submitted voluntarily by the sender will be publicly accessible. NMFS will accept anonymous comments (enter ''N/A'' in the required fields if you wish to remain anonymous).

FOR FURTHER INFORMATION CONTACT: Chris Fanning, NMFS, West Coast Region, 562–980–4198, *Chris.Fanning@noaa.gov.*

SUPPLEMENTARY INFORMATION: On May 8, 2023, NMFS published a final rule implementing amendment 6 to the HMS FMP (88 FR 29545). These regulations, which became effective on June 7, 2023, authorize standard and linked DSBG as an additional gear type for catching swordfish and other HMS in Federal waters off of California and Oregon and include various gear specification requirements (*e.g.,* prohibiting vessels from deploying more than 10 pieces of standard or linked DSBG, in total, at one time), operational requirements (*e.g.,* prohibiting vessels from deploying their gear at night), and geographic area restrictions (*e.g.,* prohibiting fishing with DSBG in Federal waters within the Southern California Bight without a limited entry permit). See 50 CFR 660.715.

On June 14, 2025, the Council recommended that NMFS issue the NSBG EFPs for applications from Shearwater Fishing LLC [1] and Mr. Yacobucci,[2] and extend the NSBG EFP for Mr. Perez.[3] If issued, these EFPs would exempt the permitted vessels from the prohibition on deploying DSBG until local sunrise and retrieving the gear no later than 3 hours after local sunset, which would otherwise be prohibited by 50 CFR 660.715(c)(3).

At this time, NMFS is requesting public comment on the NSBG EFP applications discussed above. NMFS will take the Council's comments into consideration along with public comments on whether to issue these EFPs. Aside from the regulatory exemptions being sought for the proposed activities in the applications described above, vessels fishing under an EFP would be subject to all other regulations implemented at 50 CFR part 660, subpart K and 50 CFR part 300, subpart C, including measures to protect sea turtles, marine mammals, and seabirds.

[1] *https://www.pcouncil.org/documents/2025/05/f-3-attachment-1-exempted-fishery-permit-application-for-night-deep-set-buoy-gear-ndsbg-and-night-linked-buoy-gear-nlbg.pdf/.*

[2] *https://www.pcouncil.org/documents/2025/05/f-3-attachment-2-exempted-fishery-permit-application-for-night-deep-set-buoy-gear-ndsbg-yacobucci.pdf/.*

[3] *https://www.pcouncil.org/documents/2025/05/f-3-attachment-3-night-set-buoy-gear-nsbg-efp-extension-request-perez.pdf./.*

NMFS will consider all public comments submitted in response to this **Federal Register** notice prior to issuance of any EFP. Additionally, NMFS will analyze the effects of issuing EFPs in accordance with the National Environmental Policy Act and NOAA's Administrative Order 216–6A, as well as for compliance with other applicable laws, including section 7(a)(2) of the Endangered Species Act (16 U.S.C. 1531 *et seq.*), which requires the agency to consider whether the proposed action is likely to jeopardize the continued existence and recovery of any endangered or threatened species or result in the destruction or adverse modification of critical habitat.

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

Dated: July 18, 2025.

Kelly Denit,

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

[FR Doc. 2025–13794 Filed 7–21–25; 8:45 am]

BILLING CODE 3510–22–P

DEPARTMENT OF COMMERCE

National Oceanic and Atmospheric Administration

[RTID 0648–XE859]

Takes of Marine Mammals Incidental to Specified Activities; Taking Marine Mammals Incidental to the Oregon Department of Transportation's Yaquina Bay Dolphin Replacement Project in Newport, Oregon

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

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

SUMMARY: NMFS has received a request from the Oregon Department of Transportation (ODOT) for authorization to take marine mammals incidental to construction activities for the Yaquina Bay Dolphin Replacement Project in Newport, 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 21, 2025.

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

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

FOR FURTHER INFORMATION CONTACT: Kelsey Potlock, Office of Protected Resources, NMFS, (301) 427–8401.

SUPPLEMENTARY INFORMATION:

Background

The MMPA prohibits the ''take'' of marine mammals, with certain exceptions. Section 101(a)(5)(A) and (D) of the MMPA (16 U.S.C. 1361 *et seq.*) directs the Secretary of Commerce (as delegated to NMFS) to allow, upon request, the incidental, but not intentional, taking of small numbers of marine mammals by U.S. citizens who engage in a specified activity (other than commercial fishing) within a specified geographical region if certain findings are made and either regulations are proposed or, if the taking is limited to harassment, a notice of a proposed IHA is provided to the public for review.

Authorization for incidental takings shall be granted if NMFS finds that the taking will have a negligible impact on

the species or stock(s) and will not have an unmitigable adverse impact on the availability of the species or stock(s) for taking for subsistence uses (where relevant). Further, NMFS must prescribe the permissible methods of taking and other ''means of effecting the least practicable adverse impact'' on the affected species or stocks and their habitat, paying particular attention to rookeries, mating grounds, and areas of similar significance, and on the availability of the species or stocks for taking for certain subsistence uses (referred to in shorthand as ''mitigation''); and requirements pertaining to the monitoring and reporting of the takings. The definitions of all applicable MMPA statutory terms used above are included in the relevant sections below and can be found in section 3 of the MMPA (16 U.S.C. 1362) and NMFS regulations at 50 CFR 216.103.

National Environmental Policy Act

To comply with the National Environmental Policy Act of 1969 (NEPA; 42 U.S.C. 4321 *et seq.*) and NOAA Administrative Order (NAO) 216–6A, NMFS must review our proposed action (*i.e.,* the issuance of an IHA) with respect to potential impacts on the human environment. This action is consistent with categories of activities identified in Categorical Exclusion B4 (IHAs with no anticipated serious injury or mortality) of the Companion Manual for NAO 216–6A, which do not individually or cumulatively have the potential for significant impacts on the quality of the human environment and for which we have not identified any extraordinary circumstances that would preclude this categorical exclusion. Accordingly, NMFS has preliminarily determined that the issuance of the proposed IHA qualifies to be categorically excluded from further NEPA review.

Summary of Request

On March 12, 2025, NMFS received a request from ODOT for an IHA to take marine mammals incidental to construction activities near the Yaquina Bay Bridge in Newport, Oregon. Following NMFS' review of the application, ODOT submitted revised versions on April 10, 2025 and May 16, 2025. The application was deemed adequate and complete on May 19, 2025. ODOT's request is for authorization of take of five species of marine mammals, by Level B harassment only. Neither ODOT nor NMFS expect serious injury or mortality to result from this activity and, therefore, an IHA is appropriate.

Description of Proposed Activity

Overview

ODOT has requested an IHA to authorize marine mammal take incidental to removing and subsequently installing new piles currently being used as part of the pier protection system. The replacement piles are intended to match the capacity and performance of the existing piles. This project entails only coastal construction activities, specifically pile removal and installation.

Presently, 33 steel piles, grouped in sets of 3 (referred to as a ''dolphin''), separate the channel from the Yaquina Bay Bridge's Pier 2. For the proposed project, ODOT, using a vibratory pile driver, would remove all 33 steel piles making up the 11 dolphins and install 36 new, 16-inch (in) (40.64-centimeter (cm)) diameter, battered steel piles to make up 12 new dolphin structures, consisting of groups of 3 steel piles each.

Given the use of vibratory pile driving to both remove and install the piles, there is potential for take of marine mammals by Level B harassment only; no take by Level A harassment is expected nor proposed for authorization for this project.

Dates and Duration

ODOT anticipates that this project would require up to 79 days of work, with up to 46 of those days consisting of in-water activities that could cause the take of marine mammals. Of this, 22 days are estimated to be necessary for removal of the existing piles and 24 days are estimated for the installation of replacement piles and piles for a new dolphin structure. The remaining 33 days would be used for mobilization and demobilization activities. All of the work for this project is expected to occur between November 1, 2025, and February 15, 2026. The proposed construction schedule is shown in table 1.

Table 1 – Proposed Construction Schedule by ODOT

Construction Activity	2025			2026		
	October	November	December	January	February	March
Barge mobilization setup		■				
In-water work period		■	■	■	■	
Old Pile removal		■	■	■	■	
New Pile Installation		■	■	■	■	
Barge demobilization					■	

Note: Shaded boxes represent the proposed work period for each activity.

Specific Geographic Region

The proposed project would occur near the Yaquina Bay Bridge's Pier 2, located in Newport, Oregon near Yaquina Bay. Pier 2 is located on the north side of the navigation channel (see figure 1).

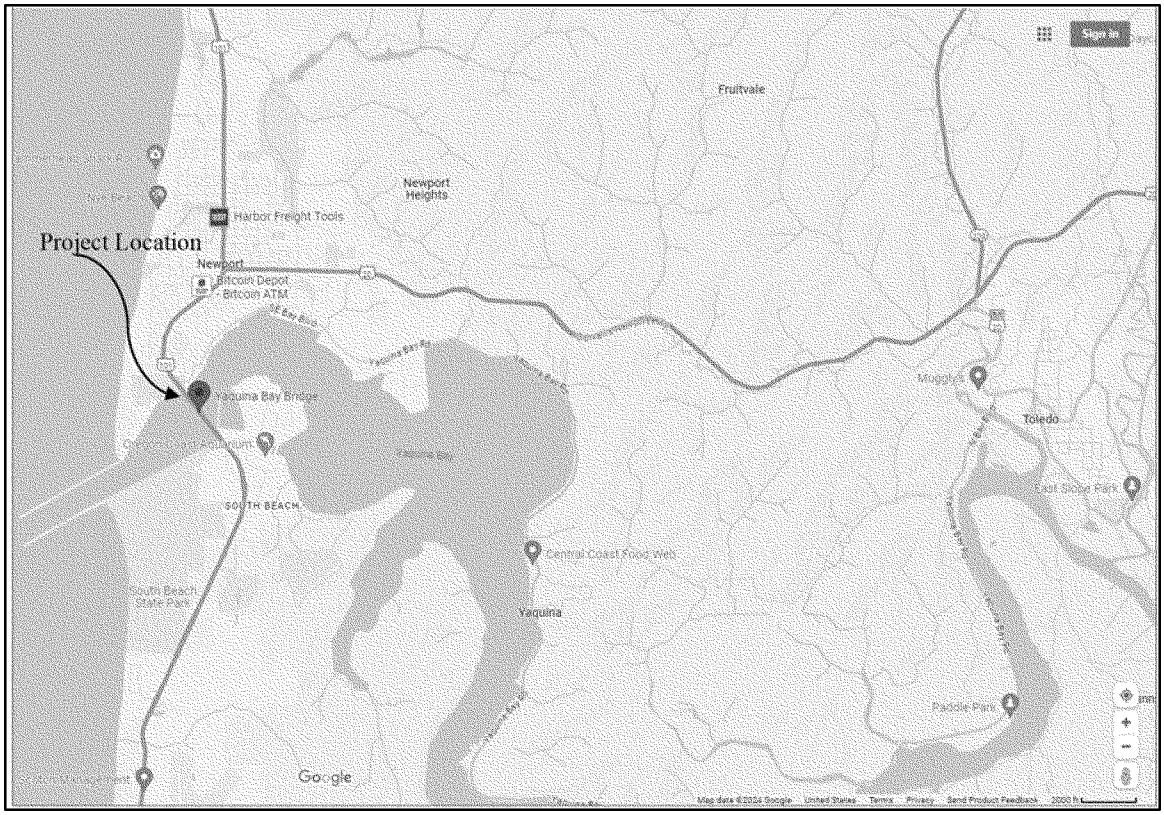

Figure 1—Project Location Near Yaquina Bay in Newport, Oregon

Detailed Description of the Specified Activity

ODOT proposes to remove and subsequently install piles currently being used as part of the pier protection system. This proposed project will include the removal of 11 dolphins, consisting of 33 piles via vibratory pile driving and then the installation of 36 new 16-in (40.64-cm) steel piles, which would make up 12 new dolphins. Piles will all be ''battered,'' meaning the piles will be driven at an angle, rather than vertically to provide for additional lateral resistance to the overall structure. These replacement piles will be installed somewhat offset from the existing dolphins to avoid driving piles in previously disturbed sediment, as geotechnical engineers have confirmed that replacing the dolphins in the same location as the existing piles would require significantly deeper embedment to reach fixity. Pile removal and driving will be accomplished utilizing equipment mounted on a barge using supporting spuds. Piles will only require vibratory pile driving and will not be proofed with an impact hammer.

Each pile (regardless of old or new status) is expected to take approximately 45 minutes to remove or install. In total, ODOT's engineers estimate that up to 8 hours of vibratory pile driving could occur per day, but up to 2 days could be necessary to remove and install each dolphin (which consists of three piles each). Up to 22 days are estimated to remove the 33 old piles and 24 days are estimated to install the 36 new piles. While ODOT has allotted 79 workdays for this activity (November 1, 2025, through February 15, 2026), only 46 of those days are expected to require use of the vibratory hammer for pile removal and/or installation (see table 2).

ODOT has also explained that the contractor may choose to remove old piles and install the new piles within the same shift, rather than removing all old piles and then installing all new piles. However, ODOT clarified that only one vibratory hammer would be used and no two piles would ever be driven at the same time.

TABLE 2—PILE PARAMETERS FOR REMOVAL AND INSTALLATION VIA VIBRATORY HAMMER

Pile size and type	Activity duration (minutes/per pile)		Maximum piles per day		Total number of piles		Estimated number of days of work
	Remove	Install	Remove	Install	Remove	Install	
Old piles: 16-inch steel pile (battered)	45		3		33		22
New piles: 16-inch steel piles (battered)		45		3		36	24

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

Description of Marine Mammals in the Area of Specified Activities

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

Table 3 lists all species or stocks for which take is expected and proposed to be authorized for ODOT's activities near Yaquina Bay, and summarizes information related to the population or stock, including regulatory status under the MMPA and Endangered Species Act (ESA) and potential biological removal (PBR), where known. PBR is defined by the MMPA as the maximum number of animals, not including natural mortalities, that may be removed from a marine mammal stock while allowing that stock to reach or maintain its optimum sustainable population (as described in NMFS' SARs). While no serious injury or mortality is anticipated or proposed to be authorized here, PBR and annual serious injury and mortality (M/SI) from anthropogenic sources are included here as gross indicators of the status of the species or stocks and other threats.

Marine mammal abundance estimates presented in this document represent the total number of individuals that make up a given stock or the total number estimated within a particular study or survey area. NMFS' stock abundance estimates, for most species, represent the total estimate of individuals within the geographic area, if known, that comprises that stock. For some species, this geographic area may extend beyond U.S. waters. All managed stocks in this region are assessed in NMFS' Alaska and Pacific SARs. All values presented in table 3 are the most recent available at the time of publication (including from the draft 2024 SARs) and are available online at: *https://www.fisheries.noaa.gov/national/marine-mammal-protection/marine-mammal-stock-assessments.*

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

Common name	Scientific name	Stock	ESA/ MMPA status; strategic (Y/N) [b]	Stock abundance (CV; N_{min}; most recent abundance survey) [c]	PBR	Annual M/SI [d]
Order Artiodactyla—Cetacea—Family Phocoenidae (porpoises):						
Harbor porpoise	*Phocoena phocoena*	Northern California/Southern Oregon.	-/-, N	15,303 (0.575; 9,759; 2022).	306	0
Order Carnivora—Pinnipedia						
Family Otariidae (eared seals and sea lions):						
Steller sea lion	*Eumetopias jubatus*	Eastern DPS	-/-, N	36,308 [e] (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 richardii*	Oregon/Washington Coast	-/-, N	22,549 [f] (unknown; unknown; 1999.	Undetermined	10.6
Northern elephant seal	*Mirounga angustirostris*	California Breeding	-/-, N	194,907 (n/a; 88,794; 2023).	5,328	11.2

[a] Information on the classification of marine mammal species can be found on the web page for The Society for Marine Mammalogy's Committee on Taxonomy (*https://marinemammalscience.org/science-and-publications/list-marine-mammal-species-subspecies/*; Committee on Taxonomy (2024)).

[b] Endangered Species Act (ESA) status: endangered (E), threatened (T)/MMPA status: depleted (D). A dash (-) indicates that the species is not listed under the ESA or designated as depleted under the MMPA. Under the MMPA, a strategic stock is one for which the level of direct human-caused mortality exceeds PBR or 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.

[c] 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; N_{min} is the minimum estimate of stock abundance.

[d] These values, found in NMFS' SARs, represent annual levels of human-caused mortality plus serious injury from all sources combined (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.

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

[f] The abundance estimate for this stock is greater than 8 years old and is not considered current. PBR is considered undetermined for this stock, as there is no current minimum abundance estimate for use in calculation. However, based on a recent scientific publication (Pearson *et al.,* 2024) that analyzes the status of harbor seals in Washington State, NMFS has substituted the estimated stock abundance to 22,549 from 24,731 animals based on the best available information. Given Pearson *et al.* (2024) only covers the Washington portion of the Oregon/Washington, this is likely an underestimate.

As indicated above, all five species (with five managed stocks) in table 3 temporally and spatially co-occur with the activity to the degree that take is reasonably likely to occur. While killer whales (*Orcinus orca*), gray whales (*Eschrichtius robustus*), and humpback whales (*Megaptera novaeangliae*) have been observed 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. Given mitigation planned by ODOT where the project would experience either a delay or shutdown if one of these species were observed, no take is expected to occur for these species.

For more details on the species that are likely to occur near the project area and may be taken by ODOT's proposed activities, see ODOT's IHA application, the draft SARs, and NMFS' website.

Marine Mammal Hearing

Hearing is the most important sensory modality for marine mammals underwater, and exposure to anthropogenic sound can have deleterious effects. To appropriately assess the potential effects of exposure to sound, it is necessary to understand the frequency ranges marine mammals can hear. Not all marine mammal species have equal hearing capabilities (*e.g.,* Richardson *et al.,* 1995; Wartzok and Ketten, 1999; Au and Hastings, 2008). To reflect this, Southall *et al.* (2007, 2019) recommended that marine mammals be divided into hearing groups based on directly measured (behavioral or auditory evoked potential techniques) or estimated hearing ranges (behavioral response data, anatomical modeling, *etc.*). Generalized hearing ranges were chosen based on the ~65 decibel (dB) threshold from composite audiograms, previous analyses in NMFS (2024), and/or data from Southall *et al.* (2007) and Southall *et al.* (2019). We note that the names of two hearing groups and the generalized hearing ranges of all marine mammal hearing groups have been recently updated (NMFS, 2024), as reflected below in table 4.

Of the species that could be potentially taken in the proposed project area, none are considered low-frequency (LF) cetaceans, three are considered high-frequency (HF) cetaceans, one is considered very high-frequency (VHF) cetaceans, two are otariid pinnipeds, and two are phocid pinnipeds.

TABLE 4—MARINE MAMMAL HEARING GROUPS

[NMFS, 2024]

Hearing group	Generalized hearing range *
Low-frequency (LF) cetaceans (baleen whales)	7 Hz to 36 kHz.
High-frequency (HF) cetaceans (dolphins, toothed whales, beaked whales, bottlenose whales)	150 Hz to 160 kHz.
Very high-frequency (VHF) cetaceans (true porpoises, *Kogia,* river dolphins, Cephalorhynchid, *Lagenorhynchus cruciger* & *L. australis*).	200 Hz to 165 kHz.
Phocid pinnipeds (PW) (underwater) (true seals)	40 Hz to 90 kHz.
Otariid pinnipeds (OW) (underwater) (sea lions and fur seals)	60 Hz to 68 kHz.

* Represents the generalized hearing range for the entire group as a composite (*i.e.,* all species within the group), where individual species' hearing ranges may not be as broad. Generalized hearing range chosen based on ~65 dB threshold from composite audiogram, previous analysis in NMFS (2018), and/or data from Southall *et al.* (2007) and Southall *et al.* (2019). Additionally, animals are able to detect very loud sounds above and below that "generalized" hearing range.

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

Potential Effects of Specified Activities on Marine Mammals and Their Habitat

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

Acoustic effects on marine mammals during the specified activities are expected to potentially occur from vibratory pile removal and installation. The effects of underwater noise from ODOT's proposed activities have the potential to result in take by Level B harassment of marine mammals in the project area.

Overall, the proposed activities include the removal of 33 and installation of 36 piles near Yaquina Bay. There are a variety of types and degrees of effects to marine mammals, prey species, and habitat that could occur because of the proposed project. Below we provide a brief description of the types of sound sources that would be generated by the project, the general impacts from these types of activities, and an analysis of the anticipated impacts on marine mammals from the project, with consideration of the proposed mitigation measures.

Description of Sound Sources for the Specified Activities

Activities associated with the proposed project that have the potential to incidentally take marine mammals though exposure to sound would include vibratory pile removal and installation. Vibratory hammers install piles by vibrating them and allowing the weight of the hammer to push them into the substrate. Vibratory hammers typically produce less sound (*i.e.,* lower levels) than impact hammers. Peak sound pressure levels (SPLs) may be 180 dB or greater, but are generally 10 to 20 dB lower than SPLs generated during impact pile driving of the same-sized pile (Oestman *et al.,* 2009; California Department of Transportation (CALTRANS), 2015, 2020). Sounds produced by vibratory hammers are non-impulsive; compared to sounds produced by impact hammers, the rise time is slower, reducing the probability and severity of injury, and the sound energy is distributed over a greater amount of time (Nedwell and Edwards, 2002; Carlson *et al.,* 2005).

The likely or possible impacts of ODOT's proposed activities on marine mammals could involve both non-acoustic and acoustic stressors. Potential non-acoustic stressors could result from the physical presence of the equipment and personnel; however, while there are two pinniped haul-outs in the general area (*i.e.,* the Finger Jetty Haul-Out and the Bay Front Haul-Out), these are both over 495 meters (m) (1,624 feet (ft)) and 920 m (3,018 ft) from the project area, respectively. Furthermore, existing ambient noise levels in the local area from day-to-day activities (*i.e.,* cars/trucks/traffic, boats, car/truck/traffic horns, backup beepers from trucks, marina dock activity) are ongoing and near-constant meaning the animals that haul-out in the area are likely somewhat habituated to in-air stimuli. Given known conditions in the environment, it is also likely that the perceived level of noise to a marine mammal hauled out at the Finger Jetty would be lower as the prevailing onshore winds would tend to dampen

noise propagation towards the southwest.

Potential Effects of Underwater Sound on Marine Mammals

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

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

In general, animals exposed to natural or anthropogenic sound may experience physical and psychological effects, ranging in magnitude from none to severe (Southall *et al.,* 2007, 2019). Exposure to anthropogenic noise has the potential to result in auditory threshold shifts and behavioral reactions (*e.g.,* avoidance, temporary cessation of foraging and vocalizing, changes in dive behavior). It can also lead to non-observable physiological responses, such an increase in stress hormones. Additional noise in a marine mammal's habitat can mask acoustic cues used by marine mammals to carry out daily functions, such as communication and predator and prey detection.

The degree of effect of an acoustic exposure on marine mammals is dependent on several factors, including, but not limited to, sound type (*e.g.,* impulsive vs. non-impulsive), signal characteristics, the species, age and sex class (*e.g.,* adult male vs. mom with calf), duration of exposure, the distance between the noise source and the animal, received levels, behavioral state at time of exposure, and previous history with exposure (Wartzok *et al.,* 2004; Southall *et al.,* 2007). In general, sudden, high-intensity sounds can cause hearing loss, as can longer exposures to lower-intensity sounds. Moreover, any temporary or permanent loss of hearing, if it occurs at all, will occur almost exclusively for noise within an animal's hearing range. We describe below the specific manifestations of acoustic effects that may occur based on the activities proposed by ODOT.

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

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

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

Auditory Injury (AUD INJ). NMFS (2024) defines AUD INJ as damage to the inner ear that can result in destruction of tissue, such as the loss of cochlear neuron synapses or auditory neuropathy (Houser, 2021; Finneran, 2024). AUD INJ may or may not result in a permanent threshold shift (PTS). PTS is subsequently defined as a permanent, irreversible increase in the threshold of audibility at a specified frequency or portion of an individual's hearing range above a previously established reference level (NMFS, 2024). PTS does not generally affect more than a limited frequency range, and an animal that has incurred PTS has some level of hearing loss at the relevant frequencies; typically animals with PTS or other AUD INJ are not functionally deaf (Au and Hastings, 2008; Finneran, 2016). Available data from humans and other terrestrial mammals indicate that a 40-dB threshold shift approximates AUD INJ onset (see Ward *et al.,* 1958, 1959; Ward, 1960; Kryter *et al.,* 1966; Miller, 1974; Ahroon *et al.,* 1996; Henderson *et al.,* 2008). AUD INJ levels for marine mammals are estimates, as with the exception of a single study unintentionally inducing PTS in a harbor seal (*Phoca vitulina*) (Kastak *et al.,* 2008), there are no empirical data measuring AUD INJ in marine mammals largely due to the fact that, for various ethical reasons, experiments involving anthropogenic noise exposure at levels inducing AUD INJ are not typically pursued or authorized (NMFS, 2024).

Temporary Threshold Shift (TTS). TTS is a temporary, reversible increase

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

Depending on the degree (elevation of threshold in dB), duration (*i.e.,* recovery time), and frequency range of TTS, and the context in which it is experienced, TTS can have effects on marine mammals ranging from discountable to more impactful (similar to those discussed in auditory masking, below). For example, a marine mammal may be able to readily compensate for a brief, relatively small amount of TTS in a non-critical frequency range that takes place during a time when the animal is traveling through the open ocean, where ambient noise is lower and there are not as many competing sounds present. Alternatively, a larger amount and longer duration of TTS sustained during time when communication is critical for successful mother/calf interactions could have more severe impacts. We note that reduced hearing sensitivity as a simple function of aging has been observed in marine mammals, as well as humans and other taxa (Southall *et al.,* 2007), so we can infer that strategies exist for coping with this condition to some degree, though likely not without cost.

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

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

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

Behavioral Effects. Exposure to noise also has the potential to behaviorally disturb marine mammals to a level that rises to the definition of harassment under the MMPA. Generally speaking, NMFS considers a behavioral disturbance that rises to the level of harassment under the MMPA a non-minor response—in other words, not every response qualifies as behavioral disturbance, and for responses that do, those of a higher level, or accrued across a longer duration, have the potential to affect foraging, reproduction, or survival. Behavioral disturbance may

include a variety of effects, including subtle changes in behavior (*e.g.,* minor or brief avoidance of an area or changes in vocalizations), more conspicuous changes in similar behavioral activities, and more sustained and/or potentially severe reactions, such as displacement from or abandonment of high-quality habitat. Behavioral responses may include changing durations of surfacing and dives, changing direction and/or speed; reducing/increasing vocal activities; changing/cessation of certain behavioral activities (such as socializing or feeding); eliciting a visible startle response or aggressive behavior (such as tail/fin slapping or jaw clapping); and avoidance of areas where sound sources are located. In addition, pinnipeds may increase their haul out time, possibly to avoid in-water disturbance (Thorson and Reyff, 2006).

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

Habituation can occur when an animal's response to a stimulus wanes with repeated exposure, usually in the absence of unpleasant associated events (Wartzok *et al.,* 2004). Animals are most likely to habituate to sounds that are predictable and unvarying. It is important to note that habituation is appropriately considered as a ''progressive reduction in response to stimuli that are perceived as neither aversive nor beneficial,'' rather than as, more generally, moderation in response to human disturbance (Bejder *et al.,* 2009). The opposite process is sensitization, when an unpleasant experience leads to subsequent responses, often in the form of avoidance, at a lower level of exposure.

As noted above, behavioral state may affect the type of response. For example, animals that are resting may show greater behavioral change in response to disturbing sound levels than animals that are highly motivated to remain in an area for feeding (Richardson *et al.,* 1995; Wartzok *et al.,* 2004; National Research Council (NRC), 2005). Controlled experiments with captive marine mammals have shown pronounced behavioral reactions, including avoidance of loud sound sources (Ridgway *et al.,* 1997; Finneran *et al.,* 2003). Observed responses of wild marine mammals to loud-pulsed sound sources (*e.g.,* seismic airguns) have been varied but often consist of avoidance behavior or other behavioral changes (Richardson *et al.,* 1995; Morton and Symonds, 2002; Nowacek *et al.,* 2007).

Available studies show wide variation in response to underwater sound; therefore, it is difficult to predict specifically how any given sound in a particular instance might affect marine mammals perceiving the signal (*e.g.,* Erbe *et al.,* 2019). If a marine mammal does react briefly to an underwater sound by changing its behavior or moving a small distance, the impacts of the change are unlikely to be significant to the individual, let alone the stock or population. If a sound source displaces marine mammals from an important feeding or breeding area for a prolonged period, impacts on individuals and populations could be significant (*e.g.,* Lusseau and Bejder, 2007; Weilgart, 2007; NRC, 2005). However, there are broad categories of potential response, which we describe in greater detail here, that include alteration of dive behavior, alteration of foraging behavior, effects to breathing, interference with or alteration of vocalization, avoidance, and flight.

Avoidance and displacement. Changes in dive behavior can vary widely and may consist of increased or decreased dive times and surface intervals as well as changes in the rates of ascent and descent during a dive (*e.g.,* Frankel and Clark, 2000; Costa *et al.,* 2003; Ng and Leung, 2003; Nowacek *et al.,* 2004; Goldbogen *et al.,* 2013a, 2013b; Blair *et al.,* 2016). Variations in dive behavior may reflect interruptions in biologically significant activities (*e.g.,* foraging) or they may be of little biological significance. The impact of an alteration to dive behavior resulting from an acoustic exposure depends on what the animal is doing at the time of the exposure and the type and magnitude of the response.

Disruption of feeding behavior can be difficult to correlate with anthropogenic sound exposure, so it is usually inferred by observed displacement from known foraging areas, the appearance of secondary indicators (*e.g.,* bubble nets or sediment plumes), or changes in dive behavior. Acoustic and movement bio-logging tools also have been used in some cases to infer responses to anthropogenic noise. For example, Blair *et al.* (2015) reported significant effects on humpback whale foraging behavior in Stellwagen Bank in response to ship noise including slower descent rates, and fewer side-rolling events per dive with increasing ship nose. In addition, Wisniewska *et al.* (2018) reported that tagged harbor porpoises demonstrated fewer prey capture attempts when encountering occasional high-noise levels resulting from vessel noise as well as more vigorous fluking, interrupted foraging, and cessation of echolocation signals observed in response to some high-noise vessel passes. As for other types of behavioral response, the frequency, duration, and temporal pattern of signal presentation, as well as differences in species sensitivity, are likely contributing factors to differences in response in any given circumstance (*e.g.,* Croll *et al.,* 2001; Nowacek *et al.,* 2004; Madsen *et al.,* 2006; Yazvenko *et al.,* 2007). A determination of whether foraging disruptions incur fitness consequences would require information on or estimates of the energetic requirements of the affected individuals and the relationship between prey availability, foraging effort and success, and the life history stage of the animal.

Respiration rates vary naturally with different behaviors and alterations to breathing rate as a function of acoustic exposure can be expected to co-occur with other behavioral reactions, such as a flight response or an alteration in diving. However, respiration rates in and of themselves may be representative of annoyance or an acute stress response. Various studies have shown that respiration rates may either be unaffected or could increase, depending on the species and signal characteristics, again highlighting the importance in understanding species differences in the tolerance of underwater noise when determining the potential for impacts resulting from anthropogenic sound exposure (*e.g.,* Kastelein *et al.,* 2001; 2005; 2006; Gailey *et al.,* 2007). For example, harbor porpoise respiration rates increased in response to pile driving sounds at and above a received broadband SPL of 136 dB (zero-peak SPL: 151 dB re 1 μPa; SEL of a single

strike (SEL_{ss}): 127 dB re 1 μPa^2-s) (Kastelein *et al.,* 2013).

Avoidance is the displacement of an individual from an area or migration path because of the presence of a sound or other stressors, and is one of the most obvious manifestations of disturbance in marine mammals (Richardson *et al.,* 1995). For example, gray whales are known to change direction—deflecting from customary migratory paths—in order to avoid noise from seismic surveys (Malme *et al.,* 1984). Harbor porpoises, Atlantic white-sided dolphins (*Lagenorhynchus actusus*), and minke whales (*Balaenoptera acutorostrata*) have demonstrated avoidance in response to vessels during line transect surveys (Palka and Hammond, 2001). In addition, beluga whales in the St. Lawrence Estuary in Canada have been reported to increase levels of avoidance with increased boat presence by way of increased dive durations and swim speeds, decreased surfacing intervals, and by bunching together into groups (Blane and Jaakson, 1994). Avoidance may be short-term, with animals returning to the area once the noise has ceased (*e.g.,* Bowles *et al.,* 1994; Goold, 1996; Stone *et al.,* 2000; Morton and Symonds, 2002; Gailey *et al.,* 2007). Longer-term displacement is possible, however, which may lead to changes in abundance or distribution patterns of the affected species in the affected region if habituation to the presence of the sound does not occur (*e.g.,* Blackwell *et al.,* 2004; Bejder *et al.,* 2006; Teilmann *et al.,* 2006).

A flight response is a dramatic change in normal movement to a directed and rapid movement away from the perceived location of a sound source. The flight response differs from other avoidance responses in the intensity of the response (*e.g.,* directed movement, rate of travel). Relatively little information on flight responses of marine mammals to anthropogenic signals exist, although observations of flight responses to the presence of predators have occurred (Connor and Heithaus, 1996; Bowers *et al.,* 2018). The result of a flight response could range from brief, temporary exertion and displacement from the area where the signal provokes flight to, in extreme cases, marine mammal strandings (England *et al.,* 2001). However, it should be noted that response to a perceived predator does not necessarily invoke flight (Ford and Reeves, 2008), and whether individuals are solitary or in groups may influence the response.

Behavioral disturbance can also impact marine mammals in more subtle ways. Increased vigilance may result in costs related to diversion of focus and attention (*i.e.,* when a response consists of increased vigilance, it may come at the cost of decreased attention to other critical behaviors such as foraging or resting). These effects have generally not been demonstrated for marine mammals, but studies involving fishes and terrestrial animals have shown that increased vigilance may substantially reduce feeding rates (*e.g.,* Beauchamp and Livoreil, 1997; Fritz *et al.,* 2002; Purser and Radford, 2011). In addition, chronic disturbance can cause population declines through reduction of fitness (*e.g.,* decline in body condition) and subsequent reduction in reproductive success, survival, or both (*e.g.,* Harrington and Veitch, 1992; Daan *et al.,* 1996; Bradshaw *et al.,* 1998). However, Ridgway *et al.* (2006) reported that increased vigilance in bottlenose dolphins exposed to sound over a 5-day period did not cause any sleep deprivation or stress effects.

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

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

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

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

Relationships between these physiological mechanisms, animal behavior, and the costs of stress responses are well studied through controlled experiments and for both laboratory and free-ranging animals (*e.g.,* Holberton *et al.,* 1996; Hood *et al.,* 1998; Jessop *et al.,* 2003; Krausman *et al.,* 2004; Lankford *et al.,* 2005; Ayres *et al.,* 2012; Yang *et al.,* 2022). Stress responses due to exposure to anthropogenic sounds or other stressors and their effects on marine mammals have also been reviewed (Fair and Becker, 2000; Romano *et al.,* 2002b) and, more rarely, studied in wild populations (*e.g.,* Romano *et al.,* 2002a). For example, Rolland *et al.* (2012) found that noise reduction from reduced ship traffic in the Bay of Fundy was associated with decreased stress in North Atlantic right whales (*Eubalaena glacialis*). In addition, Lemos *et al.* (2022) observed a correlation between higher levels of fecal glucocorticoid metabolite concentrations (indicative of a stress response) and vessel traffic in gray whales. Yang *et al.* (2022) studied behavioral and physiological responses in captive bottlenose dolphins exposed to playbacks of ''pile-driving-like'' impulsive sounds, finding significant changes in cortisol and other

physiological indicators but only minor behavioral changes. These and other studies lead to a reasonable expectation that some marine mammals will experience physiological stress responses upon exposure to acoustic stressors and that it is possible that some of these would be classified as ''distress.'' In addition, any animal experiencing TTS would likely also experience stress responses (NRC, 2005), however distress is an unlikely result of this project based on observations of marine mammals during previous, similar construction projects.

Vocalizations and Auditory Masking. Since many marine mammals rely on sound to find prey, moderate social interactions, and facilitate mating (Tyack, 2008), noise from anthropogenic sound sources can interfere with these functions, but only if the noise spectrum overlaps with the hearing sensitivity of the receiving marine mammal (Southall *et al.,* 2007; Clark *et al.,* 2009; Hatch *et al.,* 2012). Chronic exposure to excessive, though not high-intensity, noise could cause masking at particular frequencies for marine mammals that utilize sound for vital biological functions (Clark *et al.,* 2009). Acoustic masking is when other noises such as from human sources interfere with an animal's ability to detect, recognize, or discriminate between acoustic signals of interest (*e.g.,* those used for intraspecific communication and social interactions, prey detection, predator avoidance, navigation) (Richardson *et al.,* 1995; Erbe *et al.,* 2016). Therefore, under certain circumstances, marine mammals whose acoustical sensors or environments are being severely masked could also be impaired from maximizing their performance fitness in survival and reproduction. The ability of a noise source to mask biologically important sounds depends on the characteristics of both the noise source and the signal of interest (*e.g.,* signal-to-noise ratio, temporal variability, direction), in relation to each other and to an animal's hearing abilities (*e.g.,* sensitivity, frequency range, critical ratios, frequency discrimination, directional discrimination, age or TTS hearing loss), and existing ambient noise and propagation conditions (Hotchkin and Parks, 2013).

Marine mammals vocalize for different purposes and across multiple modes, such as whistling, echolocation click production, calling, and singing. Changes in vocalization behavior in response to anthropogenic noise can occur for any of these modes and may result from a need to compete with an increase in background noise or may reflect increased vigilance or a startle response. For example, in the presence of potentially masking signals, humpback whales and killer whales have been observed to increase the length of their songs (Miller *et al.,* 2000; Fristrup *et al.,* 2003) or vocalizations (Foote *et al.,* 2004), respectively, while North Atlantic right whales have been observed to shift the frequency content of their calls upward while reducing the rate of calling in areas of increased anthropogenic noise (Parks *et al.,* 2007). Fin whales (*Balaenoptera physalus*) have also been documented lowering the bandwidth, peak frequency, and center frequency of their vocalizations under increased levels of background noise from large vessels (Castellote *et al.,* 2012). Other alterations to communication signals have also been observed. For example, gray whales, in response to playback experiments exposing them to vessel noise, have been observed increasing their vocalization rate and producing louder signals at times of increased outboard engine noise (Dahlheim and Castellote, 2016). Alternatively, in some cases, animals may cease sound production during production of aversive signals (Bowles *et al.,* 1994, Wisniewska *et al.,* 2018).

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

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

Since noises generated from the proposed construction activities are mostly concentrated at low frequencies (<2 kHz), these activities likely have less effect on mid-frequency echolocation sounds produced by odontocetes (toothed whales). However, lower frequency noises are more likely to affect detection of communication calls and other potentially important natural sounds such as surf and prey noise. Low-frequency noise may also affect communication signals when they occur near the frequency band for noise and thus reduce the communication space of animals (*e.g.,* Clark *et al.,* 2009) and cause increased stress levels (*e.g.,* Holt *et al.,* 2009). Unlike TS, masking, which can occur over large temporal and spatial scales, can potentially affect the species at population, community, or even ecosystem levels, in addition to individual levels. Masking affects both senders and receivers of the signals, and at higher levels for longer durations, could have long-term chronic effects on marine mammal species and populations. However, the noise generated by ODOT's proposed activities will only occur intermittently, across an estimated 46 days during the proposed authorization period in a relatively small area focused around the proposed construction site. Thus, while ODOT's proposed activities may mask some acoustic signals that are relevant to the daily behavior of marine mammals, the short-term duration and limited areas affected make it very unlikely that the fitness of individual marine mammals would be impacted.

While in some cases marine mammals have exhibited little to no obviously detectable response to certain common or routine industrialized activities (Cornick *et al.,* 2011; Horsley and Larson, 2023), it is possible some animals may at times be exposed to

received levels of sound above the Level B harassment thresholds during the proposed project. This potential exposure in combination with the nature of planned activity (*e.g.,* vibratory pile driving) means it is possible that take by Level B harassment could occur over the total estimated period of activities; therefore, NMFS, in response to the ODOT's IHA application, proposes to authorize take by Level B harassment from the ODOT's proposed construction activities.

Airborne Acoustic Effects. Pinnipeds that occur near the project site could be exposed to airborne sounds associated with construction activities that have the potential to cause behavioral harassment, depending on their distance from these activities. Airborne noise would primarily be an issue for pinnipeds that are swimming or hauled out near the project site within the range of noise levels elevated above airborne acoustic harassment criteria. Although pinnipeds are known to haul-out regularly on man-made objects, we believe that incidents of take resulting solely from airborne sound are unlikely due to the proximity between the proposed project area and the known haul-out sites (*e.g.,* the Finger Jetty Haul-Out (approximately 495 m from the project area) and the Bay Front Haul-Out (approximately 920 m from the project area)). Cetaceans are not expected to be exposed to airborne sounds that would result in harassment as defined under the MMPA.

We recognize that pinnipeds in the water could be exposed to airborne sound that may result in behavioral harassment when looking with their heads above water. Most likely, airborne sound would cause behavioral responses similar to those discussed above in relation to underwater sound. For instance, anthropogenic sound could cause hauled out pinnipeds to exhibit changes in their normal behavior, such as reduction in vocalizations, or cause them to flush from haul-outs, temporarily abandon the area, and or move further from the source. ODOT's calculations demonstrate that the in-air sound levels will attenuate with distance and will not exceed the 90–100 dB RMS behavioral disruption threshold for marine mammals exposed to in-air noise (table 5). Calculations show that worse-case construction-related in-air sound level (89 A-weighted decibels (dBA) at 15 meters) will be attenuated to 75.4 dB RMS (58.8 dBA) at the Finger Jetty haul-out located 495 m (1,624.02 ft) to the southwest and to 73.4 dB RMS (53.4 dBA) at the Bay Front haul-out located 920 m (3,018.37 ft) away from the project area. Overall, in-air noise generated at the project area is expected to remain well below behavioral harassment thresholds for marine mammals and not expected to cause harassment to animals that may be hauled out in or around Yaquina Bay.

TABLE 5—IN-AIR NOISE LEVELS FROM CONSTRUCTION EQUIPMENT AND COMMON LOCAL NOISE SOURCES

Equipment	Peak value (dBA) at 15 meters	Take of marine mammals expected?
Construction noise sources		
Crane/derrick [a]	89	No.
Hand tools [a]	85	No.
Generator [a]	77	No.
Vibratory pile driver	Average 99	No.
Common/daily noise sources		
Cars/trucks [b]	88	No.
Boats [b]	75	No.
Car/truck horns/backup beepers [b]	107	No.
Marina dock activity [b]	88	No.

[a] Anticipated construction equipment used (from the ODOT noise manual).
[b] Existing local noises not related to construction.

Furthermore, these animals would previously have been 'taken' because of exposure to underwater sound above the behavioral harassment thresholds, which are in all cases larger than those associated with airborne sound. Thus, the behavioral harassment of these animals is already accounted for in these estimates of potential take. Therefore, we do not believe that authorization of incidental take resulting from airborne sound for pinnipeds is warranted, and airborne sound is not discussed further here.

Potential Effects on Marine Mammal Habitat

ODOT's proposed activities could have localized, temporary impacts on marine mammal habitat, including prey, by increasing in-water SPLs. Increased noise levels may affect acoustic habitat and adversely affect marine mammal prey near the project area (see discussion below). Elevated levels of underwater noise would ensonify the project areas where both fishes and mammals occur and could affect foraging success. Additionally, marine mammals may avoid the area during the proposed construction activities; however, displacement due to noise is expected to be temporary and is not expected to result in long-term effects to the individuals or populations.

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

The proposed project will occur within the approximate footprint of existing marine infrastructure. The nearshore and intertidal habitat where the proposed project will occur is an area of relatively high marine vessel traffic. Most marine mammals do not generally use the area within the

footprint of the project area. Temporary, intermittent, and short-term habitat alteration may result from increased noise levels during the proposed construction activities. Effects on marine mammals 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 because of in-water construction activities. Most of this effect would occur during the installation and removal of piles when bottom sediments are disturbed. The installation and removal of piles using the vibratory hammer would disturb bottom sediments and may cause a temporary increase in suspended sediment in the project area. During pile extraction, sediment attached to the pile moves vertically through the water column until gravitational forces cause it to slough off under its own weight. The small resulting sediment plume is expected to settle out of the water column within a few hours. Studies of the effects of turbid water on fish (marine mammal prey) suggest that concentrations of suspended sediment can reach thousands of milligrams per liter before an acute toxic reaction is expected (Burton, 1993).

Effects to turbidity and sedimentation are expected to be short-term, minor, and localized. 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 and around Yaquina Bay.

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

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

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

SPLs of sufficient strength have been known to cause injury to fishes and fish mortality (summarized in Popper *et al.,* 2014). However, in most fish species, hair cells in the ear continuously regenerate and loss of auditory function likely is restored when damaged cells are replaced with new cells. Halvorsen *et al.* (2012b) showed that a TTS of 4 to 6 dB was recoverable within 24 hours for one species. Impacts would be most severe when the individual fish is close to the source and when the duration of exposure is long. Injury caused by barotrauma can range from slight to severe and can cause death, and is most likely for fish with swim bladders. Barotrauma injuries have been documented during controlled exposure to impact pile driving (Halvorsen *et al.,* 2012a; Casper *et al.,* 2013, 2017).

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

In-water construction activities would only occur during daylight hours, allowing fish to forage and transit the project area in the evening. Vibratory pile driving would possibly elicit behavioral reactions from fishes such as temporary avoidance of the area but is unlikely to cause injuries to fishes or have persistent effects on local fish populations. Construction is expected to have minimal permanent and temporary impacts on benthic invertebrate species, which are known marine mammal prey source. In addition, the area in question is generally considered low-quality habitat since it is already highly developed and experiences a high level of anthropogenic noise from normal operations and other vessel traffic.

Potential Effects on Foraging Habitat

This proposed project is not expected to result in any habitat related effects that could cause significant or long-term negative consequences for individual marine mammals or their populations, since installation and removal of in-water piles would be temporary and intermittent. The total seafloor area affected by pile installation and removal is a very small area compared to the vast foraging area available to marine mammals outside this project area, and no areas of particular importance would be affected by this project during the period planned for activities to occur (*i.e.,* November through February). For gray whales, Yaquina Bay and the oceanfront areas directly outside of the bay have known seasonal value as a Biologically Important Area (BIA)

feeding area, with (from June to November; Harrison *et al.,* 2023). In addition to known foraging habitat, areas directly outside of Yaquina Bay (ocean-side) also serve as both migratory and reproductive habitat for this species (Harrison *et al.,* 2023). For other species, while the area is commonly used or traversed, the proposed project area does not contain any particularly high-value habitat and is not usually important to any of the other species potentially affected by ODOT's proposed activities. Any behavioral avoidance by fish of the disturbed area would still leave significantly large areas of fish and marine mammal foraging habitat in the nearby vicinity. As described in the preceding, the potential for the ODOT's construction to affect the availability of prey to marine mammals or to meaningfully affect the quality of physical or acoustic habitat is considered insignificant. Therefore, impacts of the project are not likely to have adverse effects on marine mammal foraging habitat in the proposed project area.

In summary, given the relatively small areas being affected, as well as the temporary and mostly transitory nature of the proposed construction activities, any adverse effects from ODOT's activities on prey habitat or prey populations are expected to be minor and temporary. The most likely impact to fishes at the project site would be temporary avoidance of the area. Any behavioral avoidance by fish of the disturbed area would still leave significantly large areas of fish and marine mammal foraging habitat in the nearby vicinity. Thus, we conclude that impacts of the specified activities are not likely to have more than short-term adverse effects on any prey habitat or populations of prey species. Further, any impacts to marine mammal habitat are not expected to result in significant or long-term consequences for individual marine mammals, or to contribute to adverse impacts on their populations.

Estimated Take of Marine Mammals

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

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

Authorized takes would be by Level B harassment only, in the form of behavioral reactions for individual marine mammals resulting from exposure to vibratory pile driving. Based on the nature of the activity and the anticipated effectiveness of the proposed mitigation measures (*i.e.,* enhanced shutdown zone around the approximate 28 m (92.9 ft) distance to the Level A harassment threshold) discussed in detail below in the Proposed Mitigation section, Level A harassment is neither anticipated nor proposed to be authorized. Additionally, as described previously, no serious injury or mortality is anticipated or proposed to be authorized for this activity. Below we describe how the proposed take numbers are estimated.

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

Acoustic Criteria

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

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

ODOT's proposed construction includes the use of continuous (vibratory pile driving) sources, and therefore the RMS SPL thresholds of 120 dB re 1 μPa is applicable.

Level A Harassment—NMFS' Updated Technical Guidance for Assessing the Effects of Anthropogenic Sound on Marine Mammal Hearing (Version 3.0) (NMFS, 2024) identifies dual criteria to assess AUD INJ (Level A harassment) to five different underwater marine mammal groups (based on hearing sensitivity) as a result of exposure to noise from two different types of sources (impulsive or non-impulsive)

(table 6). ODOT's proposed construction includes the use of a non-impulsive (vibratory pile driving) source.

The 2024 Updated Technical Guidance criteria include both updated thresholds and updated weighting functions for each hearing group. The thresholds are provided in table 6. The references, analysis, and methodology used in the development of the criteria are described in NMFS' 2024 Updated Technical Guidance, which may be accessed at *https://www.fisheries.noaa.gov/national/marine-mammal-protection/marine-mammal-acoustic-technical-guidance-other-acoustic-tools.*

TABLE 6—THRESHOLDS IDENTIFYING THE ONSET OF AUDITORY INJURY

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

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

Note: Peak SPL ($L_{p,0\text{-}pk}$) has a reference value of 1 µPa, and weighted cumulative sound exposure level ($L_{E,p}$) has a reference value of 1 µPa^{2}s. In this table, criteria are abbreviated to be more reflective of International Organization for Standardization standards (ISO 2017; ISO 2020). The subscript "flat" is being included to indicate peak sound pressure are flat weighted or unweighted within the generalized hearing range of marine mammals underwater (*i.e.,* 7 Hz to 165 kHz). The subscript associated with cumulative sound exposure level criteria indicates the designated marine mammal auditory weighting function (LF, HF, and VHF cetaceans, and PW and OW pinnipeds) and that the recommended accumulation period is 24 hours. The weighted cumulative sound exposure level criteria could be exceeded in a multitude of ways (*i.e.,* varying exposure levels and durations, duty cycle). When possible, it is valuable for action proponents to indicate the conditions under which these criteria will be exceeded.

Ensonified Area

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

The sound field in the proposed project area is the existing background noise and any additional construction noise produced from the proposed project. Marine mammals are only expected to potentially be taken by sound generated by vibratory pile driving). The source level assumed for both removal and installation activities is based on reviews of measurements of the same or similar types and dimensions of piles available in the literature and from similar coastal construction projects. The source level for the piles and activity are presented in table 7. The source level for vibratory removal and installation of piles of the same material and diameter are assumed to be the same.

TABLE 7—ESTIMATES OF UNDERWATER SOUND LEVELS GENERATED DURING VIBRATORY PILE DRIVING

[Removal and installation]

Pile size and method	Activity	Proxy sound source levels at 10 m (dB re 1 µPa)			Reference
		RMS SPL	SEL	Peak	
16-inch steel pile; vibratory	Removal	163			NMFS (2023).
16-inch steel pile; vibratory	Installation	163			NMFS (2023).

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:

$$TL = B \times Log10(R1/R2),$$

Where:

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

Absent site-specific acoustical monitoring with differing measured *TL,* a practical spreading value of 15 is used as the TL coefficient in the above formula. Site-specific *TL* data for Yaquina Bay is not available; therefore, the default coefficient of 15 is used to determine the distances to the Level A harassment and Level B harassment thresholds.

The ensonified area associated with Level A harassment is more technically challenging to predict due to the need to account for a duration component. Therefore, NMFS developed an optional User Spreadsheet tool to accompany the 2024 Updated Technical Guidance that can be used to relatively simply predict an isopleth distance for use in conjunction with marine mammal density or occurrence to help predict potential takes. We note that because of some of the assumptions included in the methods underlying this optional tool, we anticipate that the resulting isopleth estimates are typically going to be overestimates of some degree, which may result in an overestimate of potential take by Level A harassment. However, this optional tool offers the

best way to estimate isopleth distances when more sophisticated modeling methods are not available or practical. For stationary sources, such as vibratory pile driving, 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 auditory injury. Inputs used in the optional User Spreadsheet tool, and the resulting estimated isopleths, are reported below in tables 8 and 9.

TABLE 8—NMFS USER SPREADSHEET VARIABLES AND INPUTS

User Spreadsheet Variables and Inputs	
Spreadsheet tab used	A.1) Vibratory pile driving
Sound Pressure Level (dB)	163
Distance associated with sound pressure level (meters)	10
Transmission loss coefficient	15
Number of piles removed/installed per day	3
Duration to drive each pile (minutes)	45
Duration of sound production in a day (seconds)	8,100
Marine mammal Weighting Factor Adjustment (WFA) (kHz)	2.5
Cumulative SEL at measured distance	202

TABLE 9—DISTANCES TO THE LEVEL A HARASSMENT AND LEVEL B HARASSMENT THRESHOLDS FROM VIBRATORY PILE DRIVING

Species group	Level A harassment		Level B harassment	
	Current threshold (dB; SEL_{cum})	Distance to threshold (meters)	Current threshold (dB; SPL_{RMS})	Distance to threshold (meters)
Low-frequency cetaceans	197	21.5	120	[a] 7,356.4
High-frequency cetaceans	201	8.3		[b] (2,500)
Very high-frequency cetaceans	181	17.6		
Phocid pinnipeds (in water)	195	27.7		
Otariid pinnipeds (in water)	199	9.3		

[a] Distances represent the calculated radius of the zone. The actual zone may be truncated by landforms.
[b] The Level B harassment zone has been adjusted downward to account for the presence of jetties in the project area, which are expected to have a sound reduction effect.

Notably, the calculated distance to the Level B harassment threshold was calculated by ODOT as 7,356.4 m (4.57 miles (mi)). However, based on the known interactions of sound pressure levels at varying depths, with bubbles, and with jetty walls (Erbe *et al.,* 2022), it was assumed that the noise would scatter, reduce the intensity of the sound, and affect the propagation of the sound waves through the navigation channel. ODOT manually calculated the presence of the seaward jetties to have a dampening effect on the noise levels to a distance of 2,260 m (1.4 mi), which was rounded up to 2,500 m (1.55 mi).

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

ODOT provided estimated group sizes and count information based on data from marine mammal specialists at the Oregon Department of Fish & Wildlife (ODFW) in Newport, Oregon. NMFS evaluated these numbers in comparison to eight other projects in Oregon (*i.e.,* 90 FR 13582, March 25, 2025; 87 FR 50836, August 18, 2022; 89 FR 79557, September 30, 2024; 89 FR 89543, November 13, 2024; 88 FR 77985, November 14, 2023; 85 FR 1140, January 9, 2020; 83 FR 19243, May 2, 2018; and 82 FR 10286, February 10, 2017). These values are based on survey/sighting effort/expertise by ODOT, ODFW, and NMFS and represent the most accurate information regarding marine mammal occurrence in and around Yaquina Bay. These values are shown in table 10.

TABLE 10—ESTIMATED OCCURRENCE OF MARINE MAMMALS IN AND AROUND YAQUINA BAY

Species (common name)	Estimated number for group size/count
Harbor porpoise	2
Steller sea lion	2
California sea lion	500
Harbor seal	60
Northern elephant seal	0.5

To calculate the take, by Level B harassment only, that is expected to occur from ODOT's proposed activities, we multiplied the estimated days of in-water activities (for which the vibratory hammer would be used; n=46) by the associated group size/occurrence estimates provided by ODOT. This yielded the proposed values shown in table 11.

TABLE 11—PROPOSED TAKE, BY LEVEL B HARASSMENT ONLY, BY STOCK, HARASSMENT TYPE, AND AS A PERCENTAGE OF STOCK ABUNDANCE

Species (common name) [a]	Stock	Estimated stock abundance	Estimated group size per day (table 10)	Estimated days of work		Proposed takes by Level B harassment [c]	Proposed stock percentage to be taken
				Total [b]	Days of noise exposure [b]		
Harbor porpoise	Northern California/ Southern Oregon.	15,303	2	79	46	92	0.6
Steller sea lion	Eastern DPS	36,308	2	79	46	92	0.25
California sea lion	U.S	257,606	500	79	46	23,000	8.93
Harbor seal	Oregon/Washington coast.	22,549	60	79	46	2,760	12.24
Northern elephant seal	California breeding	194,907	0.5 (one individual assumed present on half of the days).	79	46	23	0.01

[a] As previously described, no take was requested for gray whales, humpback whales, or killer whales as the applicant intends to shut down if any are observed near the project area. Therefore, no take has been proposed for authorization and these species are not shown here.
[b] The total number of in-water workdays are shown as a comparison; only 46 days would consist of activities that could cause the take of marine mammals so this value is used in the take estimate calculation.
[c] As previously stated, no take by Level A harassment is expected so none is proposed for authorization here.

Proposed Mitigation

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

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

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

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

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

- Take proposed to be authorized, by Level B harassment only, would be limited to the species and numbers listed in tables 3 and 11. Proposed construction activities must be halted upon observation of either a species for which incidental take would not be authorized or a species for which incidental take would be authorized but the authorized number of takes has been met, entering or is within the harassment zone;
- The taking by Level A harassment, serious injury, or death of any of the species listed in tables 3 and 11 or any taking of any other species of marine mammal would be prohibited and would result in the modification, suspension, or revocation of the IHA, if issued. Any taking exceeding the authorized amounts listed in table 11 would be prohibited and would result in the modification, suspension, or revocation of the IHA, if issued;
- Ensure that construction supervisors and crews, the marine mammal monitoring team, and relevant ODOT staff are trained prior to the start of all construction activities, so that responsibilities, communication procedures, marine mammal monitoring protocol, and operational procedures are clearly understood. New personnel joining during the project must be trained prior to commencing work;
- ODOT, construction supervisors and crews, Protected Species Observers (PSOs), and relevant project staff must avoid direct physical interaction with marine mammals during construction activity. If a marine mammal comes within 10 m (32.8 ft) of such activity, operations must cease and vessels must reduce speed to the minimum level required to maintain steerage and safe working conditions, as necessary to avoid direct physical interaction; and
- Employ PSOs and establish monitoring locations as described in section 5 of the IHA and ODOT's Marine Mammal Monitoring Plan (see the proposed plan found on NMFS' website: *https://www.fisheries.noaa.gov/national/marine-mammal-protection/incidental-take-authorizations-construction-activities*). ODOT would be required to monitor the project area to the maximum extent possible based on the required number of PSOs, required monitoring locations, and environmental conditions.

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

Pre- and Post-Activity Monitoring

ODOT would be required to establish pre- and post-monitoring zones with radial distances (based on the distances to the Level B harassment threshold), as identified in table 12, for all construction activities. All pre-start clearance monitoring must be conducted during periods of visibility sufficient for the PSO to determine that the shutdown zones indicated in table 12 are clear of marine mammals. All monitoring would be required to take place from 30 minutes prior to initiation of pile driving activity (*i.e.,* pre-clearance monitoring) through 30 minutes post-completion of pile driving activity. Pile driving may commence following 30 minutes of observation when the determination is made that the shutdown zones are clear of marine mammals (see table 13 further below).

TABLE 12—PROPOSED MONITORING ZONES DURING ODOT'S CONSTRUCTION ACTIVITIES

Activity	Proposed Level B harassment monitoring zones for all marine mammals (meters)
Vibratory Pile Removal and Installation	2,500

If a break in vibratory pile driving occurs for a duration of 30 minutes or longer, ODOT must begin the 30 minute pre-clearance monitoring again to ensure the applicable monitoring zones are clear of marine mammals.

Soft-Start

Soft-start would not be required during the proposed vibratory pile driving activities for the installation or removal of in-water piles.

Shutdown Zones

ODOT would be required to establish shutdown zones with radial distances, as identified in table 13, for all construction activities. The purpose of a shutdown zone is generally to define an area within which shutdown of the activity would occur upon sighting of a marine mammal (or in anticipation of an animal entering the defined area). The shutdown zone during vibratory pile driving is based on the greatest distance to Level A harassment threshold (*i.e.,* 27.7 m (90.9 ft) (refer back to table 9)), initially rounded up to the nearest whole number (28 m (91.9 ft)).

PSOs will be stationed at various land-based observations points during the proposed construction activities and will monitor continuously during in-water work. If a marine mammal is observed entering or within the shutdown zones indicated in table 13, pile driving activity must be delayed or halted. If pile driving is delayed or halted due to the presence of a marine mammal, the activity may not commence or resume until either the animal has voluntarily exited and been visually confirmed beyond the shutdown zones or 15 minutes have passed without re-detection of the animal. If a marine mammal comes within or approaches the shutdown zone indicated in table 13, such operations must cease.

TABLE 13—PROPOSED SHUTDOWN ZONES DURING ODOT'S CONSTRUCTION ACTIVITIES

Activity	Proposed Level A harassment shutdown zone (meters)
Vibratory pile removal and installation	[a] 28
Other in-water work (non-noisy)	10

[a] This represents the greatest distance calculated to the Level A harassment threshold for marine mammals, rounded up to the nearest whole number.

If a marine mammal species for which take is not authorized by this IHA, if issued, enters the harassment zone, all in-water activities would cease until the animal leaves the zone or has not been observed for at least 15 minutes. ODOT would then be required to notify NMFS about the species and precautions taken. Vibratory pile driving would proceed if the non-IHA species is observed to leave the Level B harassment zone or if 15 minutes have passed since the last observation.

Monitoring Zone During Construction Activities

All marine mammals would be monitored in the Level B harassment zone and throughout the area as far as visual monitoring can take place. If a marine mammal enters the Level B harassment zone, in-water activities would continue and the animal's presence within the estimated harassment zone would be documented.

Based on our evaluation of the proposed mitigation measures, NMFS has preliminarily determined that the 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, for both 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.

ODOT would be required to abide by all monitoring and reporting measures contained within the IHA, if issued, and their Marine Mammal Monitoring Plan (see the proposed plan found on NMFS' website: *https://www.fisheries.noaa.gov/national/marine-mammal-protection/incidental-take-authorizations-construction-activities*). A summary of those measures, and additional requirements proposed by NMFS, is described below.

Visual Monitoring

Marine mammal monitoring must be conducted in accordance with the conditions in this section and the IHA, if issued. Marine mammal monitoring during vibratory pile driving activities would be conducted by PSOs who meet the following requirements:

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

- At least one PSO would have prior experience performing the duties of a PSO during construction activity pursuant to a NMFS-issued incidental take authorization;
- Other PSOs may substitute 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; and
- Where a team of three or more PSOs is required, a lead observer or monitoring coordinator would be designated. The lead observer would be required to have prior experience performing the duties of a PSO during construction activities pursuant to a NMFS-issued incidental take authorization.

PSOs must also have the following additional qualifications:

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

For this project, ODOT biologists would fulfil the duties of PSOs, as long as they receive the appropriate level of training and meet the qualifications described herein. NMFS has determined that these personnel would meet the aforementioned requirement for independent PSOs. ODOT would be required to establish monitoring locations as described in the *Marine Mammal Monitoring Plan* (see the proposed plan found on NMFS' website: *https://www.fisheries.noaa.gov/national/marine-mammal-protection/incidental-take-authorizations-construction-activities*). For all pile driving activities, a minimum of two PSOs and one Department of Transportation inspector would be assigned to the active pile driving location (*i.e.,* onsite) to monitor the shutdown zones. One of these PSOs will be stationed at the best practicable land-based vantage point to observe the eastern portion of Yaquina Bay and the designated Level A shutdown zones directly around the work area. The other PSO will be positioned at the best practicable land-based vantage point to monitor the western (seaward) portion of the monitoring zones (see figure 2). Additional ODOT construction inspector(s) may also be on-site during all pile removal activities to ensure contract specifications are followed and to ensure that all radio communications from PSOs are implemented. PSOs would record all observations of marine mammals, regardless of distance from the pile being driven, as well as the additional data indicated below and in section 6 of the IHA, if issued.

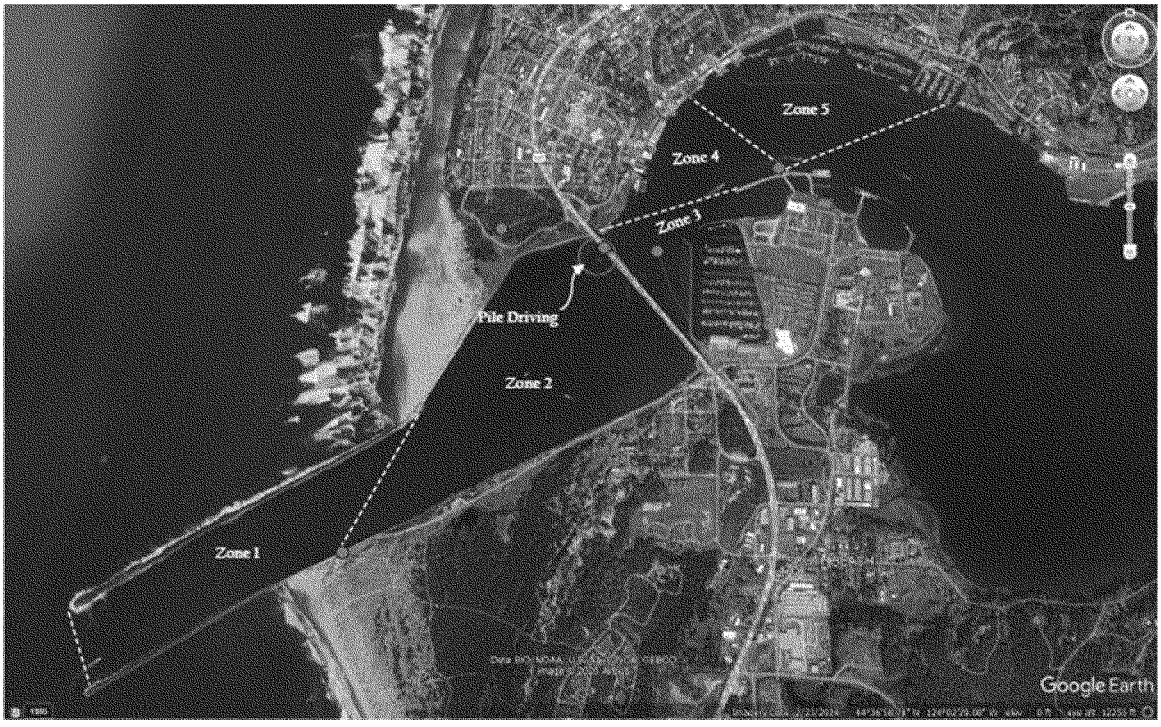

Figure 2—Proposed PSO Monitoring Locations (Gray Dots) During Vibratory Pile Driving Activities for the Yaquina Bay Dolphin Replacement Project

Monitoring would be conducted 30 minutes before, during, and 30 minutes after all in water construction activities. All PSOs would have access to high-quality binoculars and/or spotting scopes to monitor distances, and two-way radios for maintaining contact with work crews, ODOT inspectors, and other PSOs. In addition, PSOs would record all incidents of marine mammal occurrence, regardless of distance from the construction activities, and would document any behavioral reactions in concert with distance from piles being driven or removed. Pile driving 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.

ODOT shall conduct briefings between construction supervisors and crews, PSOs, ODOT staff prior to the start of all pile driving activities and when new personnel join the work. These briefings would explain responsibilities, communication procedures, marine mammal monitoring protocol, and operational procedures.

Reporting

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

- Dates and times (begin and end) of all marine mammal monitoring;
- Construction activities occurring during each daily observation period, including: (a) how many and what type of piles were driven or removed; (b) the method of removal and installation (*i.e.,* vibratory pile driving); and (c) the total duration of time needed to drive each pile via vibratory driving;
- PSO locations during marine mammal monitoring; and
- Environmental conditions during monitoring periods (at beginning and end of PSO shift and whenever conditions change significantly), including Beaufort sea state and any other relevant weather conditions including cloud cover, fog, sun glare, and overall visibility to the horizon, and estimated observable distance.

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

- Name of PSO who sighted the animal(s) and PSO location and activity at the time of the sighting;
- Time of the sighting;
- Identification of the animal(s) (*e.g.,* genus/species, lowest possible taxonomic level, or unidentified), PSO confidence in identification, and the composition of the group if there is a mix of species;
- Distance and bearing of each observed marine mammal relative to the pile being driven or removed for each sighting;
- Estimated number of animals (min/max/best estimate);
- Estimated number of animals by cohort (*e.g.,* adults, juveniles, neonates, group composition, *etc.*);
- Animal's closest point of approach and estimated time spent within the estimated harassment zone(s);
- Description of any marine mammal behavioral observations (*e.g.,* observed behaviors such as feeding or traveling), including an assessment of behavioral responses thought to have resulted from the activity (*e.g.,* no response or changes in behavioral state such as ceasing feeding, changing direction, flushing, or breaching);
- Number of marine mammals detected within the estimated harassment zones, by species; and
- Detailed information about implementation of any mitigation (*e.g.,* shutdowns and delays), a description of specified actions that ensured, and resulting changes in behavior of the animal(s), if any.

If no comments are received from NMFS within 30 days after the submission of the draft summary report, the draft report would constitute the final report. If ODOT received comments from NMFS, a final summary 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 ODOT's activities discover an injured or dead marine mammal, ODOT would be required to report the incident to the NMFS Office of Protected Resources (OPR) at *PR.ITP.MonitoringReports@noaa.gov* and *ITP.Potlock@noaa.gov.* ODOT would also be required to report the incidental to the NOAA West Coast Regional Stranding Coordinator as soon as feasible (1–866–767–6114; more information found on NMFS' website: *https://www.fisheries.noaa.gov/west-coast/marine-mammal-protection/west-coast-marine-mammal-stranding-network*). If the death or injury were clearly caused by the specified activity, ODOT would immediately cease the specified activities until NMFS is able to review the circumstances of the incident and determine what, if any, additional measures are appropriate to ensure compliance with the IHA. ODOT would not resume their activities until notified by NMFS. The report would include the following information:

- Description of the incident;
- Environmental conditions (*e.g.,* Beaufort sea state, visibility);
- Description of all marine mammal observations in the 24 hours preceding the incident;
- Photographs or video footage of the animal(s) (if equipment is available).
- Time, date, and location (latitude/longitude) of the first discovery (and updated location information if known and applicable);
- Species identification (if known) or description of the animal(s) involved;
- Condition of the animal(s) (including carcass condition if the animal is dead);
- Observed behaviors of the animal(s), if alive; and
- General circumstances under which the animal was discovered.

Additionally, ODOT would be required to provide situational reporting in the event that ODOT observes any entangled marine mammals, they must report the sighting to the Entanglement Reporting Hotline (1–877–SOS–WHAL (1–877–767–9425)) and the United States Coast Guard (VHF Channel 16). Lastly, if ODOT observes any derelict gear, they must report this to the Derelict Gear Hotline (1–855–542–3935).

Negligible Impact Analysis and Determination

NMFS has defined negligible impact as an impact resulting from the specified activity that cannot be reasonably expected to, and is not reasonably likely to, adversely affect the species or stock through effects on annual rates of recruitment or survival (50 CFR 216.103). A negligible impact finding is based on the lack of likely adverse effects on annual rates of recruitment or survival (*i.e.,* population-level effects). An estimate of the number of takes alone is not enough information on which to base an impact determination. In addition to considering estimates of the number of marine mammals that might be ''taken'' through harassment, NMFS considers other factors, such as the likely nature of any impacts or responses (*e.g.,* intensity, duration), the context of any impacts or responses (*e.g.,* critical reproductive time or location, foraging impacts affecting energetics), as well as effects on habitat, and the likely effectiveness of the mitigation. We also assess the number, intensity, and context of estimated takes by evaluating this information relative to population status. Consistent with the 1989 preamble for NMFS' implementing regulations (54 FR 40338, September 29, 1989), the impacts from other past and ongoing anthropogenic activities are incorporated into this analysis via their impacts on the baseline (*e.g.,* as

reflected in the regulatory status of the species, population size and growth rate where known, ongoing sources of human-caused mortality, or ambient noise levels).

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

Pile driving activities associated with ODOT's proposed construction project have the potential to disturb or displace marine mammals. Specifically, the project activities may result in take, in the form of Level B harassment only, from underwater sounds generated from vibratory pile driving and removal. Potential takes could occur if individuals are present in the ensonified zone when these activities are underway.

The takes by Level B harassment would be due to potential behavioral disturbance. No serious injury or mortality would be expected, even in the absence of required mitigation measures, given the nature of the activities. The potential for harassment would be further minimized through the construction method and the implementation of the planned mitigation measures (see the Proposed Mitigation section). Any potential for take by Level A harassment is also not expected, given the nature of the activities and the small distance to the Level A harassment threshold. The potential for this is further reduced through the required mitigation measures proposed. Given the small harassment zone estimated for vibratory pile driving and the proximity of this zone to the construction barge, an animal would have to remain within the area estimated to be ensonified above the Level A harassment threshold for multiple hours. This is highly unlikely given marine mammal movement in the area as well as the use of observers stationed around the construction site.

Behavioral responses of marine mammals to pile driving in Yaquina Bay are expected to be mild, short term, and temporary. Marine mammals within the Level B harassment zones may not show any visual cues they are disturbed by activities or they could become alert, avoid the area, leave the area, or display other mild responses that are not observable, such as changes in vocalization patterns. Given vibratory pile driving would occur for only a portion of the project's duration, any harassment that may occur would be expected to be temporary. Additionally, many of the species present in region would only be present temporarily based on seasonal patterns or during active transit between other habitats. Pinnipeds in the area would have the ability to haul-out to avoid the activities and no in-air harassment is anticipated from the construction activities planned (refer back to table 5). These temporarily present species would then be exposed to even smaller periods of noise-generating activity, further decreasing the impacts.

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

For all species and stocks, take would occur within a limited, confined area of the stock's range, and there are no known BIAs near the project area during the period of time vibratory pile driving is planned to occur that would be impacted by ODOT's proposed activities. While harbor seals and California sea lions are the species most likely to occur within the immediate project area, the nearest haul outs are located outside of the ensonified areas. There are a few known haul-out sites for these two species near the project area, including to the northeast (Bay Front haul-outs) and south (Finger Jetty haul-out), the closest being 495 m (1,624 ft) from the project area (*i.e.,* Finger Jetty). The next closest haul-out site is 920 m (3,018.37 ft). There are no other haul outs in the immediate project vicinity.

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

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

- No serious injury or mortality is anticipated or proposed to be authorized;
- No take by Level A harassment was requested, is expected, or is proposed for authorization;
- For all species and stocks, Yaquina Bay is a very small and peripheral part of their range;
- The intensity of anticipated takes by Level B harassment is relatively low for all stocks. Level B harassment would be primarily in the form of behavioral disturbance, resulting in avoidance of the project areas around where vibratory pile driving is occurring;
- Effects on species that serve as prey for marine mammals from the activities are expected to be short-term and, therefore, any associated impacts on marine mammal feeding are not expected to result in significant or long-term consequences for individuals, or to accrue to adverse impacts on their populations;
- The project area does not overlap any areas of known important habitat (*i.e.,* BIA) for marine mammals during the period where they would be present (*i.e.,* gray whales);
- The ensonified areas are very small relative to the overall habitat ranges of all species and stocks; and
- There is a lack of anticipated significant or long-term negative effects to marine mammal habitat.

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 section 101(a)(5)(A) and (D) of the MMPA for specified activities other than military readiness activities. The MMPA does not define small numbers and so, in practice, where estimated numbers are available, NMFS compares the number of individuals taken to the most appropriate estimation of abundance of the relevant species or stock in our determination of whether an authorization is limited to small numbers of marine mammals. When the

predicted number of individuals to be taken is less than one-third of the species or stock abundance, the take is considered to be of small numbers. Additionally, other qualitative factors may be considered in the analysis, such as the temporal or spatial scale of the activities.

NMFS is proposing to authorize incidental take by Level B harassment only of five species of marine mammals. No mortality or serious injury has been requested, nor is it anticipated to occur from the activities described herein. The maximum number of instances of takes by Level B harassment proposed, relative to the best available population abundance, is less than one-third for all species and stocks potentially impacted (see table 11).

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

Unmitigable Adverse Impact Analysis and Determination

There are no relevant subsistence uses of the affected marine mammal stocks or species implicated by this action. Therefore, NMFS has determined that the total taking of affected species or stocks would not have an unmitigable adverse impact on the availability of such species or stocks for taking for subsistence purposes.

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.

No incidental take of ESA-listed species is proposed for authorization or expected to result from this activity. Therefore, NMFS has determined that formal consultation under section 7 of the ESA is not required for this action.

Proposed Authorization

As a result of these preliminary determinations, NMFS proposes to issue an IHA to ODOT's for conducting vibratory pile driving activities at Yaquina Bay in Newport, Oregon from November 1, 2025, through February 15, 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 ODOT's proposed construction activities in Yaquina Bay. We also request comment on the potential renewal of this proposed IHA as described in the paragraph below. Please include with your comments any supporting data or literature citations to help inform decisions on the request for this IHA or a subsequent renewal IHA.

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

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

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

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

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

Dated: July 18, 2025.

Shannon Bettridge,

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

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BILLING CODE 3510–22–P

DEPARTMENT OF COMMERCE

National Oceanic and Atmospheric Administration

[RTID 0648–XE806]

Endangered and Threatened Species; Take of Anadromous Fish

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

ACTION: Notice of issuance of 33 scientific research permits.

SUMMARY: Notice is hereby given that NMFS has issued 33 scientific research permits under the Endangered Species Act (ESA) to the individuals and organizations listed in table 1. The research is intended to increase knowledge of species listed under the ESA and to help guide management and conservation efforts.

ADDRESSES: The permits and related documents are available for review upon written request via email to *nmfs.wcr-apps@noaa.gov* (please include the permit number in the subject line of the email).

FOR FURTHER INFORMATION CONTACT: Robert Clapp, phone: 503–231–2314, email: *Robert.Clapp@noaa.gov.*

SUPPLEMENTARY INFORMATION: Notice was published in the **Federal Register** on the dates listed below that requests for permits and permit modifications had been submitted by the below-named applicants. To locate the **Federal Register** notice that announced our receipt of the applications and a complete description of the research, go to *https://www.federalregister.gov* and search on the permit number and **Federal Register** notice information provided in the table below.