DEPARTMENT OF COMMERCE

National Oceanic and Atmospheric Administration

[RTID 0648–XE846]

Atlantic Highly Migratory Species; Meeting of the Atlantic Highly Migratory Species Advisory Panel

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

ACTION: Notice of public webinar/conference call.

SUMMARY: NMFS will hold a 3-day Atlantic Highly Migratory Species (HMS) Advisory Panel (AP) meeting via webinar in May 2025. The intent of the meeting is to consider options for the conservation and management of Atlantic HMS. The meeting is open to the public.

DATES: The AP meeting and webinar will be held on Tuesday, May 6, from 9:30 a.m. to 5 p.m. ET; Wednesday, May 7, from 9:30 a.m. to 5 p.m. ET; and Thursday, May 8, from 9 a.m. to 12 p.m. ET.

ADDRESSES: The meeting will be accessible via WebEx conference call and webinar. Conference call and webinar access information are available at: *https://www.fisheries.noaa.gov/event/may-2025-hms-advisory-panel-meeting.*

Participants are strongly encouraged to log/dial in 15 minutes prior to the meeting. NMFS will show the presentations via webinar and allow public comment during identified times on the agenda.

FOR FURTHER INFORMATION CONTACT: Peter Cooper (*peter.cooper@noaa.gov*) or Anna Quintrell (*anna.quintrell@noaa.gov*) at 301–427–8503.

SUPPLEMENTARY INFORMATION: Atlantic HMS fisheries (tunas, swordfish, sharks, and billfish) are managed under the 2006 Consolidated Atlantic HMS Fishery Management Plan (FMP) and its amendments pursuant to the authority of the Magnuson-Stevens Fishery Conservation and Management Act (Magnuson-Stevens Act; 16 U.S.C. 1801 *et seq.*) and consistent with the Atlantic Tunas Convention Act (16 U.S.C. 971 *et seq.*). HMS implementing regulations are at 50 CFR part 635.

The Magnuson-Stevens Act requires the establishment of APs and requires NMFS to consult with and consider the comments and views of AP members during the preparation and implementation of FMPs or FMP amendments (16 U.S.C. 1854(g)(1)(A)–(B)). NMFS meets with the HMS AP approximately twice each year to consider potential alternatives for the conservation and management of Atlantic tunas, swordfish, billfish, and shark fisheries, consistent with the Magnuson-Stevens Act. Generally, AP meetings are held in-person, but because of current restrictions on travel this AP meeting will be conducted via webinar.

Some of the discussion topics are:

- HMS rulemaking updates;
- Outcomes of the 2024 International Commission for the Conservation of Atlantic Tunas Annual Meeting; and
- Atlantic bluefin tuna fishery update.

We anticipate inviting other NMFS offices and the U.S. Coast Guard to provide updates, if available, on their activities relevant to HMS fisheries. Additional information on the meeting and a copy of the draft agenda will be posted prior to the meeting (see **ADDRESSES**).

Requests for sign language interpretation or other auxiliary aids should be directed to Peter Cooper at 301–427–8503, at least 7 days prior to the meeting.

Dated: April 11, 2025.

Kelly Denit,

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

[FR Doc. 2025–06442 Filed 4–15–25; 8:45 am]

BILLING CODE 3510–22–P

DEPARTMENT OF COMMERCE

National Oceanic and Atmospheric Administration

[RTID 0648–XE698]

Takes of Marine Mammals Incidental to Specified Activities; Taking Marine Mammals Incidental to the City of Ketchikan's Berth III Mooring Dolphins Project in Ketchikan, 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 City of Ketchikan (COK), Alaska, for authorization to take marine mammals incidental to the Berth III Mooring Dolphins Project in the Port of Ketchikan in the Tongass Narrows, Alaska. Pursuant to the Marine Mammal Protection Act (MMPA), NMFS requests comments on its proposal to issue an incidental harassment authorization (IHA) to incidentally take marine mammals during the specified activities. NMFS also requests 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 before making any final decision on issuing 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 May 16, 2025.

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

SUPPLEMENTARY INFORMATION:

Background

The MMPA prohibits the ''take'' of marine mammals, with certain exceptions. Sections 101(a)(5)(A) and (D) of the MMPA (16 U.S.C. 1361 *et seq.*) direct the Secretary of Commerce (as delegated to NMFS) to allow, upon request, the incidental, but not intentional, taking of small numbers of marine mammals by U.S. citizens who

engage in a specified activity (other than commercial fishing) within a specified geographical region if certain findings are made and either regulations are proposed or, if the taking is limited to harassment, a notice of a proposed IHA is provided to the public for review.

Authorization for incidental takings shall be granted if NMFS finds that the taking would have a negligible impact on the species or stock(s) and would not have an unmitigable adverse effect 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 (referred to in shorthand 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. They 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) concerning 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 17, 2024, NMFS received a request from the applicant (COK) for an IHA to take marine mammals incidental to construction activities associated with the project. Following NMFS' application review, COK submitted a revised version on October 16, 2024. Following additional NMFS questions and COK's subsequent responses, COK submitted a final revised application on February 7, 2025. The application was deemed adequate and complete on February 24, 2025. The COK requests to take 13 species (16 stocks) of marine mammals by Level B harassment, and a limited number of individuals from 8 of those stocks by Level A harassment. Neither COK nor NMFS expects serious injury or mortality from this activity; therefore, an IHA is appropriate.

This proposed IHA would be the fourth IHA issued to COK for the Berth III Mooring Dolphins Project. NMFS initially issued an IHA to COK for the Berth III Mooring Dolphins Project on March 3, 2021 (86 FR 12411), effective from October 1, 2021, through September 30, 2022. The reissued IHA (September 10, 2021, 86 FR 50704) was effective from October 1, 2022, through September 30, 2023. The third IHA (December 8, 2022, 87 FR 75233) was effective from October 1, 2023, through September 30, 2024. Due to COVID–19 pandemic-related tourism and funding delays, COK did not start construction, and no work was conducted under any of the three previous IHAs. For this fourth proposed IHA, project details have been revised slightly, new sound source information is available, and additional species not previously included have been added. The effective dates of this proposed IHA would be from October 1, 2025, through September 30, 2026.

Description of Proposed Activity

Overview

The purpose of the COK's Berth III construction expansion project is to accommodate a new fleet of large cruise ships (*i.e.,* Bliss class) and to meet the needs of the growing cruise ship industry and its vessels in Southeast Alaska. To safely moor a Bliss class vessel, additional tie-up locations are needed at the north and south ends of the berth. Without the proposed improvements, vessels may be unable to safely moor at Berth III, located on the east side of Tongass Narrows, which consists of an 11-mile-long, narrow body of water.

Construction activities would include erecting temporary weather structures and templates, vibratory pile driving and removal, impact pile driving, down-the-hole (DTH) pile driving, pile splicing, pile-to-dolphin cap welding, and setting a catwalk. The underwater sound generated by these in-water activities may result in Level A and Level B harassment of marine mammal species.

Dates and Duration

Construction is expected to occur between October 1, 2025, and May 1, 2026. In-water work is estimated to take approximately 166 days (5.5 months or approximately 24 weeks) between October 1, 2025, and March 15, 2026. Above-water work is required to install prefabricated steel dolphin caps and an approximately 66-ft prefabricated grated catwalk. The daily duration of construction activities would vary based on the daylight hours available. In the winter, shorter 7- to 10-hour workdays in available daylight are anticipated; in the early fall and early spring, longer daylight workdays of up to 12-hours are expected (however, 14 hours of noise-generating activity is used in the application for conservative isopleth calculations). While COK may work these hours, not all activity in a workday would generate in-water noise. Work may not begin without sufficient daylight to conduct pre-activity monitoring and may extend into twilight hours as needed to embed the pile far enough to leave piles in place until installation can resume safely.

Specific Geographic Region

COK is located in Southeast Alaska on the western coast of Revillagigedo Island, near the southernmost boundary of Alaska. Ketchikan encompasses approximately 3 square miles (sq mi) of land (7.8 square kilometers (km^2)) and 1 sq mi of water (2.6 km^2). The site is located on the east side of Tongass Narrows, a marine channel between Revillagigedo and Gravina Islands, consisting of a long, narrow water body approximately 11 miles (17.7 km) (see figure 1). The berth is part of the Port of Ketchikan, an active marine commercial and industrial area.

At the project site where piles would be driven, water depths range between approximately 60 feet (ft) (18.3 meters (m)) to 160 ft (48.8 m) (Peratrovich and Nottingham Engineers, Inc. (PND) 2006). Tidal currents generally range from 0.3 miles (0.5 km) to 1.6 miles (2.6 km) per hour during flood and ebb tides (PND 2006). The tide range in Ketchikan is significant, with the highest observed tides of 21.4 ft (6.5 m) and the lowest observed tides of −5.2 ft (−1.6 m), based on a mean lower low water (MLLW) elevation of 0.0 ft (0 m). Water depths in Tongass Narrows that would be ensonified are generally 160 ft (48.8 m) or shallower, but they get deeper past the southern end of Pennock Island, reaching depths up to 625 ft (190.5 m) (NOAA 2015).

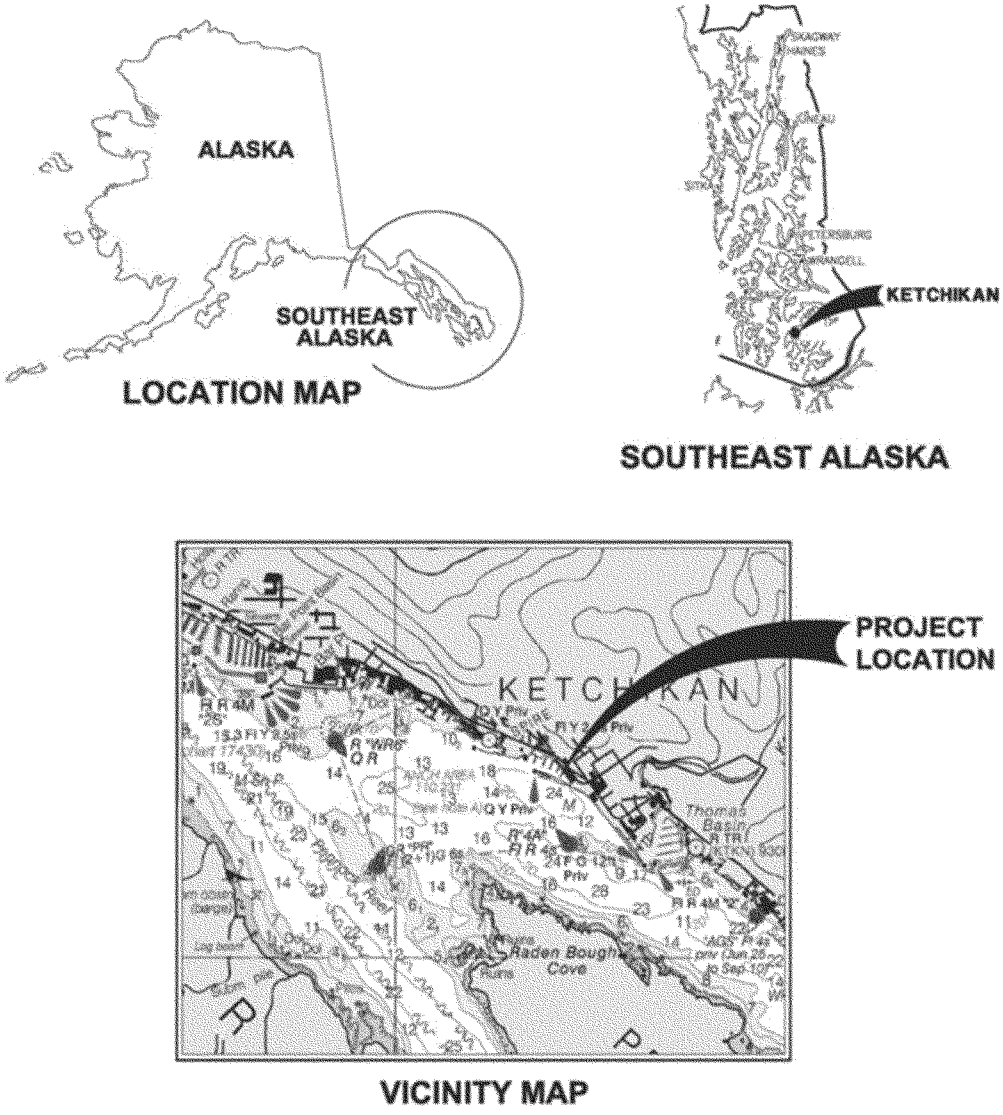

Figure 1 -- City of Ketchikan Berth III Mooring Dolphin Project Area

Detailed Description of the Specified Activity

The proposed project would install three new mooring dolphins (MD), with one at the north end of Berth III (MD#2) and two at the south end (MD#3 & MD#4), as shown in figure 2 in COK's IHA application (available online at *https://www.fisheries.noaa.gov/national/marine-mammal-protection/incidental-take-authorizations-construction-activities*). A total of 28 piles would be installed. Sixteen are temporary template piles and would be removed, as shown in table 1. Pile driving would be conducted from an anchored barge, using vibratory and impact hammers to install and remove piles. Due to limited overburden, DTH pile installation would be used to install rock sockets and tension anchors. A maximum of one pile per day would be installed.

TABLE 1—PROJECT PILE TYPES AND QUANTITIES

Location	Item	Size and type	Qty	Duration per pile	Strikes per pile (impact)	Piles per day (range)	Days of activity
MD#2	Dolphin and Fender Piles	48-in (1.22 m) steel pipe piles	6	Up to 14 hours (840 minutes)	0–1,500	1	70 days.
	Temporary Template Piles	Up to 30-in (0.76 m) steel pipe piles.	8		0–1,500	1	
MD#3	Dolphin Piles	36-in (0.9 m) steel pipe piles	3	Up to 14 hours (840 minutes)	0–1,500	1	95 days.
	Temporary Template Piles	Up to 30-in (0.76 m) steel pipe piles.	4		0–1,500	1	
MD#4	Dolphin Piles	36-in (0.9 m) steel pipe piles	3	Up to 14 hours (840 minutes)	0–1,500	1	

TABLE 1—PROJECT PILE TYPES AND QUANTITIES—Continued

Location	Item	Size and type	Qty	Duration per pile	Strikes per pile (impact)	Piles per day (range)	Days of activity
	Temporary Template Piles	Up to 30-in (0.76 m) steel pipe piles.	4		0–1,500	1	

Installation of MD#2 would require six 48-inch diameter steel pipe piles up to 190 ft (57.9 m) in length each. MD#3 and MD#4 each would require three 36-inch diameter steel pipe piles up to 120 ft (36.6 m) in length each. These piles would be installed in water depths ranging between approximately 60 ft (18.3 m) and 160 ft (48.8 m) deep and driven through approximately 10 ft (3.1 m) of loose, overburden substrate.

Due to the nature of deep-water pile installation in loose sediment, various means and methods are required to install a single pile. Each pile would be installed using various installation methods: vibratory, impact, and DTH pile driving installation. COK may alternate between installation methods depending on the conditions encountered. Only one installation method would occur at a time, but all three methods may be used in a single day. COK may also be required to splice on additional lengths of the pile (*i.e.,* weld piles together to make them longer), with up to three splices expected per pile.

COK would initially vibratory drive all permanent piles to first refusal, which occurs when they cannot advance the pile tip further with a vibratory hammer. This would likely happen at bedrock elevation. COK would seat (or secure) the tip of the pile into bedrock with an impact hammer, usually to a depth of 1 to 2 ft (0.3 to 0.6 m) into fractured bedrock. Once the pile has been seated (or secured) into bedrock with the impact hammer, DTH equipment would be employed to create rock sockets. Due to limited overburden, all piles require rock sockets. Sockets up to 20 ft (6.1 m) deep would be hammered through the pile shaft to the width of the associated pile. COK would then socket hammer the pile up to 20 ft (6.1 m) into bedrock. The pile would be drawn into the socket through the hammering action. Finally, a smaller 12-inch diameter DTH device would be used on several piles to drill a rock anchor hole into bedrock 60 ft (18.3 m) past the pile tip. A 16-inch diameter casing would be inserted into the pile, and an approximately 12-inch diameter hole would be drilled up to 60 ft (18.3 m) from the base of the rock socket. Three anchor rods would be inserted inside the casing, extending from the top of the pile to the bottom of the 12-inch hole. After component installation, the hammered 12-inch hole and pile casing would be filled with grout.

Temporary template piles would be required to install the permanent piles at MD#2, #3, and #4 to aid with construction. The temporary template piles would be removed after the permanent dolphin piles have been installed. At MD#2, temporary template piles would include up to eight 30-in (0.8 m) diameter piles or smaller (Table 1). MD#3 and MD#4 would each have up to four piles of up to 30 inches in diameter or smaller. Between all 3 MDs, there would be 16 temporary template piles. Once installed, each temporary template pile would measure around 150 ft (46 m) in length and would consist of up to three sections that would be spliced together as they are installed. Installation methods for the temporary template piles include vibratory driving piles to first refusal, and then secured into the bedrock with an impact hammer. Removal of the temporary template piles would only involve using a vibratory hammer.

Finally, once all dolphin piles are installed, an off-site prefabricated steel dolphin cap would be set on top of the piles and welded to the cap. No in-water work is associated with this feature. Additionally, one new off-site prefabricated grated catwalk, approximately 66 ft (20.1 m) in length and 264 ft^2 (24.5 m^2), would be set to provide access to the new MD#2. No in-water work is associated with this feature either. As such, we do not expect any effects on marine mammals from installing the dolphin caps and catwalk, and these components would not be considered further.

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

Table 2 lists all species or stocks for which take is expected and proposed to be authorized for this activity and summarizes information related to the population or stock, including regulatory status under the MMPA and the Endangered Species Act (ESA) and potential biological removal (PBR), where known. The MMPA defines PBR 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 comprise 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' U.S. Alaska SAR (Young *et al.* 2024). All values presented in table 2 below are the most recent available at the time of publication (including from the final 2023 SAR) and are available online at *https://www.fisheries.noaa.gov/national/marine-mammal-protection/marine-mammal-stock-assessments.*

TABLE 2—SPECIES WITH ESTIMATED TAKE FROM THE SPECIFIED ACTIVITIES

Common name [1]	Scientific name	Stock	ESA/ MMPA status; Strategic (Y/N) [2]	Stock abundance (CV, N_{min}, most recent abundance survey) [3]	PBR	Annual M/SI [4]
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):						
Fin Whale	*Balaenoptera physalus*	Northeast Pacific	E, D, Y	UND (UND, UND, 2013) [5]	UND	0.6
Humpback Whale	*Megaptera novaeangliae*	Hawai'i [6]	-,-,N	11,278 (0.56, 7,265, 2020)	127	27.09
		Mexico-North Pacific	T, D, Y	N/A (N/A, N/A, 2006) [7]	UND	0.57
Minke Whale	*Balaenoptera acutorostrata*	Alaska	-,-,N	N/A (N/A, N/A, N/A) [8]	UND	0
Odontoceti (toothed whales, dolphins, and porpoises)						
Family Delphinidae:						
Killer Whale	*Orcinus orca*	Eastern North Pacific Alaska Resident.	-,-,N	1,920, (N/A, 1,920, 2019) [9]	19	1.3
		Eastern North Pacific Northern Resident.	-,-,N	302 (N/A, 302, 2018)	2.2	0.2
		West Coast Transient	-,-,N	439 (N/A, 349, 2018)	3.5	0.4
Pacific White-sided Dolphin.	*Lagenorhynchus obliquidens*	N Pacific	-,-,N	26,880 (N/A, N/A, 1990)	UND	0
Family Phocoenidae (porpoises):						
Dall's Porpoise	*Phocoenoides dalli*	Alaska	-,-,N	UND (UND, UND, 2015) [10]	UND	37
Harbor Porpoise	*Phocoena phocoena*	Southern Southeast Alaska Inland Waters [11].	-,-,Y	890 (0.37, 610, 2019)	6.1	7.4
Order Carnivora—Pinnipedia						
Family Otariidae (eared seals and sea lions):						
Sea Lion	*Zalophus californianus*	U.S	-,-,N	257,606 (N/A, 233,515, 2014)	14,011	>321
Northern Fur Seal	*Callorhinus ursinus*	Eastern Pacific	-,D,Y	626,618 (0.2, 530,376, 2019) [12].	11,403	373
Steller Sea Lion	*Eumetopias jubatus*	Eastern	-,-,N	36,308 (N/A, 36,308, 2022) [13]	2,178	93.2
Family Phocidae (earless seals):						
Harbor Seal	*Phoca vitulina*	Clarence Strait	-,-,N	27,659 (N/A, 24,854, 2015)	746	40
Northern Elephant Seal	*Mirounga angustirostris*	CA Breeding	-,-,N	187,386 (N/A, 85,369, 2013)	5,122	13.7

[1] 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/*).

[2] 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.

[3] NMFS marine mammal stock assessment reports online at *www.nmfs.noaa.gov/pr/sars/.* 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).

[4] 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.

[5] The best available abundance estimate for this stock is not considered representative of the entire stock as surveys were limited to a small portion of the stock's range. Based upon this estimate and the Nmin, the PBR value is likely negatively biased for the entire stock.

[6] New SAR in 2022 following North Pacific humpback whale stock structure changes.

[7] Abundance estimates are based upon data collected more than 8 years ago and, therefore, current estimates are considered unknown.

[8] Reliable population estimates are not available for this stock. Please see Friday *et al.* (2013) and Zerbini *et al.* (2006) for additional information on numbers of minke whales in Alaska.

[9] N_{est}, or the best estimate of abundance, is based upon counts of individuals identified from photo-ID catalogs.

[10] The best available abundance estimate is likely an underestimate for the entire stock because it is based upon a survey that covered only a small portion of the stock's range.

[11] New stock split from Southeast Alaska stock.

[12] Survey years = Sea Lion Rock—2014; St. Paul and St. George Is—2014, 2016, 2018; Bogoslof Is.—2015, 2019.

[13] N_{est} is best estimate of counts, which have not been corrected for animals at sea during abundance surveys. Estimates provided are for the U.S. only.

As indicated above, all 13 species with 16 managed stocks in table 2 temporally and spatially co-occur with the activity to the degree that take is reasonably likely to occur.

For all species except humpback whales, there are no known biologically important areas (BIA) near the project site that COK's proposed activity would impact. For humpback whales, the inland waters of Southeast Alaska are a seasonal feeding BIA from May through September (Wild *et al.* 2023). However, due to development and human presence, Tongass Narrows and Clarence Strait are not essential portions of this habitat. Tongass Narrows is also a small passageway representing a tiny portion of the available habitat for humpback whales.

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 can hear. Not all marine mammal species have equal hearing capabilities

(*e.g.,* Richardson *et al.* 1995; Wartzok and Ketten 1999; Au and Hastings 2008). To reflect this, Southall *et al.* (2007, 2019) recommended that marine mammals be divided into hearing groups based on directly measured (behavioral or auditory evoked potential techniques) or estimated hearing ranges (behavioral response data, anatomical modeling, *etc.*). Generalized hearing ranges were chosen based on the ~65 decibel (dB) threshold from composite audiograms, previous analyses in NMFS (2024), and/or data from Southall *et al.* (2007) and Southall *et al.* (2019). We note that the names of two hearing groups and the generalized hearing ranges of all marine mammal hearing groups have been recently updated (NMFS 2024), as reflected below in table 3.

TABLE 3—MARINE MAMMAL HEARING GROUPS

[NMFS 2024]

Hearing group	Generalized hearing range *
Low-frequency (LF) cetaceans (baleen whales)	7 Hz to 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. The generalized hearing range was chosen based on a ~65 dB threshold from a composite audiogram, previous analysis in NMFS 2018, and/or data from Southall *et al.* (2007) and Southall *et al.* (2019). Additionally, animals can detect very loud sounds above and below that ''generalized'' hearing range.

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

Potential Effects of Specified Activities on Marine Mammals and Their Habitat

This section discusses how components of the specified activity may impact marine mammals and their habitat. The Estimated Take of Marine Mammals section later in this document includes a quantitative analysis of the number of individuals 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 can occur from impact pile driving, vibratory driving and removal, and DTH. The effects of underwater noise from COK's proposed activity have the potential to result in Level A and Level B harassment of marine mammals in the action area.

Description of Sound Sources

The marine soundscape is composed of both ambient and anthropogenic sounds. Ambient sound is defined as the all-encompassing sound in a given place and is usually a composite of sound from many sources, both near and far. The sound level of an area is defined by the total acoustical energy generated by known and unknown sources. These sources may include physical (*e.g.,* waves, wind, precipitation, earthquakes, ice, atmospheric sound), biological (*e.g.,* sounds produced by marine mammals, fish, and invertebrates), and anthropogenic sound (*e.g.,* vessels, dredging, aircraft, construction).

The sum of the various natural and anthropogenic sound sources at any given location and time—which are composed of ''ambient'' or ''background'' sound—depends not only on the source levels (as determined by current weather conditions and levels of biological and shipping activity) but also on the ability of sound to propagate through the environment. In turn, sound propagation depends on the spatially and temporally varying properties of the water column and sea floor and is frequency-dependent. As a result of the dependence on many varying factors, ambient sound levels can be expected to vary widely over both coarse and fine spatial and temporal scales. Sound levels at a given frequency and location can vary by 10–20 dB from day to day (Richardson *et al.* 1995). The result is that, depending on the source type and its intensity, sound from the specified activity may be a negligible addition to the local environment or form a distinctive signal that may affect marine mammals.

In-water construction activities associated with the project would include vibratory pile driving and pile removal, impact pile driving, and DTH pile installation. The sounds produced by these activities fall into one of two general sound types: impulsive and non-impulsive. Impulsive sounds (*e.g.,* explosions, gunshots, sonic booms, and impact pile driving) are typically transient, brief (less than 1 second), broadband, and consist of high peak sound pressure with rapid rise time and rapid decay (American National Standards Institute (ANSI) 1986; National Institute for Occupational Safety and Health (NIOSH) 1998; ANSI 2005; NMFS 2024). Non-impulsive sounds (*e.g.,* aircraft, machinery operations such as drilling or dredging, vibratory pile driving, and active sonar systems) can be broadband, narrowband or tonal, brief or prolonged (continuous or intermittent), and typically do not have high peak sound pressure with rapid rise/decay time that impulsive sounds do (ANSI 1995; NIOSH 1998; NMFS 2024). The distinction between these two sound types is important because they have differing potential to cause physical effects, particularly regarding hearing (*e.g.,* Ward 1997 in Southall *et al.* 2007).

Three types of hammers would be used in this project: impact, vibratory, and DTH. Impact hammers repeatedly drop a heavy piston onto a pile to drive the pile into the substrate. The sound generated by impact hammers is characterized by rapid rise times and high peak levels, a potentially injurious combination (Hastings and Popper 2005). Vibratory hammers install piles by vibrating them and allowing the hammer's weight to push them into the sediment. Vibratory hammers produce significantly less sound than impact hammers. Peak sound pressure levels (SPLs) may be 180 dB or greater but are

generally 10 to 20 dB lower than SPLs generated during impact pile driving of the same-sized pile (Oestman *et al.* 2009). Rise time is slower, reducing the probability and severity of injury, and sound energy is distributed over more time (Nedwell and Edwards 2002; Carlson *et al.* 2005).

A DTH hammer is used to place hollow steel piles or casings by drilling. A DTH hammer is a drill bit that drills through the bedrock using a pulse mechanism that functions at the bottom of the hole. This pulsing bit breaks up the rock to allow for the removal of debris and insertion of the pile. The head extends so that the drilling takes place below the pile. The sounds produced by DTH hammers were previously thought to be continuous. However, recent sound source verification (SSV) monitoring has shown that a DTH hammer can create an impulsive sound (Denes *et al.* 2019). Since sound from DTH activities has both impulsive and continuous components, NMFS characterizes sound from DTH pile installation as being impulsive when evaluating potential Level A harassment (*i.e.,* injury) impacts and as being non-impulsive when assessing potential Level B harassment (*i.e.,* behavior) effects.

COK's proposed activity could impact marine mammals through non-acoustic and acoustic stressors. Potential non-acoustic stressors could result from the physical presence of the equipment, vessels, and personnel; however, any impacts on marine mammals are expected to be primarily acoustic. Acoustic stressors include the effects of heavy equipment operation during pile installation and removal.

Acoustic Impacts

Introducing anthropogenic noise into the aquatic environment from pile driving and removal is the primary way COK's specified activity may harass marine mammals. 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). In general, exposure to pile driving and removal noise can result in auditory threshold shifts and behavioral disturbance (*e.g.,* avoidance, temporary cessation of foraging and vocalizing, and changes in dive behavior). Exposure to anthropogenic noise can also lead to non-observable physiological responses, such as increased stress hormones. Additional noise in a marine mammal's habitat can mask acoustic cues used by marine mammals to carry out daily functions such as communication and predator and prey detection. The effects of pile driving and removal noise on marine mammals are dependent on several factors, including, but not limited to, sound type (*e.g.,* impulsive vs. non-impulsive), the species, age and sex class (*e.g.,* adult male vs. mom with calf), duration of exposure, the distance between the pile and the animal, received levels, behavior at time of exposure, and previous history with exposure (Wartzok *et al.* 2003; Southall *et al.* 2007). Here, we discuss physical auditory effects (threshold shifts) followed by behavioral effects and potential impacts on habitat.

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 2024). The amount of threshold shift is customarily expressed in dB. A TS can be permanent or temporary. As described in NMFS (2024), there are numerous factors to consider when examining the consequences of TS, including, but not limited to, the signal temporal pattern (*e.g.,* impulsive or non-impulsive), the likelihood an individual would be exposed for a long enough duration or to a high enough level to induce a TS, the magnitude of the TS, time to recovery (seconds to minutes or hours to days), the frequency range of the exposure (*i.e.,* spectral content), the hearing and vocalization frequency range of the exposed species relative to the signal's frequency spectrum (*i.e.,* how an 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).

Permanent Threshold Shift (PTS)—NMFS defines PTS 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). Available data from humans and other terrestrial mammals indicate that a 40 dB threshold shift approximates PTS onset (see Ward *et al.* 1958, 1959; Ward 1960; Kryter *et al.* 1966; Miller 1974; Ahroon *et al.* 1996; Henderson *et al.* 2008). PTS levels for marine mammals are estimates. Other than the exception of a single study unintentionally inducing PTS in a harbor seal (Kastak *et al.* 2008), there is no empirical data measuring PTS in marine mammals, mainly because, for various ethical reasons, experiments involving anthropogenic noise exposure at levels inducing PTS are not typically pursued or authorized (NMFS 2024).

Temporary Threshold Shift (TTS)—This 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). Based on data from cetacean TTS measurements (see Southall *et al.* 2007), a TTS of 6 dB is considered the minimum threshold shift larger than any day-to-day or session-to-session variation in a subject's normal hearing ability (Schlundt *et al.* 2000; Finneran *et al.* 2000, 2002). As described in Finneran (2015), marine mammal studies have shown the amount of TTS increases with cumulative sound exposure level (SELcum) in an accelerating fashion: At low exposures with lower SELcum, the amount of TTS is typically small and the growth curves have shallow slopes. At exposures with higher SELcum, the growth curves become steeper and approach linear relationships with the noise 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 serious (similar to those discussed in auditory masking, below). For example, a marine mammal may be able to readily compensate for a brief, relatively small amount of TTS in a non-critical frequency range that takes place during a time when the animal is traveling through the open ocean, where ambient noise is lower and not as many competing sounds are present. Alternatively, a larger amount and longer duration of TTS sustained when communication is critical for successful mother/calf interactions could have more serious impacts. We note that reduced hearing sensitivity as a simple function of aging has been observed in marine mammals, humans, and other taxa (Southall *et al.* 2007). Therefore, we can infer that strategies exist for coping with this condition to some degree, though likely not without cost.

Currently, TTS data only exist for four species of cetaceans (bottlenose dolphin (*Tursiops truncatus*), beluga whale (*Delphinapterus leucas*), harbor porpoise, and Yangtze finless porpoise (*Neophocoena asiaeorientalis*)) and five species of pinnipeds exposed to a limited number of sound sources (*i.e.,* primarily tones and octave-band noise) in laboratory settings (Finneran 2015). TTS was not observed in trained spotted (*Phoca largha*) and ringed (*Pusa hispida*) seals exposed to impulsive noise at levels matching previous predictions of TTS onset (Reichmuth *et*

al. 2016). In general, harbor seals and harbor porpoises have a lower TTS onset than other measured pinniped or cetacean species (Finneran 2015). Additionally, the existing marine mammal TTS data come from a limited number of individuals within these species. No data on noise-induced hearing loss for mysticetes is available. For summaries of data on TTS in marine mammals or further discussion of TTS onset thresholds, please see Southall *et al.* (2007), Finneran and Jenkins (2012), Finneran (2015), and table 5 in NMFS (2024).

Installing piles for the project requires a combination of impact pile driving, vibratory pile driving, and DTH hammering. These activities would not occur simultaneously for the project, and there would likely be pauses in activities that produce the sound each day. Given these pauses and the fact that many marine mammals are likely moving through the action area and not remaining for extended periods, the potential for TS declines.

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

Disturbance may result in changing durations of surfacing and dives, number of blows per surfacing, or moving direction and/or speed; reduced/increased vocal activities; changing/cessation of certain behavioral activities (such as socializing or feeding); visible startle response or aggressive behavior (such as tail/fluke slapping or jaw clapping); and avoidance of areas where sound sources are located. Pinnipeds may increase their haul-out time to avoid in-water disturbance (Thorson and Reyff 2006). Behavioral responses to sound are highly variable and context-specific. Any reactions depend on numerous intrinsic and extrinsic factors (*e.g.,* species, state of maturity, experience, current activity, reproductive state, auditory sensitivity, and time of day), as well as the interplay between factors (*e.g.,* Richardson *et al.* 1995; Wartzok *et al.* 2003; Southall *et al.* 2007; Weilgart 2007; Archer *et al.* 2010). Behavioral reactions can vary among individuals and within an individual, depending on previous experience with a sound source, context, and numerous other factors (Ellison *et al.* 2012). They 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 cetaceans and generally seem less responsive to exposure to industrial sound than most cetaceans. Please see Appendices B and C of Southall *et al.* (2007) for a review of studies involving marine mammal behavioral responses to sound.

The disruption of feeding behavior can be difficult to correlate with anthropogenic sound exposure, so it is usually inferred by observed displacement from known foraging areas, the appearance of secondary indicators (*e.g.,* bubble nets or sediment plumes), or changes in dive behavior. As for other types of behavioral response, the frequency, duration, and temporal pattern of signal presentation, as well as differences in species sensitivity, are likely contributing factors to differences in response in any given circumstance (*e.g.,* Croll *et al.* 2001; Nowacek *et al.* 2004; Madsen *et al.* 2006; Yazvenko *et al.* 2007). Whether foraging disruptions are more likely to incur fitness consequences may be informed by 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.

In 2016, the Alaska Department of Transportation and Public Facilities (ADOT&PF) documented observations of marine mammals during construction activities (*i.e.,* pile driving and DTH drilling) at the Kodiak Ferry Dock (see 80 FR 60636, October 7, 2015). In that project's marine mammal monitoring report (Alaska Biological Research, Inc. (ABR) 2016), 1,281 Steller sea lions were observed within the Level B disturbance zone during pile driving or drilling (*i.e.,* documented as Level B harassment take). Of these, 19 individuals demonstrated alert behavior, 7 fled, and 19 swam away from the project site. All other animals (98 percent) were engaged in milling, foraging, or fighting activities and did not change their behavior. In addition, two sea lions approached within 65 ft (20 m) of active vibratory pile-driving activities, and three harbor seals were observed within the disturbance zone during pile-driving activities; none displayed disturbance behaviors. Fifteen killer whales and three harbor porpoises were also observed within the Level B harassment zone during pile driving. The killer whales were traveling or milling while all harbor porpoises were traveling. No signs of disturbance were noted for either of these species. Given the similarities in species, activities, and habitat, we expect similar behavioral responses of marine mammals to COK's specified activity. That is, disturbance, if any, is likely to be temporary and localized (*e.g.,* small area movements).

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

Neuroendocrine stress responses often involve the hypothalamus-pituitary-adrenal system. All stress-related neuroendocrine functions—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 usually place an animal at risk) and ''distress'' is the cost of the response. During a stress response, an animal uses glycogen stores that can quickly replenish 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). Stress responses due to exposure to anthropogenic sounds or other stressors and their effects on marine mammals have also been reviewed (Fair and Becker 2000; Romano *et al.* 2002b) and, more rarely, studied in wild populations (*e.g.,* Romano *et al.* 2002a). For example, Rolland *et al.* (2012) found that noise reduction from reduced ship traffic in the Bay of Fundy was associated with decreased stress in North Atlantic right whales. These and other studies lead to a reasonable expectation that some marine mammals 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 2003); however, distress is an unlikely result of this project based on observations of marine mammals during previous similar projects in the area.

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

Airborne Acoustic Effects—Pinnipeds near the project site could be exposed to airborne sounds associated with DTH and pile driving and removal. Depending on their distance from pile-driving activities, these sounds can cause behavioral harassment. Cetaceans are not expected to be exposed to airborne sounds that would result in harassment, as defined under the MMPA.

Airborne noise would primarily be an issue for swimming or hauled-out pinnipeds near the project site, within the range of noise levels above the acoustic thresholds. 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 about underwater sound. For instance, anthropogenic sound could cause hauled-out pinnipeds to exhibit changes in their normal behavior, such as reduced vocalizations, or cause them to abandon the area and move further from the source temporarily. However, these animals would previously have been ''taken'' because of exposure to underwater sound above the behavioral harassment thresholds, which are generally larger than those associated with airborne sound. Additionally, there are no haul outs near the project site. Thus, the behavioral harassment of these animals is already accounted for in underwater 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 further discussed.

Marine Mammal Habitat Effects

COK's construction activities could have localized, temporary impacts on marine mammal habitat and their prey by increasing in-water sound pressure levels and slightly decreasing water quality. Increased noise levels may affect the acoustic habitat (see masking discussion above) and adversely affect marine mammal prey near the project area (see discussion below). During DTH, impact, and vibratory pile driving or removal, elevated underwater noise levels would ensonify the project area where fish and mammals occur and could affect foraging success. Additionally, marine mammals may avoid the area during construction. However, displacement due to noise is expected to be temporary and not result in long-term effects on the individuals or populations.

In-Water Construction Effects on Potential Foraging Habitat

As previously mentioned, the project area does not contain habitat of known importance other than being designated as a feeding BIA for humpback whales between May and September. While the entirety of southeast Alaska is considered a feeding BIA for humpback whales, Tongass Narrows represents only a tiny segment. Additionally, the project area is highly influenced by anthropogenic activities.

The total seafloor area affected by pile installation and removal is small compared to the vast foraging area available to marine mammals in the area. At best, the impact area provides marginal foraging habitat for marine mammals and fish. Furthermore, pile driving and removal at the project site would not obstruct the movement or migration of marine mammals.

A temporary and localized increase in turbidity near the seafloor would occur in the immediate area surrounding the area where piles are installed or removed. In general, turbidity associated with pile installation is localized to about a 25-ft (7.6-m) radius around the pile (Everitt *et al.* 1980). The sediments of the project site would settle out rapidly when disturbed. Cetaceans are not expected to be close enough to the pile-driving areas to experience the effects of turbidity, and any pinnipeds could avoid localized turbid areas. Depending on the tidal stage, local strong currents are anticipated to disburse any additional suspended sediments produced by project activities at moderate to rapid rates. Therefore, we expect the impact from increased turbidity levels to be discountable to marine mammals and do not discuss it further.

The potential for prey (*i.e.,* fish) to temporarily avoid the immediate area is also possible. The duration of fish avoidance in this area after pile driving stops is unknown, but a rapid return to normal recruitment, distribution, and behavior is anticipated. Any behavioral avoidance by fish in disturbed areas would still leave significantly large

areas of fish and marine mammal foraging habitats nearby.

In-Water Construction Effects on Potential Prey

Sound may affect marine mammals by impacting the abundance, behavior, or distribution of prey species (*e.g.,* crustaceans, cephalopods, fish, and zooplankton). Marine mammal prey varies by species, season, and location. Here, we describe studies regarding the effects of noise on known marine mammal prey.

Fish use the soundscape and components of sound in their environment to perform important functions such as foraging, predator avoidance, mating, and spawning (*e.g.,* Zelick and Mann 1999; Fay 2009). Depending on their hearing anatomy and peripheral sensory structures, which vary among species, fish 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 fish depend on the overlapping frequency range, distance from the sound source, water depth of exposure, and species-specific hearing sensitivity, anatomy, and physiology. Key impacts on fish may include behavioral responses, hearing damage, barotrauma (pressure-related injuries), and mortality.

Fish react to sounds that are powerful 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 the effects of pile driving on fish, although several are based on studies supporting large, multiyear bridge construction projects (*e.g.,* Scholik and Yan 2001, 2002; Popper and Hastings 2009). Several studies have demonstrated that impulse sounds might affect the distribution and behavior of some fish, potentially impacting foraging opportunities or increasing energetic costs (*e.g.,* Fewtrell and McCauley 2012; Pearson *et al.* 1992; Skalski *et al.* 1992; Santulli *et al.* 1999; Paxton *et al.* 2017). However, some studies have shown no or slight reaction to impulse sounds (*e.g.,* Pena *et al.* 2013; Wardle *et al.* 2001; Jorgenson and Gyselman 2009; Popper *et al.* 2005).

SPLs of sufficient strength have been known to cause injury to fish and fish mortality. However, in most fish species, hair cells in the ear continuously regenerate, and loss of auditory function is likely restored when damaged cells are replaced with new cells. Halvorsen *et al.* (2012a) showed that a 4–6 dB TTS 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, can cause death, and is most likely for fish with swim bladders. Barotrauma injuries have been documented during controlled exposure to impact pile driving (Halvorsen *et al.* 2012b; Casper *et al.* 2013).

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

There are times of known seasonal marine mammal foraging in Tongass Narrows around fish processing/hatchery infrastructure (PND 2024) or when fish are congregating, but the affected areas of Tongass Narrows are a small portion of the total foraging habitat available in the region. In general, effects on marine mammal prey species are expected to be minor and temporary due to the short timeframe of the project and the small project footprint.

Increased turbidity from construction activities can adversely affect forage fish and juvenile salmonid out-migratory routes in the project area. Both herring and salmon form a significant prey base for Steller sea lions, whereas herring is the primary prey species of humpback whales; both herring and salmon are components of the diet of many other marine mammal species that occur in the project area. Increased turbidity is expected to happen near construction activities. However, suspended sediments and particulates are expected to dissipate quickly within a single tidal cycle. Given the limited area affected and high tidal dilution rates, any effects on forage fish and salmon are expected to be minor or negligible. In addition, best management practices would be in effect, limiting the extent of turbidity to the immediate project area. Finally, exposure to turbid waters from construction activities is not expected to differ from the current exposure; fish and marine mammals in the Tongass Narrows region are routinely exposed to substantial levels of suspended sediment from glacial sources.

In summary, given the temporary nature of the construction project and relatively small areas being affected, the DTH and pile driving and removal activities associated with the proposed action are not likely to have a permanent, adverse effect on any fish habitat or populations of fish species. Any behavioral avoidance by fish in disturbed areas would still leave significantly large areas of fish and marine mammal foraging habitats nearby. Thus, we conclude that the impacts of the specified activity are not likely to have more than short-term adverse effects on any prey habitat or populations of prey species. Further, any impacts on marine mammal habitats are not expected to result in significant or long-term consequences for individual marine mammals or to contribute to the adverse effects on their populations.

Estimated Take of Marine Mammals

This section estimates the number of incidental takes proposed for authorization through the IHA. This information will inform NMFS' consideration of ''small numbers,'' negligible impact determinations, and impacts on subsistence uses.

Harassment is the only type of take expected to result from these activities. Except for 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 disrupting behavioral patterns, including, but not limited to, migration, breathing, nursing, breeding, feeding, or sheltering (Level B harassment).

Authorized takes would predominantly be by Level B harassment, as using acoustic sources (*i.e.,* vibratory or impact pile driving and DTH) can potentially disrupt behavioral patterns for individual marine mammals. There is also some potential for auditory injury (AUD INJ) (Level A harassment) to result for 7 species (8 stocks). However, 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 the best available science indicates that marine mammals would likely 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. 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 in more detail and present the proposed take estimates.

Acoustic Criteria

NMFS recommends using acoustic criteria to identify the received level of underwater sound above which exposed marine mammals would reasonably expect to be behaviorally harassed (equated to Level B harassment) or incur AUD INJ of some degree (equated to Level A harassment). We note that the criteria for AUD INJ and 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 the 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 complex 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 predictable and measurable metric for most activities, NMFS typically uses a generalized acoustic threshold based on the 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. In most cases, the likelihood of TTS occurring at distances from the source is less than at which behavioral harassment is probable. TTS of a sufficient degree can manifest as behavioral harassment, as reduced hearing sensitivity and the potential reduced opportunities to detect essential signals (conspecific communication, predators, and prey) may result in changes in behavior patterns that would not otherwise occur.

COK's proposed activity includes continuous (vibratory pile driving, DTH drilling) and impulsive (impact pile driving, DTH hammering) sources; 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) (NMFS 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). COK's proposed activity includes using impulsive (impact pile driving, DTH pile installation) and non-impulsive (vibratory pile driving/removal, DTH pile installation) sources.

The 2024 Updated Technical Guidance criteria include updated thresholds and weighting functions for each hearing group, provided in table 4 below. The references, analysis, and methodology used to develop 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 4—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 ($L_{p,0\text{-}pk}$) has a reference value of 1 µPa, and weighted cumulative sound exposure level ($L_{E,p}$) has a reference value of 1 μPa^2s. In this table, the criteria are abbreviated to be more reflective of the International Organization for Standardization (ISO) standards (ISO 2017; ISO 2020). The subscript ''flat'' is included to indicate peak sound pressure is flat-weighted or unweighted within the underwater generalized hearing range of marine mammals (*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 many 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 the operational and environmental parameters of the activity 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.,* vibratory pile driving, vibratory pile removal, impact pile driving, and DTH pile installation).

Level B Harassment Zones

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, bottom composition, and topography. The general formula for underwater TL is:

$TL = B * Log_{10} (R_1/R_2)$,

Where

TL = transmission loss in dB

B = transmission loss coefficient; for practical spreading equals 15

R_1 = the distance of the modeled SPL from the driven pile, and

R_2 = the distance from the driven pile of the initial measurement

This formula neglects loss due to scattering and absorption, which is assumed to be zero here. The degree to which underwater sound propagates away from a sound source depends on various factors, most notably the water bathymetry and the presence or absence of reflective or absorptive conditions, including in-water structures and sediments. Spherical spreading occurs in a perfectly unobstructed (free-field) environment not limited by depth or water surface, resulting in a 6 dB reduction in sound level for each doubling of distance from the source (20*log[range]). Cylindrical spreading occurs in an environment in which sound propagation is bounded by the water surface and sea bottom, resulting in a reduction of 3 dB in sound level for each doubling of distance from the source (10*log[range]). A practical spreading value of 15 is often used under conditions such as the project site, 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. Practical spreading loss is assumed here.

The intensity of pile driving sounds is greatly influenced by factors such as the type of piles, hammers, and the physical environment in which the activity occurs. To calculate the distances to the Level A harassment and the Level B harassment sound thresholds for the methods and piles being used in this project, NMFS used acoustic monitoring data from other locations to develop proxy source levels for the various pile types, sizes, and methods. The project includes vibratory and impact pile installation of steel pipe piles, vibratory removal of steel pipe piles, and DTH. Source levels for each pile size and driving method are presented in table 5.

TABLE 5—PROXY SOUND SOURCE LEVELS FOR PILE SIZES AND DRIVING METHODS

Method and pile size	Sound source level at 10 meters			Literature source
	dB RMS re 1µPa	dB peak re 1µPa	dB SEL re 1µPa²sec	
Vibratory Hammer				
30-inch	166			Denes *et al.* 2016
36-inch	166			Austin *et al.* 2016
48-inch	171			Austin *et al.* 2016
Impact Hammer				
30-inch	190	210	177	Denes *et al.* 2016, Caltrans 2015
36-inch	193	210	183	Austin *et al.* 2016, Caltrans 2015
48-inch	192	213	179	Caltrans 2020
DTH Pile Installation				
DTH Sockets (30-inch)	174	194	164	Reyff & Heyvaert (2019), Reyff (2020), Denes *et al.* (2016), Denes *et al.* (2019)
DTH Sockets (36-inch)	174	194	164	Reyff & Heyvaert (2019), Reyff (2020), Denes *et al.* (2016), Denes *et al.* (2019)
DTH Sockets (48-inch)	178		168	Extrapolated from DTH SSV studies listed below; Denes *et al.* (2016)
DTH Anchors (12-inch)	167	146	172	Guan and Miner (2020)

SS SEL = single strike sound exposure level; dB peak = peak sound level; rms = root mean square.

Using the practical spreading model, NMFS determined underwater noise would fall below the behavioral effects threshold of 120 dB rms for marine mammals at a maximum radial distance of 11,659.1 m for vibratory pile driving of 30- and 36-inch diameter piles, and 25,118.9 m for vibratory pile driving of 48-inch diameter piles. Other activities, including rock anchoring and impact pile driving, have smaller Level B harassment zones. All Level B harassment isopleths are reported in table 7 below. It should be noted that based on the geography of Tongass Narrows and the surrounding islands, the sound would not reach the entire distance of the Level B harassment isopleths. Land masses would truncate the largest Level B Harassment isopleth at approximately 12,500 m to the southeast and approximately 3,590 m northwest of the project area. Constraining land masses include Revillagigedo Island, Gravina Island, Pennock Island, and Spire Island.

Level A Harassment Zones

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 predict an isopleth distance in conjunction with marine mammal density or occurrence to help predict potential takes. We note that because of some of the assumptions included in the methods underlying this optional tool, we anticipate that the resulting isopleth estimates would typically be overestimates of some degree, which may result in an overestimation 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 impact or vibratory pile driving and removal, the optional User Spreadsheet tool predicts the distance at which, if a marine mammal remained at that distance for the duration of the activity, it would be expected to incur AUD INJ. Inputs used in the optional User Spreadsheet tool (table 6), the resulting estimated isopleths, and the calculated Level A and Level B harassment isopleths (table 7), are reported below.

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

Equipment type	Vibratory pile driving		Impact pile driving			DTH Sockets			DTH Anchor
	30-, 36-in steel piles	48-in steel piles	30-in steel piles	36-in steel piles	48-in steel piles	30-in	36-in	48-in	12-in rock anchor
Spreadsheet Tab Used.	A.1) Vibratory Pile Driving		E.1) Impact Pile Driving			E.2) DTH Systems.			
Source Level (dB re: 1 μPa).	166 RMS	171 RMS	177 SEL/190 RMS.	183 SEL/193 RMS.	180 SEL/192 RMS.	164 SEL	164 SEL	168 SEL	146 SEL.
Weighting Factor Adjustment (kHz).	2.5		2			2			2.5.
Activity Duration within 24 hours [1].	Up to 8 hrs OR Up to 14 hrs		10 minutes/20 minutes/30 minutes			Up to 4 hrs OR Up to 8 hrs.	Up to 3 hrs OR Up to 4 hrs.	Up to 4 hrs OR Up to 8 hrs.	Up to 4 hrs.
Strike per second						5.8.			
Number of strikes per pile.			Up to 500 strikes/501–1,000 strikes/1,001–1,500 strikes.						
Number of piles per day.	1		1			1.			
Propagation (xLogR)	15		15			15.			
Distance of sound pressure level measurement (m).	10		10			10.			

[1] The application states that in order to calculate Level A isopleths, a maximum duration of 14 hours of noise-generating activity is used. Actual daily durations would not exceed 12 hours, and may be less than 12 hours.

TABLE 7—CALCULATED LEVEL A HARASSMENT AND LEVEL B HARASSMENT ISOPLETHS

Source	Daily duration [1]	AUD INJ onset isopleth (m)					Level B harassment isopleth (m)
		Cetaceans			Pinnipeds		
		Low-frequency	High-frequency	Very high-frequency	Phocid	Otariid	
30- and 36-inch Vibratory (Installation or Removal)	8 hours	79.5	30.5	64.9	102.3	34.4	11,659.1
	14 hours	115.4	44.3	94.3	148.6	50.0	.....
48-inch Vibratory	8 hours	171.2	65.8	139.9	220.4	74.2	25,118.9
	14 hours	248.7	95.5	203.1	320.1	107.7	.....
30-inch Impact	10 minutes	249.5	31.8	386.2	221.7	82.6	1,000.0
	20 minutes	396.1	50.5	613.0	351.9	131.2	.....
	30 minutes	519.1	66.2	803.3	461.1	171.9	.....
36-inch Impact	10 minutes	626.8	80.0	970.0	556.8	207.6	1,584.9
	20 minutes	995.0	127.0	1,539.8	883.9	329.5	.....
	30 minutes	1,303.8	166.4	2,017.7	1,158.3	431.8	.....
48-inch Impact	10 minutes	395.5	50.5	612.0	351.3	131.0	1,359.4
	20 minutes	627.8	80.1	971.5	557.7	207.9	.....
	30 minutes	822.7	105.0	1,273.1	730.8	272.4	.....
30- and 36-inch Down-the-Hole	4 hours	1,028.9	131.3	1,592.1	914.0	340.7	39,810.7
	8 hours	1,633.2	208.4	2,527.4	1,450.9	540.8	.....
48-inch Down-the-Hole	4 hours	1,901.2	242.6	2,942.0	1,688.9	629.6	73,564.2
	8 hours	3,017.9	385.1	4,670.2	2,681.0	999.4	.....
12-inch Rock Anchor	Up to 4 hours	64.3	9.8	179.5	60.9	27.9	13,593.6

[1] In order to calculate Level A isopleths, a maximum duration of 14 hours of noise-generating activity was used. Actual daily durations would not exceed 12 hours, and may be less than 12 hours.

Marine Mammal Occurrence

This section provides information about the marine mammals that are anticipated or could potentially occur in the action area during the project construction. For ease, this information has been summarized in table 8 and includes the frequency, average group size, expected occurrence, and source reference of each marine mammal species. It is based on historical data of occurrence, seasonality, and group size in the Tongass Narrows and around the Ketchikan area specifically, where possible. This information is based on consultation with previous IHAs, monitoring reports, information from the application, and references cited. For more detailed information, 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. This occurrence information then informs the take calculation in the next section (please see Take Estimation and table 9).

To accurately describe species occurrence near the action area, marine mammals were described as either common (confirmed and regular/daily sightings), frequent (confirmed and with some consistency during most monitoring efforts in the project vicinity; assumes weekly occurrence), infrequent (confirmed but irregular sightings during most monitoring efforts in the project vicinity; assumes monthly or every other month occurrence), or rare (a few sightings annually).

TABLE 8—ESTIMATED OCCURRENCE OF GROUP SIGHTINGS OF MARINE MAMMAL SPECIES

Species	Frequency	Average group size	Expected occurrence	Reference
Humpback whale	Frequent	2	2x/week	Dalheim *et al.* (2009), PND (2024).
Minke whale	Rare	1	Annually	Dalheim *et al.* (2009), PND (2024).
Fin whale	Rare	2	2x/year	Crance *et al.* (2023), PND (2024), 88 FR 46746.
Gray whale	Infrequent	1	Monthly	Dalheim *et al.* (2009), PND (2024).
Killer whale	Infrequent	10	Monthly	Dalheim *et al.* (2009), PND 2024.
Pacific white-sided dolphin	Frequent	20	Weekly	Dalheim *et al.* (2009), PND (2024), 84 FR 36891.
Harbor porpoise	Infrequent	5	2x/month	PND (2024), Sitkiewicz (2020).
Dall's porpoise	Infrequent	15	Monthly	Dalheim *et al.* (2009), PND (2024), 84 FR 36891.
Steller sea lion	Common	10 (Sept–Feb), 20 (Mar–Aug).	Daily	PND (2024).
California sea lion	Rare	1	Every 2 months	Maniscalco *et al.* (2004), PND (2024).
Northern fur seal	Rare	2	Annually	PND (2024).
Harbor seal	Common	3	3x/daily	PND (2024), Sitkiewicz (2020).
Northern Elephant Seal	Frequent	1	Weekly	PND (2024).

Take Estimation

Here, we describe how the information provided above is synthesized to produce a quantitative estimate of the take that is reasonably likely to occur and is proposed for authorization. Once again, NMFS carefully considered all information and analyses the applicant presented as well as information in recent IHAs and monitoring reports for projects in the nearby area. Since reliable densities are not available, the applicant requests take based on the maximum number of animals that may occur in the area in a specified measure of time multiplied by the total duration of the activity.

The number of marine mammals that may be exposed to harassment thresholds was calculated by estimating the likelihood of a marine mammal being present within a harassment zone during the associated activities (table 9). That is, group size was multiplied by the frequency (*e.g.,* 3x/day for harbor seals, 2x/month for harbor porpoises, 0.5x/month for California sea lions) multiplied by the project duration, either 166 days, or 23.7 weeks, or 5.5 months. Calculations were then rounded up to a whole number.

The calculations were modified for humpback whales and Steller sea lions. For humpback whales, group size (2) is multiplied by frequency (2x/week, which is 23.7 weeks × 2) multiplied by 0.976 percent, which is the apportionment of whales for the Hawai'i stock (Lizewski *et al.* 2021). This equates to 93 total proposed takes for the Hawai'i stock of humpback whales. For the Mexico-North Pacific stock, 0.024 percent of whales are apportioned (Lizewski *et al.* 2021), which equates to 3 total proposed takes. For Steller sea lions, 0.75 percent of estimated takes are apportioned to the group size of 10 individuals that are anticipated to occur daily from September to February, and 0.25 percent of estimated takes are apportioned to the group size of 20 individuals that are anticipated to occur daily from March to August. This equates to 1,810 total proposed takes of the Eastern U.S. stock of Steller sea lions. All numbers were then rounded up to the nearest whole number.

As table 9 shows, we calculated Level B takes for all 13 species (16 stocks). However, several species were calculated as having just one Level A take. Therefore, we considered the size of the animal, the frequency of the animal in the project area, as well as the shutdown zone sizes for each species. No Level A takes are proposed for authorization for minke, fin, gray, and killer whales, and northern fur seal and California sea lion. The proposed Level A takes for two other species were rounded up based on average group size. Since Pacific white-sided dolphins have an average group size of 20 animals, we increased the proposed Level A takes for Pacific white-sided dolphins to 20. Similarly for Dall's porpoise, because the average group size is 15, we increased the proposed Level A takes to 15.

Table 9 summarizes the proposed authorized take by Level A and Level B harassment, the total proposed take, and the proposed take as a percentage of stock abundance.

TABLE 9—PROPOSED AUTHORIZED TAKE BY LEVEL A AND LEVEL B HARASSMENT AND AS A PERCENTAGE OF STOCK ABUNDANCE

Common name	Stock	Stock abundance [1]	Authorized take			Percent of stock
			Level A	Level B	Total proposed take	
Humpback whale	Hawai'i	11,278	10	[2] 83	93	0.8
	Mexico-North Pacific	[3] N/A	1	2	3	N/A
Minke whale	Alaska	N/A	0	1	1	N/A
Fin whale	Northeast Pacific	[4] UND	0	3	3	N/A
Gray whale	Eastern North Pacific	26,960	0	5	5	0.02
Killer Whale	Eastern North Pacific Alaska Resident.	1,920	0	55	55	2.9
	Eastern North Pacific Northern Resident.	302				18.2
	West Coast Transient	349				15.8
Pacific white-sided dolphin	North Pacific	26,880	20	473	493	1.8
Harbor porpoise	Southern Southeast Alaska Inland Waters.	890	10	46	56	6.3
Dall's porpoise	Alaska	UND	15	69	84	N/A
Steller sea lion	Eastern U.S.	36,308	30	1,780	1,810	5.0
California sea lion	U.S.	257,606	0	2	2	0.0008
Northern fur seal	Eastern Pacific	626,618	0	1	1	0.0002
Harbor seal	Clarence Strait	27,659	129	1,365	1,494	5.4
Northern elephant seal	California	187,386	3	21	24	.01

[1] Stock size is N_{best} (*i.e.,* the statistical estimate of the overall population size) according to NMFS 2023 Final Stock Assessment Reports.
[2] For MMPA take apportionment and ESA section 7 consultation purposes, 2.4 percent are designated to the Mexico-North Pacific stock, and the remaining are designated to the Hawai'i stock.
[3] N/A indicates data are not available/unknown.
[4] UND (undetermined) indicates data are unavailable to calculate stock abundance data (see the SAR for details).

Proposed Mitigation

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. NMFS pays particular attention to rookeries, mating grounds, and areas of similar significance, as well as the availability of the species or stock for taking for certain subsistence uses (latter not applicable for this action). NMFS regulations require applicants for incidental take authorizations to include information about the availability and feasibility (economic and technological) of equipment, methods, and manner of conducting the activity or other means of effecting the least practicable adverse impact upon the affected species or stocks, and their habitat (50 CFR 216.104(a)(11)).

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

(1) How and the degree to which the successful implementation of the measure(s) is expected to reduce impacts on marine mammals, marine mammal species or stocks, and their habitat. This considers the nature of the potential adverse effects being mitigated (likelihood, scope, range). It further considers the likelihood that the measure would be effective if implemented (probability of accomplishing the mitigating result if implemented as planned), the likelihood of effective implementation (probability of implementation as planned), and

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

In addition to the measures described later in the Proposed Monitoring and Reporting section and all mitigation measures described in COK's Marine Mammal Monitoring Plan, the following mitigation measures would also apply to COK's in-water construction activities.

- *Implementation/Coordination*—Qualified, trained Protected Species Observers (PSOs) would implement mitigation measures. PSOs would be located on-site before, during, and after permitted activities to monitor protected species within (and approaching) mitigation zones. PSOs would be in constant contact with the construction personnel to implement appropriate mitigation measures.

An employee of the construction contractor would be identified as the monitoring coordinator for PSOs at the start of each construction day. PSOs would report directly to the monitoring coordinator when a shutdown is deemed necessary. Briefings must be conducted between construction supervisors and crews and the marine mammal monitoring team before the start of all pile driving activity and when new personnel join the work to explain responsibilities, communication procedures, marine mammal monitoring protocol, and operational procedures.

- *PSOs*—COK must employ PSOs who would monitor the project area to the maximum extent possible based on the required number of PSOs, required monitoring locations, and environmental conditions. The number, placement, and qualifications of PSOs during all pile driving and removal activities (described in detail in the Monitoring and Reporting section) would ensure that the entire shutdown zone is visible during pile installation. Should environmental conditions deteriorate such that marine mammals within the entire shutdown zone may not be visible (*e.g.,* fog, heavy rain), pile driving and removal must be delayed until the PSO is confident marine mammals within the shutdown zone can be detected.

- *Pre-activity Monitoring*—Before starting daily in-water construction activity, or whenever a break in pile driving/removal of 30 minutes or longer occurs, PSOs would observe the shutdown and monitoring zones for 30 minutes. The shutdown zone would be

considered cleared when a marine mammal has not been observed within the zone for those 30 minutes. If a marine mammal is observed within the shutdown zone, a soft-start cannot proceed until the animal has left the zone or has not been observed for 15 minutes. When a marine mammal for which take is authorized is present in the harassment zone, activities may begin. If work ceases for more than 30 minutes, the pre-activity monitoring of the shutdown zones would commence.

• *Soft Start*—Soft-start procedures are believed to provide additional protection to marine mammals by warning and/or giving marine mammals a chance to leave the area before the hammer operates at full capacity. For impact pile driving, COK must provide an initial set of three strikes from the hammer at reduced energy, followed by a 30-second waiting period. This procedure would be conducted three times before impact pile driving begins. 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 30 minutes or longer.

• *Installation*—Vibratory installation would be used as the primary method of pile installation to minimize impacts on marine mammals and their prey. Impact driving would be minimized and used only as needed to seat the pile in its final position or penetrate material too dense for a vibratory hammer.

• *Scheduling*—Pile driving or removal activities must occur during daylight hours. Actual daily durations would not exceed 12 hours of in-water work. As only one pile would be driven per day, it is extremely unlikely that any work would extend into the night. This would only occur if there is a safety risk to leaving any structure as-is until the following day when the sun has risen. If poor environmental conditions restrict visibility of the shutdown zones (*e.g.,* from excessive wind or fog, high Beaufort sea state), pile installation may not be initiated. Work begun with a fully cleared Level B harassment zone may continue during inclement weather (*e.g.,* fog, heavy rain) or periods of limited visibility.

• *Establishment of Shutdown Zones*—Shutdown zones for all pile driving and removal activities have been established and can be found in table 10. A shutdown zone generally defines an area where the activity would shut down upon sighting a marine mammal (or anticipating an animal to enter the defined area). Shutdown zones would vary based on the activity type and marine mammal hearing group (table 3). Although only one pile would be installed per day, due to sediment characteristics and variation in pile sizes, COK does not know how much time would be required for vibratory driving/removal and DTH installation at each pile or how many strikes would be required for impact installation. Given this uncertainty and concerns related to ESA-listed humpback whales and fin whales, COK would use a tiered system to identify and monitor appropriate shutdown zones based on activity duration or the number of strikes required for pile installation or removal. During vibratory driving/removal and DTH pile installation, the shutdown zone size initially would be set at the largest tier or maximum scenario for the day (according to the defined duration intervals in tables 7 and 10). This will determine the appropriate Level A harassment isopleths and associated shutdown zones for that day. Therefore, the start of each day will assume a shutdown zone size for 14 hours of vibratory driving/removal and 8 hours of DTH installation. Shutdown zones would be reduced to the smaller zone (*i.e.,* the shutdown zone size for 8 hours of vibratory driving/removal and 4 hours of DTH installation) if conditions indicate that less time for installation/removal is necessary. Similarly, for impact driving, the shutdown zone initially would be set to the largest tier or maximum scenario at the start of the day (*i.e.,* the shutdown zone size for 1,001–1,500 strikes). If, as the activity progresses, fewer than 1,000 strikes are expected, the shutdown zone could decrease to either Tier 2 (the shutdown zone size from 501–1,000 strikes) or Tier 1 (the shutdown zone size from 0–500 strikes).

• If a marine mammal enters or is observed within an established shutdown zone, pile driving must be halted or delayed. Pile driving may not commence or resume until either the animal has voluntarily left and been visually confirmed beyond the shutdown zone, or 15 minutes have passed without subsequent detections.

• All personnel, including construction supervisors and crews, PSOs, and relevant staff, must avoid direct physical interaction with marine mammals during construction activity. If a marine mammal comes within 10 m 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.

• For those marine mammals for which take has not been authorized, in-water pile installation and removal would shut down immediately if such species are observed within or entering the Level A or Level B harassment zone.

• If take reaches the authorized limit for an authorized species, pile installation and removal would be stopped as these species approach the Level A or Level B harassment zone to avoid additional take.

TABLE 10—SHUTDOWN AND MONITORING ZONES FOR EACH DRIVING/REMOVAL ACTIVITY

Pile size	Low frequency cetacean shutdown area (m)	High frequency cetacean shutdown area (m)	Very high frequency cetacean shutdown area (m)	Phocid pinniped shutdown area (m)	Otariid pinniped shutdown area (m)	Level B harassment zone (m)
Vibratory Pile Driving/Removal						
30-, 36-inch piles up to 8 hrs	80	40	70	110	40	11,660
30-, 36-inch piles up to 14 hrs	120	50	100	150	50	
48-inch piles up to 8 hrs	180	70	140	230	80	[1] 12,500
48-inch piles up to 14 hrs	250	100	210	300	110	
Impact Pile Driving						
30-inch piles 1–500 strikes (10 min)	250	40	300	230	90	1,000
30-inch piles 501–1,000 strikes (20 min)	400	60	300	300	140	
30-inch piles 1,001–1,500 strikes (30 min)	520	70	300	300	180	

TABLE 10—SHUTDOWN AND MONITORING ZONES FOR EACH DRIVING/REMOVAL ACTIVITY—Continued

Pile size	Low frequency cetacean shutdown area (m)	High frequency cetacean shutdown area (m)	Very high frequency cetacean shutdown area (m)	Phocid pinniped shutdown area (m)	Otariid pinniped shutdown area (m)	Level B harassment zone (m)
36-inch piles 1–500 strikes (10 min)	630	80	300	300	210	1,590
36-inch piles 501–1,000 strikes (20 min)	1,000	130	300	300	300	
36-inch piles 1,001–1,500 strikes (30 min)	1,310	170	300	300	300	
48-inch piles 1–500 strikes (10 min)	400	60	300	300	140	1,360
48-inch piles 501–1,000 strikes (20 min)	630	90	300	300	210	
48-inch piles 1,001–1,500 strikes (30 min)	830	110	300	300	280	
DTH Socket						
30-, 36-inch piles up to 4 hrs	1,030	140	300	300	300	12,500
30-, 36-inch piles up to 8 hrs	1,640	210	300	300	300	
48-inch piles up to 4 hrs	1,910	250	300	300	300	12,500
48-inch piles up to 8 hrs	[2] 2,000	390	300	300	300	
DTH Anchor						
12-inch up to 4 hrs	70	10	180	70	30	12,500

[1] Represents the largest Level B Harassment isopleth. Note that land masses truncate the isopleth at 12,500 m.
[2] 2,000 m (2 km) is the maximum realistic expectation for sighting large mysticetes.

NMFS notes that sighting ranges for species depend on the species' size and activity level in combination with observer positioning. For example, a realistic expectation for sighting large mysticetes is a maximum of approximately 2 km. Similarly, it would be difficult for PSOs to see small or cryptic species at ranges over approximately 300 m (*e.g.,* harbor seals and harbor porpoises). Shutdown zones for these species are therefore smaller than the calculated Level A harassment isopleths, and Level A take for these species has been proposed. Additionally, NMFS notes that shutdown zones are rounded up to the nearest 10 m from the AUD INJ onset isopleth.

NMFS and the applicant considered the use of a bubble curtain as a mitigation measure. Bubble curtains are used to reduce the extent of the ensonified areas as well as reduce the sound levels within the ensonified areas. However, the applicant has not proposed a bubble curtain as a mitigation measure because sound transmission would be truncated by land masses, thereby obstructing sound transmission and confining the action area. These land masses are Revillagigedo Island, Gravina Island, Pennock Island, and Spire Island, at approximately 12.5 km to the southeast and approximately 3.59 km northwest of the project area. Given the proposed locations of PSOs and the relatively narrow channels, NMFS concurs that use of a bubble curtain is not necessary to effect the least practicable adverse impact on marine mammals.

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

Proposed Monitoring and Reporting

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 would 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 to compliance and ensuring 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 the: (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.

Visual Monitoring

Qualified, NMFS-approved PSOs must conduct monitoring in accordance with COK's Marine Mammal Monitoring Plan and Section 5 of the IHA. PSOs would be present during all pile installation and removal activities, including vibratory, impact, and DTH methods, in accordance with the following:

• Observer training must be provided before the project starts and shall include instruction on species identification (sufficient to distinguish the species in the project area), description and categorization of observed behaviors, and interpretation of behaviors that may be construed as being reactions to the specified activity, proper completion of data forms, and other basic components of biological monitoring, including tracking of observed animals or groups of animals such that repeat sound exposures may be attributed to individuals (to the extent possible).

• All PSOs must have no other project-related tasks while conducting monitoring.

• PSOs shall be placed at the best vantage point(s) practicable to monitor for marine mammals and implement shutdown or delay procedures when applicable through communication with the equipment operator.

• Monitoring would be conducted 30 minutes before, during, and 30 minutes after pile driving/removal activities. In addition, observers shall record all incidents of marine mammal occurrence, regardless of distance from activity, and shall document any behavioral reactions in concert with the distance from piles being driven or removed. Pile driving/removal activities include the time to install or remove a single pile or series of piles, as long as the time elapsed between uses of the pile driving equipment is no more than 30 minutes.

• At least three PSOs would be on duty during all vibratory installation/removal, impact installation, and DTH. PSOs would be stationed along Tongass Narrows at locations that provide optimal visual coverage for shutdown and monitoring zones (see figure 3 in COK's Marine Mammal Monitoring Plan). PSOs would monitor for marine mammals entering the Level B harassment zones; the position(s) may vary based on the construction activity and the location of piles or equipment. To maximize the visual coverage of shutdown and monitoring zones, observers would use elevated platforms at observation points to the extent practicable. Observers would contact each other via two-way radio and a cellular phone used as backup communication.

• PSOs would scan the waters using binoculars and/or spotting scopes and a handheld range-finder device to verify the distance to each sighting from the project site.

PSO Qualifications

• COK would adhere to the following PSO qualifications: (i) Independent observers (*i.e.,* not construction personnel) are required; (ii) One PSO would be designated as the lead PSO or monitoring coordinator, and that observer must have prior experience working as an observer; (iii) Other observers may substitute education (degree in biological science or related field) or training for experience; and (iv) COK must submit observer curricula vitae for approval by NMFS.

• Additional standard observer qualifications include: (i) Ability to conduct field observations and collect data according to assigned protocols; (ii) Experience or training in the field identification of marine mammals, including the identification of behaviors; (iii) Sufficient training, orientation, or experience with the construction operation to provide for personal safety during observations; (iv) Writing skills sufficient to prepare a report of observations including but not limited to the number and species of marine mammals observed; dates and times when in-water construction activities were conducted; dates and times when in-water construction activities were suspended to avoid potential incidental injury from construction sound of marine mammals observed within a defined shutdown zone; and marine mammal behavior; and (v) 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.

Reporting

A draft marine mammal monitoring report would be submitted to NMFS within 90 days after the completion of pile driving and removal activities or 60 days before the requested date of issuance of any future IHAs for projects at the exact location, whichever comes first. The report would include an overall description of work completed, a narrative regarding marine mammal sightings, and associated PSO data sheets. Specifically, the report must include:

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

• Construction activities occurring during each daily observation period, including the number and type of piles driven or removed and by what method (*i.e.,* impact, vibratory, or DTH);

• PSO locations during marine mammal monitoring; and

• Environmental conditions during monitoring periods (at the beginning and end of a 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 is required:

• The name of the PSO who sighted the animal(s), the PSO's location, and activity at the time of the sighting;

• The time of the sighting;

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

• The distance and bearing of each marine mammal observed relative to the pile being driven for each sighting (if pile driving was occurring at the time of sighting);

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

• The estimated number of animals by cohort (adults, juveniles, neonates, group composition, sex class, *etc.*);

• The animal's closest point of approach and estimated time spent within the harassment zone;

• A 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);

• The number of marine mammals detected within the harassment zones by species (differentiated by month as appropriate); and

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

Finally, COK must also submit all PSO datasheets and/or raw sighting data in an electronic tabular format with the draft report, as specified in Section 6 of the IHA. If no comments are received from NMFS within 30 days, the draft report would constitute the final report. If comments are received, a final report addressing NMFS comments must be submitted within 30 days after receipt of comments.

Reporting Injured or Dead Marine Mammals

In the unanticipated event that the specified activity causes the take of a marine mammal in a manner prohibited by the IHA (if issued), such as an injury,

serious injury, or mortality, COK must immediately cease the specified activities and report the incident to the NMFS Office of Protected Resources (*PR.ITP.MonitoringReports@noaa.gov*), and the NMFS Alaska 24-hour Regional Stranding Hotline (877) 925–7773 or (877) 9–AKR–PRD. The report must include the following information:

- 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;
- If available, photographs or video footage of the animal(s); and
- General circumstances under which the animal was discovered.

Activities would not resume until NMFS can review the circumstances surrounding the prohibited take. NMFS would work with COK to determine what is necessary to minimize the likelihood of further prohibited take and ensure MMPA compliance. COK cannot resume their activities until NMFS has notified them via letter, email, or telephone.

If COK discovers an injured or dead marine mammal, and the lead PSO determines that the cause of the injury or death is unknown and the death is relatively recent (*e.g.,* in less than a moderate state of decomposition as described in the next paragraph), then COK would immediately report the incident to the NMFS Office of Protected Resources (*PR.ITP.MonitoringReports@noaa.gov*), and the NMFS Alaska 24-hour Regional Stranding Hotline at (877) 925–7773 or (877) 9–AKR–PRD. The report would include the same information identified in the paragraph above. Activities would be able to continue while NMFS reviews the circumstances of the incident. NMFS would work with COK to determine whether modifications in the activities are appropriate.

Finally, in the event that COK discovers an injured or dead marine mammal and the lead PSO determines that the injury or death is not associated with or related to the activities authorized in the IHA (*e.g.,* previously wounded animal, carcass with moderate to advanced decomposition, or scavenger damage), COK would report the incident to the Chief of the Permits and Conservation Division, Office of Protected Resources, NMFS, and the NMFS Alaska Stranding Hotline and/or by email to the Alaska Regional Stranding Coordinator, within 24 hours of the discovery. COK would provide photographs, video footage (if available), or other documentation of the stranded animal sighting to NMFS and the Marine Mammal Stranding Network.

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 the species listed in table 8, 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 the 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 this activity.

Pile driving, removal, and DTH activities associated with the 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 Level B harassment from underwater sounds generated from pile driving and removal. Potential takes could occur if individuals of these species are present in zones ensonified above the thresholds for Level A or Level B harassment identified above when these activities are underway.

Given the nature of the activity, NMFS does not anticipate serious injury or mortality due to COK's planned project, even in the absence of required mitigation. The Level A harassment zones identified in table 7 are based upon an animal exposed to vibratory pile driving, impact pile driving, and DTH pile installation for periods ranging from up to 30 minutes for impact driving, up to 14 hours for vibratory driving/removal (although actual daily durations would not exceed 12 hours, and may be less than 12 hours), and up to 8 hours for DTH. Exposures of this length are, however, unlikely for vibratory driving/removal and DTH pile installation scenarios, 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, COK would implement shutdown zones that equal or exceed many of the Level A harassment isopleths shown in table 7. Take by Level A harassment is authorized for 7 marine mammal species (8 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, given the various obstructions along the shoreline, 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. 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 impact 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 and Level B harassment would be minimized through the mitigation measures described herein. Further, the amount of take authorized is small compared to the stock abundance.

Behavioral responses of marine mammals to pile driving, pile removal, and DTH at the project site, if any, are expected to be mild, short-term, and temporary. Given that the installation of 12 permanent piles and 16 temporary piles would occur over 8 months, any harassment would be temporary and intermittent. Effects on individuals that are taken by Level B harassment, based on reports in the literature as well as monitoring from other similar activities, would likely be limited to reactions such as increased swimming speeds, increased surfacing time, or decreased foraging (if such activity were occurring) (*e.g.,* Thorson and Reyff 2006; Henningson, Durham, and Richardson, Inc. (HDR) 2012; ABR 2016). Most likely, for pile driving, individuals would move away from the sound source and be temporarily displaced from the areas of pile driving. 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.

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 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. To reduce the severity of in-water noise, vibratory pile driving would be the primary installation method for the project, and impact hammers would only be used to seat pile tips into fractured bedrock ahead of the hammering operations or if the material is too dense to penetrate with a vibratory hammer.

Any effects on marine mammal prey during in-water construction would have a short-term impact on individual marine mammals' foraging and likely no effect on the populations of marine mammals. 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 impact 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 Southeast Alaska and Tongass Narrows. Although Tongass Narrows is part of an identified BIA for feeding humpback whales (NOAA 2023, Wild *et al.* 2023), the timing of the BIA (May through September) only overlaps with the proposed timing of the in-water construction (October through May) for one month (May). Additionally, humpback foraging efforts within Tongass Narrows are likely comparatively low due to the lower value of the habitat in the immediate area (Wild *et al.* 2023), as evidenced by the typically low occurrence of humpback whales in the area. Finally, there is no ESA-designated critical habitat in the area for humpback or fin whales.

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, does not include ESA-designated critical habitat, and only temporally overlaps with the southeast Alaska humpback whale feeding BIA for one month (May) of the planned eight months of activity;
- The project area is located in an industrialized and commercial marina; 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.

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. The specified activities are not expected to affect the reproduction or survival of any individual marine mammal and, therefore, would not affect the recruitment or survival rates for any species or stock.

Based on the analysis of the likely effects of the specified activity on marine mammals and their habitat and considering the implementation of the proposed monitoring and mitigation measures, NMFS preliminarily finds that the total number of marine mammals taken from the proposed activity would have a negligible impact on all affected species or stocks.

Small Numbers

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

Table 7 demonstrates the number of animals that could be exposed to the received noise levels that could cause Level A and Level B harassment for the proposed work in the Port of Ketchikan. Our analysis shows that less than one-third of each affected stock could be taken by harassment. The number of animals proposed to be taken for these stocks would be considered small relative to the relevant stock's abundances, even if each estimated taking occurred to a new individual—an extremely unlikely scenario.

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.

Alaska Native hunters in the Ketchikan vicinity do not traditionally harvest cetaceans (Muto *et al.* 2019). Harbor seals are the most commonly targeted marine mammal, and Alaska Native subsistence hunters hunt them within the Ketchikan area. In 2012, an estimated 595 harbor seals were taken for subsistence uses, with 22 occurring in Ketchikan (Wolfe *et al.* 2013). This is the most recent data available. The harbor seal harvest per capita was low, at 0.02 for the Ketchikan community. As for Steller sea lions, subsistence data for Southeast Alaska shows that from 1995 through 2008, plus 2012 through 2015, a total of 20 to 29 Steller sea lions were harvested by Alaska Native hunters, with typical harvest years ranging from 0 to 6 animals (Alaska Department of Fish & Game n.d.). In 2012, it was estimated that nine Steller sea lions were taken in Southeast Alaska, and only from Hoonah and Sitka (Wolfe *et al.* 2013).

Based on the available information, there are no known haul-out locations for either species in the project area. The harbor seal and the Steller sea lion may be temporarily displaced from the project area. However, neither the local population nor individual pinnipeds are likely to be adversely impacted by the proposed action beyond noise-induced harassment or slight injury, nor is the activity expected to impact subsistence hunting of pinnipeds or other marine mammals. Accordingly, NMFS has preliminarily determined that there will not be an unmitigable adverse impact on subsistence uses from the COK 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 ensure that any action it authorizes, funds, or carries out is not likely to jeopardize the continued existence of any endangered or threatened species or result in the destruction or adverse modification of designated critical habitat. To ensure ESA compliance for issuing IHAs, NMFS consults internally whenever we propose to authorize take for endangered or threatened species, in this case, with the NMFS Alaska Regional Office.

NMFS is proposing to authorize the take of fin whales and the Mexico-North Pacific stock of humpback whales, listed as endangered and threatened, respectively, under the ESA.

The Permits and Conservation Division has requested the initiation of ESA section 7 consultation with the Alaska Region for the issuance of this IHA. NMFS would conclude the ESA consultation before reaching a determination regarding the proposed authorization issuance.

Proposed Authorization

As a result of these preliminary determinations, NMFS proposes to issue an IHA to the City of Ketchikan for conducting the in-water construction activities as part of the Berth III New Mooring Dolphins Project in Ketchikan between October 1, 2025, and September 30, 2026, 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 comments on our analyses, the proposed authorization, and any other aspect of this notice of proposed IHA for the proposed Berth III New Mooring Dolphins Project. We also request comments on the potential renewal of this proposed IHA, as described in the paragraph below. Please include any supporting data or literature citations with your comments 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 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 before the needed renewal IHA effective date (recognizing that the renewal IHA expiration date cannot extend beyond 1 year from the 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 would remain the same and appropriate, and the findings in the initial IHA remain valid.

Dated: April 10, 2025.

Kimberly Damon-Randall,

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

[FR Doc. 2025–06437 Filed 4–15–25; 8:45 am]

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