marine mammal species or stocks that are commonly used for subsistence purposes or impact subsistence harvest of marine mammals in the region. Although the proposed activities are located in regions where subsistence harvests have occurred historically, subsistence harvest of marine mammals is rare in the project areas and local subsistence users have not expressed concern about this project. Both locations are adjacent to heavily traveled industrialized waterways and all project activities will take place within closed and secured waterfronts where subsistence activities do not generally occur. The project also will not have an adverse impact on the availability of marine mammals for subsistence use at locations farther away, where the proposed construction activities are not expected to take place. Some minor, short-term harassment of Steller sea lions and harbor seals could occur, but any effects on subsistence harvest activities in the project areas will be minimal, and not have an adverse impact.

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

Endangered Species Act

Section 7(a)(2) of the ESA of 1973 (16 U.S.C. 1531 *et seq.*) requires that each Federal agency insure that any action it authorizes, funds, or carries out is not likely to jeopardize the continued existence of any endangered or threatened species or result in the destruction or adverse modification of designated critical habitat. To ensure ESA compliance for the issuance of IHAs, NMFS consults internally whenever we propose to authorize take for endangered or threatened species, in this case with the NMFS Alaska Regional Office.

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

Proposed Authorization

As a result of these preliminary determinations, NMFS proposes to issue two IHAs to the USCG for construction of FRC homeporting docks in Seward and Sitka for a period of 1 year each, provided the previously mentioned mitigation, monitoring, and reporting requirements are incorporated. Drafts of the proposed IHAs can be found at: *https://www.fisheries.noaa.gov/national/marine-mammal-protection/incidental-take-authorizations-construction-activities.*

Request for Public Comments

We request comment on our analyses, the proposed authorizations, and any other aspect of this notice of proposed IHAs for the proposed construction project. We also request comment on the potential renewal of these proposed IHAs as described in the paragraph below. Please include with your comments any supporting data or literature citations to help inform decisions on the request for these IHAs or subsequent renewal IHAs.

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

- A request for renewal is received no later than 60 days prior to the needed renewal IHA effective date (recognizing that the renewal IHA expiration date cannot extend beyond one year from expiration of the initial IHA).
- The request for renewal must include the following:
  - An explanation that the activities to be conducted under the requested renewal IHA are identical to the activities analyzed under the initial IHA, are a subset of the activities, or include changes so minor (*e.g.,* reduction in pile size) that the changes do not affect the previous analyses, mitigation and monitoring requirements, or take estimates (with the exception of reducing the type or amount of take); and
  - A preliminary monitoring report showing the results of the required monitoring to date and an explanation showing that the monitoring results do not indicate impacts of a scale or nature not previously analyzed or authorized.
- Upon review of the request for renewal, the status of the affected species or stocks, and any other pertinent information, NMFS determines that there are no more than minor changes in the activities, the mitigation and monitoring measures will remain the same and appropriate, and the findings in the initial IHA remain valid.

Dated: July 22, 2024.

Kimberly Damon-Randall,

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

[FR Doc. 2024–16412 Filed 7–24–24; 8:45 am]

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DEPARTMENT OF COMMERCE

National Oceanic and Atmospheric Administration

[RTID 0648–XD995]

Takes of Marine Mammals Incidental to Specified Activities; Taking Marine Mammals Incidental to the Army Corps of Engineers Baker Bay Pile Dike Repair Project

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 Army Corps of Engineers (ACOE) for authorization to take marine mammals incidental to Baker Bay Pile Dike Repair Project in Baker Bay, Oregon. Pursuant to the Marine Mammal Protection Act (MMPA), NMFS is requesting comments on its proposal to issue an incidental harassment authorization (IHA) to incidentally take marine mammals during the specified activities. NMFS is also requesting comments on a possible one-time, 1-year renewal that could be issued under certain circumstances and if all requirements are met, as described in Request for Public Comments at the end of this notice. NMFS will consider public comments prior to making any final decision on the issuance of the requested MMPA authorization and agency responses will be summarized in the final notice of our decision.

DATES: Comments and information must be received no later than August 26, 2024.

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.Cockrell@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: Craig Cockrell, 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 will have a negligible impact on the species or stock(s) and will not have an unmitigable adverse impact on the availability of the species or stock(s) for taking for subsistence uses (where relevant). Further, NMFS must prescribe the permissible methods of taking and other ''means of effecting the least practicable adverse impact'' on the affected species or stocks and their habitat, paying particular attention to rookeries, mating grounds, and areas of similar significance, and on the availability of the species or stocks for taking for certain subsistence uses (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 cited above are included in the relevant sections below.

National Environmental Policy Act

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

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

We will review all comments submitted in response to this notice prior to concluding our NEPA process or making a final decision on the IHA request.

Summary of Request

On September 8, 2022, NMFS received a request from the ACOE for an IHA to take marine mammals incidental to pile driving and removal at the mouth of the Columbia River in Oregon. Following NMFS' review of the application, the ACOE submitted two revised versions on March 4, 2024 and May 1, 2024. The application was deemed adequate and complete on June 10, 2024. The ACOE's request is for take of eight species of marine mammals by Level B harassment and, for harbor seal (*Phoca vitulina*), Level A harassment. Neither ACOE nor NMFS expect serious injury or mortality to result from this activity and, therefore, an IHA is appropriate.

Description of Proposed Activity

Overview

ACOE is planning to conduct pile dike repairs in the Baker Bay system, located in the Columbia River estuary. This system of dikes and channel markers connect the Mouth of the Columbia River Federal navigation channel and the Port of Ilwaco at river mile 3 between jetty A and West Sand Island. This pile dyke system is an important for controlling the tidal flow and sedimentation in the Federal navigation channel to maintain needed depths. Vibratory and impact pile driving would introduce underwater sounds that may result in take, by Level A and Level B harassment, of marine mammals. It is expected to take up to 12 non-consecutive days to complete the pile driving activities from August through October.

Dates and Duration

The pile dike repairs are expected to take 3- months to complete with in-water work beginning from August 1, 2025 through July 31, 2026. No in-water work would be completed from December through June to avoid potential impacts to endangered species act (ESA) listed fish species and Southern Resident killer whales. It is expected to take up to 12 non-consecutive days to complete the pile driving activities. Pile driving would be completed intermittently throughout daylight hours.

Specific Geographic Region

The Baker Bay West pile-dike system contains four pile dikes (figure 1) and is located immediately adjacent to the Baker Bay West Federal navigation channel. The Baker Bay West Federal navigation channel comprises two segments; the segment nearest the Columbia River is 2,000 feet (ft) (609 meters (m)) long, 200 ft. (61-m) wide, and roughly 16 ft. (5 m) deep, and the segment nearest the Port of Ilwaco is 2.5 miles (4 kilometers (km)) long, 150 ft. (46-m) wide, and 16 ft. deep. The Baker Bay West pile dikes are located in the downstream terminus of the Columbia River tidal estuary, which is dominated by freshwater inputs from the Columbia and Willamette rivers. This estuary stretches from the mouth of the river upstream to Bonneville Dam at river mile 146.

Figure 1 -- Location of the Baker Bay Pile Dike system

Detailed Description of the Specified Activity

Port Access and Staging of Equipment

The ACOE anticipates that construction contractors will use either the Port of Ilwaco or Port of Chinook to access West Sand Island. Barges will transport all equipment and material to and from West Sand Island and the pile dike. Barges will serve as staging platforms for in-water construction and may be spudded (temporary steel shaft to ancor a barge) or anchored into position. The proposed access area is located between Baker Bay pile dike 0.86 and pile dike 0.70. Staging equipment is not expected to result in take of marine mammals and is not discussed further.

Material Offloading Facility Construction (Option 1 and Option 2)

ACOE proposes to construct a material offload facility on West Sand Island to offload materials transported by barges. ACOE, and subsequently NMFS, analyzed two construction options for the material offloading facility, and the construction contractor would select one of these two options. Option 1 would require the use of a cofferdam constructed with 24-inch (in) (61 centimeters (cm)) steel sheet piles that would be set in place with vibratory hammers. Once constructed, the cofferdam would be filled with granular structural material to support the offloading of material. Approximately 25,000 cubic yards (cy) of material would also need to be dredged from the site in order to provide sufficient depth for the rock barge to access the cofferdam. Once construction is complete, the cofferdam would be deconstructed using vibratory hammers to remove the steel sheet piles.

Option 2 would consist of a two-barge system to offload materials on West Sand Island using a transition barge. The contractor would first offload materials from the rock barge onto the transition barge and, those materials would then be offloaded from the transition barge onto West Sand Island The transition barge would be spudded into place for the duration of the construction period. Approximately 2,800 cy of material would be dredged to provide sufficient depth for rock barges to deliver materials to the construction site. ACOE would construct four mooring dolphins out of 16 24-in steel pipe piles. These mooring dolphins would be used to moor rock barges in an area to offload materials onto the transition barge. The 24-in steel pipe piles would be driven using vibratory hammers.

ACOE anticipates that the construction contractor is most likely to select Option 2, due to the high cost associated with Option 1. For either option selected, vibratory pile driving and removal may result in take of marine mammals. While marine mammals may behaviorally respond in some small degree to the noise generated by dredging operations, given the slow, predictable movements of these vessels, and absent any other contextual features that would cause enhanced concern, NMFS does not expect ACOE's proposed dredging in either option to result in the take of marine mammals.

Dune Reinforcement

The existing dune along the shoreline at West Sand Island has developed a depression near the proposed location of the project area that needs to be fortified to protect the morphology of the island. To address this risk, ACOE would reinforce the dune by placing material (such as brush, root masses, logs, branches, and sand), grubbed from the staging area into the low spot. NMFS does not expect this activity to result in take of marine mammals due to the activity being conducted on land.

Baker Bay 0.28 Jetty Reinforcement and Repair

To repair Baker Bay 0.28 Jetty, ACOE would place new rock and remove old timber piles. ACOE will place approximately 550 cy of rock material on top of existing enrockment to bring the enrockment back to elevation 0 at both ends of the Baker Bay 0.28 jetty. Land-based and barge-based excavators and/or cranes will place the rock. An equipment barge will be moored adjacent to a rock barge.

For rock placement below the water surface, ACOE would require the contractor to place rock from a clamshell, orange peel grab, or excavator bucket, and it must not open the bucket for placement until the bucket is below the water surface. ACOE will not permit releasing rocks from a bucket above the water surface. For rock placement near or above the water surface, where opening the bucket below the surface is not possible, the contractor must place the bucket as close as safely possible to the placement location before opening. NMFS does not expect rock placement to result in marine mammal harassment and it is not discussed further beyond the explanation provided here. Rock placement would occur in a controlled manner, with the rock release occurring close to the rock destination which would minimize the sound produced. It does not require seafloor penetration, and would not affect habitat for marine mammals and their prey beyond that already affected by installation the existing Baker Bay 0.28 Jetty.

During rock placement, ACOE would work closely with the contractor to regularly assess subsurface conditions and grades via conditional hydrographic surveys, taking corrective actions as necessary. The contractor would perform hydrographic and topographic surveys pre-construction and post-construction to ensure proper rock placement. Equipment used to conduct hydrographic and topographic surveys are not anticipated to result in take of marine mammals, as any elevated noise levels produced through these activities are expected to be high-frequency, highly-directional, intermittent, and of short duration.

ACOE will also remove 486 timber piles by pulling, cutting, or snapping the pile at the level of enrockment. Noise levels produced by these activities are not expected to exceed baseline levels produced by other routine sources in the area (*e.g.,* vessel transit), and any elevated noise levels produced through these activities are expected to be intermittent, of short duration, and with low peak values. Therefore, this activity is not expected to result in take of marine mammals.

Hazard Pile Marker Installation

Once the new pile dike systems are completed, the enrockment would frequently be just below the surface of the water. This would create a shallow water hazard for river users. The ACOE proposes to place 12 marker piles along the pile dikes in Baker Bay. The maker piles would be steel pipe piles and would range in size from 12 in (30 cm) to 24 in (60 cm) in diameter. The larger piles would be used in areas where the current is stronger. Piles would be driven with either impact or vibratory hammers depending on the substrate at the install location.

Impact hammers operate by repeatedly dropping a heavy piston onto a pile to drive the pile into the substrate. Vibratory hammers install piles by vibrating them and allowing the weight of the hammer to push them into the sediment. It is anticipated that half of the piles will be driven using impact hammers and half would be driven using vibratory hammers. Driving shoes may be used to facilitate driving and reduce driving time. NMFS expects that take of marine mammals may occur during the use of impact and vibratory hammers during the pile maker installation.

TABLE 1—NUMBER, SIZE, AND TYPES OF PILES TO BE INSTALLED AND REMOVED

	Pile marker install	Pipe pile mooring dolphins install (MOF option 2)	Pipe pile mooring dolphins removal (MOF option 2)	Sheet pile installation (MOF option 1)	Sheet pile removal (MOF option 1)
Pile Diameter size (in)	24 (steel)	24 (steel)	24 (steel)	24 (steel)	24 (steel).
Vibratory Pile Driving/Removal					
Total Quantity	12	16	16	125	125.
Max # of Piles per day	8	8	16	25	60.
Vibratory time per pile (min)	15	20	5	15	3.
Number of Days	3	2	1	5	3.
Impact Pile Driving					
Total Quantity	12	N/A	N/A	N/A	N/A.
Piles per day	5	N/A	N/A	N/A	N/A.
Strikes per pile	225	N/A	N/A	N/A	N/A.
Number of Days	3	N/A	N/A	N/A	N/A.

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

Description of Marine Mammals in the Area of Specified Activities

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

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

Marine mammal abundance estimates presented in this document represent the total number of individuals that make up a given stock or the total number estimated within a particular study or survey area. NMFS' stock abundance estimates for most species represent the total estimate of individuals within the geographic area, if known, that comprises that stock. For some species, this geographic area may extend beyond U.S. waters. All managed stocks in this region are assessed in NMFS' U.S. Pacific SARs. All values presented in table 2 are the most recent available at the time of publication (including from the draft 2023 SARs) and are available online at: *https://www.fisheries.noaa.gov/national/marine-mammal-protection/marine-mammal-stock-assessments.*

TABLE 2—SPECIES LIKELY IMPACTED BY THE SPECIFIED ACTIVITIES [1]

Common name	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 (baleen whale):						
Gray Whale	*Eschrichtius robustus*	Eastern N Pacific	-, -, N	26,960 (0.05, 25,849, 2016)	801	131
Family Balaenopteridae (rorquals):						
Humpback whale	*Megaptera novaeangliae*	Central America/Southern Mexico—CA/OR/WA.	E, D, Y	1,494 (0.171, 1,284, 2021)	3.5	14.9
		Mainland Mexico—CA/OR/WA	T, D, Y	3,477 (0.101, 3,185, 2018)	43	22
Odontoceti (toothed whales, dolphins, and porpoises)						
Family Delphinidae:						
Killer whale	*Orcinus orca*	West Coast Transient	-, -, N	349 (N/A, 349, 2018)	3.5	0.4
Family Phocoenidae (porpoises):						
Harbor porpoise	*Phocoena phocoena*	Northern OR/WA Coast	-, -, N	22,074 (0.391, 16,068, 2022)	161	3.2
Order Carnivora—Pinnipedia						
Family Otariidae (eared seals and sea lions):						
Steller sea lion	*Eumetopias jubatus*	Eastern DPS	-, -, N	36,308 (N/A, 36,308, 2022)	2,178	93.2
California sea lion	*Zalophus californianus*	U.S.	-, -, N	257,606 (N/A, 233,515, 2014)	14,011	>321
Family Phocidae (earless seals):						
Harbor seal	*Phoca vitulina*	OR/WA Coastal	-, -, N	UNK (UNK, UNK, 1999)	UND	10.6
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.

[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 which is determined to be declining and likely to be listed under the ESA within the foreseeable future. Any species or stock listed under the ESA is automatically designated under the MMPA as depleted and as a strategic stock.

[3] NMFS marine mammal stock assessment reports online at: *https://www.fisheries.noaa.gov/national/marine-mammal-protection/marine-mammal-stock-assessment-reports-region.* CV is coefficient of variation; Nmin is the minimum estimate of stock abundance. In some cases, CV is not applicable [explain if this is the case].

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

As indicated above, all eight species (with nine managed stocks) in table 2 temporally and spatially co-occur with the activity to the degree that take is reasonably likely to occur. All species that could potentially occur in the proposed project areas are included in table 2 of the IHA application. While the following 18 marine mammal species have been sighted in the area, the temporal and/or spatial occurrence of these species is such that take is not expected to occur, and they are not discussed further beyond the explanation provided here.

The spatial, temporal, and overall occurrence of fin whale (*Balaenoptera physalus*), minke whale (*Balaenoptera acutorostrata*), blue whale (*Balaenoptera musculus*), sei whale (*Balaenoptera borealis*), Pacific white-sided dolphin (*Lagenorhynchus obliquidens*), Risso's dolphin (*Grampus griseus*), common bottlenose dolphin (*Tursiops truncatus*), striped dolphin (*Stenella coeruleoalba*), Short-beaked common dolphin, (*Delphinus delphis*), Northern right-whale dolphin (*Lissodelphis borealis*), Short-finned pilot whale (*Globicephala macrorhynchus*), Baird's beaked whale (*Berardius bairdii*), Mesoplodont beaked whale (*Mesoplodon* spp.), Cuvier's beaked whale (*Ziphius cavirostris*), Pygmy Sperm whale (*Kogia breviceps*), Dwarf Sperm whale (*Kogia sima*), Sperm whale (*Physeter macrocephalus*), and Dall's porpoise (*Phocoenoides dalli*) are such that take is not expected to occur. Many of these species are either rarely present in the proposed project area or typically found in deep offshore waters far from the proposed project site.

Gray Whale

Gray whales in the project area would be of the Eastern North Pacific stock.

During summer and fall, gray whales of the Eastern North Pacific stock migrate from breeding grounds off the coast of Baja California and Mexico to feeding areas in the Bering Seas.

Gray whales along the Oregon coastline are typically part of the Pacific coast feeding group, and their abundance and residence time in Oregon may correlate with the availability of mysids (*Holmesimysis sculpta*), a major prey item (Newell and Cowles 2006). There are few recorded sightings of gray whales in the Mouth of the Columbia River. In 2021, a mother and calf were spotted just upriver from the proposed project sight (K. Tidwell personal communication).

Humpback Whale

Humpback whales from the Central America/Southern Mexico-CA/OR/WA stock and the Mainland Mexico-CA/OR/WA stock are likely to occur in the project area in the respective percentages of 42 and 58 percent.

Humpback whale feeding groups have begun utilizing the Mouth of the Columbia River as foraging ground, arriving in the lower Columbia estuary as early as mid-June, and have been observed as late as mid-November with a peak abundance coinciding with the peak abundance of forage fish in mid-summer. Humpback whale have been observed in the immediate vicinity of West and East Sand Islands in late summer and fall of 2015, 2016, 2017, and 2019 (The Columbian 2016; The Columbian 2019). They were again seen earlier in the season than ever, at the beginning of April in 2020 (Chinook Observer, 2020). Recent monitoring during the Sand Island Test Pile Project reported one humpback whale in the Level B harassment zone during vibratory pile driving. One to two Humpback whales were seen on occasion during the project, with all other detections occurring outside of the Level B harassment zone or while no pile driving was occurring. The whales seemed to come through the area with the incoming tides to forage for food and leave with the outgoing tides (Hamer Environment L.P. 2020). Based on this information, it is possible that humpback whales may pass through and may forage intermittently in the proposed project area.

Killer Whale

The West Coast Transient stock includes animals that range from California to southern Alaska and is genetically distinct from both resident and other transient populations in the region. It is the only killer whale stock that is expected to occur in the project area, and occurrence in the mouth of the Columbia River is linked to the Chinook salmon run in March and April, although some sightings have occurred in the early fall during aerial surveys (Adams, 2014). Southern resident killer whales occur in the offshore waters of Washington and Oregon but have not been documented entering the mouth of the Columbia River. Killer whales were not sighted during the Sand Island Test Pile Project (Hamer Environment L.P., 2020).

Harbor Porpoise

The Northern Oregon/Washington Coast stock of harbor porpoises ranges from Lincoln City, OR, to Cape Flattery, WA (Carretta *et al.* 2019). Aerial survey data from coastal Oregon and Washington, collected during all seasons, suggest that harbor porpoise distribution varies by depth (Green *et al.* 1992). Although distinct seasonal changes in abundance along the west coast have been noted and attributed to possible shifts in distribution to deeper offshore waters during late winter (Dohl *et al.* 1983, Barlow 1988 cited in NOAA 2014), seasonal movement patterns are not fully understood.

Harbor porpoises are usually found in shallow water, most often nearshore, although they occasionally travel over deeper offshore waters (NOAA 2013). Most harbor porpoise groups are small, generally consisting of less than five or six individuals, though for feeding or migration they may aggregate into large, loose groups of 50 to several hundred animals (Halpin, OBIS–SEAMAP 2019). Behavior tends to be inconspicuous, compared to most dolphins, and they feed by seizing prey which consists of wide variety of fish and cephalopods ranging from benthic or demersal (Halpern, OBIS–SEAMAP 2019). Harbor porpoises are sighted year-round in the mouth of the Columbia River (Griffith 2015). Their abundance peaks with the abundance of anchovy presence in the river and nearshore. Groups of one to two harbor porpoise were observed during pre- and post- monitoring activities of the Sand Island Test Pile Project (Hamer Environment L.P. 2020).

Steller Sea Lion

Steller sea lions forage in nearshore and pelagic waters where they are opportunistic predators.

Large numbers of Steller sea lions use the nearby South Jetty for hauling out (Jeffries 2000) and are present, in varying abundances, all year. Use occurs chiefly at the concrete block structure at the terminus, or head of the jetty. According to Oregon Department of Fish and Wildlife (ODFW) (2014), during the summer months it is not uncommon to observe between 500 to 1,000 Steller sea lions present per day. More frequent surveys by Washington Department of Fish and Wildlife (WDFW) for the same time frame (2000–2014) put the monthly range at 177 to 1,663 animals throughout the year. Steller sea lions are most abundant in the vicinity during the winter months and tend to disperse elsewhere to rookeries during breeding season between May and July (Corps 2007). All population age classes, and both males and females, use the South Jetty to haul out. No Steller sea lions were observed during the monitoring activities of the Sand Island Test Pile Project (Hamer Environment L.P. 2020).

California Sea Lion

Since the mid-1980s, increasing numbers of California sea lions have been documented feeding on fish along the Washington coast and—more recently—in the Columbia River as far upstream as Bonneville Dam, 145 mi (233 km) from the river mouth. Large numbers of California sea lions (*Zalophus californianus*) use the nearby South Jetty for hauling out (Jeffries 2000). According to ODFW (2014) most California sea lions are concentrated near the tip of the South Jetty. California sea lions can intermingle with Steller sea lions. As, reported in the ODFW survey information (2007 and 2014) indicates that California sea lions are relatively less prevalent in the Pacific Northwest during June and July, though in the months just before and after their presence there can be several hundred using the South Jetty. More frequent WDFW surveys (2014) indicate greater numbers in the summer, and use remains concentrated to fall and winter months. During pile driving work at the Sand Island Test Pile Project in 2020, observers identified 60 individuals in 55 separate sightings and of those 60, 13 animals were observed in the Level B harassment zone (Hamer Environment L.P. 2020).

Harbor Seal

Harbor seals are one of the most abundant pinnipeds in Oregon and typically occur in coastal marine and estuarine waters of the Oregon coast throughout the year. On land, they occur on offshore rocks and islands, along shore, and on exposed flats in the estuary (Harvey 1987). They haul out on rocks, reefs, beaches, and drifting glacial ice and feed in marine, estuarine, and occasionally fresh waters. Harbor seals generally are non-migratory, with local movements associated with tides, weather, season, food availability, and reproduction. (Carretta *et al.* 2019).

During pile driving work at the Sand Island Test Pile Project in 2020, observers identified 303 individuals in 209 separate sightings. Of those 303 individuals, 2 animals were observed in the Level A harassment zone and 106 animals were observed in the Level B harassment zone (Hamer Environment L.P. 2020).

Northern Elephant Seal

The California Breeding Stock of Northern elephant seals breeds and gives birth in California but makes extended foraging trips to areas including coastal Oregon biannually during the fall and spring. They spend about 90 percent of their time at sea underwater, making sequential deep dives. While both males and females may transit areas off the Oregon coast, males seem to have focal forage areas near the continental shelf break while females typically move further offshore and feed opportunistically at numerous sites while in route (Le Beouf et al. 2000). Prior to 1984, only two sightings of Northern elephant seals were recorded near the project site. One was sighted near Tongue Point and another was found dead at river mile 47 (upriver from the project site (Jeffries 1984). Since then, they have been seen at the mouth of the Columbia River infrequently. None have been observed during recent monitoring, but there have been recent sightings upriver from the project area.

Marine Mammal Hearing

Hearing is the most important sensory modality for marine mammals underwater, and exposure to anthropogenic sound can have deleterious effects. To appropriately assess the potential effects of exposure to sound, it is necessary to understand the frequency ranges marine mammals are able to hear. Not all marine mammal species have equal hearing capabilities (*e.g.,* Richardson *et al.* 1995; Wartzok and Ketten 1999; Au and Hastings 2008). To reflect this, Southall *et al.* (2007, 2019) recommended that marine mammals be divided into hearing groups based on directly measured (behavioral or auditory evoked potential techniques) or estimated hearing ranges (behavioral response data, anatomical modeling, *etc.*). Subsequently, NMFS (2018) described generalized hearing ranges for these marine mammal hearing groups. Generalized hearing ranges were chosen based on the approximately 65-decibel (dB) threshold from the normalized composite audiograms, with the exception for lower limits for low-frequency cetaceans where the lower bound was deemed to be biologically implausible and the lower bound from Southall *et al.* (2007) retained. Marine mammal hearing groups and their associated hearing ranges are provided in table 3.

TABLE 3—MARINE MAMMAL HEARING GROUPS

[NMFS, 2018]

Hearing group	Generalized hearing range *
Low-frequency (LF) cetaceans (baleen whales)	7 Hz to 35 kHz.
Mid-frequency (MF) cetaceans (dolphins, toothed whales, beaked whales, bottlenose whales)	150 Hz to 160 kHz.
High-frequency (HF) cetaceans (true porpoises, *Kogia,* river dolphins, Cephalorhynchid, *Lagenorhynchus cruciger* & *L. australis*).	275 Hz to 160 kHz.
Phocid pinnipeds (PW) (underwater) (true seals)	50 Hz to 86 kHz.
Otariid pinnipeds (OW) (underwater) (sea lions and fur seals)	60 Hz to 39 kHz.

* Represents the generalized hearing range for the entire group as a composite (*i.e.,* all species within the group), where individual species' hearing ranges are typically not as broad. Generalized hearing range chosen based on ~65 dB threshold from normalized composite audiogram, with the exception for lower limits for LF cetaceans (Southall *et al.* 2007) and PW pinniped (approximation).

The pinniped functional hearing group was modified from Southall *et al.* (2007) on the basis of data indicating that phocid species have consistently demonstrated an extended frequency range of hearing compared to otariids, especially in the higher frequency range (Hemilä *et al.,* 2006; Kastelein *et al.,* 2009; Reichmuth *et al.,* 2013).

For more detail concerning these groups and associated frequency ranges, please see NMFS (2018) for a review of available information.

Potential Effects of Specified Activities on Marine Mammals and Their Habitat

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

Description of Sound Sources

The marine soundscape is comprised 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 being 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 comprise ''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 is dependent 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 a large number of 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 to 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 could form a distinctive signal that may affect marine mammals.

In-water construction activities associated with the project would include impact pile driving, vibratory pile driving, and vibratory pile removal. 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, 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 (ANSI 1986; NIOSH 1998; ANSI 2005; NMFS 2018). Non-impulsive sounds (*e.g.,* aircraft, machinery operations such as drilling or dredging, vibratory pile driving, and active sonar systems) can be broadband, narrowband or tonal, brief or prolonged (continuous or intermittent), and typically do not have the high peak sound pressure with raid rise/decay time that impulsive sounds do (ANSI 1995; NIOSH 1998; NMFS 2018). The distinction between impulsive and non-impulsive sound sources is important because they have differing potential to cause physical effects, particularly with regard to hearing (*e.g.,* Ward 1997; Southall *et al.* 2007).

Impact hammers operate by repeatedly dropping a heavy piston onto a pile to drive the pile into the substrate. Sound generated by impact hammers is characterized by rapid rise times and high peak levels, a potentially injurious combination (Hastings and Popper 2005). Vibratory hammers install piles by vibrating them and allowing the weight of the hammer to push them into the sediment. Vibratory hammers generally produce sound pressure levels (SPLs) 10 to 20 dB lower than SPLs generated during impact pile driving of the same-sized pile (Oestman, *et al.* 2009). Rise time is slower, reducing the probability and severity of injury, and sound energy is distributed over a greater amount of time (Nedwell and Edwards 2002; Carlson, *et al.* 2005).

The likely or possible impacts of the Haines Borough's proposed activities on marine mammals could be generated by both non-acoustic and acoustic stressors. Potential non-acoustic stressors could include the physical presence of the equipment and personnel; however, given there are no known pinniped haul-out sites in the vicinity of the proposed project site, visual and other non-acoustic stressors would be limited, and any impacts to marine mammals are expected to primarily be acoustic in nature.

Acoustic Impacts

The introduction of anthropogenic noise into the aquatic environment from pile driving or drilling is the primary means by which marine mammals may be harassed from the Haines Borough specified activity. 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; Southall *et al.* 2019). In general, exposure to pile driving noise has the potential to result in auditory threshold shifts and behavioral reactions (*e.g.,* avoidance, temporary cessation of foraging and vocalizing, changes in dive behavior). Exposure to anthropogenic noise can also lead to non-observable physiological responses, such an increase in stress hormones. Additional noise in a marine mammal's habitat can mask acoustic cues used by marine mammals to carry out daily functions, such as communication and predator and prey detection. The effects of pile driving or drilling noise on marine mammals are dependent on several factors, including, but not limited to, sound type (*e.g., impulsive* vs. *non-impulsive*), the species, age and sex class (*e.g., adult male* vs. *mother with calf*), duration of exposure, the distance between the pile and the animal, received levels, behavior at time of exposure, and previous history with exposure (Wartzok *et al.* 2004; 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 2018). The amount of threshold shift is customarily expressed in dB. A TS can be permanent or temporary. As described in NMFS (2018a), there are numerous factors to consider when examining the consequence of TS, including, but not limited to, the signal temporal pattern (*e.g.,* impulsive or non-impulsive), likelihood an individual would be exposed for a long enough duration or to a high enough level to induce a TS, the magnitude of the TS, time to recovery (seconds to minutes or hours to days), the frequency range of the exposure (*i.e.,* spectral content), the hearing and vocalization frequency range of the exposed species relative to the signal's frequency spectrum (*i.e.* how animal uses sound within the frequency band of the signal; *e.g.* Kastelein *et al.* 2014), and the overlap between the animal and the source (*e.g.* spatial, temporal, and spectral).

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, 2018). PTS does not generally affect more than a limited frequency range, and an animal that has incurred PTS has incurred some level of hearing loss at the relevant frequencies; typically animals with PTS are not functionally deaf (Richardson *et al.,* 1995; Au and Hastings, 2008). Available data from humans and other terrestrial mammals indicate that a 40-dB threshold shift approximates PTS onset (Ward *et al.* 1958 and 1959; Ward 1960; Kryter *et al.* 1966; Miller 1974; Ahroon *et al.* 1996; Henderson *et al.* 2008). PTS criteria for marine mammals are estimates, as with the exception of a single study unintentionally inducing PTS in a harbor seal (Kastak *et al.* 2008), there are no empirical data measuring PTS in marine mammals largely due to the fact that, for various ethical reasons, experiments involving anthropogenic noise exposure at levels inducing PTS are not typically pursued or authorized (NMFS 2018).

Temporary Threshold Shift (TTS)—TTS is a temporary, reversible increase in the threshold of audibility at a specified frequency or portion of an individual's hearing range above a previously established reference level (NMFS, 2018). Based on data from cetacean TTS measurements (Southall *et al.* 2007; Southall *et al.* 2019), a TTS of 6 dB is considered the minimum threshold shift clearly larger than any day-to-day or session-to-session variation in a subject's normal hearing ability (Schlundt *et al.* 2000; Finneran *et al.* 2000; Finneran *et al.* 2002). As described in Finneran (2015), marine mammal studies have shown the amount of TTS increases with 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 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 Masking, below). For example, a marine

mammal may be able to readily compensate for a brief, relatively small amount of TTS in a non-critical frequency range that takes place during a time when the animal is traveling through the open ocean, where ambient noise is lower and there are not as many competing sounds present. Alternatively, a larger amount and longer duration of TTS sustained during time when communication is critical for successful mother/calf interactions could have more serious impacts. We note that reduced hearing sensitivity as a simple function of aging has been observed in marine mammals, as well as humans and other taxa (Southall *et al.* 2007), so we can infer that strategies exist for coping with this condition to some degree, though likely not without cost.

Many studies have examined noise-induced hearing loss in marine mammals (see Finneran (2015) and Southall *et al.* (2019) for summaries). TTS is the mildest form of hearing impairment that can occur during exposure to sound (Kryter 2013). While experiencing TTS, the hearing threshold rises, and a sound must be at a higher level in order to be heard. In terrestrial and marine mammals, TTS can last from minutes or hours to days (in cases of strong TTS). In many cases, hearing sensitivity recovers rapidly after exposure to the sound ends. For cetaceans, published data on the onset of TTS are limited to captive bottlenose dolphin (*Tursiops truncatus*), beluga whale (*Delphinapterus leucas*), harbor porpoise, and Yangtze finless porpoise (*Neophocoena asiaeorientalis*) (Southall *et al.,* 2019). For pinnipeds in water, measurements of TTS are limited to harbor seals, elephant seals (*Mirounga angustirostris*), bearded seals (*Erignathus barbatus*), and California sea lions (*Zalophus californianus*) (Kastak *et al.,* 1999 and 2007; Kastelein *et al.* 2019b and 2019c; Reichmuth *et al.* 2019; Sills *et al.* 2020; Kastelein *et al.* 2021; 2022a; and 2022b). These studies examine hearing thresholds measured in marine mammals before and after exposure to intense or long-duration sound exposures. The difference between the pre-exposure and post-exposure thresholds can be used to determine the amount of threshold shift at various post-exposure times.

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

Relationships between TTS and PTS thresholds have not been studied in marine mammals, and there is no PTS data for cetaceans, but such relationships are assumed to be similar to those in humans and other terrestrial mammals. PTS typically occurs at exposure levels at least several decibels above (a 40-dB threshold shift approximates PTS onset; *e.g.,* Kryter *et al.* 1966; Miller 1974) that inducing mild TTS (a 6-dB threshold shift approximates TTS onset; *e.g.,* Southall *et al.* 2007). Based on data from terrestrial mammals, a precautionary assumption is that the PTS thresholds for impulsive sounds (such as impact pile driving pulses as received close to the source) are at least 6 dB higher than the TTS threshold on a peak-pressure basis and PTS cumulative sound exposure level thresholds are 15 to 20 dB higher than TTS cumulative sound exposure level thresholds (Southall *et al.* 2007). Given the higher level of sound or longer exposure duration necessary to cause PTS as compared with TTS, it is considerably less likely that PTS could occur.

Furthermore, installing piles for this project requires a combination of impact pile driving and vibratory pile driving. For the project, these activities would not occur at the same time and there would likely be pauses in activities producing the sound during each day. Given these pauses and that many marine mammals are likely moving through the action area and not remaining for extended periods of time, the potential for any TS declines.

Behavioral Harassment—Exposure to noise from pile driving and removal also has the potential to behaviorally disturb marine mammals. Behavioral responses to sound are highly variable and context-specific and any reactions depend on numerous intrinsic and extrinsic factors (*e.g.,* species, state of maturity, experience, current activity, reproductive state, auditory sensitivity, time of day), as well as the interplay between factors (*e.g.,* Richardson *et al.* 1995; Wartzok *et al.* 2003; Southall *et al.* 2007; Weilgart 2007; Archer *et al.* 2010; Southall *et al.* 2021). 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; NRC 2005; Southall *et al.* 2021).

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); avoidance of areas where sound sources are located. Pinnipeds may increase their haul out time, possibly to avoid in-water disturbance (Thorson and Reyff 2006). Behavioral responses to sound are

highly variable and context-specific and any reactions depend on numerous intrinsic and extrinsic factors (*e.g.,* species, state of maturity, experience, current activity, reproductive state, auditory sensitivity, time of day), as well as the interplay between factors (*e.g.,* Richardson *et al.* 1995; Wartzok *et al.* 2003; Southall *et al.* 2007, Southall *et al.* 2021; Weilgart 2007; Archer *et al.* 2010). Behavioral reactions can vary not only among individuals but also within exposures of an individual, depending on previous experience with a sound source, context, and numerous other factors (Ellison *et al.* 2012; Southall *et al.* 2021), and can vary depending on characteristics associated with the sound source (*e.g.,* whether it is moving or stationary, number of sources, distance from the source). In general, pinnipeds seem more tolerant of, or at least habituate more quickly to, potentially disturbing underwater sound than do cetaceans, and generally seem to be less responsive to exposure to industrial sound than most cetaceans. For a review of studies involving marine mammal behavioral responses to sound, see: Southall *et al.* 2007; Gomez *et al.* 2016; and Southall *et al.* 2021.

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). In addition, behavioral state of the animal plays a role in the type and severity of a behavioral response, such as disruption to foraging (*e.g.,* Silve *et al.* 2016; Wensveen *et al.* 2017). A determination of whether foraging disruptions incur fitness consequences would require information on or estimates of the energetic requirements of the affected individuals and the relationship between prey availability, foraging effort and success, and the life history stage of the animal.

In 2020, the Sand Island Test Pile Project (84 FR 61026, November 12, 2019) documented observations of marine mammals during construction activities (*i.e.,* pile driving) on East and West Sand Island. This project is in the same area as the proposed project site. During the 15-days (September–October) of protected species observers documented nine humpback whales and eight harbor porpoise were observed feeding and traveling. There were 309 harbor seals and 61 California sea lions observed during the monitoring period of the project with no behaviors recorded during monitoring activities (Hamer Environment L.P. 2020).

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

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

Airborne noise would primarily be an issue for pinnipeds that are swimming near the project site within the range of noise levels exceeding 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 in relation to underwater sound. For instance, anthropogenic sound could cause pinnipeds to exhibit changes in their normal behavior, such as reduction in vocalizations, or cause them to temporarily abandon the area and move further from the source. However, these animals would previously have been ''taken'' because of exposure to underwater sound above the behavioral harassment thresholds, which are in all cases larger than those associated with airborne sound. Thus, the behavioral harassment of these animals is already accounted for in these estimates of potential take. Therefore, we do not believe that authorization of incidental take resulting from airborne sound for pinnipeds is warranted, and airborne sound is not discussed further here.

Marine Mammal Habitat Effects

The proposed project would occur within the same footprint as the current Baker Bay pile dikes. The nearshore habitat where the proposed project would occur is an area of relatively high marine vessel traffic. Most marine mammals do not generally use the area within the immediate vicinity of the project area. Temporary, intermittent, and short-term habitat alteration may result from increased noise levels within the Level A and Level B harassment zones. Effects on marine mammals will be limited to temporary displacement from pile installation and removal noise, and effects on prey species will be similarly limited in time and space.

Water Quality—Temporary and localized reduction in water quality will occur as a result of in-water construction activities. Most of this effect will occur during the installation and removal of piles when bottom sediments are disturbed. The installation and removal of piles will disturb bottom sediments and may cause a temporary increase in suspended sediment in the project area. During pile extraction, sediment attached to the pile moves vertically through the water column until gravitational forces cause it to slough off under its own weight. The small resulting sediment plume is expected to settle out of the water column within a few hours. Studies of the effects of turbid water on fish (marine mammal prey) suggest that concentrations of suspended sediment can reach thousands of milligrams per liter before an acute toxic reaction is expected (Burton 1993).

Impacts to water quality would be localized and temporary and would have negligible impacts on marine mammal habitat. Effects to turbidity and sedimentation are expected to be short-term, minor, and localized. Since the currents are strong in the area, following the completion of sediment-disturbing activities, suspended sediments in the water column should dissipate and quickly return to background levels in all construction scenarios. Turbidity within the water column has the potential to reduce the level of oxygen in the water and irritate the gills of prey fish species in the proposed project area. However, turbidity plumes associated with the project would be temporary and localized, and fish in the proposed project area would be able to move away from and avoid the areas where plumes may occur. Therefore, it is expected that the impacts on prey fish species from turbidity, and therefore on marine mammals, would be minimal and temporary. In general, the area likely impacted by the proposed construction activities is relatively small compared to the available marine mammal habitat in the mouth of the Columbia River and surrounding coastal waters.

Effects on Prey

Construction activities would produce continuous (*i.e.,* vibratory pile driving) and impulsive (*i.e.,* impact driving) sounds. Fish react to sounds that are especially strong and/or intermittent low-frequency sounds. Short duration, sharp sounds can cause overt or subtle changes in fish behavior and local distribution. Hastings and Popper (2005) identified several studies that suggest fish may relocate to avoid certain areas of sound energy. Additional studies have documented effects of pile driving on fish, although several are based on studies in support of large, multiyear bridge construction projects (*e.g.,* Scholik and Yan 2001, Scholik and Yan 2002; Popper and Hastings 2009). Sound pulses at received levels may cause noticeable changes in behavior (Pearson *et al.* 1992; Skalski *et al.* 1992). SPLs of sufficient strength have been known to cause injury to fish and fish mortality.

Impacts on marine mammal prey (*i.e.,* fish or invertebrates) of the immediate area due to the acoustic disturbance are possible. The duration of fish or invertebrate avoidance or other disruption of behavioral patterns in this area after pile driving stops is unknown, but a rapid return to normal recruitment, distribution and behavior is anticipated. Further, significantly large areas of fish and marine mammal foraging habitat are available in the nearby vicinity in the mouth of the Columbia River.

The duration of the construction activities is relatively short, with pile driving and removal activities expected last less than 1-year. Each day, construction would occur for no more than 12 hours during the day and pile driving activities would be restricted to daylight hours. The most likely impact to fish from pile driving activities at the project area would be temporary behavioral avoidance of the area. In general, impacts to marine mammal prey species are expected to be minor and temporary due to the short timeframe for the project.

Construction activities, in the form of increased turbidity, have the potential to adversely affect fish in the project area. Increased turbidity is expected to occur in the immediate vicinity (on the order of 10 ft (3 m) or less) of 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 fish are expected to be minor or negligible. In addition, best management practices would be in effect, which would limit the extent of turbidity to the immediate project area.

The area likely impacted by the project is relatively small compared to the available habitat in the surrounding waters of the mouth of the Columbia River.

In summary, given the relatively short daily duration of sound associated with individual pile driving and events and the relatively small areas being affected, pile driving activities associated with the proposed action are not likely to have a permanent, adverse effect on any fish habitat, or populations of fish species. Thus, we conclude that 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 to marine mammal habitat are not expected to result in significant or long-term consequences for individual marine mammals, or to contribute to adverse impacts on their populations.

Estimated Take of Marine Mammals

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

Harassment is the only type of take expected to result from these activities. Except with respect to certain activities not pertinent here, section 3(18) of the MMPA defines ''harassment'' as any act of pursuit, torment, or annoyance, which (i) has the potential to injure a marine mammal or marine mammal stock in the wild (Level A harassment); or (ii) has the potential to disturb a marine mammal or marine mammal stock in the wild by causing disruption of behavioral patterns, including, but not limited to, migration, breathing, nursing, breeding, feeding, or sheltering (Level B harassment).

Authorized takes would primarily be by Level B harassment, as use of the construction equipment (*i.e.,* pile driving) has the potential to result in disruption of behavioral patterns for individual marine mammals. There is also some potential for auditory injury (Level A harassment) of phocids because predicted auditory injury zones are larger than for other species. 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 thresholds above which NMFS believes the best available science indicates marine mammals will be behaviorally harassed or incur some degree of permanent hearing impairment; (2) the area or volume of water that will be ensonified above these levels in a day; (3) the density or occurrence of marine mammals within these ensonified areas; and, (4) the number of days of activities. We note that while these factors can contribute to a basic calculation to provide an initial prediction of potential takes, additional information that can qualitatively inform take estimates is also sometimes available (*e.g.,* previous monitoring results or average group size). Below, we describe the factors considered here in more detail and present the proposed take estimates.

Acoustic Thresholds

NMFS recommends the use of acoustic thresholds that identify the received level of underwater sound above which exposed marine mammals would be reasonably expected to be behaviorally harassed (equated to Level B harassment) or to incur PTS of some degree (equated to Level A harassment).

Level B Harassment—Though significantly driven by received level, the onset of behavioral disturbance from anthropogenic noise exposure is also

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

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

Level A harassment—NMFS' Technical Guidance for Assessing the Effects of Anthropogenic Sound on Marine Mammal Hearing (Version 2.0; Technical Guidance 2018) identifies dual criteria to assess auditory injury (Level A harassment) to five different marine mammal groups (based on hearing sensitivity) as a result of exposure to noise from two different types of sources (impulsive or non-impulsive). The ACOE's proposed construction includes the use of impulsive (impact pile driving) and non-impulsive (vibratory pile driving) sources.

These thresholds are provided in the table below. The references, analysis, and methodology used in the development of the thresholds are described in NMFS' 2018 Technical Guidance, which may be accessed at: *https://www.fisheries.noaa.gov/national/marine-mammal-protection/marine-mammal-acoustic-technical-guidance.*

TABLE 4—THRESHOLDS IDENTIFYING THE ONSET OF PERMANENT THRESHOLD SHIFT

Hearing group	PTS onset acoustic thresholds * (received level)	
	Impulsive	Non-impulsive
Low-Frequency (LF) Cetaceans	*Cell 1:* $L_{pk,flat}$: 219 dB; $L_{E,LF,24h}$: 183 dB	*Cell 2:* $L_{E,LF,24h}$: 199 dB.
Mid-Frequency (MF) Cetaceans	*Cell 3:* $L_{pk,flat}$: 230 dB; $L_{E,MF,24h}$: 185 dB	*Cell 4:* $L_{E,MF,24h}$: 198 dB.
High-Frequency (HF) Cetaceans	*Cell 5:* $L_{pk,flat}$: 202 dB; $L_{E,HF,24h}$: 155 dB	*Cell 6:* $L_{E,HF,24h}$: 173 dB.
Phocid Pinnipeds (PW) (Underwater)	*Cell 7:* $L_{pk,flat}$: 218 dB; $L_{E,PW,24h}$: 185 dB	*Cell 8:* $L_{E,PW,24h}$: 201 dB.
Otariid Pinnipeds (OW) (Underwater)	*Cell 9:* $L_{pk,flat}$: 232 dB; $L_{E,OW,24h}$: 203 dB	*Cell 10:* $L_{E,OW,24h}$: 219 dB.

* Dual metric acoustic thresholds for impulsive sounds: Use whichever results in the largest isopleth for calculating PTS onset. If a non-impulsive sound has the potential of exceeding the peak sound pressure level thresholds associated with impulsive sounds, these thresholds should also be considered.

Note: Peak sound pressure (L_{pk}) has a reference value of 1 µPa, and cumulative sound exposure level (L_E) has a reference value of 1µPa^{2}s. In this table, thresholds are abbreviated to reflect American National Standards Institute standards (ANSI 2013). However, peak sound pressure is defined by ANSI as incorporating frequency weighting, which is not the intent for this Technical Guidance. Hence, the subscript ''flat'' is being included to indicate peak sound pressure should be flat weighted or unweighted within the generalized hearing range. The subscript associated with cumulative sound exposure level thresholds indicates the designated marine mammal auditory weighting function (LF, MF, and HF cetaceans, and PW and OW pinnipeds) and that the recommended accumulation period is 24 hours. The cumulative sound exposure level thresholds could be exceeded in a multitude of ways (*i.e.,* varying exposure levels and durations, duty cycle). When possible, it is valuable for action proponents to indicate the conditions under which these acoustic thresholds will be exceeded.

Ensonified Area

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

The sound field in the project area is the existing background noise plus additional construction noise from the proposed project. Marine mammals are expected to be affected via sound generated by the primary components of the project (*i.e.,* impact pile driving and vibratory pile driving and removal). The maximum (underwater) area ensonified above the thresholds for behavioral harassment referenced above is 20.72 km^2 (12.87 mi^2), and would consist of most of the mouth of the Columbia River immediately south of West Sand Island (figure 2). Additionally, vessel traffic in the project area may contribute to elevated background noise levels which may mask sounds produced by the project.

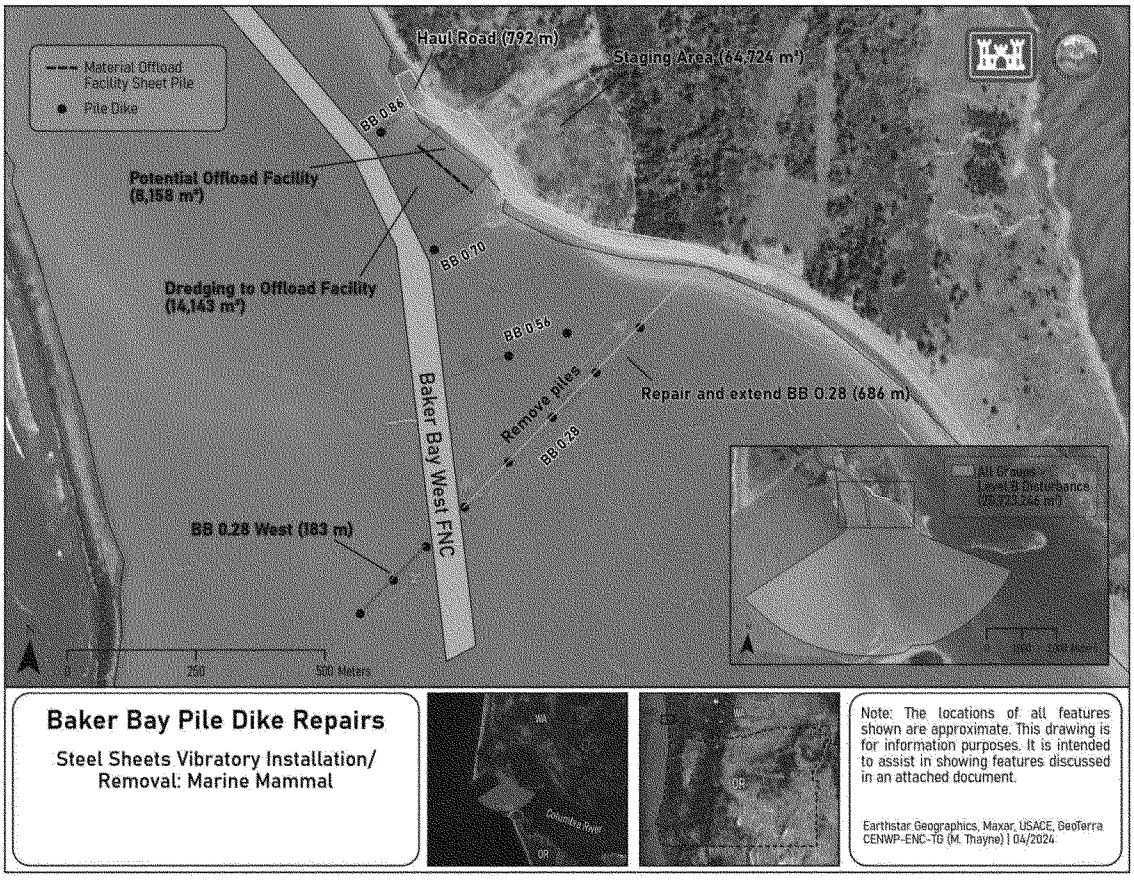

Figure 2 -- Largest isopleth associated with construction activities

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

$TL = B \times \mathrm{Log}_{10}(R_1/R_2)$,

where

TL = transmission loss in dB
B = transmission loss coefficient
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 is dependent on a variety of factors, most notably the water bathymetry and 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 takes place. In order 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, the applicant and 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 and sheet piles and vibratory removal of steel sheet piles. Source levels for 24 in steel pipe piles are used as a proxy for all steel piles that may be placed for marker piles of the dike system, though smaller piles may be used during the construction. NMFS consulted multiple sources to determine valid proxy source levels for the impact installation of sheet piles, as indicated in Table 5. This is the best available data for sheet pile source levels and is based on 24-in sheet piles used for a project in California. 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

Pile size	Method	Proxy source level (at 10 m)			Literature source
		dB RMS re 1μPa	dB SEL re 1μPa²sec	dB peak re 1μPa	
24-in	Vibratory	154	N/A	N/A	Navy 2015.
24-in sheet pile	Vibratory	160	N/A	N/A	Caltrans 2020.
24-in	Impact	189	178	203	Caltrans 2015.

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 Technical Guidance that can be used to relatively simply predict an isopleth distance for use in conjunction with marine mammal density or occurrence to help predict potential takes. We note that because of some of the assumptions included in the methods underlying this optional tool, we anticipate that the resulting isopleth estimates are typically going to be overestimates of some degree, which may result in an overestimate of potential take by Level A harassment. However, this optional tool offers the best way to estimate isopleth distances when more sophisticated modeling methods are not available or practical. For stationary sources such as impact or vibratory, 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 PTS. Inputs used in the optional User Spreadsheet tool are reported below (table 6). The resulting estimated Level A harassment isopleths and the Level B harassment isopleths are reported in table 7.

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

Pile size and installation method	Spreadsheet tab used	Weighting factor adjustment (kHz)	Number of strikes per pile	Number of piles per day	Activity duration (minutes)
24-in vibratory installation (MOF Option 2).	A.1 Vibratory pile driving	2.5	N/A	8	20
24-in vibratory removal (MOF Option 2).	A.1 Vibratory pile driving	2.5	N/A	16	5
24-in sheet pile vibratory installation (MOF Option 1).	A.1 Vibratory pile driving	2.5	N/A	25	15
24-in sheet pile vibratory removal (MOF Option 1).	A.1 Vibratory pile driving	2.5	N/A	60	3
24-in vibratory installation (Pile Markers).	A.1 Vibratory pile driving	2.5	N/A	8	15
24-in impact installation (Pile Markers).	E.1 Impact pile driving	2	225	5	N/A

TABLE 7—CALCULATED LEVEL A AND LEVEL B HARASSMENT ISOPLETHS

Activity	Level A harassment zone (m)					Level B harassment zone (m)
	LF-cetaceans	MF-cetaceans	HF-cetaceans	Phocids	Otariids	
24-in Steel Pipe Pile Vibratory Install (MOF Option 2)	4.5	0.4	6.6	2.7	0.2	1,847.8
24-in Steel Pipe Pile Vibratory Removal (MOF Option 2)	2.8	0.3	4.2	1.7	0.1	
24-in sheet pile vibratory installation (MOF Option 1)	23.4	2.1	34.6	14.2	1.0	4,641.1
24-in sheet pile vibratory removal (MOF Option 1)	12.2	1.1	18	7.4	0.5	
24-in vibratory installation (Pile Markers)	3.7	0.3	5.5	2.3	0.2	1,847.8
24-in impact installation (Pile Markers)	501.4	17.8	597.2	268.3	19.5	857.7

Marine Mammal Occurrence and Take Estimation

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

When available, peer-reviewed scientific publications were used to estimate marine mammal abundance in the project area. Data from monitoring reports from the previous Sand Island Test Pile Project was used to calculate take for several species. However, scientific surveys and resulting data, such as population estimates, densities, and other quantitative information, are lacking for some species. The ACOE also gathered qualitative information from discussions with knowledgeable local people that frequent the mouth of the Columbia River. Assumptions

regarding the size of expected groups of different species, and the frequency of occurrence of those groups, were proposed by the ACOE on the basis of the aforementioned information and are described for each species below.

Since reliable densities are not available, the take numbers are based on the assumed occurrence of a given stock during the activity. The applicant used equation 1, below, to estimate take of killer whales and Steller sea lions, equation 2 to estimate take of humpback whale, harbor porpoise, California sea lions, and harbor seals, and neither equation for gray whale or Northern elephant seals. NMFS concurs with this method. The estimated take calculation for these/this species is explained in the relevant section below.

(1) Estimated Take = number of individuals in a group × groups per day × days of pile-related activity

(2) Estimated Take = total expected duration of the proposed project (minutes) ÷ total duration of the Sand Island Test Pile Project × the total number of animals of a given species observed during the Sand Island Test Pile Project

Gray Whale

Historically gray whales have not frequented the mouth of the Columbia River. No gray whales were observed during monitoring activities of the Sand Island Test Pile Project (Hamer Environment L.P. 2020). In August of 2020, an ACOE biologist observed two gray whales traveling upriver from the project site. Given this recent sighting and the temporal overlap of the project and the most recent sighting, NMFS proposes to authorize two takes of gray whales by the Level B harassment.

The largest Level A harassment zone for gray whales extends 513 m from the noise source (table 7). ACOE is planning to implement shutdown zones for low-frequency cetaceans that exceed the Level A harassment isopleth for all activities. Therefore, especially in combination with the already low occurrence of gray whales in the area, implementation of the proposed shutdown zones is expected to eliminate the potential for take by Level A harassment of gray whale. Therefore, no take by Level A harassment is anticipated or proposed for authorization for humpback whales.

Humpback Whales

Humpback whales have occurred in the lower Columbia River near the proposed project area in recent years. Feeding groups have been using the mouth of the Columbia River as a foraging ground, arriving as early as mid-June, and have been observed as late as mid-November with a peak of abundance coinciding with the peak abundance of forage fish in mid-summer (The Columbian 2019). During pile driving activities of the Sand Island Test Pile Project, seven animals were observed (Hamer Environment L.P. 2020). The ACOE estimated take of humpback whales using equation 2 above resulting in a take estimate of 16 takes by Level B harassment (2277 (pile driving minutes for this activity)/1037 (pile driving minutes for Sand Island Test Pile Project) × 7 observed animals). NMFS agrees with this approach and estimated take. As described above, NMFS anticipates that 42 percent of takes would occur to individuals of the Central America/Southern Mexico-CA/OR/WA stock and 58 percent of takes would occur to individuals of the Mainland Mexico-CA/OR/WA which would equate to seven and nine takes respectively.

The largest Level A harassment zone for humpback whales extends 513 m from the noise source (table 7). ACOE is planning to implement shutdown zones for low-frequency cetaceans that exceed the Level A harassment isopleth for all activities. Implementation of the proposed shutdown zones is expected to eliminate the potential for take by Level A harassment of humpback whale. No take by Level A harassment is anticipated or proposed for authorization for humpback whales.

Killer Whale

Use of the mouth of the Columbia River is rare for killer whales, but in recent years pods of killer whales have been observed in and around the mouth of the Columbia River. During the recent monitoring of the Sand Island Test Pile Project, no killer whales were observed (Hamer Environment L.P. 2020). Aerial seabird marine mammal surveys observed 0 killer whales in January 2011, 0 in February 2012, and 10 in September 2012 within an approximately 1,500 km2 range near the MCR (Adams 2014). A pod of transient killer whales was detected near the Astoria Bridge in May of 2018 (Frankowicz 2018) and in 2022 (Tomlinson 2022). The ACOE estimated the average group sizes from these past observations was seven. Based on the rare occurrence of killer whales in the project area, ACOE expects that one group of seven killer whales may occur during the 12 days of construction in the Level B harassment zone. NMFS concurs and is proposing to authorize 7 takes of killer whale by Level B harassment.

The largest Level A harassment zone for killer whales extends 17.8 m from the noise source (table 7). ACOE is planning to implement shutdown zones for mid-frequency cetaceans that exceed the Level A harassment isopleth for all activities. Implementation of the proposed shutdown zones is expected to eliminate the potential for take by Level A harassment of killer whale. No take by Level A harassment is anticipated or proposed for authorization for killer whales.

Harbor Porpoise

Harbor porpoises are regularly observed in the offshore waters near the mouth of the Columbia River and are known to occur there year-round. Porpoise abundance peaks when anchovy (*Engraulis mordax*) abundance in the river and nearshore are highest, which is usually between April and August (Litz *et al.* 2008). Harbor porpoise tend to occur in groups of one to two individuals. During the recent monitoring of the Sand Island Test Pile Project, eight harbor porpoise were observed during construction activities (Hamer Environment L.P. 2020). Using equation 2 above, ACOE expects that take by Level B harassment of 18 animals would occur over the 12 days of pile driving (2277 (pile driving minutes for this activity)/1037 (pile driving minutes for Sand Island Test Pile Project) × 8 observed animals). NMFS agrees with this approach and estimated take.

The largest Level A harassment zone for harbor porpoise extends 597 m from the noise source (table 7). ACOE is planning to implement shutdown zones for high-frequency cetaceans that exceed the Level A harassment isopleth for all activities, and it did not request take by Level A harassment of harbor porpoise. For some activities (*i.e.,* impact driving of 24-in piles), the shutdown zones extends farther than Protected Species Observers (PSO) may be able to reliably detect harbor porpoise. However, given the portion of the zone within which PSOs could reliably detect a harbor porpoise, the infrequency of harbor porpoise observations during the Sand Island Test Pile project monitoring, and harbor porpoise sensitivity to noise, no take by Level A harassment is anticipated or proposed for authorization for harbor porpoise.

Steller Sea Lion

Steller sea lion occurrence was estimated using WDFW survey information haulout information from the South Jetty at the mouth of the Columbia River from 2000 to 2014. During the recent monitoring of the

Sand Island Test Pile Project no Steller sea lions were observed (Hamer Environment L.P. 2020). Given the close proximity of the haulout it is expect that Steller sea lions could occur near the project site. Occurrence was estimated using the monthly haulout numbers for the months when work would be occurring during the proposed project. In August the average number of Steller sea lions hauled out at the jetty was 72 and in October the average number of sea lions at the jetty was 77. In August construction would occur over 7-days and in October construction would occur over 5 days. Given the daily occurrence rates and days of in-water construction, and using equation 1, the ACOE expects that 889 takes by Level B harassment would occur (daily occurance (72 or 77) × days of activity), and NMFS proposes to authorize 889 takes by Level B harassment of Steller sea lion.

The largest Level A harassment zone for Steller sea lions extends 19.5 m from the noise source (table 7). ACOE is planning to implement shutdown zones for otariids that exceed the Level A harassment isopleth for all activities. Implementation of the proposed shutdown zones is expected to eliminate the potential for take by Level A harassment of Steller sea lion. No take by Level A harassment is anticipated or proposed for authorization for Steller sea lion.

California Sea Lion

Similar to Steller sea lions, California sea lions use the South Jetty at the mouth of the Columbia River and make frequent trips inside the mouth of the river. Occurrence on the South Jetty peaks in summer and use in the fall and winter is more concentrated. During recent monitoring activities of the Sand Island Test Pile Project 59 animals were observed (Hamer Environment L.P. 2020). Using equation 2 above, ACOE expects that 144 takes by Level B harassment California sea lions would occur (2277 (pile driving minutes for this activity)/1037 (pile driving minutes for Sand Island Test Pile Project) × 59 observed animals), and NMFS proposes to authorize 144 takes by Level B harassment of California sea lion.

The largest Level A harassment zone for California sea lions extends 19.5 m from the noise source (table 7). ACOE is planning to implement shutdown zones for otariids that exceed the Level A harassment isopleth for all activities. Implementation of the proposed shutdown zones is expected to eliminate the potential for take by Level A harassment of California sea lion. No take by Level A harassment is anticipated or proposed for authorization for California sea lion.

Harbor Seal

Harbor seals are the most abundant pinniped in Oregon and occur in the proposed project are year-round. Large numbers of harbor seals move through the mouth of the Columbia River throughout the year and are expected to be present in the proposed project area. During recent monitoring of the Sand Island Test Pile Project, a total of 309 harbor seals were observed during construction activities (Hamer Environment L.P. 2020). Take estimates were generated using equation 2 above and the Sand Island Pile Test Project monitoring results. ACOE expects that 679 takes by Level B harassment of harbor seals would occur during the proposed project (2277 (pile driving minutes for this activity)/1037 (pile driving minutes for Sand Island Test Pile Project) × 309 observed animals), and NMFS proposes to authorize 679 takes by Level B harassment of harbor seal.

The Level A harassment zone for harbor seals during impact installation is 268 m (table 7). ACOE would implement a shutdown zone of 150 m given the difficulty of observing harbor seals at greater distances and practicability concerns regarding efficient work production rates that would be associated with a larger shutdown zone (see Proposed Mitigation section). During impact installation ACOE expects that two harbor seals could be present in the Level A harassment zone. Therefore, over the three days of impact pile driving, NMFS anticipates, and proposes to authorize, 6 takes by Level A harassment (2 takes per day * 3 days = 6 takes by Level B harassment).

Northern Elephant Seal

Northern elephant seals occur infrequently in the mouth of the Columbia River. Recent sightings of elephant seals have occurred in the fall and spring upriver from the proposed project site. Although, no Northern elephant seals were observed during the Sand Island Test Pile Project (Hamer Environment L.P. 2020). ACOE expects that two animals may be present in the Level B harassment zone during the 12-days of construction, and NMFS proposes to authorize 2 takes by Level B harassment of elephant seal.

The largest Level A harassment zone for Northern elephant seals extends 268 m from the noise source (table 7). ACOE is planning to implement shutdown zones for Northern elephant seal that exceed the Level A harassment isopleth for all activities. Implementation of the proposed shutdown zones is expected to eliminate the potential for take by Level A harassment of Northern elephant seal. No take by Level A harassment is anticipated or proposed for authorization for Northern elephant seals.

TABLE 8—ESTIMATED TAKE BY LEVEL A AND LEVEL B HARASSMENT, BY SPECIES AND STOCK

Common name	Stock	Stock abundance [a]	Level A	Level B	Total proposed take	Proposed take as a percentage
Gray Whale	Eastern N Pacific	26,960	0	2	2	<1
Humpback Whale	Central America/Southern Mexico—CA/OR/WA.	1,494	0	7	7	<1
	Mainland Mexico—CA/OR/WA	3,477	0	9	9	<1
Killer Whale	West Coast Transients	349	0	7	7	2
Harbor Porpoise	Northern OR/WA Coast	22,074	0	18	18	<1
Steller sea lion	Eastern	36,308	0	889	889	2.4
California Sea Lion	United States.	257,074	0	144	144	<1
Harbor Seal	OR/WA Coastal	UKN	6	679	685	N/A
Northern Elephant Seal	CA Breeding	187,386	0	2	2	<1

[a] Stock size is Nbest according to NMFS 2022 Final Stock Assessment Reports.

Proposed Mitigation

In order to issue an IHA under section 101(a)(5)(D) of the MMPA, NMFS must set forth the permissible methods of taking pursuant to the activity, and other means of effecting the least practicable impact on the species or stock and its habitat, paying particular attention to rookeries, mating grounds, and areas of similar significance. NMFS regulations require applicants for incidental take authorizations to include information about the availability and feasibility (economic and technological) of equipment, methods, and manner of conducting the activity or other means of effecting the least practicable adverse impact upon the affected species or stocks, and their habitat (50 CFR 216.104(a)(11)).

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

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

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

The following measures would apply to the ACOE mitigation requirements:

Implementation of Shutdown Zones—For all pile driving/removal activities, the ACOE would implement shutdowns within designated zones. The purpose of a shutdown zone is generally to define an area within which shutdown of activity would occur upon sighting of a marine mammal (or in anticipation of an animal entering the defined area). Implementation of shutdowns would be used to avoid or minimize incidental Level A harassment takes from vibratory and impact pile driving and removal (table 9). For all pile driving/removal activities, a minimum 25-m shutdown zone would be established for pinnipeds and 50-m shutdown zone for cetaceans as outlined in the ACOE application for an IHA. For harbor seals, ACOE proposed a shutdown zone of 25 m given its concerns about potential frequent shutdowns that may occur with a larger shutdown zone in consideration of high occurrence of harbor seals in the project area. To minimize the potential of Level A harassment of harbor seals, NMFS recommended a shutdown zone of 150 m for harbor seals. ACOE concurred that this zone was practicable, and therefore, NMFS proposes to require a shutdown zone of 150 m for harbor seals. Shutdown zones for impact pile driving are based on the Level A harassment zones and therefore vary by marine mammal hearing group (table 9). The placement of PSOs during all pile driving activities (described in detail in the Monitoring and Reporting section) would ensure the full extent of shutdown zones are visible to PSOs.

TABLE 9—SHUTDOWN ZONES DURING PILE INSTALLATION AND REMOVAL

Activity	Pile size	Shutdown zones (m)					
		LF cetaceans	MF cetaceans	HF cetaceans	Harbor Seals	Northern elephant seal	Otariids
Vibratory Installation	24-in (pile markers)	50	50	50	25	25	25
Vibratory Installation and removal.	24-in (MOF option 2)	50	50	50	25	25	25
Vibratory Installation and removal.	24-in sheet pile (MOF option 1).	50	50	50	25	25	25
Impact Installation	24-in (pile markers)	510	50	600	150	270	25

Monitoring for Level A and Level B harassment—The ACOE has identified monitoring zones correlated with the Level B harassment zones. Monitoring zones provide utility for observing by establishing monitoring protocols for areas adjacent to the shutdown zones. Monitoring zones enable observers to be aware of and communicate the presence of marine mammals in the project area outside the shutdown zone and thus prepare for a potential cessation of activity should the animal enter the shutdown zone. PSOs would monitor the entire visible area to maintain the best sense of where animals are moving relative to the zone boundaries defined in table 9. Placement of PSOs on the shorelines around Sand Island would allow PSOs to observe marine mammals near the project area. While not required by this IHA, ACOE states that it may also place a PSO on a skiff near the project area if safe conditions allow.

Soft Start—Soft-start procedures are used to provide additional protection to marine mammals by providing warning and/or giving marine mammals a chance to leave the area prior to the hammer operating at full capacity. For impact pile driving, contractors would be required to provide an initial set of three strikes at reduced energy, followed by a 30-second waiting period, then two subsequent reduced-energy strike sets. Soft start would be implemented at the start of each day's impact pile driving and at any time following cessation of impact pile driving for a period of 30 minutes or longer. Soft start is not required during vibratory pile driving and removal activities.

Pre-Activity Monitoring—Prior to the start of 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 a period of 30 minutes. The shutdown zone would be considered cleared when a marine mammal has not been observed within the zone for that 30-minute period. 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. If the monitoring zone has been observed for 30 minutes and marine mammals are not present within the zone, soft-start procedures can commence and work can continue. Pre-start clearance monitoring must be conducted during periods of visibility sufficient for the lead PSO to determine that the shutdown zones, indicated in table 9, are clear of marine mammals. When a marine mammal for which take by Level

B harassment is authorized is present in the Level B harassment zone, activities may begin. If work ceases for more than 30 minutes, the pre-activity monitoring of both the monitoring zone and shutdown zone would commence.

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

Proposed Monitoring and Reporting

In order to issue an IHA for an activity, section 101(a)(5)(D) of the MMPA states that NMFS must set forth requirements pertaining to the monitoring and reporting of such taking. The MMPA implementing regulations at 50 CFR 216.104(a)(13) indicate that requests for authorizations must include the suggested means of accomplishing the necessary monitoring and reporting that will result in increased knowledge of the species and of the level of taking or impacts on populations of marine mammals that are expected to be present while conducting the activities. Effective reporting is critical both to compliance as well as ensuring that the most value is obtained from the required monitoring.

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

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

Visual Monitoring

Monitoring shall be conducted by NMFS-approved observers in accordance with section 5 of the IHA. Trained observers shall be placed from 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. Observer training must be provided prior to project start, 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).

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 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.

A minimum of two PSO would be on duty during all in-water construction activities. Locations from which PSOs would be able to monitor for marine mammals are readily available from the shore of Sand Island. PSOs would monitor for marine mammals entering the harassment zones.

PSOs would scan the waters using binoculars or spotting scopes and would use a handheld range-finder device to verify the distance to each sighting from the project site. PSOs would be placed at the best vantage point(s) practicable to monitor for marine mammals and implement shutdown/delay procedures when applicable by calling for the shutdown to the hammer operator via a radio.

The ACOE would adhere to the following observer qualifications:

(i) PSOs must be independent of the activity contractor (for example, employed by a subcontractor) and have no other assigned tasks during monitoring periods;

(ii) At least one PSO must have prior experience performing the duties of a PSO during construction activity pursuant to a NMFS-issued incidental take authorization;

(iii) Other PSOs may substitute other relevant experience, education (degree in biological science or related field), or training for prior experience performing the duties of a PSO during construction activity pursuant to a NMFS-issued incidental take authorization;

(iv) Where a team of three or more PSOs is required, a lead observer or monitoring coordinator must be designated. The lead observer must have prior experience performing the duties of a PSO during construction activity pursuant to a NMFS-issued incidental take authorization; and

(v) PSOs must be approved by NMFS prior to beginning any activity subject to this IHA.

Additional recommended observer qualifications include:

- Ability to conduct field observations and collect data according to assigned protocols;
- Experience or training in the field identification of marine mammals, including the identification of behaviors;
- Sufficient training, orientation, or experience with the construction operation to provide for personal safety during observations;
- Writing skills sufficient to prepare a report of observations including but not limited to 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
- 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. It

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 (begin 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 driving) and for each pile or total number of strikes for each pile (impact driving).
- PSO locations during marine mammal monitoring.
- Environmental conditions during monitoring periods (at beginning and end of PSO shift and whenever conditions change significantly), including Beaufort sea state and any other relevant weather conditions including cloud cover, fog, sun glare, and overall visibility to the horizon, and estimated observable distance;
- Upon observation of a marine mammal, the following information: Name of PSO who sighted the animal(s) and PSO location and activity at time of sighting; time of sighting; identification of the animal(s) (*e.g.,* genus/species, lowest possible taxonomic level, or unidentified), PSO confidence in identification, and the composition of the group if there is a mix of species; distance and bearing of each marine mammal observed relative to the pile being driven for each sighting (if pile driving was occurring at time of sighting); estimated number of animals (min/max/best estimate); estimated number of animals by cohort (adults, juveniles, neonates, group composition, *etc.*); animal's closest point of approach and estimated time spent within the harassment zone; description of any marine mammal behavioral observations (*e.g.,* observed behaviors such as feeding or traveling), including an assessment of behavioral responses thought to have resulted from the activity (*e.g.,* no response or changes in behavioral state such as ceasing feeding, changing direction, flushing, or breaching);
- Number of marine mammals detected within the harassment zones, by species; and,
- Detailed information about any implementation of any mitigation triggered (*e.g.,* shutdowns and delays), a description of specific actions that ensued, and resulting changes in behavior of the animal(s), if any.

If no comments are received from NMFS within 30 days, the draft final 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 event that personnel involved in the construction activities discover an injured or dead marine mammal, the Holder must report the incident to the Office of Protected Resources (OPR), NMFS and to the West Coast regional stranding network as soon as feasible. If the death or injury was clearly caused by the specified activity, the Holder must immediately cease the activities until NMFS OPR is able to review the circumstances of the incident and determine what, if any, additional measures are appropriate to ensure compliance with the terms of this IHA. The Holder must not resume their activities until notified by NMFS. 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.

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 majority of our analysis applies to all the species listed in table 8, given that many of the anticipated effects of this project on different marine mammal stocks are expected to be relatively similar in nature. Where there are meaningful differences between species or stocks, or groups of species, in anticipated individual responses to activities, impact of expected take on the population due to differences in population status, or impacts on habitat, they are described independently in the analysis below.

Pile driving and removal 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.

Take by Level A and Level B harassment would be due to potential behavioral disturbance, TTS, and PTS. No serious injury or mortality is anticipated or proposed for authorization given the nature of the activity and measures designed to minimize the possibility of injury to marine mammals. Take by Level A harassment is only anticipated for harbor seals. The potential for harassment is minimized through the construction method (*i.e.,* use of direct pull removal or vibratory methods to the extent practical) and the implementation of the proposed mitigation measures (see Proposed Mitigation section).

Behavioral responses of marine mammals to pile driving and removal at the project site, if any, are expected to be mild and temporary. Marine mammals within the Level B harassment zone may not show any visual cues they are disturbed by activities or could become alert, avoid

the area, leave the area, or display other mild responses that are not observable such as changes in vocalization patterns. Given the limited number of piles to be installed or extracted per day and that pile driving and removal would occur across a maximum of 12 days within the 12-month authorization period, any harassment would be temporary.

In addition to the expected effects resulting from Level B harassment, we anticipate that harbor seals may sustain some limited Level A harassment in the form of PTS. However, any PTS is expected to be of a small degree (*i.e.,* minor degradation of hearing capabilities within regions of hearing that align most completely with the energy produced by pile driving (below 2 kHz)) because animals would need to be exposed to higher levels and/or longer duration than are expected to occur here in order to incur any more than a small degree of PTS. If hearing impairment occurs, it is most likely that the affected animal would lose a few decibels in its hearing sensitivity, which in most cases is not likely to meaningfully affect its ability to forage and communicate with conspecifics, as it would be minor and not in the region of greatest hearing sensitivity.

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, though, any PTS or TTS potentially incurred here would not be expected to adversely impact individual fitness, let alone annual rates of recruitment or survival.

The project also is not expected to have significant adverse effects on affected marine mammals' habitat. The project activities would not modify existing marine mammal habitat for a significant amount of time. The activities may cause some fish or invertebrates to leave the area of disturbance, thus temporarily impacting marine mammals' foraging opportunities in a limited portion of the foraging range; but, because of the short duration of the activities, the relatively small area of the habitat that may be affected, and the availability of nearby habitat of similar or higher value, the impacts to marine mammal habitat are not expected to cause significant or long-term negative consequences.

A large portion of the west coast, including the mouth of the Columbia River, has been identified as a biologically important area (BIA) for gray whale feeding (Calambokidis *et al.* 2024). As described above, the presence of gray whales in the project area is rare, and the area of overlap of the project with the feeding BIA affected is small compared to the overall size of the BIA. The gray whale feeding BIA is active from June through November while the proposed project is scheduled to occur between August and October, resulting in only three months of overlap with the project and 3 months when the BIA is active but ACOE would not be conducting work. Additionally, pile driving associated with the project is expected to take only 12 days, further reducing the temporal overlap with the BIA. Therefore, take of gray whales using this feeding BIA, given both the small footprint of the activity relative to the BIA, and the scope and nature of the anticipated impacts of pile driving exposure, is not anticipated to impact the reproduction or survival of any individuals.

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 take by Level A harassment (harbor seals, only) is anticipated to result in slight PTS 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 impacted by the specified activity is very small relative to the overall habitat ranges of all stocks, and does not overlap ESA-designated critical habitat. While impacts would occur within an area that is important for gray whale feeding, because of the small footprint of the activity relative to the feeding area, the limited temporal overlap of the activity and the feeding period, and the scope and nature of the anticipated impacts of pile driving exposure, we do not expect impacts to the reproduction or survival of any individuals; and
- ACOE would implement mitigation measures, such as soft-starts for impact pile driving and shut downs to minimize the numbers of marine mammals exposed to injurious levels of sound, and to ensure that take by Level A harassment, is at most, a small degree of PTS.

Based on the analysis contained herein of the likely effects of the specified activity on marine mammals and their habitat, and taking into consideration the implementation of the proposed monitoring and mitigation measures, NMFS preliminarily finds that the total marine mammal take from the proposed activity will have a negligible impact on all affected marine mammal species or stocks.

Small Numbers

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

Table 8 demonstrates the number of animals that NMFS anticipates could be taken by Level A and Level B harassment for the proposed work. Our analysis shows that at most 2.4 percent of each affected stock could be taken by harassment. The numbers 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, which is an 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.

Endangered Species Act

Section 7(a)(2) of the ESA of 1973 (16 U.S.C. 1531 *et seq.*) requires that each Federal agency insure that any action it authorizes, funds, or carries out is not likely to jeopardize the continued existence of any endangered or threatened species or result in the destruction or adverse modification of designated critical habitat. To ensure ESA compliance for the issuance of IHAs, NMFS consults internally whenever we propose to authorize take

for endangered or threatened species, in this case with the West Coast region.

NMFS is proposing to authorize take of Central America/Southern Mexico—CA/OR/WA and Mainland Mexico—CA/OR/WA humpback whales, which are listed under the ESA. The Permits and Conservation Division has requested initiation of section 7 consultation with the West Coast Region for the issuance of this IHA. NMFS will conclude the ESA consultation prior to reaching a determination regarding the proposed issuance of the authorization.

Proposed Authorization

As a result of these preliminary determinations, NMFS proposes to issue an IHA to the ACOE for conducting pile installation and removal, in Baker Bay, between August 1, 2025 and July 31, 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 comment on our analyses, the proposed authorization, and any other aspect of this notice of proposed IHA for the proposed action. We also request comment on the potential renewal of this proposed IHA as described in the paragraph below. Please include with your comments any supporting data or literature citations to help inform decisions on the request for this IHA or a subsequent renewal IHA.

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

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

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

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

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

Dated: July 22, 2024.

Kimberly Damon-Randall,

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

[FR Doc. 2024–16367 Filed 7–24–24; 8:45 am]

BILLING CODE 3510–22–P

DEPARTMENT OF COMMERCE

Patent and Trademark Office

Agency Information Collection Activities; Submission to the Office of Management and Budget (OMB) for Review and Approval; Comment Request; Trademark Post Registration

AGENCY: United States Patent and Trademark Office, Department of Commerce.

ACTION: Notice of information collection; request for comment.

SUMMARY: The United States Patent and Trademark Office (USPTO), as required by the Paperwork Reduction Act of 1995, invites comments on the extension and revision of an existing information collection: 0651–0055 (Trademark Post Registration). The purpose of this notice is to allow 60 days for public comment preceding submission of the information collection to OMB.

DATES: To ensure consideration, comments regarding this information collection must be received on or before September 23, 2024.

ADDRESSES: Interested persons are invited to submit written comments by any of the following methods. Do not submit Confidential Business Information or otherwise sensitive or protected information.

- *Email: InformationCollection@uspto.gov.* Include ''0651–0055 comment'' in the subject line of the message.
- *Federal eRulemaking Portal: http://www.regulations.gov.*
- *Mail:* Justin Isaac, Office of the Chief Administrative Officer, United States Patent and Trademark Office, P.O. Box 1450, Alexandria, VA 22313–1450.

FOR FURTHER INFORMATION CONTACT: Requests for additional information should be directed to Catherine Cain, Attorney Advisor, Office of the Commissioner for Trademarks, United States Patent and Trademark Office, P.O. Box 1450, Alexandria, VA 22313–1450; by telephone at 571–272–8946; or by email at *Catherine.Cain@uspto.gov* with ''0651–0055 comment'' in the subject line. Additional information about this information collection is also available at *http://www.reginfo.gov* under ''Information Collection Review.''

SUPPLEMENTARY INFORMATION:

I. Abstract

The United States Patent and Trademark Office (USPTO) administers the Trademark Act (Act), 15 U.S.C. 1501 *et seq.,* which provides for the federal registration of trademarks, service marks, collective trademarks and service marks, collective membership marks, and certification marks. Individuals and businesses that use or intend to use such marks in commerce may file an application to register their marks with the USPTO.

This information collection covers various communications submitted by individuals and businesses to the USPTO after the registration of a trademark. One type of communication is a request to amend a registration to delete goods or services that are no longer being used by the owner. Registered marks remain on the register for 10 years and can be renewed, but will be cancelled unless the owner files with the USPTO a declaration attesting to the continued use (or excusable non-use) of the mark in commerce, and a renewal application, with specific deadlines. Owners may also request to amend or divide a registration, respond to a post-registration office action, and surrender a registration.

The regulations implementing the Act are set forth in 37 CFR part 2. These regulations mandate that each register entry include the mark, the goods and/or services in connection with which