFS, (301) 427–8417.

SUPPLEMENTARY INFORMATION:

Background

The MMPA prohibits the "take" of marine mammals, with certain exceptions. Sections 101(a)(5)(A) and (D) of the MMPA (16 U.S.C. 1361 *et seq.*) direct the Secretary of Commerce (as delegated to NMFS) 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 proposed or, if the taking is limited to harassment, a notice of a proposed IHA is provided to the public for review.

Authorization for incidental takings shall be granted if NMFS finds that the taking will have a negligible impact on the species or stock(s) and will not have an unmitigable adverse impact on the availability of the species or stock(s) for taking for subsistence uses (where relevant). If such findings are made, NMFS must prescribe the permissible methods of taking and other "means of effecting the least practicable adverse impact" on the affected species or stocks and their habitat, paying particular attention to rookeries, mating grounds, and areas of similar significance, and on the availability of the species or stocks for taking for certain subsistence uses (referred to as "mitigation"); and requirements pertaining to the mitigation, monitoring and reporting of the takings. The definitions of all applicable MMPA statutory terms cited above are included in the relevant sections below (see also 16 U.S.C. 1362; 50 CFR 216.3, 216.103).

National Environmental Policy Act

To comply with the National Environmental Policy Act of 1969 (NEPA; 42 U.S.C. 4321 *et seq.*) and NOAA Administrative Order (NAO) 216–6A, NMFS must review our proposed action (*i.e.,* the issuance of an IHA) with respect to potential impacts on the human environment.

This action is consistent with categories of activities identified in Categorical Exclusion B4 (IHAs with no anticipated serious injury or mortality) of the Companion Manual for NAO 216–6A, which do not individually or cumulatively have the potential for significant impacts on the quality of the human environment and for which we have not identified any extraordinary circumstances that would preclude this categorical exclusion. Accordingly, NMFS has preliminarily determined that the issuance of the proposed IHA qualifies to be categorically excluded from further NEPA review.

Summary of Request

On October 28, 2025, NMFS received a request from QTU for an IHA to take marine mammals incidental to vibratory pile driving and removal, impact pile driving, and down-the-hole (DTH) drilling activities associated with the North Barge Expansion Project at Dutch Harbor, Alaska. Following NMFS' review of the application, and discussions between NMFS and QTU, QTU submitted a revised version of the application on May 6, 2026. The application was deemed adequate and complete on July 8, 2026. Subsequently, QTU provided a revised application on July 14, 2026, that aligns with the information in this notice of proposed IHA. QTU's request is for take of six species of marine mammals by Level B harassment and, for a subset (three) of these species, by Level A harassment. Neither QTU nor NMFS expect serious injury or mortality to result from this activity, and none is proposed to be authorized; therefore, an IHA is appropriate.

Description of Proposed Activity

Overview

Dutch Harbor is an international, deep draft, ice-free year-round port in the Aleutian Islands that provides vital services to vessels operating on the North Pacific Ocean and Bering Sea. The port has the western-most container terminal in the United States and provides ground and warehouse storage and transshipment opportunities for thousands of vessels that fish in the region or transit between North America and Asia. The project site is adjacent to a large container terminal that is called upon approximately two times per week.

QTU is proposing to construct a purpose-built barge ramp and dock north of the existing dock, several barge mooring dolphins and shore winches capable of receiving 400 feet (ft) long (121.9 meters [m]) barges, approximately 7.5 acres (30,351.4 square m) of expanded container storage yard, and drainage infrastructure. The project would allow the terminal to handle ocean-going vessels and regional barge operations concurrently. This would eliminate the excessive wait-time for available berthing space that vessels and barges experience with the existing single vessel dock terminal.

Figure 3 of the application includes a diagram of the elements (ramp plan) of the North Barge Expansion Project. Vibratory pile driving and removal, impact pile driving, and DTH drilling associated with the project have the potential to result in take of marine mammals.

Dates and Duration

The proposed IHA would be valid for the statutory maximum of 1 year from the date of effectiveness. It will become effective upon written notification from the applicant to NMFS, but not beginning later than 1 year from the date of issuance nor extending beyond 2 years from the date of issuance. The project would likely occur between April and November 2027 and would require up to approximately 62 days of vibratory pile driving and removal, impact pile driving, and DTH drilling. However, project delays may occur due to a number of factors, including project funding, permitting requirements, availability of equipment and/or materials, weather-related delays, equipment maintenance and/or repair, transits to and from ports, and other contingencies.

In-water pile removal and installation activities would only occur during daylight hours over a 12-hour workday, up to 7 days per week. Work would be intermittent within and across days as the contractors would need time to set up between piles and logistical constraints (*e.g.,* inclement weather) may prevent pile driving on consecutive days.

Specific Geographic Region

The proposed specified activities would occur at Dutch Harbor, which is within the City of Unalaska on Amaknak Island, Alaska. Amaknak Island is a remote island in the central Aleutian Islands. The City of Unalaska is approximately 800 miles (1,287.5 kilometers [km]) from Anchorage, Alaska. The project area includes Iliuliuk Bay and Unalaska Bay. The water depth in Iliuliuk Bay is approximately 100 ft (30.5 m) mean lower low water (MLLW) with a sediment bar that is 42 ft (12.8 m) MLLW and dredged to 58 ft (17.7 m) MLLW. Iliuliuk Bay and Unalaska Bay host a subarctic marine ecosystem, supporting over 450 species of fish and invertebrates, sea birds, and marine mammals. Key habitats include the nutrient-rich waters of Dutch Harbor and the spawning grounds of the lower Iliuliuk River.

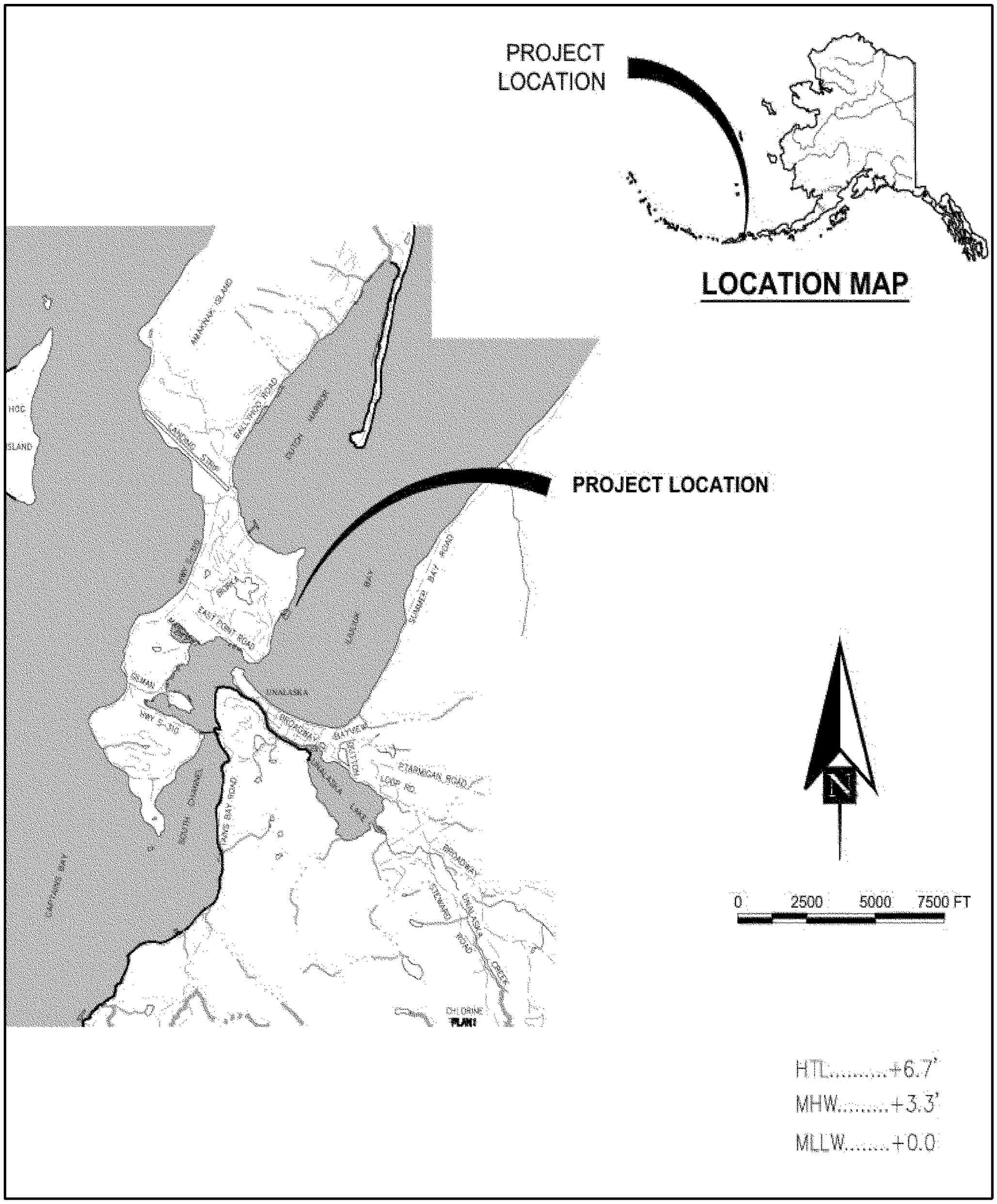

Figure 1 -- Project Location at Dutch Harbor, Alaska

Figure—Progect Location at Dutch Harbor, Alaska

Detailed Description of the Specified Activity

The project area has extensive bedrock overlain with sediments along a rocky shoreline, hence the need for the pile driving methods described below. The North Barge Expansion Project would conduct vibratory pile driving and removal, impact pile driving, and DTH drilling to install and remove a variety of pile sizes (*i.e.,* 8-inch, 24-inch, 30-inch, 36-inch, and AZ26) and types (*i.e.,* steel pile, sheet pile, tension anchor, and rock socket) as well as other specified activities such as fill placement and vessel operations. The models of equipment that may be used during the North Barge Expansion Project would not be known until the construction bid is advertised and a contractor is selected. A summary of the methods (vibratory pile driving and removal, impact pile driving, and DTH drilling), size, quantity, time, and effort of the specified activities are described further in table 1.

Vibratory Pile Driving and Removal—Vibratory hammers would be used to drive in and remove piles, where substrates (sediments) allow. For vibratory pile driving, a pile would be placed into position using a choker and crane and then vibrated between 1,200 and 2,400 vibrations per minute. The vibrations liquefy the sediment surrounding the pile allowing it to penetrate to the required seating depth, or to be removed.

Impact Pile Driving—Impact hammers (see figure 5 of the application) would be used to install piles when substrate conditions are difficult (such as glacial till) or when proofing (gathering load bearing data). Impact hammers have guides (called a lead) that hold the hammer in alignment with the pile while a heavy piston moves up and down, striking the top of the pile, and driving it into the substrate from the downward force of the hammer on the top of the pile. To drive the pile, the pile would be first moved into position and set in the proper location using a vibratory hammer. Once the pile is vibrated into place, pile installation with an impact hammer could take less than 15 minutes under good conditions, to over an hour under poor conditions. Examples of poor conditions for impact pile driving include, but are not limited to, glacial till and bedrock or loose material in which the pile repeatedly moves out of position.

DTH Drilling—DTH drilling (see figure 6 of the application) would be used for hard soils, rock, or cobble layers that are commonly encountered in marine foundations. DTH drilling would use a percussion hammer located directly at the bottom of the borehole, inside the drill string. The hammer strikes the rock or substrate directly while compressed air or water flushes the cuttings upward through the drill rods. Because the site has shallow bedrock, tension anchors and rock sockets would be used for piles with embedment depth greater than the newly placed shot rock fill.

Other Specified Activities—Fill placement below the high-tide line, mean high water, and MLLW lines (total of 10.5 acres [42,492 square m]) would occur to create uplands. Fill would be placed from shore to build out the fill pad. Most pile driving would be conducted from shore (*i.e.,* the new fill pad), but some pile driving would be conducted from a barge. Drainage upgrades and required oil-water separators would be installed to meet current stormwater discharge requirements. A barge ramp and lift frame would be installed for barge loading and unloading once the required pilings and sheet pile retaining wall are in place. A sheet pile bulkhead would support the fill. Fill placement is not expected to result in marine mammal harassment. A summary of the fill quantities of the specified activities is described further in table 1 of the application.

Vessel Operations—The specified activities would include up to three project-dedicated tugboats with barges that would transit along a standard commercial shipping route for transporting materials from/to Seattle, Washington and Dutch Harbor, Alaska. The transit would be expected to take up to 3 weeks. The tugboats and barges would be kept at the construction site as much as possible to use and offload equipment and materials, but may be temporarily moved to a protected area inside a spit in Dutch Harbor as needed due to weather. The tugboats would be approximately 100 ft (30.5 m) long and towed barges would be 400 ft (121.9 m) long and 100 ft (30.5 m) wide. The vessels would generally travel no more than 8 knots. For more details on the vessel operations, please see the QTU biological assessment. The use of tugboats, barges, and other vessels (for crew) are not expected to result in marine mammal harassment. Therefore, QTU did not request, and NMFS is not proposing to authorize, take from barges or above-water activities.

TABLE 1—SUMMARY OF NORTH BARGE EXPANSION PROJECT SPECIFIED ACTIVITIES

Pile type and size	Total number of piles	Maximum piles per day	Strikes per pile	Time per pile (minutes)	Time per day (minutes)	Number of days	Time total (minutes)
Vibratory Pile Driving—Temporary Installation							
24-inch Steel Pile	20	4	NA	15	60	5	300
Vibratory Pile Driving—Temporary Removal							
24-inch Steel Pile	20	4	NA	15	60	5	300
Vibratory Pile Driving—Permanent Installation							
24-inch Steel Pile	14	4	NA	30	120	3.5	420
30-inch Steel Pile	5	4	NA	30	120	1.25	150
36-inch Steel Pile	4	4	NA	30	120	4	480
AZ26 Sheet Pile	35	4	NA	30	120	8.75	1,050
Impact Pile Driving—Permanent Installation							
24-inch Steel Pile	14	4	50	5	20	3.5	70
30-inch Steel Pile	5	4	50	5	20	1.25	25
36-inch Steel Pile	16	4	50	5	20	4	80
Down-the-Hole Drilling—Temporary Installation							
24-inch Steel Pile	20	3	NA	240	720	7	4,800
Down-the-Hole Drilling—Permanent Installation							
8-inch Tension Anchor	24	3	NA	240	720	8	5,760
24-inch Steel Pile	12	3	NA	240	720	4	2,880
30-inch Steel Pile	5	3	NA	240	720	2	1,200
36-inch Steel Pile	12	3	NA	240	720	4	2,880

Proposed mitigation, monitoring, and reporting measures are described in detail later in this document (please see Proposed Mitigation and Proposed Monitoring and Reporting sections).

Description of Marine Mammals in the Area of Specified Activities

Sections 3 and 4 of the application summarize available information regarding status and trends, distribution and habitat preferences, and behavior and life history of the potentially affected species. NMFS fully considered all of this information, and refers the reader to these descriptions, instead of reprinting the information. Additional information regarding population trends and threats may be found in NMFS' Stock Assessment Reports (SARs; *https://www.fisheries.noaa.gov/national/marine-mammal-protection/marine-mammal-stock-assessments*) and more general information about these species (*e.g.,* physical and behavioral descriptions) may be found on NMFS' website (*https://www.fisheries.noaa.gov/find-species*).

Table 2 lists all species or stocks for which take is expected and proposed to be authorized for this activity, and summarizes information related to the population or stock, including regulatory status under the MMPA and Endangered Species Act (ESA) and potential biological removal (PBR), where known. PBR is defined by the MMPA as the maximum number of animals, not including natural mortalities, that may be removed from a marine mammal stock while allowing that stock to reach or maintain its optimum sustainable population (as described in NMFS' SARs). While no serious injury or mortality is anticipated or proposed to be authorized here, PBR and annual serious injury and mortality from anthropogenic sources are included here as gross indicators of the status of the species or stocks and other threats.

Marine mammal abundance estimates presented in this document represent the total number of individuals that make up a given stock or the total number estimated within a particular study or survey area. NMFS' stock abundance estimates for most species represent the total estimate of individuals within the geographic area, if known, that comprises that stock. For some species, this geographic area may extend beyond U.S. waters. All managed stocks in this region are assessed in NMFS' Alaska Marine Mammal Stock Assessments (*e.g.,* Young *et al.,* 2025). All values presented in table 2 are the most recent available at the time of publication, including from the 2024 SARs, and are available online at: *https://www.fisheries.noaa.gov/national/marine-mammal-protection/marine-mammal-stock-assessments.*

TABLE 2—SPECIES, STOCKS, AND THE STATUS OF MARINE MAMMALS WITH ESTIMATED TAKE FROM THE SPECIFIED ACTIVITIES

Common name	Scientific name	Stock	ESA/ MMPA status; strategic (yes/no)[1]	Stock abundance (CV, N_{min}, most recent abundance survey)[2]	Potential biological removal	Total annual mortality/ serious injury[3]
Order Artiodactyla—Infraorder Cetacea—Mysticeti (Baleen Whales)						
Family Balaenopteridae:						
Humpback Whale	*Megaptera novaeangliae*	Hawaiʻi	-, -, N	11,278 (0.56, 7,265, 2002–2020).	127	27.09
		Mexico—North Pacific	T, D, Y	NA (NA, NA, 2006)[4]	UND	0.57
		Western North Pacific	E, D, Y	1,084, (0.088, 1,007, 2004–2006).	3.4	5.82
Minke Whale	*Balaenoptera acutorostrata*	Alaska	-, -, N	NA (NA, NA, NA)[5]	NA	0
Odontoceti (Toothed Whales, Dolphins, and Porpoises)						
Family Delphinidae (Dolphins):						
Killer Whale	*Orcinus orca*	Eastern North Pacific Alaska Resident.	-, -, N	1,920 (NA, 1,920, 2005–2019).	19	1.3
		Eastern North Pacific Gulf of Alaska, Aleutian Islands, and Bering Sea Transient.	-, -, N	587 (NA, 587, 2012)	5.9	0.8
Family Phocoenidae (Porpoises):						
Harbor Porpoise	*Phocoena phocoena*	Bering Sea	-, -, NS	UNK (UNK, NA, 2008)	UND	1.8
Order Carnivora—Pinnipedia (Seals and Sea Lions)						
Family Otariidae (Eared Seals and Sea Lions):						
Steller Sea Lion	*Eumetopias jubatus*	Western	E, D, Y	49,837 (NA, 73,211, 2021–2022).	439	267
Family Phocidae (Earless Seals):						
Harbor Seal	*Phoca vitulina*	Aleutian Islands	-, -, N	5,588 (NA, 5,366, 2018)	97	90

[1] ESA status: Endangered (E), Threatened (T)/MMPA status: Depleted (D). A dash (-) indicates that the species is not listed under the ESA or designated as depleted under the MMPA. Under the MMPA, a strategic stock is one for which the level of direct human-caused mortality exceeds PBR or which is determined to be declining and likely to be listed under the ESA within the foreseeable future. Any species or stock listed under the ESA is automatically designated under the MMPA as depleted and as a strategic stock.
[2] NMFS marine mammal SARs online at: *https://www.fisheries.noaa.gov/national/marine-mammal-protection/marine-mammal-stock-assessment-reports.* CV is coefficient of variation; N_{min} is the minimum estimate of stock abundance. NA is not available or applicable.
[3] These values, found in NMFS's SARs, represent annual levels of human-caused mortality plus serious injury from all sources combined (*e.g.,* commercial fisheries, vessel strike, Native subsistence mortality). Annual Mortality/Serious Injury often cannot be determined precisely and is in some cases presented as a minimum value or range.
[4] Abundance estimates are based upon data collected more than 8 years ago and therefore current estimates are considered unknown.
[5] Reliable population estimates are not available for this stock. Please see Friday *et al.* (2013) and Zerbini *et al.* (2006) for additional information on numbers for minke whales in Alaska.

As indicated above, all six species (with nine managed stocks) in table 2 temporally and spatially co-occur with the activity to the degree that take is likely to occur. All species of marine mammals that could potentially occur in the proposed project area are included in table 3 of the application. While blue whale (*Balaenoptera musculus*), fin whale (*Balaenoptera physalus*), eastern North Pacific and W North Pacific gray whale (*Eschrichtius robustus*), North Pacific right whale (*Eubalaena japonica*), sei whale (*Balaenoptera borealis*), sperm whale (*Physeter macrocephalus*), Baird's beaked whale (*Berardius bairdii*), Cuvier's beaked whale (*Ziphius cavirostris*), Sato's beaked whale (*Berardius minimus*), Stejneger's beaked whale (*Mesoplodon stejnegeri*), Pacific white-sided dolphin (*Lagenorhynchus obliquidens*), Dall's porpoise (*Phocoenoides dalli*), northern fur seal

(*Callorhinus ursinus*), northern elephant seal (*Mirounga angustirostris*), and ribbon seal (*Histriophoca fasciata*) could occur in the area, the temporal and/or spatial occurrence of these species is such that take is not expected to occur. These species all have extremely low abundances, and most are observed in areas outside of the project area due to it being nearshore and its inlet geography; therefore, they are not discussed further beyond the explanation provided here.

In addition, northern sea otter (*Enhydra lutris kenyoni*) may be found in the central Aleutian Islands. However, this species is managed by the U.S. Fish and Wildlife Service and is not considered further in this document.

Humpback Whale

On September 8, 2016, NMFS divided the once single population into 14 distinct population segments (DPS) under the ESA, removed the species-level listing as endangered, and, in its place, listed 4 DPSs as endangered and 1 DPS as threatened (81 FR 62260, September 8, 2016). The remaining nine DPSs were not listed. There are four DPSs in the North Pacific Ocean, including: the Western North Pacific and Central America, which are listed as endangered; Mexico, which is listed as threatened; and Hawaiʻi, which is not listed.

The 2022 Alaska and Pacific SARs described a revised stock structure for humpback whales which modifies the previous stocks designated under the MMPA to align more closely with the ESA-designated DPSs (Caretta *et al.,* 2023; Young *et al.,* 2023). Specifically, the three previous North Pacific humpback whale stocks (central and Western North Pacific stocks and a California/Oregon/Washington [CA/OR/WA] stock) were replaced by five stocks, largely corresponding with the ESA-designated DPSs. These include the Western North Pacific and Hawaiʻi stocks and a Central America/southern Mexico—CA/OR/WA stock (which corresponds with the Central America DPS). The remaining two stocks, corresponding with the Mexico DPS, are the Mainland Mexico—CA/OR/WA and Mexico—North Pacific stocks (Caretta *et al.,* 2023; Young *et al.,* 2023). The former stock is expected to occur along the west coast from California to southern British Columbia, while the latter stock may occur across the Pacific, from northern British Columbia through the Gulf of Alaska and Aleutian Islands/Bering Sea region to Russia.

The Hawaiʻi stock consists of one demographically independent population (DIP)—Hawaiʻi—Southeast Alaska/Northern British Columbia DIP and one unit—Hawaiʻi—North Pacific unit, which may or may not be composed of multiple DIPs (Wade *et al.,* 2021). The DIP and unit are managed as a single stock at this time, due to the lack of data available to separately assess them and lack of compelling conservation benefit to managing them separately (NMFS, 2023, 2019, 2022b). The DIP is delineated based on two strong lines of evidence: genetics and movement data (Wade *et al.,* 2021). Whales in the Hawaiʻi—Southeast Alaska/Northern British Columbia DIP winter off Hawaiʻi and largely summer in Southeast Alaska and Northern British Columbia (Wade *et al.,* 2021). The group of whales that migrate from Russia, western Alaska (Bering Sea and Aleutian Islands), and central Alaska (Gulf of Alaska excluding Southeast Alaska) to Hawaiʻi have been delineated as the Hawaiʻi—North Pacific unit (Wade *et al.,* 2021). There are a small number of whales that migrate between Hawaiʻi and southern British Columbia/Washington, but current data and analyses do not provide a clear understanding of which unit these whales belong to (Wade *et al.,* 2021; Caretta *et al.,* 2023; Young *et al.,* 2023).

The Mexico—North Pacific unit is likely composed of multiple DIPs, based on movement data (Martien *et al.,* 2021; Wade, 2021; Wade *et al.,* 2021). However, because currently available data and analyses are not sufficient to delineate or assess DIPs within the unit, it was designated as a single stock (NMFS, 2023a, 2019, 2022c). Whales in this stock winter off Mexico and the Revillagigedo Archipelago and summer primarily in Alaska waters (Martien *et al.,* 2021; Carretta *et al.,* 2023; Young *et al.,* 2023).

The Western North Pacific stock consists of two units—the Philippines/Okinawa—North Pacific unit and the Marianas/Ogasawara—North Pacific unit. The units are managed as a single stock at this time, due to a lack of data. Recognition of these units is based on movements and genetic data (Oleson *et al.,* 2022). Whales in the Philippines/Okinawa—North Pacific unit winter near the Philippines and in the Ryukyu Archipelago and migrate to summer feeding areas primarily off the Russian mainland (Oleson *et al.,* 2022). Whales that winter off the Mariana Archipelago, Ogasawara, and other areas not yet identified and then migrate to summer feeding areas off the Commander Islands, and to the Bering Sea and Aleutian Islands comprise the Marianas/Ogasawara—North Pacific unit.

Humpback whales that occur in the project area are predominantly members of the Hawaiʻi stock, which corresponds to the Hawaiʻi DPS (91 percent probability in the Aleutian Islands), and is not listed under the ESA. However, members of the Mexico North Pacific stock, which include the Mexico DPS and is listed as threatened under the ESA, have a small potential to occur in the project location (7 percent probability in the Aleutian Islands), and the Western North Pacific stock, which corresponds to the Western North Pacific DPS and is listed as endangered under the ESA, have an even smaller potential to occur in the project location (2 percent probability in the Aleutian Islands).

Humpback whale migrate to the North Pacific Ocean, including the Aleutian Islands, to feed after months of fasting in equatorial breeding grounds. Humpback whales generally travel alone or in small groups that persist for only a few hours. In Iliuliuk Bay and Unalaska Bay, humpback whales are often sighted as solitary individuals or in small groups of up to 3 individuals, but up to 60 at one time have been observed (QTU application, 2026). Groups may stay together for longer in the summer in order to feed cooperatively. The Alaska Department of Fish and Game reports that humpback whales occur in the Aleutian Islands in the spring, summer, and fall during their migration. Humpback whales are often observed in Unalaska Bay from April through most of October (QTU application, 2026) when prey availability is highest. They are common in seaward areas, especially the pass between Akutan Island and Unalaska Island. The abundance of humpback whales in Unalaska Bay during the construction window (April through November) is highly variable. From June 24 through July 30, 2025, Protected Species Observers (PSOs) employed for the U.S. Army Core of Engineers (USACE) Unalaska Channel Project, which involved dredging to deepen the entrance channel to Iliuliuk Bay, observed a total of 94 (78 adults and 16 juveniles) humpback whales (USACE, 2025a, 2025b).

Minke Whale

Minke whales occur in polar, temperate, and tropical waters worldwide in a range extending from the ice edge in the Arctic during the summer to near the equator during winter. However, they are known to prefer temperate to boreal waters due to the abundance of prey (Guerrero, 2008b). When comparing distribution and abundance in the years 2002, 2008, and 2010, it was found that that minke whales were scattered throughout all oceanographic domains: coastal, middle shelf, and outer shelf/slope (Muto *et al.,* 2021). The minke whale mostly migrates seasonally and can travel long distances; although, some minke whale individuals and stocks have resident home ranges and are not highly migratory (Guerrero, 2008b). Minke whales belonging to the Alaska stock are migratory and are common in the waters of the Bering Sea, Gulf of Alaska, and Southeast Alaska in the spring and summer (NMFS, 2023c).

The distribution of minke whales varies according to age, sex, and reproductive status. Older mature males are commonly found in small social groups around the ice edge of polar regions during the summer feeding season. Comparatively, adult females will migrate farther into the higher latitudes but generally remain in coastal waters. Immature minke whales tend to be solitary and stay in lower latitudes during the summer (Guerrero, 2008b). Although the minke whale tends to be solitary or in groups of 2 to 3 individuals, they can congregate into larger groups containing up to 400 individuals at the higher latitude foraging areas (Clark, 2008a; Guerrero 2008b; NOAA, 2021). During surveys in Alaska, minke whales were predominately observed alone (Wade *et al.,* 2003; Waite, 2003). Breeding season typically occurs from December to March, but in some regions minke whales breed year-round. When migrating north in spring and summer, they will travel along in coastal waters, whereas in fall and winter, they move farther offshore (NMFS, 2023c). Minke whales are uncommonly sighted in Iliuliuk Bay and Unalaska Bay. There are no confirmed sightings of minke whales in the project area; however, they could occasionally be present during the proposed project (C. Hoffman personal communication, June 29, 2026).

Killer Whale

Killer whales occur in every ocean in the world and are the most widely distributed of all cetaceans. Along the west coast of North America, killer whales occur along the entire Alaska coast (Braham and Dahlheim, 1982). This proposed IHA considers only the eastern North Pacific Alaska Resident stock (Alaska Resident stock), and the eastern North Pacific Gulf of Alaska, Aleutian Islands, and Bering Sea Transient stock because all other killer whale stocks occur outside the geographic area under consideration (Muto *et al.,* 2021; Young *et al.,* 2023).

There are three distinct ecotypes, or forms, of killer whales recognized: Resident, Transient, and Offshore. The three ecotypes differ morphologically, ecologically, behaviorally, and genetically. Spatial distribution has been shown to vary among the different ecotypes, with resident and, to a lesser extent, transient killer whales more commonly observed along the continental shelf, and offshore killer whales more commonly observed in pelagic waters (Rice *et al.,* 2021).

When comparing movement, residents tend to have more predictable movements and the smallest home ranges and they return annually, whereas transients are less predictable due to their larger home ranges and quick transits through local areas. Offshore ecotypes have the largest home ranges that are generally farther offshore compared to the other two ecotypes (Zimmerman and Small, 2008). Resident killer whales live in large, stable groups ranging normally from 5 to 50 individuals and up to 100 or more. They feed only on fish, especially Pacific salmon. Transient killer whales, on the other hand, hunt marine mammals, like pinnipeds and porpoises, in smaller groups of 10 individuals or less (Forney and Wade, 2006).

Killer whales have been observed in the Aleutian Islands and into the Bering Sea year-round, most commonly during the summer Chinook salmon run (May through July) when the project would occur. They are infrequently sighted in Unalaska Bay. Anecdotal reports include visual sightings of killer whales in Dutch Harbor (in group sizes of about 6 to 8 individuals) twice in approximately 150 visits over 25 years (C. Hoffman personal communication, April 15, 2026). It is unknown whether the killer whales sighted in Unalaska Bay are from the resident or transient stocks.

Harbor Porpoise

The Bering Sea stock of harbor porpoise occurs within the project area, ranging from throughout the Aleutian Islands and into all waters north of Unimak Pass. The harbor porpoise frequents nearshore waters and coastal embayments throughout their range, including bays, harbors, estuaries, and fjords less than 650 ft (198 m) deep. They are most often observed in groups of 2 or 3 individuals but could be in groups up to 10 individuals. There are not much data on sightings of harbor porpoise in the Aleutian Islands, and they were rarely observed during USACE surveys (2000 through 2018) (QTU application, 2025). Opportunistic reports suggest harbor porpoise are infrequent and almost always solitary but a group of more than one could occur (C. Hoffman personal communication, June 18, 2026).

Steller Sea Lion

Steller sea lions in the project area are anticipated to be from the western stock, which includes all Steller sea lions originating from rookeries west of Cape Suckling (144° west longitude). The centers of abundance and distribution for western DPS Steller sea lions are located in the Gulf of Alaska and Aleutian Islands. At sea, Steller sea lions commonly occur near the 656-ft (200-m) depth contour but have been found from nearshore to well beyond the continental shelf (Kajimura and Loughlin, 1988). Steller sea lions move offshore to pelagic waters for feeding excursions.

There are major (*i.e.,* haulouts supporting greater than 200 individuals) Steller sea lion haulouts and rookeries throughout the Aleutian Islands and along the southern end of southwest Alaska. There are haulouts and rookeries around Unalaska Island. The closest major haulouts are ''Old Man Rocks,'' ''Unalaska/Cape Sedanka'' (both approximately 15 nautical miles [27.8 km] from the project area), and ''Akutan/Lava Reef'' (approximately 19 nautical miles [35.2 km] from the project area). The closest rookery is ''Akutan/Cape Morgan'' (approximately 19 nautical miles [35.2 km] from the project area). Dutch Harbor is part of the Bogoslof foraging area (see figure 15 of the application). Steller sea lions occur year-round in Dutch Harbor and were commonly sighted during USACE surveys (2000 through 2018) (QTU application, 2026). One or two individuals are often hauled out at the two mooring buoys inside the spit of Dutch Harbor. They can also be found along the rocky coastline near Priest Rock near Cape Kalekta (northeast of the ensonified area; QTU application, 2026). From June 24 through July 30, 2025, PSOs employed for the USACE's Unalaska Channel Project observed 1,207 Steller sea lions (USACE, 2025a, 2025b). Figure 14 of the application is a map of the common Steller sea lion aggregation areas in Iliuliuk Bay and Unalaska Bay relative to the project area.

Harbor Seal

Harbor seals inhabit coastal and estuarine waters off Alaska. They haul out on rocks, reefs, beaches, and drifting glacial ice. They are generally non-migratory, with local movements associated with such factors as tides, weather, season, food availability, and reproduction (Muto *et al.,* 2021). They are opportunistic feeders and often adjust their distribution to take advantage of locally and seasonally abundant prey (Womble *et al.,* 2010). Although they tend to be solitary when in the water, they can form groups of about 30 or less individuals of both sexes and all ages when hauling out. Harbor seals haul out to rest periodically, give birth, or nurse.

Harbor seals in the project area are recognized as part of the Aleutian Island stock, occurring along the entire Aleutian island chain from Attu Island to Ugamak Island. Pupping season in the Aleutian Islands occurs between mid-June to mid-July (Sease, 1992). From June 24 through July 30, 2025, PSOs employed for the USACE's Unalaska Channel Project observed six harbor seals (USACE, 2025a, 2025b).

Harbor seals occasionally haul out in groups of 1 to 10 individuals at 3 locations in Iliuliuk Bay. Up to 40 individuals have been sighted at the haulout near Ulakta Head on the large flat reefs at low tide in calm conditions (QTU application, 2026). Ulakta Head is the largest haul out in the project area, it is on Amaknak Island and not inside Iliuliuk Bay. Within Iliuliuk Bay, it is less common for harbor seals to haul out. They may haul out in groups of three to five individuals on flat rocky outcrops that are not connected to the shoreline close to the project site. Harbor seals have not been observed hauling out in Dutch Harbor. Harbor seals may be sighted in-water along the shoreline and are commonly found foraging in the kelp beds nearshore. When not at haulouts, they are usually observed as solitary individuals (C. Hoffman personal communication, April 15, 2026).

Marine Mammal Hearing

Hearing is the most important sensory modality for marine mammals underwater, and exposure to anthropogenic sound can have deleterious effects. To appropriately assess the potential effects of exposure to sound, it is necessary to understand the frequency ranges marine mammals are able to hear. Not all marine mammal species have equal hearing capabilities (*e.g.,* Richardson *et al.,* 1995; Wartzok and Ketten, 1999; Au and Hastings, 2008). To reflect this, Southall *et al.* (2007, 2019) recommended that marine mammals be divided into hearing groups based on directly measured (behavioral or auditory evoked potential techniques) or estimated hearing ranges (behavioral response data, anatomical modeling, *etc.*). Generalized hearing ranges were chosen based on the approximately 65-decibel (dB) threshold from composite audiograms, previous analyses in NMFS (2018), and/or data from Southall *et al.* (2007) and Southall *et al.* (2019). We note that the names of two hearing groups and the generalized hearing ranges of all marine mammal hearing groups have been recently updated (NMFS, 2024) as reflected below in table 3.

TABLE 3—MARINE MAMMAL HEARING GROUPS

[NMFS, 2024]

Hearing group	Generalized hearing range *
Low-Frequency (LF) Cetaceans (Baleen Whales)	7 Hz to 35 kHz.
High-Frequency (HF) Cetaceans (Dolphins, Toothed Whales, Beaked Whales, Bottlenose Whales)	150 Hz to 160 kHz.
Very High-Frequency (VHF) Cetaceans (True Porpoises, *Kogia,* River Dolphins, Cephalorhynchid, *Lagenorhynchus cruciger,* and *L. australis*).	200 Hz to 165 kHz.
Phocid Pinnipeds (PW) (Underwater) (True Seals)	40 Hz to 90 kHz.
Otariid Pinnipeds (OW) (Underwater) (Sea Lions and Fur Seals)	60 Hz to 68 kHz.

* Represents the generalized hearing range for the entire group as a composite (*i.e.,* all species within the group), where individual species' hearing ranges are typically not as broad. Additionally, animals are able to detect very loud sounds above and below that "generalized" hearing range.

For more details concerning these groups and associated frequency ranges, please see NMFS (2024) for a review of available information.

Potential Effects of Specified Activities on Marine Mammals and Their Habitat

This section discusses how components of the specified activity may impact marine mammals and their habitat. The Estimated Take of Marine Mammals section includes a quantitative analysis of the number of individuals that are expected to be taken by this activity. The Negligible Impact Analysis and Determination section considers the content of this section, the Estimated Take of Marine Mammals section, and the Proposed Mitigation section, to draw conclusions regarding the likely impacts of these activities on the reproductive success or survivorship of individuals and whether those impacts are reasonably expected to, or reasonably likely to, adversely affect the species or stock through effects on annual rates of recruitment or survival.

There are a variety of types and degrees of effects on marine mammals, prey species, and habitats that could result from the project. Below is a brief description of the sound sources the projects would generate, the general impacts of these activities, and an analysis of the anticipated impacts on marine mammals from the project.

Description of Sound Sources

In-water pile removal and installation activities associated with the project would include vibratory pile driving and removal, impact pile driving, and DTH drilling. The sounds produced by these specified activities fall into one of two general sound types: Impulsive and non-impulsive. Impulsive sounds (*e.g.,* explosions, gunshots, sonic booms, impact pile driving) are typically transient, brief (less than 1 second), broadband, and consist of high peak sound pressure with rapid rise time and rapid decay (American National Standards Institute [ANSI], 1986; National Institute of Occupational Safety and Health [NIOSH], 1998; NMFS, 2018). Non-impulsive sounds (*e.g.,* aircraft, machinery operations such as drilling or dredging, vibratory pile driving, and active sonar systems) can be broadband, narrowband or tonal, brief or prolonged (continuous or intermittent), and typically do not have the high peak sound pressure with rapid rise/decay time that impulsive sounds do (ANSI, 1995; NIOSH, 1998; NMFS, 2018). The distinction between these two sound types is important because they have differing potential to cause physical effects, particularly with regard to hearing (*e.g.,* Ward 1997 in Southall *et al.,* 2007).

Three types of hammers would be used on this project: vibratory, impact, and DTH drilling. Impact hammers operate by repeatedly dropping and/or pushing a heavy piston onto a pile to drive the pile into the substrate. Sound generated by impact hammers is characterized by rapid rise times and high peak levels, a potentially injurious combination (Hastings and Popper, 2005). Vibratory hammers install piles by vibrating them and allowing the weight of the hammer to push them into the sediment. Vibratory hammers produce significantly less sound than impact hammers. Peak Sound Pressure Levels (SPLs) may be 180 dB or greater but are generally 10 to 20 dB lower than SPLs generated during impact pile driving of the same-sized pile (Oestman *et al.,* 2009). Rise time is slower, reducing the probability and severity of injury, and sound energy is distributed over a greater amount of time (Nedwell and Edwards, 2002; Carlson *et al.,* 2005).

A DTH hammer is essentially a drill bit that drills through the bedrock using a rotating function like a normal drill, in concert with a hammering mechanism operated by a pneumatic (or sometimes hydraulic) component integrated into the DTH hammer to increase speed of progress through the substrate (*i.e.,* it is similar to a ''hammer drill'' hand tool). The sounds produced by the DTH method contain both a continuous, non-impulsive component from the drilling action and an impulsive component from the hammering effect. Therefore, for purposes of evaluating Level A and Level B harassment under the MMPA, NMFS treats DTH systems as both impulsive (Level A harassment thresholds) and continuous, non-impulsive (Level B harassment thresholds) sound source types simultaneously.

Potential Effects of Underwater Sound on Marine Mammals

The introduction of anthropogenic noise into the aquatic environment from vibratory pile driving and removal, impact pile driving, and DTH drilling equipment is the primary means by which marine mammals may be harassed from QTU's specified activities. In general, animals exposed to natural or anthropogenic sounds may experience behavioral, physiological, and/or physical effects, ranging in magnitude from none to severe (Southall *et al.,* 2007). Generally, exposure to vibratory pile driving and removal, impact pile driving, and DTH drilling noise has the potential to result in behavioral reactions (*e.g.,* avoidance, temporary cessation of foraging and vocalizing, changes in dive behavior) and, in limited cases, auditory threshold shifts. Exposure to anthropogenic noise can also lead to non-observable physiological responses such as an increase in stress hormones. Additional noise in a marine mammal's habitat can mask acoustic cues used by marine mammals to carry out daily functions such as communication and predator and prey detection. The effects of vibratory pile driving and removal, impact pile driving, and DTH drilling noise on marine mammals are dependent on several factors, including, but not limited to, sound type (*e.g.,* impulsive vs. non-impulsive), the species, age and sex class (*e.g.,* adult male vs. mother with calf), duration of exposure, the distance between the pile and the animal, received levels, behavior at time of exposure, and previous history with exposure (Wartzok *et al.,* 2003; Southall *et al.,* 2007). Here we discuss physical auditory effects (threshold shifts) followed by behavioral effects and potential impacts on habitat.

Hearing Threshold Shifts

NMFS defines a noise-induced threshold shift (TS) as a change, usually an increase, in the threshold of audibility at a specified frequency or portion of an individual's hearing range above a previously established reference level (NMFS, 2018). The amount of TS is customarily expressed in dB. A TS can be permanent or temporary. As described in NMFS (2018, 2024), there are numerous factors to consider when examining the consequence of TS, including, but not limited to, the signal temporal pattern (*e.g.,* impulsive or non-impulsive), likelihood an individual would be exposed for a long enough duration or to a high enough level to induce a TS, the magnitude of the TS, time to recovery (seconds to minutes or hours to days), the frequency range of the exposure (*i.e.,* spectral content), the hearing and vocalization frequency range of the exposed species relative to the signal's frequency spectrum (*i.e.,* how animal uses sound within the frequency band of the signal; *e.g.,* Kastelein *et al.,* 2014), and the overlap between the animal and the source (*e.g.,* spatial, temporal, and spectral).

Auditory Injury (AUD INJ)

NMFS (2024) defines AUD INJ as damage to the inner ear that can result in tissue destruction, such as loss of cochlear neuron synapses or auditory neuropathy (Houser, 2021; Finneran, 2024). AUD INJ may or may not result in a permanent TS (PTS). PTS is defined as a permanent, irreversible increase in the threshold of audibility at a specified frequency or portion of an individual's hearing range above a previously established reference level (NMFS, 2024). PTS generally affects only a limited frequency range, and animals with PTS have some level of hearing loss at the relevant frequencies; typically, animals with PTS or other AUD INJ are not functionally deaf (Au and Hastings, 2008; Finneran, 2016). Available data from humans and other terrestrial mammals indicate that a 40-dB TS approximates AUD INJ onset (Ward *et al.,* 1958, 1959; Ward, 1960; Kryter *et al.,* 1966; Miller, 1974; Henderson *et al.,* 2008). However, a variety of terrestrial and marine mammal studies (see Ward *et al.,* 1958, 1959; Ward, 1960; Miller *et al.,* 1963; Kryter *et al.,* 1966; Finneran *et al.,* 2007; Kastelein *et al.,* 2013) indicate that TSs of up to 40 to 50 dB (measured a few minutes after exposure) may be induced without resulting in PTS. PTS levels for marine mammals are estimates; with the exception of a single study unintentionally inducing PTS in a harbor seal (Kastak *et al.,* 2008), no empirical data measure PTS in marine mammals largely due to the fact that, for various ethical reasons, experiments involving anthropogenic noise exposure at levels inducing AUD INJ are not typically pursued or authorized (NMFS, 2024). NMFS has set the PTS onset as an initial TS of 40 dB.

However, after sound exposure ceases or between successive sound exposures, the potential for recovery from hearing loss exists. Thus, because a TS is measured a few minutes after noise exposure does not mean that those initial shifts are persistent (*i.e.,* no recovery). When initial TSs fully recover back to baseline hearing levels, these are considered temporary TS (TTS). PTS indicates there is no full recovery back to baseline hearing levels; however, it does not mean there is no recovery. Rather, PTS indicates incomplete recovery of hearing. Recovery depends on the initial TS amount, the frequency at which the shift occurred, the temporal pattern of exposure (*e.g.,* exposure duration; continuous vs. intermittent exposure), and the physiological mechanisms underlying the shift (*e.g.,* mechanical vs. metabolic). Since recovery is complicated, our current AUD INJ onset criteria do not account for the potential for recovery.

TTS

A temporary, fully reversible increase in the threshold of audibility at a specified frequency or portion of an individual's hearing range above a previously established reference level (NMFS, 2018). Based on data from cetacean TTS measurements (Southall *et al.,* 2007), a TTS of 6 dB is considered the minimum TS clearly larger than any day-to-day or session-to-session variation in a subject's normal hearing ability (Schlundt *et al.,* 2000; Finneran *et al.,* 2000, 2002). As described in Finneran (2016), marine mammal studies have shown the amount of TTS increases with cumulative sound exposure level (SEL_{cum}) in an accelerating fashion. At low exposures with lower $SEL_{cum,}$ the amount of TTS is typically small and the growth curves have shallow slopes. At exposures with higher SEL_{cum}, the growth curves become steeper and approach linear relationships with the noise SEL.

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 takes place during a time when the animal is traveling through the open ocean, 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. We note that 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 we can infer that strategies exist for coping with this condition to some degree, though likely not without cost.

Currently, TTS data only exist for four species of cetaceans (bottlenose dolphin (*Tursiops truncatus*), beluga whale (*Delphinapterus leucas*), harbor porpoise, and Yangtze finless porpoise (*Neophocoena asiaeorientalis*) and five species of pinnipeds exposed to a limited number of sound sources (*i.e.,* mostly tones and octave-band noise) in laboratory settings (Finneran, 2015). TTS was not observed in trained spotted (*Phoca largha*) and ringed (*Pusa hispida*) seals exposed to impulsive noise at levels matching previous predictions of TTS onset (Reichmuth *et al.,* 2016). In general, harbor seals and harbor porpoises have a lower TTS onset than other measured pinniped or cetacean species (Finneran, 2015). Additionally, the existing marine mammal TTS data come from a limited number of individuals within these species. No data are available on noise-induced hearing loss for mysticetes. For summaries of data on TTS in marine mammals or for further discussion of TTS onset thresholds, please see Southall *et al.* (2007), Finneran and Jenkins (2012), Finneran (2015), and table 5 in NMFS (2018).

Activities for this project include vibratory pile driving and removal, impact pile driving, and DTH drilling activities. There would likely be pauses in activities producing the sound during each day. Given these pauses and the fact that many marine mammals are likely moving through the project area and not remaining for extended periods of time, the potential for TS declines.

Behavioral Effects

Exposure to noise can also behaviorally disturb marine mammals to a level that rises to the definition of harassment under the MMPA. Generally speaking, NMFS considers a behavioral disturbance that rises to the level of harassment under the MMPA a non-minor response. In other words, not every response qualifies as a behavioral harassment, and for responses that do, those of higher level or longer duration have the potential to affect foraging, reproduction, or survival. Behavioral disturbance may include subtle changes (*e.g.,* minor or brief avoidance of an area or changes in vocalizations), more conspicuous changes in similar behavioral activities, and more sustained and/or potentially severe reactions, such as displacement from or abandonment of high-quality habitat. Behavioral responses may include changing durations of surfacing and dives, changing direction and/or speed; reducing/increasing vocal activities; changing/cessation of certain behavioral activities (such as socializing or feeding); eliciting a visible startle response or aggressive behavior (such as tail/fin slapping or jaw clapping); and avoidance of areas where sound sources are located. In addition, pinnipeds may increase their haul-out time, possibly to avoid in-water disturbance (Thorson and Reyff, 2006). However, in general, pinnipeds seem more tolerant of, or at least habituate more quickly to, potentially disturbing underwater sound than do cetaceans, and generally seem to be less responsive to exposure to industrial sound than most cetaceans.

Behavioral responses to sound are highly variable and context-specific, and any reactions depend on numerous intrinsic and extrinsic factors (*e.g.,* species, state of maturity, experience, current activity, reproductive state, auditory sensitivity, time of day), as well as the interplay between factors (*e.g.,* Richardson *et al.,* 1995; Wartzok *et al.,* 2004; Southall *et al.,* 2007, 2019; Weilgart, 2007; Archer *et al.,* 2010). Behavioral reactions can vary not only among individuals but also within an individual, depending on previous experience with a sound source, context, and numerous other factors (Ellison *et al.,* 2012), and can vary depending on characteristics associated with the sound source (*e.g.,* whether it is moving or stationary, number of sources, distance from the source). In general, pinnipeds seem more tolerant of, or at least habituate more quickly to, potentially disturbing underwater sound than do cetaceans, and generally seem to be less responsive to exposure to industrial sound than most cetaceans. Please see appendices B and C of Southall *et al.* (2007) and Gomez *et al.* (2016) for reviews of studies involving marine mammal behavioral responses to sound.

Available studies show wide variation in response to underwater sound; therefore, it is difficult to predict specifically how any given sound in a particular instance might affect marine mammals perceiving the signal. If a marine mammal does react briefly to an underwater sound by changing its behavior or moving a small distance, the impacts of the change are unlikely to be significant to the individual, let alone the stock or population. However, if a sound source displaces marine mammals from an important feeding or breeding area for a prolonged period, impacts on individuals and populations could be significant (*e.g.,* Lusseau and Bejder, 2007; Weilgart, 2007; National Research Council [NRC], 2005).

Behavioral reactions can vary not only among individuals but also within an individual, depending on previous experience with a sound source, context, and numerous other factors (Ellison *et al.,* 2012), and can vary depending on characteristics associated with the sound source (*e.g.,* whether it is moving or stationary, number of sources, distance from the source).

Many animals perform vital functions, such as feeding, resting, traveling, and socializing, on a diel cycle (24-hour cycle). Disruption of such functions resulting from reactions to stressors such as sound exposure are more likely to be significant if they last more than one diel cycle or recur on subsequent days (Southall *et al.,* 2007). Consequently, a behavioral response lasting less than 1 day and not recurring on subsequent days is not considered particularly severe unless it could directly affect reproduction or survival (Southall *et al.,* 2007). Note that there is a difference between multi-day substantive behavioral reactions and multi-day anthropogenic activities. For example, just because an activity lasts for multiple days does not necessarily mean that individual animals are either exposed to activity-related stressors for multiple days or, further, exposed in a manner resulting in sustained multi-day substantive behavioral responses.

Alteration of Dive Behavior

Changes in dive behavior can vary widely and may consist of increased or decreased dive times and surface intervals as well as changes in the rates of ascent and descent during a dive (*e.g.,* Frankel and Clark, 2000; Costa *et al.,* 2003; Ng and Leung, 2003; Nowacek *et al.,* 2004; Goldbogen *et al.,* 2013). Seals exposed to non-impulsive sources with a received SPL within the range of calculated exposures (142–193 dB referenced to 1 micropascal [re 1 μPa]), have been shown to change their behavior by modifying diving activity and avoidance of the sound source (Götz and Janik, 2010; Kvadsheim *et al.,* 2010). Variations in dive behavior may reflect interruptions in biologically significant activities (*e.g.,* foraging) or they may be of little biological significance. The impact of an alteration to dive behavior resulting from an acoustic exposure depends on what the animal is doing at the time of the exposure and the type and magnitude of the response.

Alteration of Feeding Behavior

Disruption of feeding behavior can be difficult to correlate with anthropogenic sound exposure, so it is usually inferred by observed displacement from known foraging areas, the appearance of secondary indicators (*e.g.,* bubble nets or sediment plumes), or changes in dive behavior. As for other types of behavioral response, the frequency, duration, and temporal pattern of signal presentation, as well as differences in species sensitivity, are likely contributing factors to differences in response in any given circumstance (*e.g.,* Croll *et al.,* 2001; Nowacek *et al.,* 2004; Madsen *et al.,* 2006; Yazvenko *et al.,* 2007; Melcón *et al.,* 2012). In addition, behavioral state of the animal plays a role in the type and severity of a behavioral response, such as disruption to foraging (*e.g.,* Silve *et al.,* 2016; Wensveen *et al.,* 2017). An evaluation of whether foraging disruptions would be likely to incur fitness consequences considers temporal and spatial scale of the activity in the context of the available foraging habitat and, in more severe cases may necessitate consideration of information on or estimates of the energetic requirements of the affected individuals and the relationship between prey availability, foraging effort and success, and the life history stage of the animal. Goldbogen *et al.* (2013) indicate that disruption of feeding and displacement could impact individual fitness and health. However, for this to be true, we would have to assume that an individual could not compensate for this lost feeding opportunity by either immediately feeding at another location, by feeding shortly after cessation of acoustic exposure, or by feeding at a later time. There is no indication this is the case here, particularly since prey would likely still be available in the environment in most cases following the cessation of acoustic exposure.

Respiration

Respiration naturally varies with different behaviors, and variations in respiration rate as a function of acoustic exposure can be expected to co-occur with other behavioral reactions, such as a flight response or an alteration in diving. However, respiration rates in and of themselves may be representative of annoyance or an acute stress response. Studies with captive harbor porpoises showed increased respiration rates upon introduction of acoustic alarms (Kastelein *et al.,* 2001, 2006a) and emissions for underwater data transmission (Kastelein *et al.,* 2005). Various studies also have shown that species and signal characteristics are important factors in whether respiration rates are unaffected or change, again highlighting the importance in understanding species differences in the tolerance of underwater noise when determining the potential for impacts resulting from anthropogenic sound exposure (*e.g.,* Kastelein *et al.,* 2005, 2006, 2018; Gailey *et al.,* 2007; Isojunno *et al.,* 2018).

Vocalization

Marine mammals vocalize for different purposes and across multiple modes, such as whistling, echolocation click production, calling, and singing. Changes in vocalization behavior in response to anthropogenic noise can occur for any of these modes and may result from a need to compete with an increase in background noise or may reflect increased vigilance or a startle response. For example, in the presence of potentially masking signals, humpback whales and killer whales have been observed to increase the length of their songs (Miller *et al.,* 2000; Fristrup *et al.,* 2003; Foote *et al.,* 2004), while right whales have been observed to shift the frequency content of their calls upward while reducing the rate of calling in areas of increased anthropogenic noise (Parks *et al.,* 2007; Rolland *et al.,* 2012). Killer whales off the northwestern coast of the United States have been observed to increase the duration of primary calls once a threshold in observing vessel density (*e.g.,* whale watching) was reached, which has been suggested as a response to increased masking noise produced by the vessels (Foote *et al.,* 2004; NOAA, 2014). In some cases, however, animals may cease or alter sound production in response to underwater sound (*e.g.,* Bowles *et al.,* 1994; Castellote *et al.,* 2012; Cerchio *et al.,* 2014). Studies also demonstrate that even low levels of noise received far from the noise source can induce changes in vocalization and/or behavioral responses (Blackwell *et al.,* 2013; Blackwell *et al.,* 2015).

Avoidance

Avoidance is the displacement of an individual from an area or migration path as a result of the presence of a sound or other stressors, and is one of the most obvious manifestations of disturbance in marine mammals (Richardson *et al.,* 1995). Avoidance is qualitatively different from the flight response, but also differs in the magnitude of the response (*i.e.,* directed movement, rate of travel, *etc.*). Often avoidance is temporary, and animals return to the area once the noise has ceased. Acute avoidance responses have been observed in captive porpoises and pinnipeds exposed to a number of different sound sources (Kastelein *et al.,* 2001; Finneran *et al.,* 2003; Kastelein *et al.,* 2006a, 2006b, 2015b, 2015c, 2018). Short-term avoidance of seismic surveys, low frequency emissions, and acoustic deterrents have also been noted in wild populations of odontocetes (Bowles *et al.,* 1994; Goold, 1996; Goold and Fish, 1998; Morton and Symonds, 2002; Hiley *et al.,* 2021) and to some extent in mysticetes (Malme *et al.,* 1984; McCauley *et al.,* 2000; Gailey *et al.,* 2007). Longer-term displacement is possible, however, which may lead to changes in abundance or distribution patterns of the affected species in the affected region if habituation to the presence of the sound does not occur (*e.g.,* Blackwell *et al.,* 2004; Bejder *et al.,* 2006; Teilmann *et al.,* 2006).

Forney *et al.* (2017) described the potential effects of noise on marine mammal populations with high site fidelity, including displacement and auditory masking. In cases of Western North Pacific DPS/stock of gray whales and Cuvier's/goose-beaked whales (*Ziphius cavirostris*), anthropogenic effects in areas where they are resident or exhibit site fidelity could cause severe biological consequences, in part because displacement may adversely affect foraging rates, reproduction, or health, while an overriding instinct to remain in the area could lead to more severe acute effects. Avoidance of overlaps between disturbing noise and areas and/or times of particular importance for sensitive species may be critical to avoiding population-level impacts because (particularly for animals with high site fidelity) there may be strong motivation to remain in the area despite negative impacts.

Harbor porpoises are considered behaviorally sensitive species and exhibit strong avoidance reactions to impulsive noise such as impact pile driving. For example, displacement of harbor porpoises has been observed during impact pile driving associated with the construction at multiple offshore wind projects (*e.g.,* Tougaard *et al.,* 2009; Bailey *et al.,* 2010.; Dähne *et al.,* 2013; Lucke *et al.,* 2012; Haelters *et al.,* 2015; Brandt *et al.,* 2016). These studies document long-distance (*i.e.,* several km) displacement; however, the duration of displacement has been documented to generally be temporary. The piles involved in coastal construction projects are smaller than those in these studies; however, other data support predicted avoidance responses wherein porpoise move away from a man-made sound source; thereby reducing accumulated noise energy. For example, Kok *et al.* (2018) found that two captive harbor porpoises spatially avoided a noisy pool when exposed to intermittent or continuous artificially generated sound stimuli (*i.e.,* brown noise from 400 to 2000 Hz).

Flight Response

A flight response is a dramatic change in normal movement to a directed and rapid movement away from the perceived location of a sound source. The flight response differs from other avoidance responses in the intensity of the response (*e.g.,* directed movement, rate of travel). Relatively little information on flight responses of marine mammals to anthropogenic signals exist, although observations of flight responses to the presence of predators have occurred (Connor and Heithaus, 1996). The result of a flight response could range from brief, temporary exertion and displacement from the area where the signal provokes flight to, in extreme cases, marine mammal strandings (Evans and England, 2001). There are limited data on flight response for marine mammals in water; however, there are examples of this response in species on land. For instance, the probability of flight responses in Dall's sheep (*Ovis dalli dalli*) (Frid, 2003), hauled out ringed seals (*Phoca hispida*) (Born *et al.,* 1999), Pacific brant (*Branta bernicla nigricans*), and Canada geese (*B. canadensis*) increased as a helicopter or fixed-wing aircraft more directly approached groups of these animals (Ward *et al.,* 1999). However, it should be noted that response to a perceived predator does not necessarily invoke flight (Ford and Reeves, 2008), and whether individuals are solitary or in groups may influence the response.

Habituation and Vigilance

Habituation can occur when an animal's response to a stimulus wanes with repeated exposure, usually in the absence of unpleasant associated events (Wartzok *et al.,* 2003). Animals are most likely to habituate to sounds that are predictable and unvarying. It is important to note that habituation is appropriately considered as a ''progressive reduction in response to stimuli that are perceived as neither aversive nor beneficial,'' rather than as, more generally, moderation in response to human disturbance (Bejder *et al.,* 2009). The opposite process is sensitization, when an unpleasant experience leads to subsequent responses, often in the form of avoidance, at a lower level of exposure. As noted, behavioral state may affect the type of response. For example, animals that are resting may show greater behavioral change in response to disturbing sound levels than animals that are highly motivated to remain in an area for feeding (Richardson *et al.,* 1995; NRC, 2003; Wartzok *et al.,* 2003). Controlled experiments with captive marine mammals have shown pronounced behavioral reactions, including avoidance of loud sound sources (Ridgway *et al.,* 1997; Finneran *et al.,* 2003). Observed responses of wild marine mammals to loud impulsive sound sources (typically seismic airguns or acoustic harassment devices) have been varied but often consist of avoidance behavior or other behavioral changes suggesting discomfort (Morton and Symonds, 2002; Richardson *et al.,* 1995; Nowacek *et al.,* 2007).

Behavioral disturbance can also impact marine mammals in more subtle ways. Increased vigilance may result in costs related to diversion of focus and attention (*i.e.,* when a response consists of increased vigilance, it may come at the cost of decreased attention to other critical behaviors such as foraging or resting). These effects have generally not been observed in marine mammals, but studies involving fish and terrestrial animals have shown that increased vigilance may substantially reduce feeding rates and efficiency (*e.g.,* Beauchamp and Livoreil, 1997; Fritz *et al.,* 2002; Purser and Radford, 2011). In addition, chronic disturbance can cause population declines through reduction of fitness (*e.g.,* decline in body condition) and subsequent reduction in reproductive success, survival, or both (*e.g.,* Harrington and Veitch, 1992; Daan *et al.,* 1996; Bradshaw *et al.,* 1998).

Stress Responses

An animal's perception of a threat may be sufficient to trigger stress responses consisting of some combination of behavioral responses, autonomic nervous system responses, neuroendocrine responses, or immune responses (*e.g.,* Seyle, 1950; Moberg, 2000). In many cases, an animal's first and sometimes most economical (in terms of energetic costs) response is behavioral avoidance of the potential stressor. Autonomic nervous system responses to stress typically involve changes in heart rate, blood pressure, and gastrointestinal activity. These responses have a relatively short duration and may or may not have a significant long-term effect on an animal's fitness.

Neuroendocrine stress responses often involve the hypothalamus-pituitary-adrenal system. Virtually all neuroendocrine functions that are affected by stress—including immune competence, reproduction, metabolism, and behavior—are regulated by pituitary hormones. Stress-induced changes in the secretion of pituitary hormones have been implicated in failed reproduction, altered metabolism, reduced immune competence, and behavioral disturbance (*e.g.,* Moberg, 1987; Blecha, 2000). Increases in the circulation of glucocorticoids are also equated with stress (Romano *et al.,* 2004).

The primary distinction between stress (which is adaptive and does not normally place an animal at risk) and ''distress'' is the cost of the response. During a stress response, an animal uses glycogen stores that can be quickly replenished once the stress is alleviated. In such circumstances, the cost of the stress response would not pose serious fitness consequences. However, when an animal does not have sufficient energy reserves to satisfy the energetic costs of a stress response, energy resources must be diverted from other functions. This state of distress will last until the animal replenishes its energetic reserves sufficient to restore normal function.

Relationships between these physiological mechanisms, animal behavior, and the costs of stress responses are well-studied through controlled experiments and for both laboratory and free-ranging animals (*e.g.,* Holberton *et al.,* 1996; Hood *et al.,* 1998; Jessop *et al.,* 2003; Krausman *et al.,* 2004; Lankford *et al.,* 2005). Stress responses due to exposure to anthropogenic sounds or other stressors and their effects on marine mammals have also been reviewed (Fair and Becker, 2000; Romano *et al.,* 2002b) and, more rarely, studied in wild populations (*e.g.,* Romano *et al.,* 2002a). For example, Rolland *et al.* (2012) found that noise reduction from reduced ship traffic in the Bay of Fundy was associated with decreased stress in North Atlantic right whales. These and other studies lead to a reasonable expectation that some marine mammals will experience physiological stress responses upon exposure to acoustic stressors and that it is possible that some of these would be classified as ''distress.'' In addition, any animal experiencing TTS would likely also experience stress responses (NRC, 2003), however distress is an unlikely result of these projects based on observations of marine mammals during previous, similar projects.

Auditory Masking

Sound can disrupt behavior through masking, or interfering with, an animal's ability to detect, recognize, or discriminate between acoustic signals of interest (*e.g.,* those used for intraspecific communication and social interactions, prey detection, predator avoidance, navigation) (Richardson *et al.,* 1995). Masking occurs when the receipt of a sound is interfered with by another coincident sound at similar frequencies and at similar or higher intensity, and may occur whether the sound is natural (*e.g.,* snapping shrimp, wind, waves, precipitation) or anthropogenic (*e.g.,* pile driving, shipping, sonar, seismic exploration) in origin. The ability of a noise source to mask biologically important sounds depends on the characteristics of both the noise source and the signal of interest (*e.g.,* signal-to-noise ratio, temporal variability, direction), in relation to each other and to an animal's hearing abilities (*e.g.,* sensitivity, frequency range, critical ratios, frequency discrimination, directional discrimination, age or TTS hearing loss), and existing ambient noise and propagation conditions. Masking of natural sounds can result when human activities produce high levels of background sound at frequencies important to marine mammals. Conversely, if the background level of underwater sound is high (*e.g.,* on a day with strong wind and high waves), an anthropogenic sound source would not be detectable as far away as would be possible under quieter conditions and would itself be masked.

Airborne Acoustic Effects

Pinnipeds that occur near the project site could be exposed to airborne sounds associated with pile driving and removal that have the potential to cause behavioral harassment, depending on their distance from pile driving activities. Cetaceans are not expected to be exposed to airborne sounds that would result in harassment as defined under the MMPA. Airborne noise would primarily be an issue for pinnipeds that are swimming with heads above the waterline or hauled out near the project site within the range of noise levels elevated above the acoustic criteria. Most likely, airborne sound would cause behavioral responses similar to those discussed above in relation to underwater sound. For instance, anthropogenic sound could cause hauled out pinnipeds to exhibit changes in their normal behavior, such as reduction in vocalizations, or cause them to temporarily abandon the area and move further from the source. However, these animals would likely previously have been 'taken' because of exposure to underwater sound above the behavioral harassment thresholds, which are generally larger than those associated with airborne sound (*i.e.,* 1,000.7 ft [305 m] for phocid pinnipeds, 318.2 ft [97 m] for otariid pinnipeds). Thus, the behavioral harassment of these animals is already accounted for in these estimates of potential take. Therefore, we do not believe that authorization of additional incidental take resulting from airborne sound for pinnipeds is warranted, and airborne sound is not discussed further.

Potential Effects on Marine Mammal Habitat

QTU's proposed vibratory pile driving and removal, impact pile driving, and DTH drilling activities could have localized, temporary impacts on marine mammal habitat, including prey, by increasing in-water SPLs, and slightly decreasing water quality from increased turbidity. Manmade structures in Dutch Harbor often attract marine mammals, including pinnipeds, due to the availability of prey nearby. Increased noise levels may affect acoustic habitat (see Auditory Masking discussion above) and adversely affect marine mammal prey in the vicinity of the project area (see discussion below). Elevated levels of underwater noise would ensonify the project area where both prey (*e.g.,* fishes and marine invertebrates) and marine mammals occur and could affect foraging success. Additionally, marine mammals may avoid the area during vibratory pile driving and removal, impact pile driving, and DTH drilling activities; however, displacement due to noise is expected to be temporary and is not expected to result in long-term effects to the individuals or populations.

Temporary and localized reduction in water quality would occur as a result of in-water vibratory pile driving and removal, impact pile driving, and DTH drilling activities. Most of this effect would occur during the removal and installation of steel pipe and sheet piles as well as installation of tension anchors and rock sockets, when bottom sediments are disturbed, and may temporarily increase suspended sediment in the project area. During pile extraction, sediment attached to the pile moves vertically through the water column causing a sediment plume. Following the completion of sediment-disturbing activities, suspended sediment in the water column should dissipate and quickly return to background levels across all construction scenarios due to currents and tides in the project area.

Turbidity in the water column can reduce dissolved oxygen levels and irritate the gills of prey fish in the proposed project area. Studies of the effects of turbid water on fish (marine mammal prey) suggest that concentrations of suspended sediment can reach thousands of milligrams per liter before an acute toxic reaction is expected (Burton, 1993). However, turbidity plumes associated with the North Barge Expansion Project would be temporary and localized, and fish in the proposed project area would be able to move away from and avoid the areas where plumes may occur. Overall, the water quality in the immediate area that is likely impacted by the proposed activities is relatively small compared to the available marine mammal habitat.

The proposed vibratory pile driving and removal, impact pile driving, and DTH drilling activities would also remove approximately 10.5 acres (42,492 square m) of habitat to construct the fill pad. A relatively small area would be converted to an upland area for container storage, loading, and unloading activities. The existing bottom habitat is shallow gradient and rocky, which is covered with sparce algae and marine invertebrates. Much of this area that would be filled is exposed at low tide. The total net reduction would permanently decrease the in-water area that is available as marine mammal habitat in Dutch Harbor for potential foraging. There would be no impacts to known haulouts or rookeries for pinnipeds.

In-Water Pile Removal and Installation as Well as DTH Drilling Activities Effects on Potential Prey

Pile removal and installation as well as DTH drilling activities would produce continuous (*i.e.,* vibratory pile driving and removal and DTH drilling) and intermittent (*i.e.,* impact pile driving and DTH drilling) sounds. Sound may affect marine mammals through impacts on the abundance, behavior, or distribution of prey species (*e.g.,* crustaceans, cephalopods, fish, zooplankton). Marine mammal prey varies by species, season, and location. Here, we describe studies regarding the effects of noise on known marine mammal prey.

Fish utilize the soundscape and components of sound in their environment to perform important functions such as foraging, predator avoidance, mating, and spawning (*e.g.,* Zelick and Mann, 1999; Fay, 2009). Depending on their hearing anatomy and peripheral sensory structures, which vary among species, fishes hear sounds using pressure and particle motion sensitivity capabilities and detect the motion of surrounding water (Fay *et al.,* 2008). The potential effects of noise on fishes depends on the overlapping frequency range, distance from the sound source, water depth of exposure, and species-specific hearing sensitivity, anatomy, and physiology. Key impacts to fishes may include behavioral responses, hearing damage, barotrauma (pressure-related injuries), and mortality.

Fish react to sounds that are especially strong and/or intermittent low-frequency sounds, and behavioral responses such as flight or avoidance are the most likely effects. Short duration, sharp sounds can cause overt or subtle changes in fish behavior and local distribution. The reaction of fish to noise depends on the physiological state of the fish, past exposures, motivation (*e.g.,* feeding, spawning, migration), and other environmental factors. Hastings and Popper (2005) identified several studies that suggest fish may relocate to avoid certain areas of sound energy. Additional studies have documented effects of pile driving on fish; several are based on studies in support of large, multiyear bridge construction projects (*e.g.,* Scholik and Yan, 2001, 2002; Popper and Hastings, 2009). Several studies have demonstrated that impulse sounds might affect the distribution and behavior of some fishes, potentially impacting foraging opportunities or increasing energetic costs (*e.g.,* Fewtrell and McCauley, 2012; Pearson *et al.,* 1992; Skalski *et al.,* 1992; Santulli *et al.,* 1999; Paxton *et al.,* 2017). However, some studies have shown no or slight reaction to impulse sounds (*e.g.,* Pena *et al.,* 2013; Wardle *et al.,* 2001; Jorgenson and Gyselman, 2009).

SPLs of sufficient strength have been known to cause injury to fish and fish mortality. However, in most fish species, hair cells in the ear continuously regenerate and loss of auditory function is likely restored when damaged cells are replaced with new cells. Halvorsen *et al.* (2012a) showed that a TTS of 4 to 6 dB was recoverable within 24 hours for one species. Impacts would be most severe when the individual fish is close to the source and when the duration of exposure is long. Injury caused by barotrauma can range from slight to severe and can cause death and is most likely for fish with swim bladders. Barotrauma injuries have been documented during controlled exposure to impact pile driving (Halvorsen *et al.,* 2012b; Casper *et al.,* 2013).

The most likely impact to fishes from vibratory pile driving and removal, impact pile driving, and DTH drilling activities at the project area would be temporary behavioral avoidance of the area. The duration of fish avoidance of this area after vibratory pile driving and removal, impact pile driving, and DTH drilling stops is unknown, but a rapid return to normal recruitment, distribution, and behavior is anticipated.

Vibratory pile driving and removal, impact pile driving, and DTH drilling activities have the potential to have adverse impacts on forage fish in the project area in the form of increased turbidity. Forage fish form a significant prey base for many marine mammal species that occur in the project area. Turbidity within the water column has the potential to reduce the level of oxygen in the water and irritate the gills of prey fish in the proposed project area. However, fish in the proposed project area would be able to move away from and avoid the areas where increased turbidity may occur. Given the limited area affected and ability of fish to move to other areas, any effects on forage fish are expected to be minor or negligible.

Data indicate that marine invertebrates can be impacted by exposure to noise, such as pile driving, by demonstrating physiological (*e.g.,* stress responses) or behavioral responses (*e.g.,* alarm responses), with in some extreme situations resulting in damage to sensory systems (see review in Sole *et al.,* 2023). Most recent studies have focused on potential impacts associated with pile driving and offshore wind construction (*e.g.,* Jones *et al.,* 2020, 2021; Sole *et al.,* 2022; Jones *et al.,* 2023; Jezequel *et al.,* 2023; Jezequel and Mooney, 2024; Terschek *et al.,* 2025).

In summary, given the short daily duration of sound associated with the North Barge Expansion Project and the relatively small areas being affected, vibratory pile driving and removal, impact pile driving, and DTH drilling activities associated with the proposed action are not likely to have a permanent, adverse effect on marine mammal habitat other than permanent loss of habitat in the fill location. Any behavioral avoidance by prey of the disturbed area would still leave significantly large areas of prey and marine mammal foraging habitat in the nearby vicinity. Thus, we conclude that impacts of the specified activities (other than fill placement) are not likely to have more than short-term adverse effects on marine mammal habitat, including prey. Further, any impacts to marine mammal habitat are not expected to result in significant or long-term consequences for individual marine mammals, or to contribute to adverse impacts on their populations.

Estimated Take of Marine Mammals

This section provides an estimate of the number of incidental takes proposed for authorization through the IHA, which will inform both NMFS' consideration of "small numbers," the negligible impact determinations, and impacts on subsistence uses.

Harassment is the only type of take expected to result from these activities. Except with respect to certain activities not pertinent here, section 3(18) of 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).

Authorized takes would be by Level B harassment, as use of the acoustic sources (*i.e.,* vibratory pile driving and removal, impact pile driving, and DTH drilling) has the potential to result in disruption of behavioral patterns for individual marine mammals. There is also some potential for AUD INJ (Level A harassment) to result for mysticetes (low-frequency cetaceans), phocids, and otariids. The proposed mitigation and monitoring measures are expected to minimize the severity of the taking to the extent practicable. As described previously, no serious injury or mortality is anticipated or proposed to be authorized for this activity. Below we describe how the proposed take numbers are estimated.

For acoustic impacts, generally speaking, we estimate take by considering: (1) acoustic criteria above which NMFS believes there is some reasonable potential for marine mammals to be behaviorally harassed or incur some degree of AUD INJ; (2) the area or volume of water that will be ensonified above these levels in a day; (3) the density or occurrence of marine mammals within these ensonified areas; and, (4) the number of days of activities. We note that while these factors can contribute to a basic calculation to provide an initial prediction of potential takes, additional information that can qualitatively inform take estimates is also sometimes available (*e.g.,* previous monitoring results or average group size). Below, we describe the factors considered here in more detail and present the proposed take estimates.

Acoustic Thresholds

NMFS recommends the use of acoustic thresholds that identify the received level of underwater sound above which exposed marine mammals would be reasonably expected to be behaviorally harassed (equated to Level B harassment) or to incur AUD INJ of some degree (equated to Level A harassment). We note that the criteria for AUD INJ, as well as the names of two hearing groups, have been recently updated (NMFS, 2024) as reflected below in the Level A harassment section.

Level B Harassment

Though significantly driven by received level, the onset of behavioral disturbance from anthropogenic noise exposure is also informed to varying degrees by other factors related to the source or exposure context (*e.g.,* frequency, predictability, duty cycle, duration of the exposure, signal-to-noise ratio, distance to the source), the environment (*e.g.,* bathymetry, other noises in the area, predators in the area), and the receiving animals (hearing, motivation, experience, demography, life stage, depth) and can be difficult to predict (*e.g.,* Southall *et al.,* 2007, 2021; Ellison *et al.,* 2012). Based on what the available science indicates and the practical need to use a threshold based on a metric that is both predictable and measurable for most activities, NMFS typically uses a generalized acoustic threshold based on received level to estimate the onset of behavioral harassment. NMFS generally predicts that marine mammals are likely to be behaviorally harassed in a manner considered to be Level B harassment when exposed to underwater anthropogenic noise above root-mean-squared pressure received levels (RMS SPL) of 120 dB re 1 μPa for continuous (*e.g.,* vibratory pile driving, drilling) and above RMS SPL 160 dB re 1 μPa for non-explosive impulsive (*e.g.,* seismic airguns) or intermittent (*e.g.,* scientific sonar) sources. Generally speaking, Level B harassment estimates based on these behavioral harassment thresholds are expected to include TTS effects as, in most cases, the likelihood of TTS occurs at distances from the source less than those at which behavioral harassment is likely. TTS of a sufficient degree can manifest as behavioral harassment, as reduced hearing sensitivity and the potential reduced opportunities to detect important signals (conspecific communication, predators, prey) may result in changes in behavior patterns that would not otherwise occur. QTU's proposed specified activities includes the use of continuous (vibratory pile driving and removal and DTH drilling) and impulsive (impact pile driving and DTH drilling) sources, and therefore the RMS SPL thresholds of 120 and 160 dB re 1 μPa are applicable. NMFS applies the continuous threshold of 120 dB to assess the potential for Level B harassment from DTH drilling.

Level A Harassment

NMFS' Updated Technical Guidance for Assessing the Effects of Anthropogenic Sound on Marine Mammal Hearing (Version 3.0; Updated Technical Guidance, 2024) identifies dual criteria to assess AUD INJ (Level A harassment) to five different marine mammal groups (based on hearing sensitivity) as a result of exposure to noise from two different types of sources (impulsive or non-impulsive). QTU's proposed specified activities includes the use of impulsive (impact pile driving and DTH drilling) and non-impulsive (vibratory pile driving and removal and DTH drilling) sound sources. NMFS applies the impulsive thresholds to assess the potential for Level A harassment from DTH drilling.

The 2024 Updated Technical Guidance criteria include both updated thresholds and updated weighting functions for each hearing group. The thresholds are provided in table 4. The references, analysis, and methodology used in the development of the thresholds are described in NMFS' 2024 Updated Technical Guidance, which may be accessed at: *https://www.fisheries.noaa.gov/national/marine-mammal-protection/marine-mammal-acoustic-technical-guidance-other-acoustic-tools.*

TABLE 4—THRESHOLDS IDENTIFYING THE ONSET OF AUDITORY INJURY

Hearing group	Auditory injury onset acoustic thresholds * (received level)	
	Impulsive	Non-impulsive
Low-Frequency (LF) Cetaceans	*Cell 1:* $L_{pk,flat}$: 222 dB; $L_{E,LF,24h}$: 183 dB	*Cell 2:* $L_{E,LF,24h}$: 197 dB.
High-Frequency (HF) Cetaceans	*Cell 3:* $L_{pk,flat}$: 230 dB; $L_{E,MF,24h}$: 193 dB	*Cell 4:* $L_{E,MF,24h}$: 201 dB.
Very High-Frequency (VHF) Cetaceans	*Cell 5:* $L_{pk,flat}$: 202 dB; $L_{E,HF,24h}$: 159 dB	*Cell 6:* $L_{E,HF,24h}$: 181 dB.
Phocid Pinnipeds (PW) (Underwater)	*Cell 7:* $L_{pk,flat}$: 223 dB; $L_{E,PW,24h}$: 183 dB	*Cell 8:* $L_{E,PW,24h}$: 195 dB.
Otariid Pinnipeds (OW) (Underwater)	*Cell 9:* $L_{pk,flat}$: 230 dB; $L_{E,OW,24h}$: 185 dB	*Cell 10:* $L_{E,OW,24h}$: 199 dB.

* Dual metric acoustic thresholds for impulsive sounds: Use whichever results in the largest isopleth for calculating AUD INJ onset. If a non-impulsive sound has the potential of exceeding the peak SPL thresholds associated with impulsive sounds, these thresholds are recommended for consideration.

Note: Peak sound pressure (L_{pk}) has a reference value of 1 μPa, and weighted cumulative sound exposure level ($L_{E,p}$) has a reference value of 1μPa²s. In this table, thresholds are abbreviated to be more reflective of International Organization for Standardization standards (ISO 2017). The subscript ''flat'' is being included to indicate peak sound pressure are flat weighted or unweighted within the generalized hearing range of marine mammals (*i.e.,* 7 Hz to 165 kHz). The subscript associated with cumulative sound exposure level thresholds indicates the designated marine mammal auditory weighting function (LF, HF, and VHF cetaceans, and PW and OW pinnipeds) and that the recommended accumulation period is 24 hours. The weighted cumulative sound exposure level thresholds could be exceeded in a multitude of ways (*i.e.,* varying exposure levels and durations, duty cycle). When possible, it is valuable for action proponents to indicate the conditions under which these acoustic thresholds will be exceeded.

Ensonified Area

Here, we describe operational and environmental parameters of the activity that are used in estimating the area ensonified above the acoustic thresholds, including source levels and transmission loss coefficient.

The North Barge Expansion Project includes vibratory pile driving and removal, impact pile driving, and DTH drilling. Vibratory pile driving has relatively lower sound levels than impact pile driving and are not expected to cause AUD INJ to marine mammals. Source levels for these activities are based on reviews of measurements of the same or similar types and dimensions of piles available in the literature. Estimated source levels for each pile size and activity are presented in table 5. Source levels for vibratory installation and removal of piles of the same diameter are assumed to be the same.

TABLE 5—ESTIMATES OF UNDERWATER SOUND SOURCE LEVELS (AT 10 m) GENERATED DURING VIBRATORY PILE DRIVING AND REMOVAL, IMPACT PILE DRIVING, AND DOWN-THE-HOLE DRILLING

Pile/hole size and material	dB Peak	dB RMS	dB SEL	Reference
Vibratory Pile Driving and Removal				
≤24-inch Steel Piles	NA	163	NA	PR1 2023 Calculations.
30-inch Steel Piles	NA	166	NA	PR1 2023 Calculations.
36-inch Steel Piles	NA	166	NA	PR1 2023 Calculations.
AZ26 Steel Sheets	175	160	NA	Caltrans, 2015.
Impact Pile Driving				
24-inch Steel Piles	203	190	177	Caltrans, 2015.
30-inch Steel Piles	210	190	177	Caltrans, 2020.
36-inch Steel Piles	210	193	183	Caltrans, 2015, 2020.
DTH Drilling				
8-inch Tension Anchors	144	156	170	Reyff and Heyvaert, 2019; Reyff, 2020.
24-inch Steel	159	167	184	Guan and Miner, 2020; Heyvaert and Reyff, 2021.
30-inch Steel	164	174	194	Denes *et al.,* 2019; Reyff and Heyvaert, 2019; Reyff, 2020.
36-inch Steel	164	174	194	Denes *et al.,* 2019; Reyff and Heyvaert, 2019; Reyff, 2020.

dB peak = peak sound level; RMS = root mean square; SEL = sound exposure level; and NA = not available or applicable.

Transmission loss (*TL*) is the decrease in acoustic intensity as an acoustic pressure wave propagates out from a source. *TL* parameters vary with frequency, temperature, sea conditions, current, source and receiver depth, water depth, water chemistry, and bottom composition and topography. The general formula for underwater *TL* is:

$TL = B * \log10 (R1/R2)$,

Where:

TL = transmission loss in dB
B = transmission loss coefficient
$R1$ = the distance of the modeled SPL from the driven pile, and
$R2$ = the distance from the driven pile of the initial measurement

This formula neglects loss due to scattering and absorption, which is assumed to be zero here. The degree to which underwater sound propagates away from a sound source depends on various factors, most notably the water bathymetry and the presence or absence of reflective or absorptive conditions, including in-water structures and sediments. Spherical spreading occurs in a perfectly unobstructed (free-field) environment not limited by depth or water surface, resulting in a 6 dB reduction in sound level for each doubling of distance from the source (20*log[range]). Cylindrical spreading occurs in an environment in which sound propagation is bounded by the water surface and sea bottom, resulting in a reduction of 3 dB in sound level for each doubling of distance from the source (10*log[range]). A practical spreading value of 15 is often used in coastal waters, such as those found in the North Barge Expansion Project area. In these environments, sound waves repeatedly reflect off the surface and bottom, reflecting an expected propagation environment between spherical and cylindrical spreading-loss conditions. Therefore, the default coefficient of 15 is used to calculate distances to the Levels A and B harassment isopleths for vibratory pile driving and impact pile driving. Based on similar specified activities and comparable data from locations in Alaska, a spreading value of 18 is used for tension anchors and a spreading value of 17 is used for rock sockets to calculate distances to the Levels A and B harassment isopleths for DTH drilling.

Assuming practicable spreading and other assumptions regarding the source characteristics and operational logistics (*e.g.,* source level, number of strikes per pile, number of piles per day), QTU calculated distances to the Levels A and

B harassment isopleths and associated ensonified areas. The ensonified area associated with Level A harassment is more technically challenging to predict due to the need to account for a duration component. Therefore, NMFS developed an optional User Spreadsheet tool to accompany the 2024 Updated Technical Guidance that can be used to relatively simply predict an isopleth distance for use in conjunction with marine mammal density or occurrence to help predict potential takes. (*https://www.fisheries.noaa.gov/national/marine-mammal-protection/marine-mammal-acoustic-technical-guidance-other-acoustic-tools*). We note that because of some of the assumptions included in the methods underlying this optional tool, we anticipate that the resulting isopleth estimates are typically going to be overestimates of some degree, which may result in an overestimate of potential take by Level A harassment. However, this optional tool offers a practical, alternative way to estimate isopleth distances when more sophisticated modeling methods are not available or practical. For stationary sources such as pile driving, the optional User Spreadsheet tool predicts the distance at which, if a marine mammal remained at that distance for the duration of the activity, it would be expected to incur AUD INJ. Inputs used in the optional User Spreadsheet tool (table 6), and the resulting estimated isopleths (table 7), are reported below.

TABLE 6—USER SPREADSHEET INPUTS PARAMETERS USED FOR CALCULATING LEVEL A HARASSMENT ISOPLETHS

	Vibratory pile driving				Impact pile driving			DTH drilling			
	24-inch steel piles	30-inch steel piles	36-inch steel piles	AZ26 steel sheets	24-inch steel piles	30-inch steel piles	36-inch steel piles	8-inch tension anchors	24-inch steel	30-inch steel	36-inch steel
	Installation or removal	Installation									
Spreadsheet Tab Used	A.1) Vibratory Pile Driving.	A.1) Vibratory Pile Driving.	A.1) Vibratory Pile Driving.	A.1) Vibratory Pile Driving.	E.1) Impact Pile Driving.	E.1) Impact Pile Driving.	E.1) Impact Pile Driving.	E.2) DTH Systems.	E.2) DTH Systems.	E.2) DTH Systems.	E.2) DTH Systems.
Source Level (SPL-Peak/RMS/SEL).	163 RMS	166 RMS	166 RMS	160 RMS	203 Peak 190 RMS 177 SEL.	210 Peak 190 RMS 177 SEL.	210 Peak 193 RMS 183 SEL.	170 Peak 144 SEL.	184 Peak 159 SEL.	194 Peak 164 SEL.	194 Peak 164 SEL.
Transmission Loss Coefficient.	15	15	15	15	15	15	15	18	17	17	17.
Weighting Factor Adjustment (kHz).	2.5	2.5	2.5	2.5	2	2	2	2	2	2	2.
Number of Strikes per Pile.	NA	NA	NA	NA	50	50	50	NA	NA	NA	NA.
Strike Rate (Average Strikes per Second).	NA	NA	NA	NA	NA	NA	NA	20.3	13	13	10.
Activity Duration per Single Pile (Minutes).	15	15	15	15	NA	NA	NA	240	240	240	240.
Number of Piles per Day	4	4	4	4	4	4	4	3	3	3	3.
Activity Duration per Day (Minutes).	60	60	60	60	NA	NA	NA	NA	NA	NA	NA.
Distance of Peak Measurement.	NA	NA	NA	NA	10	10	10	10	10	10	10.
Distance of Sound Pressure Level Measurement.	10	10	10	10	10	10	10	10	10	10	10.

DTH = down-the-hole, RMS = root mean squared, SEL = sound exposure level, and NA = not available or applicable.

Using the practical spreading model and assumptions identified in tables 5 and 6, QTU calculated, and NMFS has carried forward into this analysis, the distances to the Levels A and B harassment thresholds for marine mammals (table 7).

TABLE 7—LEVELS A AND B HARASSMENT ISOPLETHS FROM VIBRATORY PILE DRIVING, IMPACT PILE DRIVING, AND DOWN-THE-HOLE DRILLING

Pile size and type	Level A harassment isopleths (m)					Level B harassment isopleth (m)
	LF Cetaceans	HF Cetaceans	VHF Cetaceans	PW Pinnipeds	OW Pinnipeds	
Vibratory Pile Driving						
24-inch Steel Piles	9.2	3.5	7.5	11.9	4	5,412
30-inch Steel Piles	19.9	7.6	16.2	25.6	8.6	11,659
36-inch Steel Piles	19.9	7.6	16.2	25.6	8.6	11,659
AZ26 Steel Sheets	19.9	7.6	16.2	25.6	8.6	11,659
Impact Pile Driving						
24-inch Steel Piles	250.3	31.9	387.4	22.4	82.9	1,585
30-inch Steel Piles	396.7	50.6	614	352.5	131.4	1,585

TABLE 7—LEVELS A AND B HARASSMENT ISOPLETHS FROM VIBRATORY PILE DRIVING, IMPACT PILE DRIVING, AND DOWN-THE-HOLE DRILLING—Continued

Pile size and type	Level A harassment isopleths (m)					Level B harassment isopleth (m)
	LF Cetaceans	HF Cetaceans	VHF Cetaceans	PW Pinnipeds	OW Pinnipeds	
36-inch Steel Piles	396.7	50.6	614	352.5	131.4	1,585
DTH Drilling						
8-inch Tension Anchors	135.9	24.4	195.5	123.1	54.1	1,000
24-inch Steel (Rock Socket)	929.7	151.1	1,366.6	837.5	350.6	5,817
30-inch Steel (Rock Socket)	1,830	297.5	2,690.1	1,648.5	690.1	15,031
36-inch Steel (Rock Socket)	1,568.3	254.9	2,305.4	1,412.7	591.4	15,031

LF=low-frequency, HF=high-frequency, VHF=very high-frequency, PW=phocid, and OW=otariid.

While the modeled ensonified area for the Level B harassment isopleth for vibratory pile driving and removal, impact pile driving, and DTH drilling is 3,280.8 to 49,314.3 ft (1,000 to 15,031 m) depending on the size and type of pile, the Level B harassment isopleth is actually smaller in most directions as it is attenuated by landforms (breakwaters, islands, and other landmasses) that impede the transmission of underwater sounds and create shadows behind them where sound from the vibratory pile driving and removal, impact pile driving, and DTH drilling is not audible or does not rise to threshold for Level B harassment. In Iliuliuk Bay, the isopleths that exceed 1,190 m (3,904.2 ft) would be cut off by land on the opposite shoreline. As the smaller Iliuliuk Bay opens to the larger Unalaska Bay, the isopleth distances may not be impeded by landforms.

Marine Mammal Occurrence and Take Estimation

In this section we provide information about the occurrence of marine mammals, including density or other relevant information which will inform the take calculations. Here we describe how the information provided is synthesized to produce a quantitative estimate of the take that is reasonably likely to occur and proposed for authorization.

Density estimates for marine mammals within the project area were not available to directly inform the take estimates. QTU conducted a literature review to determine specific occurrence of marine mammals for Iliuliuk Bay and/or Unalaska Bay, but most documents were too broad for the specific project area. However, monitoring has been conducted in the area for past projects. In 2018, the USACE conducted marine mammal surveys near the project area to gather baseline information for confined blasting of a channel in Iliuliuk Bay. Visual monitoring was conducted by two biologists for 4 days per month during April through October for a total of 28 days. The survey area was divided into zones; the red zone roughly corresponds to the Level A harassment zones calculated for QTU's proposed project. Figure 16 of the application shows the marine mammal survey zones in 1.2 miles (2 km) increments and survey data by species and month for each survey zone, respectively. Marine mammal observations from the USACE 2018 surveys are provided in table 8. NMFS notes that a survey report from USACE is unpublished and not available; however, a participating biologist who conducted the survey included those data in QTU's application.

TABLE 8—UNITED STATES ARMY CORPS OF ENGINEERS 2018 MARINE MAMMAL SURVEY DATA

Month	Humpback whale					Steller sea lion					Harbor seal				
	OZ	YZ	GZ	RZ	Total	OZ	YZ	GZ	RZ	Total	OZ	YZ	GZ	RZ	Total
April	1	0	0	NS	1	4	0	0	NS	4	9	2	8	NS	19
May	2	0	0	NS	2	7	0	1	NS	8	7	1	3	NS	11
June	10	0	0	1	11	0	2	1	3	6	38	5	6	3	52
July	13	0	0	0	13	0	5	32	4	41	43	5	8	4	60
August	40	0	0	4	44	4	0	3	9	16	40	6	9	6	61
September	47	0	0	2	49	0	1	0	23	24	27	8	7	3	45
October	7	0	0	1	8	0	0	7	11	18	5	2	4	2	13
Total	120	0	0	8	128	15	8	44	50	117	169	29	45	20	263

OZ=orange zone; YZ=yellow zone; GZ=green zone; RZ=red zone; and NS=not surveyed.

To account for the uncertainty regarding the construction schedule (*e.g.,* unexpected delays, weather conditions, *etc.*), the maximum monthly abundance reported from the USACE 2018 surveys for each species observed was used to inform estimated take for species observed during the survey. Given surveys occurred 4 days each month, the abundance was then divided by the 4 days (12 hours per day) of survey effort to determine the estimated number of animals per day that would be in the project area (table 8).

Anecdotal sighting information informed take estimates for rare species (killer whales, minke whales, harbor porpoise) that were not observed during the USACE 2018 survey. NMFS recognizes that while anecdotal data provide some insight into the potential number of marine mammals present within the action area, the data may have some biases based on when personnel were observing for marine mammals (*e.g.,* during favorable weather) and these efforts were sparse.

The estimated group size and predictable occurrence of marine mammal species in the project area per day is shown in table 9.

TABLE 9—ESTIMATED AVERAGE GROUP SIZE/OCCURRENCE PER DAY AND FREQUENCY OF OCCURRENCE OF MARINE MAMMAL SPECIES IN DUTCH HARBOR

Species	Estimated average group size or occurrence per day	Frequency of occurrence in the project area	Reference
Humpback Whale—Hawai'i Stock, Mexico-North Pacific Stock, and Western North Pacific Stock.	12.25 Animals per Day	September	C. Hoffman personal communication, April 15, 2026.
Minke Whale	2 Animals per Group	Once during construction	Guerrero, 2008b.
Killer Whale—Eastern North Pacific Alaska Resident Stock and. Gulf of Alaska, Aleutian Islands, and Bering Sea Transient Stock.	8 Animals per Group	Twice during construction	C. Hoffman personal communication, April 15, 2026.
Harbor Porpoise—Bering Sea Stock.	2 Animals per Group	8 out of 64 days of construction	C. Hoffman personal communication, April 15, 2026; Zerbini *et al.,* 2022.
Steller Sea Lion—Western Stock	10.25 Animals per Day (from July)	Daily	C. Hoffman personal communication, April 15, 2026.
Harbor Seal—Aleutian Islands Stock.	15.25 Animals per Day (from August).	Daily	C. Hoffman personal communication, April 15, 2026.

USACE=U.S. Army Corps of Engineers and NA=not available or applicable.

The total number of takes anticipated to occur incidental to the project were determined by multiplying the number of animals per day expected to be in the project area by the number of days (62) of the vibratory pile driving and removal, impact pile driving, and DTH drilling. The number of Level A harassment exposures were determined by multiplying the number of animals in the red zone (table 8), which is approximately equal to the 1.2 miles (2 km) for DTH drilling (threshold for Level A harassment) by 17 days. While DTH drilling would occur for 25 days, NMFS subtracted the 8 days for 8-inch tension anchors, which results in 17 days because the ensonified areas for 8-inch tension anchors are relatively small and the shutdown zones are larger than those distances. NMFS determined takes by Level A harassment for vibratory pile driving and removal, impact pile driving, and DTH drilling of 8-inch tension anchors is unlikely due to the small size of the Level A harassment zones and establishment of a shutdown zones.

The number of takes by Level B harassment was determined by subtracting the number of takes by Level A harassment from the total number of exposures. For example, based on tables 8 and 9, the number of Steller sea lion takes by Level A harassment is calculated as the maximum number of animals in the red zone (23)/4 days × 17 days, which equals 98 takes.

For humpback whales, NMFS portioned takes for the three stocks of humpback whales based on the information on their occurrence in the waters off the coast of Alaska in the Aleutian Islands. The percent probability of harassment to occur to individuals from the Hawai'i stock, Mexico North Pacific stock, and Western North Pacific stock is 91 percent, 7 percent, and 2 percent, respectively.

As described above, for species that were not observed during the USACE 2018 survey, QTU and NMFS relied on anecdotal reports to estimate take. NMFS assumes one group of minke whales, two groups of killer whales, and eight groups of harbor porpoises, respectively, may be taken by Level B harassment incidental to the project. NMFS is not proposing to authorize take by Level A harassment for minke whale and killer whales, because the small zone sizes make AUD INJ unlikely. As described in the Description of Marine Mammals in the Area of Specified Activities section, harbor porpoise are behaviorally sensitive species, and it is well documented they exhibit strong avoidance reactions to noise such as pile driving. Therefore, despite the larger Level A harassment zone generated by the User Spreadsheet, harbor porpoises are not expected to remain in the area such that they would incur AUD INJ and NMFS is not proposing to authorize Level A harassment of harbor porpoise.

The resulting take estimates from the calculations described above are provided in table 10. NMFS acknowledges that the number of estimated exposures above higher threshold criteria, (*e.g.,* sound exposures exceeding Level A harassment criteria), also encompass the potential for less impactful effects (*e.g.,* Level B harassment). An individual exposure exceeding a Level A harassment criterion may not result in actual AUD INJ, yet the individual may have experienced Level B harassment. This outcome is accounted for in our authorization of potential higher-level takes and in our analysis.

TABLE 10—PROPOSED TAKE BY STOCK AND HARASSMENT TYPE AND AS A PERCENTAGE OF STOCK ABUNDANCE

Species	Stock	Proposed authorized take		Proposed take as a percentage of stock abundance (total authorized takes/stock abundance) [1]
		Level A harassment	Level B harassment	
Humpback Whale	Hawai'i	16	676	6.1 (692/11,278)
	Mexico-North Pacific	1	52	* (53/NA)
	Western North Pacific	0	15	1.4 (16/1,084)

TABLE 10—PROPOSED TAKE BY STOCK AND HARASSMENT TYPE AND AS A PERCENTAGE OF STOCK ABUNDANCE—Continued

Species	Stock	Proposed authorized take		Proposed take as a percentage of stock abundance (total authorized takes/stock abundance) [1]
		Level A harassment	Level B harassment	
Minke Whale	Alaska	0	2	* (2/NA)
Killer Whale	Eastern North Pacific Alaska Resident	0	16	0.8 (16/1,920)
	Eastern North Pacific Gulf of Alaska, Aleutian Islands, and Bering Sea Transient.			2.79 (16/587)
Harbor Porpoise	Bering Sea	0	16	* (16/UNK)
Steller Sea Lion	Western	98	538	1.3 (636/49,837)
Harbor Seal	Aleutian Islands	26	920	16.9 (946/5,588)

* Reliable abundance estimates for these stocks are currently unavailable.
UNK=unknown and NA=not available or applicable.
[1] The percentages calculated here represent if each take is of a unique individual.

NMFS considered the number of takes proposed to be authorized against more recent USACE reports. As described in the Description of Marine Mammals in the Area of Specified Activities section, the USACE also provided monthly marine mammal monitoring reports (June and July 2025) to NMFS for the Unalaska Channels Project in Iliuliuk Bay. During 7 days of dredging operations in June 2025, USACE observed humpback whales (1 event of 2 adults), unknown whales (2 events of 2 adults), and Steller sea lions (47 events of 98 adults). During dredging operations in July 2025, USACE observed humpback whales (74 adults and 16 juveniles), unknown whales (6 adults), Steller sea lions (1,108 adults and 1 juvenile), and harbor seals (6 adults). Based on these more recent data, the number of takes proposed to be authorized for these species is likely conservative and sufficient to account for the impacts of the project.

Proposed Mitigation

In order to issue an IHA under section 101(a)(5)(D) of the MMPA, NMFS must set forth the permissible methods of taking pursuant to the activity, and other means of effecting the least practicable impact on the species or stock and its habitat, paying particular attention to rookeries, mating grounds, and areas of similar significance, and on the availability of the species or stock for taking for certain subsistence uses (latter not applicable for this action). NMFS regulations require applicants for incidental take authorizations to include information about the availability and feasibility (economic and technological) of equipment, methods, and manner of conducting the activity or other means of effecting the least practicable adverse impact upon the affected species or stocks, and their habitat (50 CFR 216.104(a)(11)).

In evaluating how mitigation may or may not be appropriate to ensure the least practicable adverse impact on species or stocks and their habitat, as well as subsistence uses where applicable, NMFS considers two primary factors:

(1) The manner in which, and the degree to which, the successful implementation of the measure(s) is expected to reduce impacts to marine mammals, marine mammal species or stocks, and their habitat, as well as subsistence uses. This considers the nature of the potential adverse impact being mitigated (likelihood, scope, range). It further considers the likelihood that the measure will be effective if implemented (probability of accomplishing the mitigating result if implemented as planned), the likelihood of effective implementation (probability implemented as planned), and;

(2) The practicability of the measures for applicant implementation, which may consider such things as cost, and impact on operations.

The mitigation requirements described in the following were proposed by QTU in its adequate and complete application or are the result of subsequent coordination between NMFS and QTU. QTU has agreed that all of the mitigation measures are practicable. NMFS has fully reviewed the specified activities and the mitigation measures to determine if the mitigation measures would result in the least practicable adverse impact on marine mammals and their habitat, as required by the MMPA, and has determined the proposed measures are appropriate. NMFS describes these below as proposed mitigation requirements and has included them in the proposed IHA.

QTU must ensure that construction supervisors and crews, the monitoring team and relevant QTU staff are trained prior to the start of all vibratory pile driving and removal, impact pile driving, and DTH drilling activities, so that responsibilities, communication procedures, monitoring protocols, and operational procedures are clearly understood. New personnel joining during the project must be trained prior to commencing work.

Along with the application, QTU provided a comprehensive Marine Mammal Monitoring and Mitigation Plan (4MP) for the North Barge Expansion Project, which included PSO qualifications, data collection, PSO equipment, Level A and Level B harassment zones, monitoring locations, pre-/during-/post-activity monitoring, breaks in work, shutdowns, and reporting (*e.g.,* modifications, unauthorized exposure without injury, injured or dead marine mammals, and annual report) as well as marine mammal observation record and Beaufort sea scale forms. Please see that document for more detailed information.

Mitigation for Marine Mammals and Their Habitat

Clearance and Shutdown Zones

QTU proposed, and NMFS would require, the establishment of clearance and shutdown zones identified in table 11 for vibratory pile driving and removal, impact pile driving, and DTH drilling activities. The purpose of ‘‘clearance’’ of a particular zone is to prevent potential instances of AUD INJ and more severe behavioral disturbance the maximum extent practicable by delaying the commencement of impact pile driving and DTH drilling if marine mammals are detected within certain pre-defined distances from the pile being installed. The purpose of a shutdown is to prevent a specific acute impact, such as AUD INJ or severe behavioral disturbance of sensitive species, by halting the activity. Additionally, to avoid unauthorized takes, QTU would be required to delay an activity or shut down in the event that a species for which take is not authorized or for which take has been reached is observed within or entering any designated harassment zone. After shutdown, an activity may be reinitiated once all clearance zones are clear of marine mammals for the minimum species-specific periods (15 minutes for odontocetes or pinnipeds and 30 minutes for mysticetes). Specified activities would also be delayed or shutdown if PSOs cannot visually observe the zones in table 11. QTU proposed large shutdown zones for harbor porpoise; however, NMFS reduced these distances to 984.3 ft (300 m) due to this species being difficult to detect based on their small size and cryptic nature. In-water activities that do not include the specified activities but require heavy equipment would also shutdown if a marine mammal approaches within 32.8 ft (10 m) to avoid direct interaction.

TABLE 11—PROPOSED SHUTDOWN ZONES

Activity	Pile size and type	Shutdown zones (m)				
		LF cetaceans	HF cetaceans	VHF cetaceans	PW pinnipeds	OW pinnipeds
Vibratory Pile Driving	24-inch Steel	15	15	15	15	10
Vibratory Pile Driving	30-inch Steel	30	20	20	30	10
Vibratory Pile Driving	36-inch Steel	30	20	20	30	10
Vibratory Pile Driving	AZ26 Sheet	30	20	20	30	10
Impact Pile Driving	24-inch Steel	275	50	300	225	100
Impact Pile Driving	30-inch Steel	400	60	300	225	150
Impact Pile Driving	36-inch Steel	400	60	300	225	150
Down-the-Hole Drilling	8-inch Tension Anchor	170	35	250	100	70
Down-the-Hole Drilling	24-inch Steel (Rock Socket)	250	200	300	200	200
Down-the-Hole Drilling	30-inch Steel (Rock Socket)	470	350	300	200	200
Down-the-Hole Drilling	36-inch Steel (Rock Socket)	470	275	300	200	200

LF=low-frequency, HF=high-frequency, VHF=very high-frequency, PW=phocid, and OW=otariid.

Soft Start

The use of soft-start procedures provide warning, giving marine mammals a chance to leave the area prior to the hammer operating at full capacity. For impact pile driving, contractors would be required to provide an initial set of three strikes from the hammer at reduced energy (at no more than half the operational power), with each strike followed by a 30-second waiting period, then two subsequent reduced-power strike sets. Soft start would be implemented at the start of each day's impact pile driving and at any time following cessation of impact pile driving for a period of 30 minutes or longer (and PSO visual monitoring has also stopped). Soft start is not required during vibratory pile driving and removal as well as DTH drilling activities.

Based on our evaluation of the applicant's proposed measures, NMFS has preliminarily determined that the proposed mitigation measures provide the means of effecting the least practicable impact on the affected species or stocks and their habitat, paying particular attention to rookeries, mating grounds, and areas of similar significance.

Proposed Monitoring and Reporting

In order to issue an IHA 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 authorizations 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 while conducting the activities. Effective reporting is critical both to compliance as well as ensuring that the most value is obtained from the required monitoring.

Monitoring and reporting requirements prescribed by NMFS should contribute to improved understanding of one or more of the following:

- Occurrence of marine mammal species or stocks in the area in which take is anticipated (*e.g.,* presence, abundance, distribution, density);
- Nature, scope, or context of likely marine mammal exposure to potential stressors/impacts (individual or cumulative, acute or chronic), through better understanding of: (1) action or environment (*e.g.,* source characterization, propagation, ambient noise); (2) affected species (*e.g.,* life history, dive patterns); (3) co-occurrence of marine mammal species with the activity; or (4) biological or behavioral context of exposure (*e.g.,* age, calving or feeding areas);
- Individual marine mammal responses (behavioral or physiological) to acoustic stressors (acute, chronic, or cumulative), other stressors, or cumulative impacts from multiple stressors;
- How anticipated responses to stressors impact either: (1) long-term fitness and survival of individual marine mammals; or (2) populations, species, or stocks;
- Effects on marine mammal habitat (*e.g.,* marine mammal prey species, acoustic habitat, or other important physical components of marine mammal habitat); and,
- Mitigation and monitoring effectiveness.

The monitoring and reporting requirements described in the following were proposed by QTU in its adequate and complete application and/or are the result of subsequent coordination between NMFS and QTU. QTU has agreed to the requirements. NMFS describes these below as requirements and has included them in the proposed IHA.

Marine mammal monitoring must be conducted in accordance with the 4MP. Marine mammal monitoring during vibratory pile driving and removal, impact pile driving, and the DTH drilling activities must be conducted by NMFS-approved PSOs who have no other assigned tasks during monitoring periods. At least one PSO would have prior experience performing the duties of a PSO during vibratory pile driving and removal, impact pile driving, and the DTH drilling activities pursuant to a NMFS-issued Incidental Take Authorization. Visual monitoring would be conducted by at least two to three PSOs (depending on activity type) positioned at suitable vantage points taking into consideration access, safety, and space limitations. At least three PSOs would be used for all vibratory pile driving and removal activities; at least two PSOs would be used for all impact pile driving activities; and at least three PSOs would be used for DTH drilling activities. The PSOs would be stationed at locations that allow visual observations of as much of the Levels A and B harassment zones as possible. The seven likely land-based locations for PSO visual monitoring sites are shown in figure 3–1 of the 4MP. Two to three locations would be used concurrently based on the type of vibratory pile driving and removal, impact pile driving, and the DTH drilling activities. The PSOs would most likely conduct visual monitoring from sites A, D, E, and/or G (see figure 3–3 of the 4MP) for vibratory pile driving and removal; sites A, B, C, and/or F for impact pile driving (see figure 3–2 of the 4MP); and sites A, D, E, and/or G (see figure 3–4 of the 4MP) for DTH drilling. The location would be decided based on the work schedule, accessibility, as well as environmental and visibility conditions. The PSOs may select alternate locations with better visibility conditions if necessary. All PSOs would be required to use standard equipment such as reticle binoculars (7 by 50 or better), Big-Eye binoculars, spotting scopes, clinometers, and range finders as well as the naked eye. A contact list, field guide, instructional handbook, and maps, chronometer (watch), compass, daily tide table, Global Positioning System unit, and notebook with waterproof forms would also be available to PSOs. PSOs would work shifts of up to 4 consecutive hours followed by a rotation or 1 hour break and would work no more than 12 hours in a 24-hour period. PSOS would be in continuous contact with construction personnel using portable two-way radios. Details regarding PSO qualifications and monitoring requirements can be found in the draft IHA available at: *https://www.fisheries.noaa.gov/national/marine-mammal-protection/incidental-take-authorizations-construction-activities.*

Reporting

QTU would submit a draft marine mammal monitoring report to NMFS within 90 calendar days after the completion of pile driving activities, or 60 calendar days prior to the requested issuance of any subsequent IHA for similar activities at the same location, whichever comes first. The information required to be collected and reported to NMFS is included in the draft IHA available at *https://www.fisheries.noaa.gov/national/marine-mammal-protection/incidentaltake-authorizations-construction-activities.* In summary, the report would include, but not be limited to, information regarding activities that occurred, marine mammal sighting data, and whether mitigative actions were taken or could not be taken. QTU would also be required to submit reports on any observed injured or dead marine mammals. If the death or injury was clearly caused by the specified activity, QTU would immediately cease the specified activities until NMFS is able to review the circumstances of the incident and determine what, if any, additional measures are appropriate to ensure compliance with the terms of the IHA. QTU would not resume its activities until notified by NMFS.

Negligible Impact Analysis and Determination

NMFS has defined negligible impact 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 (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 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 harassment, NMFS considers other factors, such as the likely nature of any impacts or responses (*e.g.,* intensity, duration), the context of any impacts or responses (*e.g.,* critical reproductive time or location, foraging impacts affecting energetics), as well as effects on habitat, and the likely effectiveness of the mitigation. We also assess the number, intensity, and context of estimated takes by evaluating this information relative to population status. Consistent with the 1989 preamble for NMFS' implementing regulations (54 FR 40338, September 29, 1989), the impacts from other past and ongoing anthropogenic activities are incorporated into this analysis via their impacts on the baseline (*e.g.,* as reflected in the regulatory status of the species, population size and growth rate where known, ongoing sources of human-caused mortality, or ambient noise levels).

To avoid repetition, our analysis applies to all the species listed in table 2, given that many of the anticipated effects of this project on different marine mammal stocks 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 independently in the analysis below.

Specified activities associated with the QTU's North Barge Expansion Project, as outlined previously, have the potential to disturb or displace as well as cause AUD INJ to marine mammals. Specifically, the specified activities may result in take, in the form of Levels A and B harassment, from underwater sounds generated by vibratory pile driving and removal, impact pile driving, and DTH drilling. Potential takes could occur if marine mammals are present in zones ensonified above the thresholds for Level A harassment or Level B harassment, identified above, while specified activities are underway.

No serious injury or mortality would be expected, even in the absence of required mitigation measures, given the nature of the activities. The potential for harassment would be minimized through the implementation of planned mitigation measures (see Proposed Mitigation section).

Take by Level A harassment is proposed for three species (humpback whale, Steller sea lion, and harbor seal) as there is potential for them to remain within the Level A harassment zone for a duration long enough to incur AUD INJ. However, given the nature of activity and that the calculated Level A harassment zone represents a long duration (*i.e.,* hours of drilling), any take by Level A harassment is expected to arise from, at most, a small degree of AUD INJ (*i.e.,* minor degradation of hearing capabilities within regions of hearing that align most completely with the energy produced by DTH drilling such as the low-frequency region below 2 kHz), not severe hearing impairment or impairment within the ranges of greatest hearing sensitivity. Animals would need to be exposed to higher levels and/or longer duration than are expected to occur here in order to incur any more than a small degree of AUD INJ. QTU would also delay or shut down activities if marine mammals enter the shutdown zones (table 11), further minimizing the likelihood and degree of AUD INJ that would be incurred. Further, as described above, NMFS expects that marine mammals would likely move away from an aversive stimulus, especially at levels that would be expected to result in AUD INJ, given sufficient notice through use of soft start.

Given the small degree anticipated, any AUD INJ potential incurred would not be expected to affect the reproductive success or survival of any individuals, much less result in adverse impacts on the species or stock.

Effects on individuals that are taken by Level B harassment in the form of behavioral disruption, on the basis of reports in the literature as well as monitoring from other similar activities, would likely be limited to reactions such as avoidance, increased swimming speeds, increased surfacing time, or decreased foraging (if such activity were occurring) (*e.g.,* Thorson and Reyff, 2006). Most likely, individuals would simply move away from the sound source and temporarily avoid the area where pile driving and DTH drilling is occurring. If sound produced by vibratory pile driving and removal, impact pile driving, and DTH drilling activities is sufficiently disturbing, animals are likely to simply avoid the area while the activities are occurring. We expect that any avoidance of the project area by marine mammals would be temporary in nature and that any marine mammals that avoid the project area during vibratory pile driving and removal, impact pile driving, and DTH drilling activities would not be permanently displaced. Short-term avoidance of the project area and energetic impacts of interrupted foraging or other important behaviors is unlikely to affect the reproduction or survival of individual marine mammals, and the effects of behavioral disturbance on individuals is not likely to accrue in a manner that would affect the rates of recruitment or survival of any affected stock.

As described in the Description of Marine Mammals in the Area of Specified Activities section, there are several haulouts and rookeries in the Aleutian Islands. The ensonified area from vibratory pile driving and removal, impact pile driving, and DTH drilling activities that would occur from this project overlaps with the 20 nautical miles (37 km) zone for the rookery at Cape Morgan on Akutan Island and the major haulouts at Old Man Rocks and Unalaska/Cape Sedanka. The ensonified area overlaps ESA-designated critical habitat for Mexico DPS and Western North Pacific DPS of humpback whale and western DPS of Steller sea lion. It is also in the Bogoslof feeding area for the western DPS of Steller sea lions. Specifically, the Level B harassment ensonified area overlaps with the aquatic zones of designated major haulouts. The ensonified area Level B harassment zone related to implementation of the proposed North Barge Expansion Project, described in the Estimated Take of Marine Mammals section, overlaps with the designated aquatic zone of the designated major haulouts. No terrestrial or in-air critical habitat of any major haulout overlaps with the project area. The effects from the vibratory pile driving and removal, impact pile driving, and DTH drilling activities would be insignificant and temporary to designated critical habitat for Mexico DPS and Western North Pacific DPS of humpback whales and Steller sea lions.

The North Barge Expansion Project is also not expected to have significant adverse effects on affected marine mammal habitat. The underwater sound from vibratory pile driving and removal, impact pile driving, and DTH drilling activities would not modify existing marine mammal habitat for a significant amount of time. A small amount of marine mammal habitat would be permanently modified due to fill placement. The activities may cause some fish to leave the area of disturbance, thus temporarily impacting marine mammals' foraging opportunities in a limited portion of the foraging range. We do not expect vibratory pile driving and removal, impact pile driving, and DTH drilling activities to have significant consequences to marine invertebrate populations. Given the short duration of the activities and the relatively small area of the habitat that may be affected, the impacts to marine mammal habitat, including fish and marine invertebrates, are not expected to cause significant or long-term negative consequences.

In summary and as described above, the following factors primarily support our preliminary determination that the impacts resulting from this activity are not expected to adversely affect any of the species or stocks through effects on annual rates of recruitment or survival:

- No serious injury, or mortality is anticipated or authorized;
- Any Level A harassment is anticipated to cause only slight auditory injury, including PTS of a few decibels within the lower frequencies associated with DTH drilling and not encompass a species' full hearing range;
- The anticipated incidents of Level B harassment would result in temporary behavior modifications or a small degree of TTS that would resume to baseline at the cessation of activities or as animals move away from the source;
- The project area is industrialized; therefore, individuals taken are likely habituated to anthropogenic activities and behavioral reactions are expected to be minor and temporary;
- Effects on species that serve as prey for marine mammals from the activities are expected to be short-term and, therefore, any associated impacts on marine mammal feeding are not expected to result in significant or long-term consequences for individuals, or to accrue to adverse impacts on their populations; and
- The efficacy of the mitigation measures in reducing the effects of the specified activities on all species and stocks.

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 the proposed activity will have a negligible impact on all affected marine mammal species or stocks.

Small Numbers

As noted previously, only take of small numbers of marine mammals may be authorized under sections 101(a)(5)(A) and (D) of the MMPA for specified activities other than military readiness activities. The MMPA does not define small numbers and so, in practice, where estimated numbers are available, NMFS compares the number of individuals taken to the most appropriate estimation of abundance of the relevant species or stock in our determination of whether an authorization is limited to small numbers of marine mammals. When the predicted number of individuals to be taken is fewer than one-third of the species or stock abundance, the take is considered to be of small numbers. Additionally, other qualitative factors may be considered in the analysis, such as the temporal or spatial scale of the activities.

The instances of take NMFS proposes to authorize are below one-third of the estimated stock abundance for all stocks (table 10). For those stocks with unknown abundance, the number of takes are very low; therefore, it is reasonable that the number of individuals taken relative to the population is small.

Based on the analysis contained herein of the proposed activity (including the proposed mitigation and monitoring measures) and the anticipated take of marine mammals, NMFS preliminarily finds that small numbers of marine mammals would be taken relative to the population size of the affected species or stocks.

Unmitigable Adverse Impact Analysis and Determination

In order to issue an IHA, NMFS must find that the specified activity will not have an ''unmitigable adverse impact'' on the subsistence uses of the affected marine mammal species or stocks by Alaskan Natives. NMFS has defined ''unmitigable adverse impact'' in 50 CFR 216.103 as an impact resulting from the specified activity: (1) that is likely to reduce the availability of the species to a level insufficient for a harvest to meet subsistence needs by, (i) causing the marine mammals to abandon or avoid hunting areas, (ii) directly displacing subsistence users, or (iii) placing physical barriers between the marine mammals and the subsistence hunters; and (2) that cannot be sufficiently mitigated by other measures to increase the availability of marine mammals to allow subsistence needs to be met.

Alaskan Natives have hunted marine mammals in the Aleutian Islands of Alaska for subsistence uses for hundreds of years (ADF&G, 1997). Residents of Unalaska report the average annual harvest of five Steller sea lions and three harbor seals. It is possible that the local annual culture camp, which includes harvesting one pinniped in the outer limits of Unalaska Bay approximately 5–6 km from the project site during late July or early August, may occur during the project (D. Robinson personal communication with C. Hoffman, October 1, 2025). However, terrain is expected to acoustically shadow project noise where harvest may occur (C. Hoffman, personal communication). Marine mammals could be harvested outside of Unalaska Bay at any other time of the year. No other species of marine mammals (except northern sea otters) are hunted in Unalaska.

The North Barge Expansion Project is located in an already developed area where commercial and human activities occur. Due to extensive contamination, the Unungan people do not harvest food for subsistence within Dutch Harbor (D. Robinson personal communication with C. Hoffman, October 1, 2025). The availability of marine mammals for subsistence in nearby waters is not expected to be adversely affected by the project.

Based on the description of the specified activity, the measures described to minimize adverse effects on the availability of marine mammals for subsistence purposes, and the proposed mitigation measures, NMFS has preliminarily determined that there will not be an unmitigable adverse impact on subsistence uses from QTU's proposed specified activities.

Endangered Species Act

Section 7(a)(2) of the ESA (16 U.S.C. 1531 *et seq.*) requires that each Federal agency ensure that any action it authorizes, funds, or carries out is not likely to jeopardize the continued existence of any endangered or threatened species or result in the destruction or adverse modification of designated critical habitat. To ensure ESA compliance for the issuance of IHAs, NMFS consults internally whenever we propose to authorize take for endangered or threatened species, in this case with the Alaska Regional Office.

NMFS OPR is proposing to authorize take of Mexico DPS of humpback whale, Western North Pacific DPS of humpback whale, and Western DPS of Steller sea lion, which are listed under the ESA. NMFS OPR has requested initiation of section 7 consultation with the NMFS Alaska Regional Office for the issuance of this IHA. NMFS will conclude the ESA section 7 consultation prior to reaching a determination regarding the proposed issuance of the authorization.

Proposed Authorization

As a result of these preliminary determinations, NMFS proposes to issue an IHA to QTU authorizing the take of marine mammals incidental to the North Barge Expansion Project at Dutch Harbor, Alaska, provided the previously mentioned mitigation, monitoring, and reporting requirements are incorporated. A draft of the proposed IHA can be found at: *https://www.fisheries.noaa.gov/permit/incidental-take-authorizations-under-marine-mammal-protection-act.*

Request for Public Comments

We request comment on our analyses, the proposed authorization, and any other aspect of this notice of proposed IHA for the North Barge Expansion Project. We also request comment on the potential renewal of this proposed IHA as described in the paragraph below. Please include with your comments any supporting data or literature citations to help inform decisions on the request for this IHA or a subsequent renewal IHA.

On a case-by-case basis, NMFS may issue a one-time, 1-year renewal IHA following notice to the public providing an additional 15 days for public comments when (1) up to another year of identical or nearly identical activities as described in the Description of Proposed Activity section of this notice is planned or (2) the activities as described in the Description of Proposed Activity section of this notice would not be completed by the time the IHA expires and a renewal would allow for completion of the activities beyond that described in the *Dates and Duration* section of this notice, provided all of the following conditions are met:

• A request for renewal is received no later than 60 days prior to the needed renewal IHA effective date (recognizing that the renewal IHA expiration date cannot extend beyond 1 year from expiration of the initial IHA).

• The request for renewal must include the following:

(1) An explanation that the activities to be conducted under the requested renewal IHA are identical to the activities analyzed under the initial IHA, are a subset of the activities, or include changes so minor (*e.g.,* reduction in pile size) that the changes do not affect the previous analyses, mitigation and monitoring requirements, or take estimates (with the exception of reducing the type or amount of take); and,

(2) A preliminary monitoring report showing the results of the required monitoring to date and an explanation showing that the monitoring results do not indicate impacts of a scale or nature not previously analyzed or authorized.

• Upon review of the request for renewal, the status of the affected species or stocks, and any other pertinent information, NMFS determines that there are no more than minor changes in the activities, the mitigation and monitoring measures will remain the same and appropriate, and the findings in the initial IHA remain valid.

Dated: August 6, 2026.

Kimberly Damon-Randall,

Director, Office of Protected Resources, National Marine Fisheries Service.

[FR Doc. 2026–16316 Filed 8–10–26; 8:45 am]

BILLING CODE 3510–22–P