Based on the analysis contained herein of TGS's proposed survey activity described in its LOA application, as subsequently modified by TGS, and the anticipated take of marine mammals, NMFS finds that small numbers of marine mammals will be taken relative to the affected species or stock sizes (*i.e.,* less than one-third of the best available abundance estimate) and therefore the taking is of no more than small numbers.

Authorization

NMFS has determined that the level of taking for this LOA request is consistent with the findings made for the total taking allowable under the incidental take regulations and that the amount of take authorized under the LOA is of no more than small numbers. Accordingly, we have issued a modification to the LOA to TGS authorizing the take of marine mammals incidental to its geophysical survey activity, as described above.

Dated: December 22, 2025.

Michael P. Ruccio,

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

[FR Doc. 2025–23842 Filed 12–23–25; 8:45 am]

BILLING CODE 3510–22–P

DEPARTMENT OF COMMERCE

National Oceanic and Atmospheric Administration

[RTID 0648–XF215]

Takes of Marine Mammals Incidental to Specified Activities; Taking Marine Mammals Incidental to the Alaska Department of Transportation and Public Facilities' Cold Bay Ferry Terminal Reconstruction Project in Cold Bay, 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 Alaska Department of Transportation and Public Facilities (ADOT&PF) for authorization to take marine mammals incidental to the Cold Bay Ferry Terminal Reconstruction Project in Cold Bay, Alaska. Pursuant to the Marine Mammal Protection Act (MMPA), NMFS is requesting comments on its proposal to issue an incidental harassment authorization (IHA) to incidentally take marine mammals during 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 Request for Public Comments 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 and agency responses will be summarized in the final notice of our decision.

DATES: Comments and information must be received no later than January 28, 2026.

ADDRESSES: Comments should be addressed to Permits and Conservation Division, Office of Protected Resources, National Marine Fisheries Service and should be submitted via email to *ITP.Potlock@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: Kelsey Potlock, Office of Protected Resources, NMFS, (301) 427–8401.

SUPPLEMENTARY INFORMATION:

Background

The MMPA prohibits the ''*take*'' of marine mammals, with certain exceptions. Section 101(a)(5)(A) and (D) of the MMPA (16 U.S.C. 1361 *et seq.*) directs 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). Further, 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 (collectively referred to as ''*mitigation*''); and requirements pertaining to the monitoring and reporting of the takings. The definitions of all applicable MMPA statutory terms used above are included in the relevant sections below and can be found in section 3 of the MMPA (16 U.S.C. 1362) and NMFS regulations at 50 CFR 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 July 30, 2025, NMFS received a request from ADOT&PF for an IHA to take marine mammals incidental to pile-driving activities for the Cold Bay Ferry Terminal Reconstruction Project in Cold Bay, Alaska. Following NMFS' review of the application, ADOT&PF submitted revised versions on November 14, 2025, November 21, 2025, December 11, 2025, and December 19, 2025. The application was deemed adequate and complete on

December 12, 2025. ADOT&PF's request is for take of six species (eight stocks) of marine mammals by Level B harassment and, for a subset of these species, Level A harassment. Neither ADOT&PF nor NMFS expect serious injury or mortality to result from this activity and, therefore, an IHA is appropriate.

NMFS previously issued several IHAs to ADOT&PF for similar coastal construction work between 2018 and 2025 (*e.g.,* 83 FR 5063, February 5, 2018; 83 FR 29749, June 26, 2018; July 19, 2023, 88 FR 46145; 90 FR 24385, June 10, 2025; 90 FR 38134, August 7, 2025). To date, ADOT&PF has complied with all the requirements (*e.g.,* mitigation, monitoring, and reporting) of the previous IHAs.

Description of Proposed Activity

Overview

ADOT&PF has requested an IHA to take marine mammals incidental to in-water construction activities. The original Cold Bay Dock was constructed by the State of Alaska in 1978, expanded in 1993, and then refurbished in 2015. Currently, the structure is nearing the end of serviceable life and is at risk of failing, which would be detrimental for the communities that so heavily rely on this infrastructure. At present, use restrictions are currently in place that limit axel loads and gross vehicle weights until the dock can be fully replaced. Given the receipt of additional funding, ADOT&PF plans to replace the aging public dock to improve accessibility; support commercial, subsistence, and recreation users; continue uninterrupted ferry service; secure cargo delivery and bulk materials offloading; ensure public safety; and safeguard vessel moorage. Additionally, this project would maintain access to essential services for surrounding communities that rely on Cold Bay as a hub for fuel, goods, cargo, and potable drinking water. The new dock would be designed and built to accommodate commercial use, freight and fuel transportation, private vessel use, and public uses like emergency medical services and public transportation through the Alaska Marine Highway System (AMHS).

Given the proposed use of vibratory and impact pile driving to remove and install piles, there is potential of the take of marine mammals by Level B harassment and, for a subset of the species, Level A harassment. No serious injury and/or mortality is expected or proposed for this project.

Dates and Duration

ADOT&PF has been awarded funds by the U.S. Department of Transportation's (DOT) Maritime Administration (MARAD) under the Port Infrastructure Development Program (via the Infrastructure Investment and Jobs Act (Pub. L. 117–58, November 15, 2021)), a discretionary grant program awarded on a competitive basis to projects that improve the safety, efficiency, or reliability of the movement of goods into, out of, around, or within a port (*https://www.maritime.dot.gov/PIDPgrants*). These grants are awarded to improve port and related freight infrastructure to meet the nation's freight transport needs and ensure that port infrastructure can keep up with the growth of freight volume as it continues to increase.

ADOT&PF intends to begin their project on May 1, 2028, and continue for one year through April 30, 2029. The entire project is anticipated to consist of 18 months of activities (in-water and on-shore), whereas the in-water activities (*i.e.,* pile driving) are expected to occur for 12 months, consisting of 231 (not necessarily consecutive) days requiring 10 to 12 hours of activities per day, following the general schedule of events described in table 1. In-water pile driving is expected to occur near-continuously for the first 7 months (May through November with an estimated driving duration of 165 days), which would allow for the installation of the trestle and dock piles. For the next 3 months (December through February), limited in-water pile driving is expected to occur as the dock superstructure is completed. Likely activities during these months include fender and dolphin installation (estimated 21 days of in-water pile driving). After this is completed, demolition activities on the existing dock would be performed, estimated to require non-continuous in-water pile driving over approximately 45 days within a 2-month period (March to April).

TABLE 1—ANTICIPATED SCHEDULE OF ACTIVITIES

Phase	Tasks
Mobilize to site	The contractor would mobilize the necessary equipment and personnel.
Install Trestle [a]	• Install temporary work trestle and pile driving templates. • Drive and proof foundation pile. • Remove templates and template support piles. • Install precast concrete caps. • Set trestle superstructure. • Grout deck joints and place and cast-in-place concrete in closure pours.
Install Dock	• Install temporary work trestle and pile driving templates. • Drive and proof foundation pile. • Remove templates and template support piles. • Install precast concrete caps. • Set precast concrete deck panels. • Grout deck joints and place and cast-in-place concrete in closure pours. • Install on-dock appurtenances (bullrails, ladders, cleats, bollards, *etc.*).
Install Dolphins	• Install pile driving template. • Drive and proof foundation piles. • Remove template and extract template support piles. • Install pile caps. • Set catwalks.
Install Fendering	• Install pile driving template. • Drive and proof fender piles. • Install fender panels.
Utility Installation	• Install onshore utility service as required. • Install trestle supported service lines. • Install dock-mounted headers and service connections.

TABLE 1—ANTICIPATED SCHEDULE OF ACTIVITIES—Continued

Phase	Tasks
Existing Dock Demolition	• Remove appurtenances and utilities located on the dock and trestle. • Demolish and remove existing superstructure. • Extract existing piles.
Demobilization	• All demolished existing materials staged on the uplands would be removed from the site.

[a] Installation of the trestle would likely progress from shore, seaward to the dock location.

However, project delays may occur due to a number of factors, including other permitting requirements, availability of equipment and/or materials, weather-related delays, equipment maintenance and/or repair, transit to and from ports to survey locations, and other contingencies. Therefore, the analysis herein represents a best estimate of activities and timeframe and does not imply limits to activities in a given month.

Specific Geographic Region

The proposed project is located within southwestern tip of the Alaska Peninsula (Township 57 South, Range 89 West of the Seward Meridian; U.S. Geological Survey Quadrangle COLD BAY A–3) (see figure 1). Situated at approximately Latitude 55°12′ N, Longitude 162°42′ W, the city encompasses 53.41 square miles (mi^2; 138 square kilometers (km^2)) of land and 14.64 mi^2 (38 km^2) of water. Per the United States 2020 census, approximately 50 people live within Cold Bay (U.S. Census Bureau, 2025). The City of Cold Bay sits approximately 138 feet (ft; 42 meters (m)) above mean sea level.

Geologically, the region is part of the Aleutian arc, a highly active segment of the Pacific Ring of Fire. The landscape is dominated by prominent volcanic features, including Frosty Peak and Mount Simeon nearby, with the more distant and active Pavlof and Shishaldin Volcanoes. The region contains complex geology, which is shaped by a long history of volcanic, glacial, and tectonic processes. The immediate topography of Cold Bay is characterized by a rolling, treeless tundra dotted with numerous lakes and swamps. This landscape is part of a broad coastal lowland on the northern side of the peninsula, which generally lies less than 100 ft (30.5 m) above sea level. Cold Bay's most defining physical characteristic is its location on a narrow isthmus separating two great marine ecosystems: the cold, shallow, and enclosed Bering Sea to the north, and the deep, warmer, and open North Pacific Ocean to the south. This unique geographical position creates a convergence zone of powerful ocean currents, temperature gradients, and salinities, resulting in one of the most biologically productive marine environments on the planet. The City of Cold Bay lies on the shore of Cold Bay, a large Pacific Ocean embayment, and is adjacent to the Izembek Lagoon (a shallow, 30-mi (48-km) coastal ecosystem that contains one of the world's largest beds of eelgrass (*Zostera marina*) (Rice and Hogan, 1995)) on the Bering Sea side.

Cold Bay serves as a primary commercial and transportation hub for the Alaska Peninsula and a gateway to the Aleutian Islands. It is the headquarters for the Izembek National Wildlife Refuge (see U.S. Fish and Wildlife Service (2025a)) and a key logistics and support center for the commercial fishing industry in the region. The city's primary infrastructure includes the Port of Cold Bay, which serves the state ferry system, and the Cold Bay Airport, a critical regional hub and emergency diversion airport for trans-Pacific flights with one of the longest runways in Alaska.

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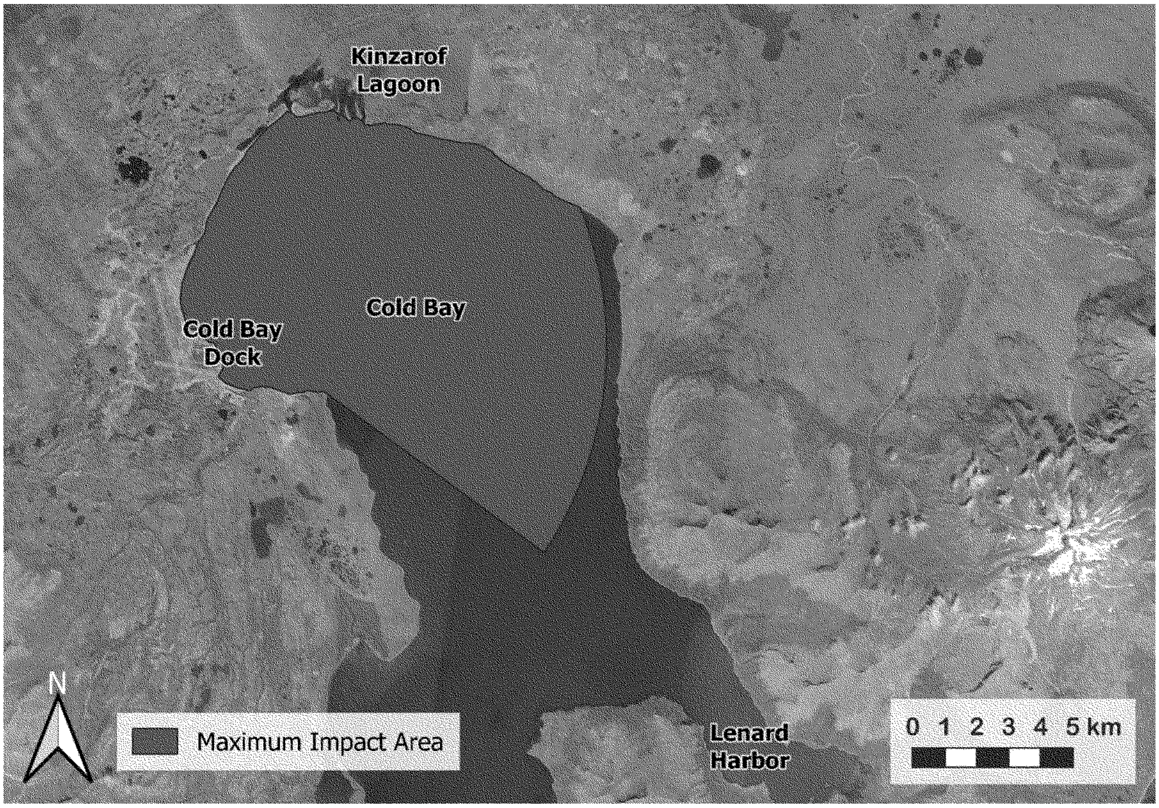

Figure 1 -- Proposed Project Location and Vicinity Map for the Cold Bay Ferry Terminal Reconstruction Project

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Detailed Description of the Specified Activity

ADOT&PF has proposed to remove components of the existing and aging structure and install new components to better serve the Cold Bay community. The existing Cold Bay Dock is a critical facility for the community and surrounding areas, serving as the sole location for the sea-based delivery of fuel, goods, cargo, and potable drinking water. Per the 2022–2027 Alaska Statewide Comprehensive Economic Development Strategy, officials have highlighted that coastal communities, such as Cold Bay, depend on efficient and well-functioning waterfront infrastructure to receive goods. Currently, the dock is nearing the end of its serviceable life and is at risk of failing. Use restrictions are in place that limit axle loads and gross vehicle weights until the dock can be replaced. The new dock would be designed and built to accommodate a variety of uses, including commercial use, freight and fuel transportation, private vessel uses, and public uses like emergency medical services and public transportation through the AMHS.

The project would be completed in stages, depending on the structure being constructed, including development of a trestle and abutment, a dock, dolphin piles, and then demolition/removal of old structures (*i.e.,* trestle, dock, dolphins, and fenders). For all in-water work, the project would require the mobilization of barges and support vessels, all of which are likely to come from different communities within Alaska. The number of vessels is not currently known as the construction contractor has not been chosen but all support vessels, support barges, material barges, and construction barges would follow known routes when transiting to the construction site.

To develop the new infrastructure, a 360 ft (109.7 m) by 54 ft (16.5 m) pile-supported dock with adjacent mooring dolphins would be developed. The applicant would also develop fendering (both heavy-duty on the primary face and light-duty fenders on opposite faces) around the new dock. All access to the dock would be made available by a 22 ft (6.7 m) by 1,800 ft (548.6 m) pile-supported trestle. The trestle and dock would be constructed using pre-cast concrete elements, supported by pile-driven steel foundation piles. For the trestle and dock construction, vibratory pile driving would be used whenever feasible, but impact pile driving likely would be needed to proof piles. The trestle would be constructed using prefabricated sections supported by pile bents. A pile-supported abutment would support the nearshore end of the trestle. All pier-support piles would be installed first, followed by the pre-cast concrete caps, and then the superstructure would be set. The trestle piles would require both vibratory and impact pile driving methods, to install and (in some cases remove) a total of 208 temporary piles, 261 new permanent piles, and 322 existing piles. No simultaneous pile driving is planned. Pile specifics for the dock trestle are described here:

- Vibratory and impact installation of 113 permanent trestle support piles (36-inch (in); 91.44-centimeter (cm) pipe piles);
- Vibratory and impact installation and vibratory removal of 150 temporary trestle piles (24-in (60.96-cm) to 36-in (91.44-cm) pipe or H-piles);
- Vibratory and impact installation of 80 permanent dock support piles (36-in (91.44-cm) pipe piles);

• Vibratory and impact installation and vibratory removal of 50 temporary dock piles (24-in (60.96-cm) to 36-in (91.44-cm) pipe piles);
• Vibratory installation of 20 fender piles (30-in (76.2-cm) pipe piles); and
• Vibratory installation of 40 fender piles (24-in (60.96-cm) pipe piles).

The construction of the dock would proceed similarly to trestle construction, where the dock piles would be installed using both vibratory and impact methods. All permanent piles would be driven at their pre-planned locations, which would be followed by a setting of pre-cast concrete caps and structural panel systems that make up the superstructure of the dock. Piles would be set and driven using a crane either located on a barge or working on a temporary structure. Fenders (using two fender piles) would be installed along the offshore dock face to protect the dock from moored vessels. Single pile fenders would be installed on the shoreward dock face. Installation would only be by vibratory pile driving. Lastly, various dock appurtenances and utilities would be installed, although these would not necessitate any pile driving. These would serve the current and future needs of the dock and consist of water, electrical, and fuel piping, such as the installation of utility lines and diesel/gasoline fuel lines, a portable water supply line, and new lighting along the new trestle and dock.

Upon completion of the dock and trestle structures, the applicant would install two dolphins at opposite ends, using four temporary pile templates initially driven for the installation of each dolphin and removed following completion. Temporary piles would be installed using vibratory pile driving, and impact pile driving would be used to proof the vertical load supporting piles or in the case of obstructions. All temporary piles would be extracted using vibratory pile driving. Pile specifics for the dolphins are described here:

• Vibratory and impact installation of eight permanent dolphin piles (36-in (76.2-cm) pipe piles); and
• Vibratory installation and removal of eight temporary dolphin piles (24-in (60.96-cm) to 36-in (76.2-cm) pipe piles).

During all the construction, demolition and removal of the existing older dock structure would be coordinated with the installation of the new structure to minimize any potential disturbance to users of the facility. Trestle demolition would not be performed until the new trestle is completed. Demolition for the dock and trestle would include removal of the concrete superstructure, support piles, fenders and all dock utilities and appurtenances. Removal of the superstructure would be accomplished by first saw-cutting and pulling the concrete deck panels. The existing pile caps would then be cut, while the supporting piles would be cut at the pile/cap interface and then the caps would be lifted and removed. Pile extraction would proceed following the removal of the superstructure. All piles would be removed using vibratory pile driving equipment or cut off at the mudline. Piles removed during demolition would include:

• 180 trestle piles (16-in (40.64-cm) pipe piles);
• 24 dock piles (16-in (40.64-cm) pipe piles);
• 65 dock piles (26-in (66-cm) pipe piles);
• 9 dolphin piles (16-in (40.64-cm) pipe piles);
• 13 fender piles (20-in (50.8-cm) pipe piles); and
• 31 fender piles (16-in (40.64-cm) timber piles).

Upon completion, refuse and excess materials from the project would be either reclaimed, recycled, or disposed of and all project equipment would be demobilized to the port of origin.

A summary of all piles planned to be installed or removed and their specific attributes are included in table 2 below.

TABLE 2—PILE PARAMETERS FOR THE PROPOSED COLD BAY FERRY TERMINAL RECONSTRUCTION PROJECT

Specific activity	Pile information	Pile material	Installation and/or removal approach	Number of piles
Permanent Removal Activities				
Trestle removal	16-inch pipe pile	Steel	Vibratory	180
Dock removal	16-inch pipe pile	Steel	Vibratory	24
Dock removal	26-inch pipe pile	Steel	Vibratory	65
Dolphin removal	16-inch pipe pile	Steel	Vibratory	9
Fender removal	20-inch pipe pile	Steel	Vibratory	13
Fender removal	16-inch pipe pile	Timber	Vibratory	31
Removal total				322
Temporary installation and subsequent removal				
Temporary trestle pile	24-inch to 36-inch pipe pile or H-pile	Steel	Vibratory installation, impact installation, vibratory removal.	240
Temporary dock pile	24-inch to 36-inch pipe pile	Steel	Vibratory installation, impact installation, vibratory removal.	50
Temporary dolphin pile	24-inch to 36-inch pipe pile	Steel	Vibratory installation, impact installation, vibratory removal.	8
Temporary installation and removal total.				298
Permanent Installation Activities				
Trestle support piles	36-inch pipe piles	Steel	Vibratory and impact installation	113
Dock support pile	36-inch pipe pile	Steel	Vibratory and impact installation	80
Fender pile	30-inch pipe pile	Steel	Vibratory installation	20
Fender pile	24-inch pipe pile	Steel	Vibratory installation	40
Dolphin pile	36-inch pipe pile	Steel	Vibratory and impact installation	8

TABLE 2—PILE PARAMETERS FOR THE PROPOSED COLD BAY FERRY TERMINAL RECONSTRUCTION PROJECT—Continued

Specific activity	Pile information	Pile material	Installation and/or removal approach	Number of piles
Installation total				269
In-water total				889

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

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 we refer 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 3 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 (M/SI) 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 SARs. All values presented in table 3 are the most recent available at the time of publication (including from the draft 2024 SARs) and are available online at: *https://www.fisheries.noaa.gov/national/marine-mammal-protection/marine-mammal-stock-assessments.*

TABLE 3—SPECIES [a] WITH ESTIMATED TAKE FROM THE SPECIFIED ACTIVITIES

Common name	Scientific name	Stock	ESA/MMPA status; strategic (Y/N) [b]	Stock abundance (CV; N_{min}; most recent abundance survey) [c]	PBR	Annual M/SI [d]
Order Artiodactyla—Infraorder Cetacea—Mysticeti (baleen whales)						
Family Eschrichtiidae:						
Gray whale	*Eschrichtius robustus*	Eastern North Pacific	-, -, N	26,960 (0.05; 25,849; 2016)	801	131
Family Balaenopteridae (rorquals):						
Humpback whale	*Megaptera novaeangliae*	Hawai'i	-, -, N	11,278 (0.56; 7,265; 2020)	127	27.09
		Mexico-North Pacific	T, D, Y	N/A (N/A; N/A; 2006) [e]	UND	0.6
		Western North Pacific	E, D, Y	1,084 (0.88; 1,007; 2022)	3.4	5.82
Odontoceti (toothed whales, dolphins, and porpoises)						
Family Delphinidae:						
Killer whale	*Orcinus orca*	Eastern North Pacific Gulf of Alaska, Aleutian Islands, and Bering Sea Transient.	-, -, N	587 (N/A; 587; 2012)	5.9	0.8
Family Phocoenidae (porpoises):						
Harbor porpoise	*Phocoena phocoena*	Gulf of Alaska	-, -, Y	31,046 (0.21; N/A; 1998)	UND	72
Order—Carnivora—Pinnipedia						
Family Otariidae (eared seals and sea lions):						
Steller sea lion	*Eumetopias jubatus*	Western	E, D, Y	49,837 (N/A; 49,837; 2023) [f]	299	267
Family Phocidae (earless seals):						
Harbor seal	*Phoca vitulina*	Cook Inlet/Shelikof Strait	-, -, N	28,411 (N/A; 26,907; 2018)	807	107

[a] Information on the classification of marine mammal species can be found on the web page for The Society for Marine Mammalogy's Committee on Taxonomy (*https://marinemammalscience.org/science-and-publications/list-marine-mammal-species-subspecies/*).

[b] Endangered Species Act (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 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.

[c] NMFS marine mammal stock assessment reports online at *https://www.fisheries.noaa.gov/national/marine-mammal-protection/marine-mammal-stock-assessments.* CV is the coefficient of variation; N_{min} is the minimum estimate of stock abundance. In some cases, a CV is not applicable. N/A indicates data are unknown. UND (undetermined) PBR indicates data are available to calculate a PBR level, but a determination has been made that calculating a PBR level using those data is inappropriate (see the SAR for details).

[d] 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, ship strikes). Annual M/SI often cannot be determined precisely and is sometimes presented as a minimum value or range. A CV associated with estimated mortality due to commercial fisheries is presented in some cases.

[e] Abundance estimates are currently considered unknown.

[f] N_{est} is best estimate of counts, which have not been corrected for animals at sea during abundance surveys.

As indicated above, all six species (with eight managed stocks) in table 3 temporally and spatially co-occur with the activity to the degree that take is reasonably likely to occur.

For all marine mammal species, there are no known biologically important areas (BIA) within the coastal site that ADOT&PF's proposed activities would be expected to impact. For fin whales (*Balaenoptera physalus*), gray whales, humpback whales, North Pacific right whales (*Eubalaena japonica*), and sperm whales (*Physeter macrocephalus*), while these have been sighted near Cold Bay historically or could be encountered along anticipated vessel transit routes, these are not expected within the Bay itself, where the construction would be occurring and acoustic disturbance could occur, given its relatively shallow depths. Furthermore, any feeding or migratory BIAs exist outside of the project area in more offshore areas (Brower *et al.,* 2022). Given the inshore and sheltered nature of the project, NMFS does not expect that any acoustic influence would transmit outside of Cold Bay. Furthermore, the area where the proposed project would occur represents a small portion of the available habitat for these species.

In addition, northern sea otters may (*Enhydra lutris kenyonii*) be found in Cold Bay (Alaska Department of Fish and Game, 2025). However, this species and its stocks are managed by the U.S. Fish and Wildlife Service and are not considered further in this notice.

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 or hear over the same frequency range (*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 ~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 4.

TABLE 4—MARINE MAMMAL HEARING GROUPS

[NMFS, 2024]

Hearing group	Generalized hearing range *
Low-frequency (LF) cetaceans (baleen whales)	7 Hz to 36 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* & *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 may not be as broad. Generalized hearing range chosen based on ~65 dB threshold from composite audiogram, previous analysis in NMFS (2018), and/or data from Southall *et al.* (2007) and Southall *et al.* (2019). Additionally, animals are able to detect very loud sounds above and below that "*generalized*" hearing range.

Of the species potentially present in the action area, two are considered low-frequency (LF) cetaceans (*i.e.,* gray whales and humpback whales), one is considered a high-frequency (HF) cetacean (*i.e.,* killer whale), one is considered a very high-frequency (VHF) cetacean (*i.e.,* harbor porpoise), one is an otariid pinniped (*i.e.,* Steller sea lion), and one is a phocid pinniped (*i.e.,* harbor seal).

For more detail 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 includes a summary and provides a discussion of the ways in which components of the specified activity may impact marine mammals and their habitat. The Estimated Take of Marine Mammals section later in this document 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.

Acoustic effects on marine mammals during the specified activity are expected to potentially occur from impact and vibratory pile installation and removal. The effects of underwater noise from ADOT&PF's proposed activities have the potential to result in Level B harassment of marine mammals in the action area and, for some species as a result of certain activities, Level A harassment.

Overall, the proposed activities include the removal and installation of old, temporary, and permanent piles in Cold Bay, Alaska. There are a variety of types and degrees of effects to marine mammals, prey species, and habitat that could occur as a result of the project. Below we provide a brief description of the types of sound sources that would be generated by the project, the general impacts from these types of activities, and an analysis of the anticipated impacts on marine mammals from the project, with consideration of the proposed mitigation measures.

Description of Sound Sources for the Specified Activities

Activities associated with the project that have the potential to incidentally take marine mammals though exposure to sound would include impact pile driving for installation, and vibratory pile driving for installation and removal. Impact hammers typically 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 impulsive, 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 substrate. Vibratory hammers typically produce less sound (*i.e.,* lower levels) 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; California Department of Transportation (CALTRANS), 2015, 2020). Sounds produced by vibratory hammers are non-impulsive; compared to sounds produced by impact hammers, the rise time is slower, reducing the probability and severity of injury, and the sound energy is distributed over more time (Nedwell and Edwards, 2002; Carlson *et al.,* 2005).

The likely or possible impacts of ADOT&PF's proposed activities on marine mammals could involve both non-acoustic and acoustic stressors. Potential non-acoustic stressors could result from the physical presence of the equipment and personnel. However, given there are no known pinniped haul-out sites in the vicinity of the project site, visual and other non-acoustic stressors would be limited, and any impacts to marine mammals are expected to primarily be acoustic in nature. While there are known rookeries for Steller sea lions at Clubbing Rocks North (57 km (35.4 mi) to the south), Clubbing Rocks South (58 km (36 mi) to the south), and Pinnacle Rock (76 km (47.2 mi) to the southeast), no Steller sea lion haulouts have been reported in Cold Bay (Fritz *et al.,* 2015). Additionally, while harbor seals are known to haul out at the mouth of Kinzarof Lagoon, the mouth of the Lagoon is approximately 8.35 km (5.2 mi) away the existing Cold Bay dock and the largest isopleth for any in-air noises from construction is 0.152 km (0.09 mi), meaning that any harbor seals near the Lagoon would not be affected by in-air noises (table 5). Therefore, NMFS considers take from in-air exposures to be unlikely, and it is not considered further in this notice.

TABLE 5—CALCULATED ISOPLETHS IN KILOMETERS FOR POTENTIAL IN-AIR SOURCES [a]

Installation details			Harbor seal		Other pinnipeds	
Structure	Installation approach	Source level (dB) [a]	Isopleths (m)	Isopleths (km)	Isopleths (m)	Isopleths (km)
36-in round steel	Vibratory	95	27.0	0.0	8.5	0.0
	Impact	112	191.4	0.2	60.6	0.1
24-in round steel	Vibratory	92	19.1	0.0	6.1	0.0
	Impact	110	152.0	0.2	48.1	0.0
16-in round steel	Vibratory	87.5	11.4	0.0	3.6	0.0
	Impact	110	152.0	0.2	48.1	0.0
Gravity fill	Vibratory	n/a				

[a] Impulsive RMS L_{max} (Unweighted), Non-Impulsive RMS Leq (Unweighted). All values are relative to 20 µPa and at 15 m (50 ft) from the pile.

Potential Effects of Underwater Sound on Marine Mammals

The introduction of anthropogenic noise into the aquatic environment from impact and vibratory pile driving is the primary means by which marine mammals may be harassed from ADOT&PF's specified activity. Anthropogenic sounds cover a broad range of frequencies and sound levels and can have a range of highly variable impacts on marine life from none or minor to potentially severe responses depending on received levels, duration of exposure, behavioral context, and various other factors. Broadly, underwater sound from active acoustic sources, such as those in the project, can potentially result in one or more of the following: temporary or permanent hearing impairment, non-auditory physical or physiological effects, behavioral disturbance, stress, and masking (Richardson *et al.,* 1995; Gordon *et al.,* 2003; Nowacek *et al.,* 2007; Southall *et al.,* 2007; Götz *et al.,* 2009).

We describe the more severe effects of certain non-auditory physical or physiological effects only briefly as we do not expect that use of impact and vibratory hammers are reasonably likely to result in such effects (see below for further discussion). Potential effects from impulsive sound sources can range in severity from effects such as behavioral disturbance or tactile perception to physical discomfort, slight injury of the internal organs and the auditory system, or mortality (Yelverton *et al.,* 1973). Non-auditory physiological effects or injuries that theoretically might occur in marine mammals exposed to high level underwater sound or as a secondary effect of extreme behavioral reactions (*e.g.,* change in dive profile as a result of an avoidance reaction) caused by exposure to sound include neurological effects, bubble formation, resonance effects, and other types of organ or tissue damage (Cox *et al.,* 2006; Southall *et al.,* 2007; Zimmer and Tyack, 2007; Tal *et al.,* 2015). The proposed project activities considered here do not involve the use of devices such as explosives or mid-frequency tactical sonar that are associated with these types of effects.

In general, animals exposed to natural or anthropogenic sound may experience physical and psychological effects, ranging in magnitude from none to severe (Southall *et al.,* 2007, 2019). Exposure to anthropogenic noise has the potential to result in auditory threshold shifts and behavioral reactions (*e.g.,* avoidance, temporary cessation of foraging and vocalizing, changes in dive behavior). It can also lead to non-observable physiological responses, such 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 degree of effect of an acoustic exposure on marine mammals is dependent on several factors, including, but not limited to, sound type (*e.g.,* impulsive vs. non-impulsive), signal characteristics, the species, age and sex class (*e.g.,* adult male vs. mom with calf), duration of exposure, the distance between the noise source and the animal, received levels, behavioral state at time of exposure, and previous history with exposure (Wartzok *et al.,* 2004; Southall *et al.,* 2007). In general, sudden, high-intensity sounds can cause hearing loss, as can longer exposures to lower-intensity sounds. Moreover, any temporary or permanent loss of hearing, if it occurs at all, would occur almost exclusively for noise within an animal's hearing range. We describe below the specific manifestations of acoustic effects that may occur based on the activities proposed by ADOT&PF.

Richardson *et al.* (1995) described zones of increasing intensity of effect that might be expected to occur in relation to distance from a source and assuming that the signal is within an animal's hearing range. First (at the greatest distance) is the area within which the acoustic signal would be audible (potentially perceived) to the animal but not strong enough to elicit any overt behavioral or physiological response. The next zone (closer to the receiving animal) corresponds with the area where the signal is audible to the animal and of sufficient intensity to elicit behavioral or physiological responsiveness. The third is a zone within which, for signals of high intensity, the received level is sufficient to potentially cause discomfort or tissue damage to auditory or other systems. Overlaying these zones to a certain extent is the area within which masking (*i.e.,* when a sound interferes with or masks the ability of an animal to detect a signal of interest that is above the absolute hearing threshold) may occur; the masking zone may be highly variable in size.

Below, we provide additional detail regarding potential impacts on marine mammals and their habitat from noise in general, starting with hearing impairment, as well as from the specific activities ADOT&PF plans to conduct, to the degree it is available.

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, 2024). The amount of threshold shift is customarily expressed in dB. 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 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 destruction of tissue, such as the loss of cochlear neuron synapses or auditory neuropathy (Houser, 2021; Finneran, 2024). AUD INJ may or may not result in a permanent threshold shift (PTS). PTS is subsequently 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 does not generally affect more than a limited frequency range, and an animal that has incurred PTS has 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 threshold shift approximates AUD INJ onset (see Ward *et al.,* 1958, 1959; Ward, 1960; Kryter *et al.,* 1966; Miller, 1974; Ahroon *et al.,* 1996; Henderson *et al.,* 2008). AUD INJ levels for marine mammals are estimates, as with the exception of a single study unintentionally inducing PTS in a harbor seal (Kastak *et al.,* 2008), there are no empirical data measuring AUD INJ 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).

Temporary Threshold Shift (TTS)— TTS is a temporary, 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, 2024), and is not considered an AUD INJ. Based on data from marine mammal TTS measurements (see Southall *et al.,* 2007, 2019), a TTS of 6 dB is considered the minimum threshold shift clearly larger than any day-to-day or session-to-session variation in a subject's normal hearing ability (Finneran *et al.,* 2000, 2002; Schlundt *et al.,* 2000). As described in Finneran (2015), marine mammal studies have shown the amount of TTS increases with the 24-hour cumulative sound exposure level (SEL_{24}) in an accelerating fashion: at low exposures with lower SEL_{24}, the amount of TTS is typically small and the growth curves have shallow slopes. At exposures with higher SEL_{24}, the growth curves become steeper and approach linear relationships with the sound exposure level (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 more impactful (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 severe 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.

Many studies have examined noise-induced hearing loss in marine mammals (see Finneran (2015) and Southall *et al.* (2019) for summaries). TTS is the mildest form of hearing impairment that can occur during exposure to sound (Kryter, 2013). While experiencing TTS, the hearing threshold rises, and a sound must be at a higher level in order to be heard. In terrestrial and marine mammals, TTS can last from minutes or hours to days (in cases of strong TTS). In many cases, hearing sensitivity recovers rapidly after exposure to the sound ends. For cetaceans, published data on the onset of TTS are limited to captive bottlenose dolphin (*Tursiops truncatus*), beluga whale (*Delphinapterus leucas*), harbor porpoise, and Yangtze finless porpoise (*Neophocoena asiaeorientalis*) (Southall *et al.,* 2019). For pinnipeds in water, measurements of TTS are limited to harbor seals, elephant seals (*Mirounga angustirostris*), bearded seals (*Erignathus barbatus*) and California sea lions (*Zalophus californianus*) (Kastak *et al.,* 1999, 2007; Kastelein *et al.,* 2019b, 2019c, 2021, 2022a, 2022b; Reichmuth *et al.,* 2019; Sills *et al.,* 2020). TTS was not observed in spotted (*Phoca largha*) and ringed (*Pusa hispida*) seals exposed to single airgun impulse sounds at levels matching previous predictions of TTS onset (Reichmuth *et al.,* 2016). These studies examine hearing thresholds measured in marine mammals before and after exposure to intense or long-duration sound exposures. The difference between the pre-exposure and post-exposure thresholds can be used to determine the amount of threshold shift at various post-exposure times.

The amount and onset of TTS depends on the exposure frequency. Sounds below the region of best sensitivity for a species or hearing group are less hazardous than those near the region of best sensitivity (Finneran and Schlundt, 2013). At low frequencies, onset-TTS exposure levels are higher compared to those in the region of best sensitivity (*i.e.,* a low frequency noise would need to be louder to cause TTS onset when TTS exposure level is higher), as shown for harbor porpoises and harbor seals (Kastelein *et al.,* 2019a, 2019c). Note that in general, harbor seals and harbor porpoises have a lower TTS onset than other measured pinniped or cetacean species (Finneran, 2015). In addition, TTS can accumulate across multiple exposures, but the resulting TTS would be less than the TTS from a single, continuous exposure with the same SEL (Mooney *et al.,* 2009; Finneran *et al.,* 2010; Kastelein *et al.,* 2014, 2015). This means that TTS predictions based on the total, SEL_{24} would overestimate the amount of TTS from intermittent exposures, such as sonars and impulsive sources. Nachtigall *et al.* (2018) describe measurements of hearing sensitivity of multiple odontocete species (bottlenose dolphin, harbor porpoise, beluga, and false killer whale (*Pseudorca crassidens*)) when a relatively loud sound was preceded by a warning sound. These captive animals were shown to reduce hearing sensitivity when warned of an impending intense sound. Based on these experimental observations of captive animals, the authors suggest that wild animals may dampen their hearing during prolonged exposures or if conditioned to anticipate intense sounds. Another study showed that echolocating animals (including odontocetes) might have anatomical specializations that might allow for conditioned hearing reduction and filtering of low-frequency ambient noise, including increased stiffness and control of middle ear structures and placement of inner ear structures (Ketten *et al.,* 2021). Data available on noise-induced hearing loss for mysticetes are currently lacking (NMFS, 2024). Additionally, the existing marine mammal TTS data come from a limited number of individuals within these species.

Relationships between TTS and AUD INJ thresholds have not been studied in marine mammals, and there are no measured PTS data for cetaceans, but such relationships are assumed to be similar to those in humans and other terrestrial mammals. AUD INJ typically occurs at exposure levels at least several dB above that inducing mild TTS (*e.g.,* a 40-dB threshold shift approximates AUD INJ onset (Kryter *et al.,* 1966; Miller, 1974), while a 6-dB threshold shift approximates TTS onset (Southall *et al.,* 2007, 2019). Based on data from terrestrial mammals, a precautionary assumption is that the AUD INJ thresholds for impulsive sounds (such as impact pile driving pulses as received close to the source) are at least 6 dB higher than the TTS threshold on a peak-pressure basis and AUD INJ cumulative sound exposure level thresholds are 15 to 20 dB higher than TTS cumulative sound exposure level thresholds (Southall *et al.,* 2007, 2019). Given the higher level of sound or longer exposure duration necessary to cause AUD INJ as compared with TTS, it is considerably less likely that AUD INJ could occur. Given the stationary nature of the construction activities, the fact that Cold Bay is relatively sheltered (*i.e.,* not located in the open ocean), and the fact that many marine mammals are likely moving through the project areas and not remaining for extended periods of time, the potential for threshold shift is low for most species.

Behavioral Effects—Exposure to noise also has the potential to behaviorally disturb marine mammal response—in other words, not every response qualifies as behavioral disturbance, and for responses that do, those of a higher level, or accrued across a longer duration, have the potential to affect foraging, reproduction, or survival. Behavioral disturbance may include a variety of effects, including subtle changes in behavior (*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).

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.

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.,* 2004). 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 above, 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; Wartzok *et al.,* 2004; National Research Council (NRC), 2005). 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-pulsed sound sources (*e.g.,* seismic airguns) have been varied but often consist of avoidance behavior or other behavioral changes (Richardson *et al.,* 1995; Morton and Symonds, 2002; Nowacek *et al.,* 2007).

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 (*e.g.,* Erbe *et al.,* 2019). 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. 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; NRC, 2005). However, there are broad categories of potential response, which we describe in greater detail here, that include alteration of dive behavior, alteration of foraging behavior, effects to breathing, interference with or alteration of vocalization, avoidance, and flight.

Avoidance and displacement—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.,* 2013a, 2013b, Blair *et al.,* 2016). 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.

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. Acoustic and movement bio-logging tools also have been used in some cases to infer responses to anthropogenic noise. For example, Blair *et al.* (2015) reported significant effects on humpback whale foraging behavior in Stellwagen Bank in response to ship noise including slower descent rates, and fewer side-rolling events per dive with increasing ship nose. In addition, Wisniewska *et al.* (2018) reported that tagged harbor porpoises demonstrated fewer prey capture attempts when encountering occasional high-noise levels resulting from vessel noise as well as more vigorous fluking, interrupted foraging, and cessation of echolocation signals observed in response to some high-noise vessel passes. 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). A determination of whether foraging disruptions incur fitness consequences would require 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.

Respiration rates vary naturally with different behaviors and alterations to breathing 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. Various studies have shown that respiration rates may either be unaffected or could increase, depending on the species and signal characteristics, 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.,* 2001; 2005; 2006; Gailey *et al.,* 2007). For example, harbor porpoise respiration rates increased in response to pile driving sounds at and above a received broadband SPL of 136 dB (zero-peak SPL: 151 dB re 1 μPa; SEL of a single strike (SEL_{ss}): 127 dB re 1 μPa^2-s) (Kastelein *et al.,* 2013).

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). For example, gray whales are known to change direction—deflecting from customary migratory paths—in order to avoid noise from seismic surveys (Malme *et al.,* 1984). Harbor porpoises, Atlantic white-sided dolphins (*Lagenorhynchus actusus*), and minke whales (*Balaenoptera acutorostrata*) have demonstrated avoidance in response to vessels during line transect surveys (Palka and Hammond, 2001). In addition, beluga whales in the St. Lawrence Estuary in Canada have been reported to increase levels of avoidance with increased boat presence by way of increased dive durations and swim speeds, decreased surfacing intervals, and by bunching together into groups (Blane and Jaakson, 1994). Avoidance may be short-term, with animals returning to the area once the noise has ceased (*e.g.,* Bowles *et al.,* 1994; Goold, 1996; Stone *et al.,* 2000; Morton and Symonds, 2002; 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).

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; Bowers *et al.,* 2018). 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 (England *et al.,* 2001). 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.

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 demonstrated for marine mammals, but studies involving fishes and terrestrial animals have shown that increased vigilance may substantially reduce feeding rates (*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). However, Ridgway *et al.* (2006) reported that increased vigilance in bottlenose dolphins exposed to sound over a 5-day period did not cause any sleep deprivation or stress effects.

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 (*i.e.,* meaningful) 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.

Physiological 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.,* Selye, 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 would 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; Ayres *et al.,* 2012; Yang *et al.,* 2022). 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. In addition, Lemos *et al.* (2022) observed a correlation between higher levels of fecal glucocorticoid metabolite concentrations (indicative of a stress response) and vessel traffic in gray whales. Yang *et al.* (2022) studied behavioral and physiological responses in captive bottlenose dolphins exposed to playbacks of ''pile-driving-like'' impulsive sounds, finding significant changes in cortisol and other physiological indicators but only minor behavioral changes. These and other studies lead to a reasonable expectation that some marine mammals would 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, 2005), however distress is an unlikely result of this project based on observations of marine mammals during previous, similar construction projects.

Vocalizations and Auditory Masking—Since many marine mammals rely on sound to find prey, moderate social interactions, and facilitate mating (Tyack, 2008), noise from anthropogenic sound sources can interfere with these functions, but only if the noise spectrum overlaps with the hearing sensitivity of the receiving marine mammal (Southall *et al.,* 2007; Clark *et al.,* 2009; Hatch *et al.,* 2012). Chronic exposure to excessive, though not high-intensity, noise could cause masking at particular frequencies for marine mammals that utilize sound for vital biological functions (Clark *et al.,* 2009). Acoustic masking is when other noises such as from human sources interfere with 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; Erbe *et al.,* 2016). Therefore, under certain circumstances, for marine mammals whose acoustic sensors or environment are being severely masked could also be impaired from maximizing their performance fitness in survival and reproduction. 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 (Hotchkin and Parks, 2013).

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) or vocalizations (Foote *et al.,* 2004), respectively, while North Atlantic right whales (*Eubalaena glacialis*) 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). Fin whales (*Balaenoptera physalus*) have also been documented lowering the bandwidth, peak frequency, and center frequency of their vocalizations under increased levels of background noise from large vessels (Castellote *et al.* 2012). Other alterations to communication signals have also been observed. For example, gray whales, in response to playback experiments exposing them to vessel noise, have been observed increasing their vocalization rate and producing louder signals at times of increased outboard engine noise (Dahlheim and Castellote, 2016). Alternatively, in some cases, animals may cease sound production during production of aversive signals (Bowles *et al.,* 1994, Wisniewska *et al.,* 2018).

Under certain circumstances, marine mammals experiencing significant masking could also be impaired from maximizing their performance fitness in survival and reproduction. Therefore, when the coincident (masking) sound is human-made, it may be considered harassment when disrupting or altering critical behaviors. It is important to distinguish TTS and PTS, which persist after the sound exposure, from masking, which occurs during the sound exposure. Because masking (without resulting in TS) is not associated with abnormal physiological function, it is not considered a physiological effect, but rather a potential behavioral effect (though not necessarily one that would be associated with harassment).

The frequency range of the potentially masking sound is important in determining any potential behavioral impacts. For example, low-frequency signals may have less effect on high-frequency echolocation sounds produced by odontocetes but are more likely to affect detection of mysticete communication calls and other potentially important natural sounds such as those produced by surf and some prey species. The masking of communication signals by anthropogenic noise may be considered as a reduction in the communication space of animals (*e.g.,* Clark *et al.,* 2009) and may result in energetic or other costs as animals change their vocalization behavior (*e.g.,* Miller *et al.,* 2000; Foote *et al.,* 2004; Parks *et al.,* 2007; Di Iorio and Clark, 2010; Holt *et al.,* 2009). Masking can be reduced in situations where the signal and noise come from different directions (Richardson *et al.,* 1995), through amplitude modulation of the signal, or through other compensatory behaviors, including modifications of the acoustic properties of the signal or the signaling behavior (Hotchkin and Parks, 2013). Masking can be tested directly in captive species (*e.g.,* Erbe, 2008), but in wild populations it must be either modeled or inferred from evidence of masking compensation. There are few studies addressing real-world masking sounds likely to be experienced by marine mammals in the wild (*e.g.,* Branstetter *et al.,* 2013).

Masking occurs in the frequency band that the animals utilize and is more likely to occur in the presence of broadband, relatively continuous noise sources such as vibratory pile driving. Energy distribution of vibratory pile driving sound covers a broad frequency spectrum and is anticipated to be within the audible range of marine mammals present in the proposed action area. Since noises generated from the proposed construction activities are mostly concentrated at low frequencies (<2 kHz), these activities likely have less effect on mid-frequency echolocation sounds produced by odontocetes (toothed whales). However, lower frequency noises are more likely to affect detection of communication calls and other potentially important natural sounds such as surf and prey noise. Low-frequency noise may also affect communication signals when they occur near the frequency band for noise and thus reduce the communication space of animals (*e.g.,* Clark *et al.,* 2009) and cause increased stress levels (*e.g.,* Holt *et al.,* 2009). Unlike TS, masking, which can occur over large temporal and spatial scales, can potentially affect the species at population, community, or even ecosystem levels, in addition to individual levels. Masking affects both senders and receivers of the signals, and at higher levels for longer durations, could have long-term chronic effects on marine mammal species and populations. However, the noise generated by ADOT&PF's proposed activities would only occur intermittently, across an estimated 231 (not necessarily consecutive) days during the proposed authorization period in a relatively small area focused around the proposed construction site. Thus, while the ADOT&PF's proposed activities may mask some acoustic signals that are relevant to the daily behavior of marine mammals, the short-term duration and limited areas affected make it very unlikely that the fitness of individual marine mammals would be impacted.

While in some cases marine mammals have exhibited little to no obviously detectable response to certain common or routine industrialized activities (Cornick *et al.,* 2011; Horley and Larson, 2023), it is possible some animals may at times be exposed to received levels of sound above the AUD INJ and Level B harassment thresholds during the proposed project. This potential exposure in combination with the nature of planned activity (*e.g.,* vibratory pile driving, impact pile driving) means it is possible that take by Level A and Level B harassment could occur over the total estimated period of activities; therefore, NMFS, in response to ADOT&PF's IHA application, proposes to authorize take by Level A and Level B harassment from ADOT&PF's proposed construction activities.

Airborne Acoustic Effects—Pinnipeds that occur near the project site could be exposed to airborne sounds associated with construction activities that have the potential to cause behavioral harassment, depending on their distance from these activities. Airborne noise would primarily be an issue for pinnipeds that are swimming or hauled out near the project site within the range of noise levels elevated above airborne acoustic harassment criteria. As described above in *Description of Sound Sources for the Specified Activities,* although pinnipeds are known to haul-out regularly on man-made objects, we believe that incidents of take resulting solely from airborne sound are unlikely due to the proximity between the proposed project area and the known haulout sites (refer back to table 5). Cetaceans are not expected to be exposed to airborne sounds that would result in harassment as defined under the MMPA.

We recognize that pinnipeds in the water could be exposed to airborne sound that may result in behavioral harassment when looking with their heads above water. 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 flush from haulouts, temporarily abandon the area, and or move further from the source. However, these animals would previously have been ''*taken*'' because of exposure to underwater sound above the behavioral harassment thresholds, which are in all cases larger than those associated with airborne sound. 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 incidental take resulting from airborne sound for pinnipeds is warranted, and airborne sound is not discussed further here.

Potential Effects on Marine Mammal Habitat

ADOT&PF's proposed activities could have localized, temporary impacts on marine mammal habitat, including prey, by increasing in-water SPLs. Increased noise levels may affect acoustic habitat and adversely affect marine mammal prey in the vicinity of the project areas (see discussion below). Elevated levels of underwater noise would ensonify the project areas where both fishes and mammals occur and could affect foraging success. Additionally, marine mammals may avoid the area during the proposed construction 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.

The total area likely impacted by ADOT&PF's activities is relatively small compared to the available habitat in and around Cold Bay. Avoidance by potential prey (*i.e.,* fish) of the immediate area due to increased noise is possible. The duration of fish and marine mammal avoidance of this area after tugging stops is unknown, but a rapid return to normal recruitment, distribution, and behavior is anticipated. Any behavioral avoidance by fish or marine mammals of the disturbed area would still leave significantly large areas of fish and marine mammal foraging habitat in the nearby vicinity.

The proposed project would occur within the same general footprint as the existing marine infrastructure. The nearshore and intertidal habitat where the proposed project would occur is an area of relatively high marine vessel traffic. Most marine mammals do not generally use the area within the footprint of the project area. Temporary, intermittent, and short-term habitat alteration may result from increased noise levels during the proposed construction activities. Effects on marine mammals would be limited to temporary displacement from pile installation and removal noise, and effects on prey species would be similarly limited in time and space.

Water quality—Temporary and localized reduction in water quality would occur as a result of in-water construction activities. Most of this effect would occur during the installation and removal of piles when bottom sediments are disturbed. The installation and removal of piles would disturb bottom sediments and may cause a temporary increase in suspended sediment in the project area. During pile extraction, sediment attached to the pile moves vertically through the water column until gravitational forces cause it to slough off under its own weight. The small resulting sediment plume is expected to settle out of the water column within a few hours. 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).

Effects to turbidity and sedimentation are expected to be short-term, minor, and localized. Turbidity within the water column has the potential to reduce the level of oxygen in the water and irritate the gills of prey fish species in the proposed project area. However, turbidity plumes associated with the 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. Therefore, it is expected that the impacts on prey fish species from turbidity, and therefore on marine mammals, would be minimal and temporary. In general, the area likely impacted by the proposed construction activities is relatively small compared to the available marine mammal habitat in Cold Bay.

Potential Effects on Prey—Sound may affect marine mammals through impacts on the abundance, behavior, or distribution of prey species (*e.g.,* crustaceans, cephalopods, fishes, zooplankton). Marine mammal prey varies by species, season, and location and, for some, is not well documented. Studies regarding the effects of noise on known marine mammal prey are described here.

Fishes 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 *et al.,* 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 fishes (*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.,* Peña *et al.,* 2013; Wardle *et al.,* 2001; Jorgenson and Gyselman, 2009; Cott *et al.,* 2012). More commonly, though, the impacts of noise on fishes are temporary. For example, during the Port of Alaska's Marine Terminal Redevelopment Project, the effects of impact and vibratory installation of 30-in (76-cm) steel sheet piles at the POA on 133 caged juvenile coho salmon (*Oncorhynchus kisutc*) in Knik Arm were studied (Hart Crowser Incorporated *et al.,* 2009; Houghton *et al.,* 2010). Acute or delayed mortalities, or behavioral abnormalities were not observed in any of the coho salmon. Furthermore, results indicated that the pile driving had no adverse effect on feeding ability or the ability of the fish to respond normally to threatening stimuli (Hart Crowser Incorporated *et al.,* 2009; Houghton *et al.,* 2010).

SPLs of sufficient strength have been known to cause injury to fishes and fish mortality (summarized in Popper *et al.,* 2014). 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.* (2012b) 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.,* 2012a; Casper *et al.,* 2013, 2017).

Fish populations in the proposed project area that serve as marine mammal prey could be temporarily affected by noise from pile installation and removal. The frequency range in which fishes generally perceive underwater sounds is 50 to 2,000 Hz, with peak sensitivities below 800 Hz (Popper and Hastings, 2009). Fish behavior or distribution may change, especially with strong and/or intermittent sounds that could harm fishes. High underwater SPLs have been documented to alter behavior, cause hearing loss, and injure or kill individual fish by causing serious internal injury (Hastings and Popper, 2005).

Zooplankton is a food source for several marine mammal species, as well as a food source for fish that are then preyed upon by marine mammals. Population effects on zooplankton could have indirect effects on marine mammals. Data are limited on the effects of underwater sound on zooplankton species, particularly sound from construction (Erbe *et al.,* 2019). Popper and Hastings (2009) reviewed information on the effects of human-generated sound and concluded that no substantive data are available on whether the sound levels from pile driving, seismic activity, or any human-made sound would have physiological effects on invertebrates. Any such effects would be limited to the area very near (1 to 5 m (3.28 to 16.4 ft)) to the sound source and would result in no population effects because of the relatively small area affected at any one time and the reproductive strategy of most zooplankton species (short generation, high fecundity, and very high natural mortality). No adverse impact on zooplankton populations is expected to occur from the specified activity due in part to large reproductive capacities and naturally high levels of predation and mortality of these populations. Any mortalities or impacts that might occur would be negligible.

The Essential Fish Habitat (EFH) designation for the Cold Bay, Alaska region is fundamentally driven by the Izembek Lagoon complex, which harbors one of the world's most extensive and productive eelgrass (*Zostera marina*) beds (Ward *et al.,* 1997; Ward and Amundson, 2019; Douglas *et al.,* 2024). This submerged aquatic vegetation serves as the ecological foundation, acting as a critical nursery EFH by providing abundant food resources, crucial shelter from predators, and favorable hydrological conditions necessary for the feeding and growth to maturity life stages of marine species. The adjacent coastal waters also serve as habitat for various marine mammals, including harbor seals, Steller sea lions, and cetaceans such as gray, minke, killer, and humpback whales.

The habitat is vital for sustaining major regional fisheries, serving as an important area for all five species of Pacific salmon (genus *Oncorhynchus*) which utilize the lagoon and associated streams for migration and spawning. Crucially, the Izembek Lagoon nursery supports federally managed crustaceans, including juvenile red king crab (*Paralithodes camtschaticus*) and tanner crab (*Chionoecetes bairdi*), whose survival is dependent on the shallow, protected environment before they move to deeper Cold Bay areas as adults (U.S. Fish and Wildlife Service, 2024). Additionally, the system sustains large populations of forage fish (such as capelin (*Mallotus villosus*), sand lance (family *Ammodytidae*), and herring (*Clupea pallasii*)), Pacific halibut (*Hippoglossus stenolepis*), and Walleye Pollack (*Gadus chalcogrammus*), which in turn support high concentrations of apex predators (U.S. Fish and Wildlife Service, 2024). However, based on the potential effects of the proposed project, adverse effects on EFH in this area are not expected.

The greatest potential impact to marine mammal prey during construction would occur during impact pile driving. However, in most cases, the duration of impact pile driving would be limited to the final stage of installation (proofing) after the pile has been driven as close as practicable to the design depth with a vibratory driver. In-water construction activities would only occur during daylight hours, allowing fish to forage and transit the project area in the evening. Vibratory pile driving could possibly elicit behavioral reactions from fishes, such as temporary avoidance of the area, but is unlikely to cause injuries to fishes or have persistent effects on local fish populations. Construction also would have minimal permanent and temporary impacts on benthic invertebrate species, a marine mammal prey source. In addition, it should be noted that the area in question is low-quality habitat since it is already highly developed and experiences a high level of anthropogenic noise from normal operations and other vessel traffic.

Potential Effects on Foraging Habitat

The proposed project is not expected to result in any habitat related effects that could cause significant or long-term negative consequences for individual marine mammals or their populations, since installation and removal of in-water piles would be temporary and intermittent. The total seafloor area affected by pile installation and removal is a very small area compared to the vast foraging area available to marine mammals outside this project area. For marine mammals, while the area is commonly used or traversed by some species, the proposed project area does not contain any particularly high-value habitat and is not usually important to any of the other species potentially affected by ADOT&PF's proposed activities. While opportunistic foraging could occur, more foraging habitat is available outside the Bay, in more open ocean waters. Overall, the area impacted by the project is relatively small compared to the available habitat just outside the project area, and there are no areas of particular importance that would be impacted by this project during the period planned for activities to occur. Any behavioral avoidance by fish of the disturbed area would still leave significantly large areas of fish and marine mammal foraging habitat in the nearby vicinity. As described in the preceding, the potential for the ADOT&PF's construction to affect the availability of prey to marine mammals or to meaningfully impact the quality of physical or acoustic habitat is considered insignificant. Therefore, impacts of the project are not likely to have adverse effects on marine mammal foraging habitat in the proposed project area.

In summary, given the relatively small areas being affected, as well as the temporary and mostly transitory nature of the proposed construction activities, any adverse effects from ADOT&PF's activities on prey habitat or prey populations are expected to be minor and temporary. The most likely impact to fishes at the project site would be temporary avoidance of the area. Any behavioral avoidance by fish of the disturbed area would still leave significantly large areas of fish and marine mammal foraging habitat in the nearby vicinity. Thus, we preliminarily conclude that impacts of the specified activities are not likely to have more than short-term adverse effects on any prey habitat or populations of prey species. 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 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 primarily be by Level B harassment, as use of the acoustic sources (*i.e.,* impact pile driving, vibratory pile driving) has the potential to result in disruption of behavioral patterns for individual marine mammals. There is also some potential for auditory injury (AUD INJ) (Level A harassment) to result, primarily for mysticetes, very high-frequency cetaceans, phocids, and otariids because predicted AUD INJ zones are larger than for high-frequency species. AUD INJ is unlikely to occur for high-frequency cetaceans. 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 would 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 Criteria

NMFS recommends the use of acoustic criteria 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 (referenced to 1 micropascal (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 take estimates based on these behavioral harassment thresholds are expected to include any likely takes by TTS 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.

ADOT&PF's proposed pile driving includes the use of continuous (vibratory hammer) and impulsive (impact hammer) sources, and therefore the RMS SPL thresholds of 120 and 160 dB re 1 μPa are applicable.

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 underwater marine mammal groups (based on hearing sensitivity) as a result of exposure to noise from two different types of sources (impulsive or non-impulsive). ADOT&PF's proposed pile driving includes the use of impulsive (impact hammer) and non-impulsive (vibratory hammer) sources.

The 2024 Updated Technical Guidance criteria include both updated thresholds and updated weighting functions for each hearing group (table 6). The thresholds are provided in the table below. The references, analysis, and methodology used in the development of the criteria 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 6—THRESHOLDS IDENTIFYING THE ONSET OF AUDITORY INJURY

Hearing group	AUD INJ 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; $L_{E,HF,24h}$: 193 dB	*Cell 4:* $L_{E,HF,24h}$: 201 dB.
Very High-Frequency (VHF) Cetaceans	*Cell 5:* $L_{pk,flat}$: 202 dB; $L_{E,VHF,24h}$: 159 dB	*Cell 6:* $L_{E,VHF,24h}$: 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 criteria for impulsive sounds: Use whichever criteria results in the larger isopleth for calculating AUD INJ onset. If a non-impulsive sound has the potential of exceeding the peak sound pressure level criteria associated with impulsive sounds, the PK SPL criteria are recommended for consideration for non-impulsive sources.

Note: Peak sound pressure level ($L_{p,0-pk}$) has a reference value of 1 μPa, and weighted cumulative sound exposure level ($L_{E,p}$) has a reference value of 1 μPa²s. In this table, criteria 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 underwater (*i.e.,* 7 Hz to 165 kHz). The subscript associated with cumulative sound exposure level criteria 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 criteria 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 criteria 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 sound field in the project area is the existing background noise plus additional construction noise from the proposed project. Marine mammals are expected to be affected via sound generated by the primary components of the project (*i.e.,* impact pile driving and vibratory pile driving). The source levels assumed for both removal and installation activities are based on reviews of measurements of the same or similar types and dimensions of piles available in the scientific literature and from similar coastal construction projects. Derived by the applicant using Geographic Information System software, the source levels for the piles and activities (*i.e.,* installation and/or removal), and the information and literature used to determine appropriate proxy sources, where applicable, are presented in table 7. The source levels for vibratory removal and installation of piles of the same material and diameter are assumed to be the same.

TABLE 7—SOUND SOURCE LEVELS INCORPORATED INTO THE ANALYSIS AT 10 METERS (M)

Activity	Pile type	Installation method	Sound pressure level (SPL RMS) [a]	Sound exposure level (SEL)	Peak source level (SPL PK)
Trestle and Abutment					
Trestle support pile	36-in steel pipe piles	Vibratory Installation [b]	166.0		
		Impact Installation [c]	193.0	183.0	210.0
Temporary trestle pile	24-in to 36-in steel pipe or H-pile	Vibratory Installation and Removal [b e]	166.0		
		Impact Installation [c]	193.0	183.0	210.0
Dock					
Dock support pile	36-in steel pipe pile	Vibratory Installation [b]	166.0		
		Impact Installation [c]	193.0	183.0	210.0
Temporary dock pile	24-in to 36-in steel pipe pile	Vibratory Installation and Removal [b e]	166.0		
		Impact Installation [c]	193.0	183.0	210.0
Fender pile	30-in steel pipe pile	Vibratory Installation [d]	166.0		
Fender pile	24-in steel pipe pile	Vibratory Installation	161.0		
Dolphin					
Dolphin pile	36-in steel pipe pile	Vibratory Installation [b]	166.0		
		Impact Installation [c]	193.0	183.0	210.0
Temporary dolphin pile	24-in to 36-in steel pipe pile	Vibratory installation and removal [b e]	166.0		
Demolition (Removal)					
Trestle removal	16-in steel pipe pile	Vibratory removal [e]	161.0		
Dock removal	16-in steel pipe pile	Vibratory removal [e]	161.0		
Dock removal	26-in steel pipe pile	Vibratory removal [d]	166.0		
Dolphin removal	16-in steel pipe pile	Vibratory removal [e]	161.0		
Fender removal	20-in steel pipe pile	Vibratory removal [e]	161.0		
Fender removal	16-in timber pile	Vibratory removal [f]	162.0		

[a] All values relative to 1 μPa.

[b] Navy (2012, 2013), Sexton (2007), Laughlin (2011, 2017), Miner (2020), CALTRANS (2020).
[c] CALTRANS (2015, 2020).
[d] Denes et al. (2016), Laughlin (2011, 2012, 2017), PND Engineering (2015), CALTRANS (2020).
[e] NAVFAC (2015), CALTRANS (2020); fillingworth and Rodkin (2017).

Level B Harassment

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:

$$TL = B \times Log_{10}(R1/R2),$$

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 in this case. 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 ($20*\log_{10}$[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 ($10*\log_{10}$[range]). A practical spreading value of 15 is often used under conditions where water increases with depth as the receiver moves away from the shoreline, resulting in an expected propagation environment that would lie between spherical and cylindrical spreading loss conditions. Absent site-specific acoustic monitoring with differing measured *TL,* practical spreading is used. Site-specific *TL* data for Cold Bay is not available; therefore, the default coefficient of 15 is used to determine the distances to the Level A harassment and Level B harassment thresholds.

Level A Harassment

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 (found on our website here: *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 the best way to estimate isopleth distances when more sophisticated modeling methods are not available or practical. For stationary sources, such as vibratory pile driving and impact 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, and the resulting estimated isopleths, are reported below in tables 8 and 9. Using the practical spreading model, NMFS determined that the underwater noise would yield the calculated distances to the Level A harassment and Level B harassment thresholds for marine mammals shown in table 10.

TABLE 8—USER SPREADSHEET INPUTS FOR VIBRATORY PILE DRIVING

	User spreadsheet variables													
Structure	Trestle and abutment		Dock				Dolphin		Demolition (removal)					
	Trestle support pile	Temporary trestle	Dock support pile	Temporary dock pile	Fender pile	Fender pile	Dolphin pile	Temporary dolphin pile	Trestle removal	Dock removal	Dock removal	Dolphin removal	Fender removal	Fender removal
Pile information	36-inch steel pile	24-inch to 36-inch steel pipe or H-pile	36-inch steel pipe pile	36-inch steel pipe pile	30-inch steel pipe pile	24-inch steel pipe pile	36-inch steel pipe pile	24-inch to 36-inch steel pipe pile	16-inch steel pipe pile	16-inch steel pipe pile	16-inch steel pipe pile	16-inch steel pipe pile	20-inch steel pipe pile	16-inch timber pile
Tab of User Spreadsheet	A.1: Vibratory Pile Driving (Stationary source: non-impulsive, continuous)													
Sound Pressure Level (dB)	166	166	166	166	166	161	166	166	161	161	166	161	161	162
Distance associated with sound pressure level (meters)	10	10	10	10	10	10	10	10	10	10	10	10	10	10
Transmission loss constant	15	15	15	15	15	15	15	15	15	15	15	15	15	15
Number of piles per day	8	8	8	8	10	10	8	8	15	15	15	8	15	15
Duration to drive a single pile (minutes)	30	60	30	30	20	20	60	30	30	30	30	30	30	30
Duration of sound production in a day (seconds)	14,400	28,800	14,400	28,800	12,000	12,000	28,800	14,400	27,000	27,000	27,000	14,400	27,000	27,000
Marine Mammal default WFA (kHz)	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5

TABLE 9—USER SPREADSHEET INPUTS FOR IMPACT PILE DRIVING

User spreadsheet variables					
Structure	Trestle and abutment		Dock		Dolphin
	Trestle support pile	Temporary trestle	Dock support pile	Temporary dock pile	Dolphin pile
Pile information	36-inch steel pile	24-inch to 36-inch steel pipe or H-pile	36-inch steel pipe pile	24-inch to 36-inch steel pipe pile	36-inch steel pipe pile
Tab of User Spreadsheet	E.1: Impact pile driving (Stationary Source: Impulsive, Intermittent)				
Unweighted SEL_{cum}	209.8	219.8	219.8	219.8	222.0
SEL					
Single Strike SEL_{ss} at "*X*" distance (meters)	183	183	183	183	183
Number of strikes per pile	60	600	600	600	1,000
Number of piles per day	8	8	8	8	8
Transmission loss coefficient	15	15	15	15	15
Distance of single strike SEL_{ss} (meters)	10	10	10	10	10
Weighting Factor Adjustment (kHz)	2	2	2	2	2
PK (single strike)					
$L_{p,0\text{-}pk}$ at "*X*" distance (meters)	210	210	210	210	210
Distance of $L_{p,0\text{-}pk}$ measurements (meters)	10	10	10	10	10
$L_{p,0\text{-}pk}$ source level	225.0	225.0	225.0	225.0	225.0

TABLE 10—CALCULATED ISOPLETHS (IN METERS (M)) AND AREAS (IN KILOMETERS (Km^2)) TO NMFS' THRESHOLDS

[NMFS, 2024]

Installation details			Level A harassment (PTS)										Level B harassment	
Structure	Pile parameters	Installation approach	LFC		HFC		VHFC		PW		OW		All species	
			Isopleth	Area	Isopleth	Area	Isopleth	Area	Isopleth	Area	Isopleth	Area	Isopleth	Area
Trestle and Abutment														
Trestle Support Pile.	36-in steel pipe pile.	Vibratory installation.	50.1	0.1	19.2	0.0	40.9	0.1	64.4	0.1	21.7	0.0	11,659.2	116.9
		Impact installation.	610.0	1.4	77.8	0.1	944.0	2.8	541.9	1.2	202.0	0.4	1,584.9	6.4
Temporary Trestle Pile.	24-in to 36-in steel pipe or H-pile.	Vibratory installation.	79.5	0.1	30.5	0.1	64.9	0.1	102.3	0.2	34.4	0.1	11,659.2	116.9
		Impact installation.	2,831.3	14.9	361.2	0.7	4,381.4	28.0	2,515.2	12.5	937.6	2.8	1,584.9	6.4
Dock														
Dock Support Pile.	36-in steel pipe piles.	Vibratory installation.	50.1	0.1	19.2	0.0	40.9	0.1	64.4	0.1	21.7	0.0	11,659.2	116.9
		Impact installation.	2,831.3	14.9	361.2	0.7	4,381.4	28.0	2,515.2	12.5	937.6	2.8	1,584.9	6.4
Temporary Dock Pile.	24-in to 36-in steel pipe piles.	Vibratory installation and removal.	79.5	0.1	30.5	0.1	64.9	0.1	102.3	0.2	34.4	0.1	11,659.2	116.9
		Impact installation.	2,831.3	14.9	361.2	0.7	4,381.4	28.0	2,515.2	12.5	937.6	2.8	1,584.9	6.4
Fender Pile	30-in steel pipe piles.	Vibratory installation.	44.3	0.1	17.0	0.0	36.2	0.1	57.1	0.1	19.2	0.0	11,659.2	116.9
Fender Pile	24-in steel pipe piles.	Vibratory installation.	20.6	0.0	7.9	0.0	16.8	0.0	26.5	0.0	8.9	0.0	5,411.7	39.0
Dolphin														
Dolphin Pile	36-in steel pipe piles.	Vibratory installation.	79.5	0.1	30.5	0.1	64.9	0.1	102.3	0.2	34.4	0.1	11,659.2	116.9
		Impact installation.	3,980.0	24.2	507.8	1.1	6,159.1	47.8	3,535.7	20.3	1,318.0	4.8	1,584.9	6.4

TABLE 10—CALCULATED ISOPLETHS (IN METERS (M)) AND AREAS (IN KILOMETERS (Km²)) TO NMFS' THRESHOLDS—Continued

[NMFS, 2024]

Installation details			Level A harassment (PTS)										Level B harassment	
			LFC		HFC		VHFC		PW		OW		All species	
Structure	Pile parameters	Installation approach	Isopleth	Area	Isopleth	Area	Isopleth	Area	Isopleth	Area	Isopleth	Area	Isopleth	Area
Temporary Dolphin Pile.	24-in to 36-in steel pipe piles.	Vibratory installation and removal.	50.1	0.1	19.2	0.0	40.9	0.1	64.4	0.1	21.7	0.0	11,659.2	116.9
Demolition (Removal)														
Trestle Removal.	16-in steel pipe piles.	Vibratory removal.	35.3	0.1	13.6	0.0	28.9	0.0	45.5	0.1	15.3	0.0	5,411.7	39.0
Dock Removal	16-in steel pipe piles.	Vibratory removal.	35.3	0.1	13.6	0.0	28.9	0.0	45.5	0.1	15.3	0.0	5,411.7	39.0
Dock Removal	26-in steel pipe piles.	Vibratory removal.	76.1	0.1	29.2	0.0	62.2	0.1	98.0	0.0	33.0	0.1	11,659.2	116.9
Dolphin Removal.	16-in steel pipe piles.	Vibratory removal.	23.2	0.0	8.9	0.0	19.0	0.0	29.9	0.0	10.1	0.0	5,411.7	39.0
Fender Removal.	20-in steel pipe piles.	Vibratory removal.	35.3	0.1	13.6	0.0	28.9	0.0	45.5	0.1	15.3	0.0	5,411.7	39.0
Fender Removal.	16-in timber piles.	Vibratory removal.	41.2	0.1	15.8	0.0	33.7	0.1	53.0	0.1	17.8	0.0	6,309.6	49.7

Note: LFC = low-frequency cetaceans; HFC = high-frequency cetaceans; VHFC = very high-frequency cetaceans; PW = phocid pinnipeds (in-water); OW = otariids pinnipeds (in-water).

It should be noted that, based on the geography of Cold Bay and the surrounding islands outside of the mouth of the Bay, the sound would not reach the entire distance of the Level B harassment isopleths. The size and shape of the Bay are expected to truncate the largest Level B harassment isopleths.

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. Then, we describe how all of the information detailed above is synthesized to produce a quantitative estimate of the take that is reasonably likely to occur and proposed for authorization.

In their ITA application, ADOT&PF calculated their requested take based on the synthetization of different resources, including websites from state and Federal agencies (*i.e.,* Alaska Department of Fish & Game, NMFS, U.S. Fish and Wildlife Service), data from aerial survey performed by the National Marine Mammal Laboratory, information gleaned from scientific literature (*i.e.,* Zerbini *et al.,* 2007, Rone *et al.,* 2017, and McInnes *et al.,* 2024b), and information from non-profits (*i.e.,* iNaturalist) with both relevant species-specific and site-specific information. Given the secluded and sheltered nature of Cold Bay's geographic location, these resources provide the most appropriate information for which to determine estimated species densities/occurrences and group sizes.

Estimated take was calculated different for each species, depending on the likely occurrence of the species in the proposed project area (see table 11). This means that some occurrences were calculated on a daily basis, some on a weekly, or some on a monthly (or multi-monthly) basis. This is all assumed to occur within 231 days of project activities requiring the use of in-water pile driving, consisting of both vibratory and impact approaches, which can vary in total number of days based on the specific construction activity.

TABLE 11—ESTIMATED SPECIES OCCURRENCE

Species	Abundance estimate assumed	Estimated occurrence
Humpback whale	Group size of 2 individuals per month	0.067 [a] per workday.
Gray whale	Group size of 5.7 individuals per 3 months	0.03 per workday.
Killer whale	Group size of 3 individuals per group, assuming 1 group per week	0.43 per workday.
Harbor porpoise	Group size of 3 individuals per week	0.43 per workday.
Steller sea lion	Group size of 15 individuals per day	15.
Harbor seal	Group size of 10 individuals per day	10.

[a] This was assumed for the entire species and then, based on NMFS (2021), was split further for each stock/Distinct Population Segment (DPS).

After reviewing the available resources to determine an appropriate occurrence level (*i.e.,* daily, weekly, monthly, multi-monthly) and group size, these were multiplied together to yield the overall estimated take (combined Level A harassment and Level B harassment). These were then split using two different methods. Potential takes by Level A harassment were calculated if 1) some of the Level A harassment zones were estimated to exceed the practicable shutdown zone for a given hearing group, or 2) if the species could be difficult to see due to its small size or cryptic behavior. To calculate the proposed takes by Level A harassment, "areal calculations" were performed for three species (Steller sea lion, harbor seal, and harbor porpoise) where the calculated area of each hearing group's Level A harassment zone was divided by the area of the largest predicted Level B harassment zone to result in an ''areal percentage''. This was then multiplied by both the number of days determined necessary to complete the construction task and then by unique species occurrence. To calculate the number of estimated takes proposed for authorization by Level B harassment, the calculated takes by Level A harassment were subtracted from the total number of calculated takes, with the remaining assumed to be taken by Level B harassment only.

Humpback whales are common in the general region during the summer months; however, their presence within the project area is uncommon due to the shallow and sheltered nature of Cold Bay. Given that all work and noise are expected to be confined to the Bay, but in some cases, exceed the practicable shutdown zone, NMFS proposes to conservatively authorize two groups of two humpback whales for take by Level A harassment.

More specific information on species/stock occurrence, which was incorporated into the analysis, can be found in section 6 of ADOT&PF's application and is not repeated here; instead, we reference the reader to the application for this additional information. Below, we provide the areal calculations (table 12), and we summarize the relevant group sizes and information presented on the occurrence of each species/stock and provide the numerical values proposed for authorization in the table below (table 13).

TABLE 12—AREAL CALCULATIONS FOR THREE MARINE MAMMAL SPECIES TO ESTIMATE PROPOSED TAKES BY LEVEL A HARASSMENT

Source	Source type	Species	Maximum Level B harassment area (km^2) [a]	Level A harassment area (km^2)	Level A area to maximum Level B area ratio (%)	Takes assumed per day	Days of effort planned	Calculated proposed takes by Level A harassment
Trestle and Abutment								
Trestle support pile (36-inch steel pipe pile).	Impact pile driving (installation).	Harbor porpoise	116.9	2.82	2.41	0.43	8	0
		Steller sea lion	116.9	0.35	0.30	15	8	0
		Harbor seal	116.9	12.55	10.74	10	8	9
Temporary trestle pile (24-inch to 36-inch steel pipe or H-pile).	Impact pile driving (installation).	Harbor porpoise	116.9	28.02	23.97	0.43	8	1
		Steller sea lion	116.9	2.78	2.38	15	8	3
		Harbor seal	116.9	12.55	10.74	10	8	9
Dock								
Dock support pile (36-inch steel pipe pile).	Impact pile driving (installation).	Harbor porpoise	116.9	28.02	23.97	0.43	8	1
		Steller sea lion	116.9	2.78	2.38	15	8	3
		Harbor seal	116.9	12.55	10.74	10	8	9
Temporary dock pile (24-inch to 36-inch steel pile).	Impact pile driving (installation).	Harbor porpoise	116.9	28.02	23.97	0.43	8	1
		Steller sea lion	116.9	2.78	2.38	15	8	3
		Harbor seal	116.9	12.55	10.74	10	8	9
Dolphin								
Dolphin pile (36-inch steel pipe pile).	Impact pile driving (installation).	Harbor porpoise	116.9	47.85	40.93	0.43	8	1
		Steller sea lion	116.9	4.79	4.10	15	8	5
		Harbor seal	116.9	20.33	17.39	10	8	14

[a] The largest behavioral isopleth (*i.e.,* 116.9 km^2) was calculated based on vibratory driving of 36-in pipe piles.

TABLE 13—PROPOSED TAKE, BY LEVEL A HARASSMENT AND/OR LEVEL B HARASSMENT, BY STOCK, HARASSMENT TYPE, TAKES ESTIMATED PER DAY, TOTAL PROPOSED TAKES, AND AS A PERCENTAGE OF STOCK ABUNDANCE

Species	Stock	N_{EST} [a]	Takes per day (total)	Takes per day (by stock)	Estimated number of pile driving days	Takes proposed for authorization			Proposed percentage to be taken [b]	
						Level A harassment	Level B harassment	Total	By species	By stock
Gray whale	Eastern North Pacific	26,960	0.03		231	2	13	15	0.06	
Humpback whale [c]	Hawaiʻi	11,278	0.067	0.061	231	4	11	15	0.16	0.13
	Mexico-North Pacific	n/a		0.005	231	0	2	2	n/a	n/a
	Western North Pacific	1,084		0.001	231	0	1	1	1.66	0.09
Killer whale	Eastern North Pacific Gulf of Alaska, Aleutian Islands, and Bering Sea Transient.	587	0.43		231	0	99	99	16.87	
Harbor porpoise	Gulf of Alaska	31,046	0.43		231	4	26	30	0.10	
Steller sea lion	Western	49,837	15		231	14	3,211	3,225	6.47	
Harbor seal	Cook Inlet/Shelikof Strait	28,411	10		231	50	1,566	1,616	5.69	

[a] Stock estimates from the most recent NMFS stock assessment reports, unless otherwise noted.

[b] Proposed percentage to be taken refers to combined take by both Level B harassment and Level A harassment (where requested) for each individual species/stock. If there is more than one stock of a species, the percent of stock is also calculated as if all takes occurred to a single stock.

[c] Although different stocks of humpback whales could be present, PSOs would likely be unable to identify to the stock-level. Given this, NMFS will count any takes for humpback whales as a single group, not by stocks.

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. NMFS regulations require applicants for incidental take authorizations (ITA) 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 ADOT&PF in its adequate and complete application or are the result of subsequent coordination between NMFS and ADOT&PF. ADOT&PF 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.

In addition to the measures described later in this section, ADOT&PF would be required to follow these general mitigation measures:

- Takes proposed for authorization, by Level A harassment and Level B harassment only, would be limited to the species and numbers listed in table 14. Construction activities would be required to be halted upon observation of either a species for which incidental take was not authorized or for a species for which incidental take has been authorized but the number of takes has been met, entering or is within the harassment zone, if the IHA is issued.
- The taking by serious injury or death of any of the species listed in table 14 or any taking of any other species of marine mammal would be prohibited and would result in the modification, suspension, or revocation of the IHA, if issued. Any taking exceeding the amounts proposed for authorization listed in table 14 would be prohibited and would result in the modification, suspension, or revocation of the IHA, if issued;
- Ensure that construction supervisors and crews, the marine mammal monitoring team, and relevant ADOT&PF staff are trained prior to the start of all construction activities, so that responsibilities, communication procedures, marine mammal monitoring protocol, and operational procedures are clearly understood. New personnel joining during the project must be trained prior to commencing work;
- ADOT&PF, construction supervisors and crews, PSOs, and relevant ADOT&PF staff must avoid direct physical interaction with marine mammals during construction activities. If a marine mammal comes within 10 m (32.8 ft) of such activity, operations must cease and vessels must reduce speed to the minimum level required to maintain steerage and safe working conditions, as necessary to avoid direct physical interaction;
- Employ PSOs and establish monitoring locations as described in the Protected Species Monitoring and Mitigation Plan (PSMMP) (see NMFS' website). ADOT&PF must monitor the project area to the maximum extent possible based on the required number of PSOs, required monitoring locations, and environmental conditions;
- ADOT&PF also would abide by the reasonable and prudent measures and terms and conditions of a Biological Opinion and Incidental Take Statement, if issued by NMFS, pursuant to Section 7 of the ESA; and
- ADOT&PF, in alignment with the PSMMP, would abide by vessel measures related to North Pacific right whales (50 CFR 224.103(c)), Steller sea lions (50 CFR 224.103(d)), and humpback whales (50 CFR 224.103(b), 50 CFR 223.214).

Additionally, the following mitigation measures apply to ADOT&PF's in-water construction activities.

Pre- and Post-Activity Monitoring

ADOT&PF would be required to establish pre- and post-monitoring zones with radial distances (based on the distances to the Level B harassment threshold and feasibility for PSOs in the field) for all construction activities (see table 14). Monitoring would take place from 30 minutes prior to initiation of any pile driving activity (*i.e.,* pre-start clearance monitoring) through 30 minutes post-completion of pile driving activity. In addition, monitoring for 30 minutes would take place whenever a break in the specified activity (*i.e.,* impact pile driving, vibratory pile driving) of 30 minutes or longer occurs. Pre-start clearance monitoring would be conducted during periods of visibility sufficient for the Lead PSO to determine that the shutdown zones (indicated further below) are clear of marine mammals. Pile driving may commence following 30 minutes of observation when the determination is made that the shutdown zones are clear of marine mammals.

TABLE 14—PROPOSED MONITORING ZONES (IN METERS) FOR ALL MARINE MAMMAL SPECIES

Activity	Pile type	Installation method	Largest Level B harassment monitoring zone [a]
Trestle and Abutment			
Trestle support pile	36-in steel pipe piles	Vibratory Installation	11,659.2 m.
		Impact Installation	1,584.9 m.

TABLE 14—PROPOSED MONITORING ZONES (IN METERS) FOR ALL MARINE MAMMAL SPECIES—Continued

Activity	Pile type	Installation method	Largest Level B harassment monitoring zone [a]
Temporary trestle pile	24-in to 36-in steel pipe or H-pile	Vibratory Installation and Removal	11,659.2 m.
		Impact Installation	1,584.9 m.
Dock			
Dock support pile	36-in steel pipe pile	Vibratory Installation	11,659.2 m.
		Impact Installation	1,584.9 m.
Temporary dock pile	24-in to 36-in steel pipe pile	Vibratory Installation and Removal	11,659.2 m.
		Impact Installation	1,584.9 m.
Fender pile	30-in steel pipe pile	Vibratory Installation	11,659.2 m.
Fender pile	24-in steel pipe pile	Vibratory Installation	5,411.7 m.
Dolphin			
Dolphin pile	36-in steel pipe pile	Vibratory Installation	11,659.2 m.
		Impact Installation	1,584.9 m.
Temporary dolphin pile	24-in to 36-in steel pipe pile	Vibratory installation and removal	11,659.2 m.
Demolition (Removal)			
Trestle removal	16-in steel pipe pile	Vibratory removal	5,411.7 m.
Dock removal	16-in steel pipe pile	Vibratory removal	5,411.7 m.
Dock removal	26-in steel pipe pile	Vibratory removal	11,659.2 m.
Dolphin removal	16-in steel pipe pile	Vibratory removal	5,411.7 m.
Fender removal	20-in steel pipe pile	Vibratory removal	5,411.7 m.
Fender removal	16-in timber pile	Vibratory removal	6,309.6 m.

[a] Monitoring zones are measured from shore (where PSOs would be located) outward from each monitoring station.

Soft-Start

ADOT&PF would use soft start techniques when impact pile driving. Soft-start requires contractors to provide an initial set of three strikes at reduced energy, followed by a 30-second waiting period, then two subsequent reduced-energy strike sets. A 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. Soft-start procedures are used to provide additional protection to marine mammals by providing warning and/or giving marine mammals a chance to leave the area prior to the hammer operating at full capacity.

Establishment of Shutdown Zones

ADOT&PF would be required to establish shutdown zones with radial distances, as identified in table 15 for all construction activities. The purpose of a shutdown zone is generally to define an area within which shutdown of the activity would occur upon sighting of a marine mammal (or in anticipation of an animal entering the defined area). Additionally, ADOT&PF would be required to shutdown in the event an unauthorized species is present, to avoid take of that unauthorized species. Shutdown zones would vary based on the activity type and marine mammal hearing group.

If a marine mammal is observed entering or within the shutdown zones indicated in table 15, pile driving activities must be delayed or halted. If pile driving is delayed or halted due to the presence of a marine mammal, the activity may not commence or resume until either the animal has voluntarily exited and been visually confirmed beyond the shutdown zones or a specific time period has passed without re-detection of the animal (*i.e.,* 30 minutes for cetaceans, 15 minutes for pinnipeds). If a marine mammal comes within or approaches the shutdown zone indicated in table 15, such operations must cease.

TABLE 15—PROPOSED SHUTDOWN ZONES (IN METERS) FOR ALL MARINE MAMMAL SPECIES

Activity	Pile type	Installation method	Shutdown zones [a]				
			Humpback whales, gray whales	Killer whales	Harbor porpoise	Harbor seals	Steller sea lions
Trestle and Abutment							
Trestle support pile	36-in steel pipe piles	Vibratory Installation	60	20	50	70	30
		Impact Installation	610	80	300	500	210
Temporary trestle pile	24-in to 36-in steel pipe or H-pile.	Vibratory Installation and Removal.	80	40	70	110	40
		Impact Installation	[b] 2,000	370	300	500	[b] 300
Dock							
Dock support pile	36-in steel pipe pile	Vibratory Installation	60	20	50	70	30
		Impact Installation	[b] 2,000	370	300	500	[c] 300

TABLE 15—PROPOSED SHUTDOWN ZONES (IN METERS) FOR ALL MARINE MAMMAL SPECIES—Continued

Activity	Pile type	Installation method	Shutdown zones [a]				
			Humpback whales, gray whales	Killer whales	Harbor porpoise	Harbor seals	Steller sea lions
Temporary dock pile	24-in to 36-in steel pipe pile.	Vibratory Installation and Removal.	80	40	70	110	40
		Impact Installation	[b] 2,000	370	300	500	[c] 300
Fender pile	30-in steel pipe pile	Vibratory Installation	50	20	40	60	20
Fender pile	24-in steel pipe pile	Vibratory Installation	30	10	20	30	10
Dolphin							
Dolphin pile	36-in steel pipe pile	Vibratory Installation	80	40	70	110	40
		Impact Installation	[b] 2,000	510	300	500	[d] 300
Temporary dolphin pile	24-in to 36-in steel pipe pile.	Vibratory installation and removal.	60	20	50	70	30
Demolition (Removal)							
Trestle removal	16-in steel pipe pile	Vibratory removal	40	20	30	50	20
Dock removal	16-in steel pipe pile	Vibratory removal	440	20	30	50	20
Dock removal	26-in steel pipe pile	Vibratory removal	80	30	70	100	40
Dolphin removal	16-in steel pipe pile	Vibratory removal	30	10	20	30	20
Fender removal	20-in steel pipe pile	Vibratory removal	40	20	30	50	20
Fender removal	16-in timber pile	Vibratory removal	50	20	40	60	20

[a] A minimum shutdown zone of 10 m (32.8 ft) would be enforced to ensure animals are not endangered by any physical interaction with the construction equipment (*i.e.,* barge positioning operations, the positioning of piles via a crane ("stabbing" the pile), the removal of piles via a crane (deadpull), or the overwater slinging of construction materials).

[b] While NMFS acknowledges that the Level A harassment zones are larger than the 2,000-meter monitoring zone, NMFS considers 2,000 meters a practicable shutdown zone distance for LF cetaceans.

[c] NMFS notes that this value was original 940 m (3,084 ft); however, given the size of Steller sea lions, NMFS suggested and the applicant accepted, a more realistic shutdown zone for 300 m (984.3 ft) for these activities.

[d] NMFS notes that this value was original 1,320 m (4,330.7 ft); however, given the size of Steller sea lions, NMFS suggested and the applicant accepted, a more realistic shutdown zone for 300 m (984.3 ft) for these activities.

Bubble Curtain

ADOT&PF has not proposed, to utilize a bubble curtain during any of the proposed pile driving activities presented herein due to feasibility concerns related to the costs and time necessary to install and operate the curtains. Time delays are impractical for the proposed project due to the short field season available in the extreme environment of the Aleutian Islands.

NMFS conducted an independent evaluation of the proposed measures, and 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, areas of similar significance, and on the availability of such species or stock for subsistence uses.

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.

ADOT&PF would abide by all monitoring and reporting measures contained within the IHA, if issued, and their PSMMP (see NMFS' website). The monitoring and reporting requirements described in the following were proposed by ADOT&PF in its adequate and complete application and/or are the result of subsequent coordination between NMFS and ADOT&PF. ADOT&PF has agreed to the requirements. NMFS describes these below as requirements and has included them in the proposed IHA.

Visual Monitoring

All PSOs must be NMFS-approved. PSOs would be independent of the activity contractor (for example, employed by a subcontractor) and have no other assigned tasks during monitoring periods. At least one PSO would have prior experience performing the duties of a PSO during an activity pursuant to a NMFS-issued ITA. Other PSOs may substitute other relevant experience (including relevant Alaska Native traditional knowledge), education (degree in biological science or related field), or training for prior experience performing the duties of a PSO during construction activity pursuant to a NMFS-issued ITA.

Additionally, PSOs would be required to meet the following qualifications:

• The ability to conduct field observations and collect data according to assigned protocols;

• Experience or training in the field identification of marine mammals, including the identification of behaviors;

• Sufficient training, orientation, or experience with the construction operation to provide for personal safety during observations;

• Writing skills sufficient to prepare a report of observations including but not limited to:

(1) Number and species of marine mammals observed;

(2) Dates and times when in-water construction activities were conducted;

(3) Dates, times, and reason for implementation of mitigation (or why mitigation was not implemented when required); and

(4) Marine mammal behavior.

• The ability to communicate orally, by radio or in person, with project personnel to provide real-time information on marine mammals observed in the area as necessary.

ADOT&PF must establish monitoring locations, as described in PSMMP (see NMFS' website). ADOT&PF must use a minimum of two PSOs. Where a team of three or more PSOs is required, a lead observer (''*Lead PSO*'') or monitoring coordinator would be designated. The lead observer must have prior experience performing the duties of a PSO during construction activity pursuant to a NMFS-issued ITA or Letter of Concurrence.

For all pile driving activities, a minimum of one PSO must be assigned to each active pile driving location to monitor the applicable shutdown zones for the entirety of active construction operations (see PSMMP). Given the maximum effective observation distance, PSOs would be required to continuously monitor the entirety of the shutdown zones and as much as possible of the Level B harassment zones given visibility constraints, using binoculars and other resources to aid in observation. At all locations, all PSOs, to the extent practicable, must use an elevator platform at observation points to enhance observation ability. PSOs would be required to record all observations of marine mammals, regardless of distance from the pile being driven, as well as the additional data indicated below and in section 6 of the IHA, if issued.

Proposed Reporting

ADOT&PF would be required to submit an annual draft summary report on all construction activities and marine mammal monitoring results to NMFS within 90 days following the end of construction or 60 calendar days prior to the requested issuance of any subsequent IHA for similar activity at the same location, whichever comes first. The draft summary report would include an overall description of construction work completed, a narrative regarding marine mammal sightings, and associated raw PSO data sheets (in electronic spreadsheet format). Specifically, the report must include:

• Dates and times (begin and end) of all marine mammal monitoring;

• Construction activities occurring during each daily observation period, including: (a) how many and what type of piles were driven or removed and the method (*i.e.,* impact and vibratory); and (b) the total duration of time for each pile (vibratory driving) or number of strikes for each pile (impact driving);

• PSO locations during marine mammal monitoring; and

• Environmental conditions during monitoring periods (at beginning and end of PSO shift and whenever conditions change significantly), including Beaufort sea state and any other relevant weather conditions including cloud cover, fog, sun glare, and overall visibility to the horizon, and estimated observable distance.

Upon observation of a marine mammal, the following information must be reported:

• Name of PSO who sighted the animal(s) and PSO location and activity at the time of the sighting;

• Time of the sighting;

• Identification of the animal(s) (*e.g.,* genus/species, lowest possible taxonomic level, or unidentified), PSO confidence in identification, and the composition of the group if there is a mix of species;

• Distance and bearing of each observed marine mammal relative to the pile being driven or removed for each sighting;

• Estimated number of animals (min/max/best estimate);

• Estimated number of animals by cohort (*e.g.,* adults, juveniles, neonates, group composition, *etc.*);

• Animal's closest point of approach and estimated time spent within the estimated harassment zone(s);

• Description of any marine mammal behavioral observations (*e.g.,* observed behaviors such as feeding or traveling), including an assessment of behavioral responses thought to have resulted from the activity (*e.g.,* no response or changes in behavioral state such as ceasing feeding, changing direction, flushing, or breaching);

• Number of marine mammals detected within the estimated harassment zones, by species; and

• Detailed information about implementation of any mitigation (*e.g.,* shutdowns and delays), a description of specified actions that occurred, and resulting changes in behavior of the animal(s), if any.

If no comments are received from NMFS within 30 days after the submission of the draft summary report, the draft report would constitute the final report. If ADOT&PF received comments from NMFS, a final summary report addressing NMFS' comments would be submitted within 30 days after receipt of comments.

Reporting Injured or Dead Marine Mammals

In the event that personnel involved in ADOT&PF's activities discover an injured or dead marine mammal, ADOT&PF would report the incident to the NMFS Office of Protected Resources (OPR) (*PR.ITP.MonitoringReports@noaa.gov, ITP.Potlock@noaa.gov*) and to the Alaska Regional Stranding Coordinator (877–925–7773) as soon as feasible. If the death or injury was clearly caused by the specified activity, ADOT&PF 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 IHA. ADOT&PF would not resume their activities until notified by NMFS. The report would include the following information:

• Description of the incident;

• Environmental conditions (*e.g.,* Beaufort sea state, visibility);

• Description of all marine mammal observations in the 24 hours preceding the incident;

• Photographs or video footage of the animal(s) (if equipment is available).

• Time, date, and location (latitude/longitude) of the first discovery (and updated location information if known and applicable);

• Species identification (if known) or description of the animal(s) involved;

• Condition of the animal(s) (including carcass condition if the animal is dead);

• Observed behaviors of the animal(s), if alive; and

• General circumstances under which the animal was discovered.

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, the discussion of our analysis applies to all of the species listed in table 3, given that the anticipated effects of this activity on these different marine mammal stocks are expected to be similar. There is little information about the nature or severity of the impacts, or the size, status, or structure of any of these species or stocks that would lead to a different analysis for these activities.

Impact pile driving for installation and vibratory pile driving for installation and/or removal activities associated with the proposed project, as outlined previously, have the potential to disturb or displace marine mammals. Specifically, the specified activities may result in take in the form of Level A harassment and/or Level B harassment from underwater sounds generated from pile driving installation and removal. Potential takes could occur if individuals of these species are present in zones ensonified above the thresholds for Level A harassment or Level B harassment identified above when these activities are underway.

Given the nature of the proposed activities, NMFS does not anticipate serious injury or mortality due to ADOT&PF's proposed project, even in the absence of required mitigation. The Level A harassment zones identified in table 10 are based upon an animal exposed to vibratory pile driving and/or impact pile driving for periods ranging from 20 to 60 minutes for in-water pile driving per day. Overall, construction activities are not expected to exceed 12 hours per day (likely ranging between 10–12 hours but not all of that would be spent actively pile driving). Exposures of this length are, however, unlikely for vibratory driving for installation and/or removal, given marine mammal movement throughout the area. Even during impact driving scenarios, an animal exposed to the accumulated sound energy would likely only experience limited AUD INJ at the lower frequencies where pile driving energy is concentrated.

As stated in the Proposed Mitigation section, ADOT&PF would implement shutdown zones that equal or exceed many of the Level A harassment isopleths shown in table 15. Take by Level A harassment is proposed for five marine mammal species/stocks. This is precautionary to account for the potential that an animal could enter and remain within the area between a Level A harassment zone and the shutdown zone for long enough to be taken by Level A harassment. Additionally, in some cases, this precaution would account for the possibility that an animal could enter a shutdown zone without detection and remain in the Level A harassment zone for a duration long enough to be taken by Level A harassment before being observed and a shutdown occurring. That said, any take by Level A harassment is expected to arise from, at most, a small degree of AUD INJ because animals would need to be exposed to higher levels and/or longer duration than are expected to occur here to incur any more than a small degree of AUD INJ. Given the proximity to shore and the secluded nature of the Bay, exposure over extended periods of time are not considered likely to occur before the animal is observed by PSOs and the proposed mitigation measures are implemented. Additionally, and as noted previously, some subset of the individuals that are behaviorally harassed could also simultaneously incur some small degree of TTS for a short duration of time. Because of the small degree anticipated, any AUD INJ or TTS potentially incurred here is not expected to adversely affect an animal's individual fitness, let alone annual rates of recruitment or survival.

For all species and stocks, take is expected to occur within a limited, confined area (adjacent to the project site) of the stock's range. The intensity and duration of take by Level A harassment and Level B harassment would be expected to be minimized through the proposed mitigation measures described herein. Furthermore, the amount of take proposed for authorization is small compared to the relative stock's abundance, even assuming that every take for any particular species could wholly occur to individuals of an individual stock (where estimates of the stocks population are available).

Behavioral responses of marine mammals to pile driving for pile installation and/or pile removal at the project site, if any, are expected to be mild, short-term, and temporary. Given that old piles would be removed, temporary piles would be installed and then subsequently removed, and new piles would be permanently installed over 231 days in total (not necessarily be consecutive) over 10 to 12 hours per day, any harassment is expected to be temporary and intermittent. Marine mammals within the Level B harassment zones may not show any visual cues they are disturbed by activities or they could become alert, avoid the area, leave the area, or display other mild responses that are not observable, such as changes in vocalization patterns. Additionally, many of the species present in this region would only be present temporarily based on seasonal patterns or during active transit between other habitats. Most likely, during pile driving, individuals would be expected to move away from the sound source and be temporarily displaced from the areas of pile driving throughout the duration of pile driving activities. However, this reaction has been observed primarily associated with impact pile driving. While vibratory driving associated with the proposed project may produce sound at distances of many kilometers from the project site, thus overlapping with some likely less-disturbed habitat, the project site itself is located in a busy harbor, and the majority of sound fields produced by the specified activities are close to the harbor. Animals disturbed by project sounds would be expected to avoid the area and use nearby higher-quality habitats. Pinnipeds in the area would have the ability to haul-out on shorelines and floating structures to avoid the activities (noting that the only regular haul-outs are located much further away from the project area) and no additional in-air harassment is anticipated from the construction activities.

The potential for harassment is minimized by implementing the proposed mitigation measures. During all impact driving, implementation of soft-start procedures and monitoring of established shutdown zones by trained and qualified PSOs shall be required, significantly reducing any possibility of injury. Given sufficient notice through soft-start (for impact driving), marine mammals are expected to move away from an irritating sound source before it becomes potentially injurious.

Any impacts on marine mammal prey that would occur during ADOT&PF's proposed activities would have, at most, short-term effects on foraging of individual marine mammals, and likely no effect on the populations of marine mammals as a whole. Indirect effects on marine mammal prey during the construction are expected to be minor, and these effects are unlikely to cause substantial effects on marine mammals at the individual level, with no expected effect on annual rates of recruitment or survival.

The area likely impacted by the project is relatively small compared to the available habitat in the surrounding waters of the Aleutian Islands. Although the Aleutian Islands are part of several identified BIAs (*i.e.,* fin whale, gray whale, humpback whale, North Pacific right whale, and sperm whale), none of the BIAs themselves enter the Bay (NOAA, 2023; Wild *et al.,* 2023). As all sound produced from the proposed activity is not expected to leave the mouth of the Bay, NMFS does not expect any spatial overlap with the proposed timing of the in-water construction.

In addition, it is unlikely that minor noise effects in a small, localized area of habitat would have any effect on the reproduction or survival of any individuals, much less the stocks' annual rates of recruitment or survival. In combination, we believe that these factors, as well as the available body of evidence from other similar activities, demonstrate that the potential effects of the specified activities would have only minor, short-term effects on individuals. As already said, the specified activities are not expected to impact rates of recruitment or survival; therefore, these effects would not be expected to result in population-level impacts.

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 proposed for authorization;
- Any Level A harassment exposures are anticipated to result in slight AUD INJ (*i.e.,* of a few decibels) within the lower frequencies associated with pile driving;
- The anticipated incidents of Level B harassment would consist of, at worst, temporary modifications in behavior that would not result in fitness impacts to individuals;
- The area affected by the specified activity is very small relative to the overall habitat ranges of all species, does not include any rookeries, and does not spatially overlap with any BIAs;
- 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;
- There are no known haulout locations for Steller sea lions near the proposed project site;
- While harbor seals are known to haul out near the mouth of Kinzarof Lagoon (located approximately 4.5 mi (7.2 km) from the City of Cold Bay's coastal infrastructure, at the closest point), all activities are occurring in-water, and any harbor seals hauled out would not be expected to be affected by in-water noise. Any seals in the water would have the ability to surface as this in-air habitat is expected to be unaffected at distance by the proposed in-water activities;
- The project area is located in an industrialized and commercial dock; and
- The proposed mitigation measures, such as employing vibratory driving to the maximum extent practicable, soft-starts, and shutdowns, are expected to reduce the effects of the specified activity to the least practicable adverse impact level.

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 would 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 section 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 (86 FR 5322, January 19, 2021). Additionally, other qualitative factors may be considered in the analysis, such as the temporal or spatial scale of the activities.

NMFS is proposing to authorize incidental take by Level A harassment and/or Level B harassment of six species (eight stocks) of marine mammals. No mortality or serious injury has been requested, nor is it anticipated to occur from the activities described herein. The maximum number of instances of takes by Level A harassment and/or Level B harassment, relative to the best available population abundance, is less than one-third for all species and stocks potentially impacted (see table 13).

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 would 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.

Hunting and fishing for the purpose of subsistence has been a critical component of the history and culture of Alaska, including the Aleutian Islands. The Unangan have displayed highly skilled techniques for fishing, hunting of marine mammals, and gathering and usage of shellfish and plants for thousands of years (Keating *et al.,* 2022). Historically, the Unangan relied on harbor seals, Steller sea lions, and sea otters for subsistence. Not only did they provide a source of food, which was shared between households, but also a source for oil, decoration, and clothing (Haynes and Mishler, 1991). However, very little information is available regarding subsistence hunting of marine mammals in Cold Bay, with most information coming from nearby communities (False Pass, King Cove, and Unalaska). Based on subsistence records from 2016, tracked by the Alaska Department of Fish and Game's (ADF&G) Division of Subsistence, Cold Bay has shown a higher preference for fishing than subsistence hunting of marine mammals, catching 9,253 pounds (lbs; 4,197.1 kilograms (kg)) of salmon compared to only 54 lbs (24.5 kg) of marine mammals. Since 2016, no data are available on the number Steller sea lions or harbor seals harvested in Cold Bay. Even when looking at the nearby communities, Steller sea lions were harvested at low levels (one at False Pass in 1985 (40 mi (64.4 km) from Cold Bay), none at False Pass in 2007, 1.3 at King Cove (20 mi (32.2 km) from Cold Bay) in 2007, and none in 2020 at Unalaska (170 mi (273.6 km) from Cold Bay). Comparatively, harbor seals made up a significant amount of the harvest at Unalaska in 2020 (74 percent) at 35 harbor seals. At closer locations, between False Pass and King Cove, respectively, the annual harvest was made up of one and five harbor seals, demonstrating a low harvest rate. Between 2014 and 2024, a total of 25 sea otters were reported as harvested from Cold Bay (U.S. Fish and Wildlife Service, 2025b). The annual harvest ranged from zero to nine sea otters in Cold Bay (at an average of 2.5 sea otters per year).

Therefore, NMFS preliminarily determines that the proposed project is not likely to adversely affect the availability of any marine mammal species/stock that would traditionally be used for subsistence purposes, and would only minimally affect any subsistence harvest in the region because of the following reasons:

- There are minimal recorded subsistence harvests of marine mammals in the area;
- The construction activities would be localized and temporary in nature in a sheltered Bay;
- Harbor seals and Steller sea lions do not have dedicated haul outs in Cold Bay, meaning their numbers are not occurring regularly enough to be a dependable resource, unlike the abundant rivers and streams, which provide ample fishing opportunities and is a more popular source of subsistence for local residents;
- The proposed mitigation measures would minimize any disturbances of marine mammals in the area;
- NMFS expects that the majority of effects on marine mammals would not rise above behavioral impacts and would be temporary in nature; and
- No serious injury or mortality is expected to result from the project activities; therefore, the project would not result in a significant change to the availability of subsistence resources.

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 and monitoring measures, NMFS has preliminarily determined that there would not be an unmitigable adverse impact on subsistence uses from ADOT&PF's proposed activities.

Endangered Species Act

Section 7(a)(2) of the ESA of 1973 (16 U.S.C. 1531 *et seq.*) requires that each Federal agency ensures 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 incidental take authorizations, NMFS consults internally whenever we propose to authorize take for ESA-listed species, in this case with NMFS' Alaska Regional Office.

NMFS is proposing to authorize take of humpback whales (Mexico-North Pacific stock), humpback whales (Western North Pacific stock), and Steller sea lions (Western stock), which are all listed under the ESA. The Permits and Conservation Division has requested initiation of section 7 consultation with NMFS' Alaska Regional Office for the issuance of this IHA. NMFS would conclude the ESA 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 ADOT&PF for conducting construction work for the Cold Bay Ferry Terminal Reconstruction Project in Cold Bay, 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/national/marine-mammal-protection/incidental-take-authorizations-construction-activities.*

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 proposed construction 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).

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: December 22, 2025.

Kimberly Damon-Randall,

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

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DEPARTMENT OF COMMERCE

National Oceanic and Atmospheric Administration

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Fisheries Off West Coast States; Pacific Coast Groundfish Fishery; Trawl Rationalization Program; 2026 Cost Recovery Fee Notice

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

ACTION: Notice, 2026 cost recovery fee percentages and average mothership cooperative program pricing.

SUMMARY: This action provides participants in the Pacific Coast Groundfish Trawl Rationalization Program with the 2026 cost recovery fee percentages and the average mothership (MS) price per pound to be used in the catcher/processor (C/P) Co-op program to calculate the fee amount for the upcoming calendar year. For the 2026 calendar year, NMFS announces the following fee percentages by sector specific program: 3.0 percent for the Shorebased Individual Fishing Quota (IFQ) Program; 0.3 percent for the C/P Co-op Program; and 3.0 percent for the MS Co-op Program. For 2026, the MS pricing to be used as a proxy by the C/P Co-op Program is $0.10/pound (lb) for Pacific whiting.

DATES: Applicable January 1, 2026.

FOR FURTHER INFORMATION CONTACT: Christopher Biegel, (503) 231–6291, *christopher.biegel@noaa.gov.*

SUPPLEMENTARY INFORMATION: Section 304(d)(2)(A) of the Magnuson-Stevens Fishery Conservation and Management Act (MSA) authorizes and requires NMFS to collect fees to recover the costs directly related to the management, data collection and analysis, and enforcement connected to and in support of a limited access privilege program (LAPP) (16 U.S.C. 1854(d)(2)), also called ''cost recovery.'' Cost recovery fees recover the actual costs directly related to the management, data collection and analysis, and enforcement of the programs (MSA Section 303A(e), 16 U.S.C. 1853a(e)). Section 304(d)(2)(B) of the MSA mandates that cost recovery fees not exceed 3 percent of the annual ex-vessel value of fish harvested by a program subject to a cost recovery fee, and that the fee be collected either at the time of landing, filing of a landing report, or sale of such fish during a fishing season or in the last quarter of the calendar year in which the fish is harvested.

The Pacific Coast Groundfish Trawl Rationalization Program is a LAPP, implemented in 2011, and consists of three sector-specific programs: the Shorebased IFQ Program, the MS Co-op Program, and the C/P Co-op Program. In accordance with the MSA and based on a recommended structure and methodology developed in coordination with the Pacific Fishery Management Council (Council), NMFS began collecting mandatory fees of up to 3 percent of the ex-vessel value of groundfish from each program (Shorebased IFQ Program, MS Co-op Program, and C/P Co-op Program) in 2014. NMFS collects the fees to recover the incremental costs of management, data collection and analysis, and enforcement of the Groundfish Trawl Rationalization Program. Additional background can be found in the cost recovery proposed rule (78 FR 7371, February 1, 2013) and final rule (78 FR 75268, December 11, 2013). The details of cost recovery for the Groundfish Trawl Rationalization Program are in regulation at 50 CFR 660.115 (Trawl fishery—cost recovery program), 660.140 (Shorebased IFQ Program), 660.150 (MS Co-op Program), and 660.160 (C/P Co-op Program).

By December 31 of each year, NMFS announces the next year's fee percentages and the applicable MS pricing for the C/P Co-op Program. To calculate the fee percentages, NMFS used the formula specified in regulation at § 660.115(b)(1), where the fee percentage by sector equals the lower of 3 percent or direct program costs (DPC) for that sector divided by total ex-vessel value (V) for that sector multiplied by 100 (Fee percentage = the lower of 3 percent or (DPC/V) × 100).

''DPC'' as defined in the regulations at § 660.115(b)(1)(i), are the actual incremental costs for the previous fiscal year directly related to the management, data collection and analysis, and enforcement of each program (Shorebased IFQ Program, MS Co-op Program, and C/P Co-op Program). Actual incremental costs means those net costs that would not have been incurred but for the implementation of the Groundfish Trawl Rationalization Program, including both increased costs for new requirements of the program and reduced costs resulting from any program efficiencies or adjustments to costs from previous years.

''V'', as specified at § 660.115(b)(1)(ii), is the total ex-vessel value, as defined at § 660.111, for each sector from the previous calendar year. To determine the ex-vessel value for the Shorebased IFQ Program, NMFS used the ex-vessel value for calendar year 2024 as reported in the Pacific Fisheries Information Network (PacFIN) from Shorebased IFQ electronic fish tickets as this was the most recent complete set of data. To determine the ex-vessel value for the MS Co-op Program and the C/P Co-op Program, NMFS used the retained catch estimates (weight) for each sector as reported in the North Pacific Observer Program database multiplied by the average price of Pacific whiting as reported by participants in the MS Co-op program for 2024.

The fee calculations for the 2026 fee percentages are described below.

IFQ Program:

• 5.1 percent = ($2,110,933.27/ $41,126,145.00) × 100.

C/P Co-op Program:

• 0.3 percent = ($50,758.19/ $15,663,157.09) × 100.

MS Co-op Program:

• 4.2 percent = ($218,726.38/ $5,208,949.27) × 100.

However, the calculated fee percentage cannot exceed the statutory limit of 3.0 percent. Both the IFQ Program (5.1 percent) and MS Co-op Program (4.2 percent) fee calculations exceed this limit, therefore, the 2026 fee