



DEPARTMENT OF COMMERCE

National Oceanic and Atmospheric Administration

50 CFR Part 217

[Docket No. 250505-0077]

RIN 0648-BN12

Takes of Marine Mammals Incidental to Specified Activities; Taking Marine Mammals Incidental to the Lower Columbia River Dredged Material Management Plan, Oregon and Washington

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

ACTION: Final rule.

SUMMARY: NMFS, upon request from the U.S. Army Corps of Engineers (USACE),
issues regulations to govern the unintentional taking of marine mammals incidental to
implementation of the Lower Columbia River Dredged Material Management Plan in
Oregon and Washington over 5 years (2027-2032). These regulations, which allow for
the issuance of a Letter of Authorization (LOA) for the incidental take of marine
mammals during the specified activities and timeframes, prescribe the permissible
methods of taking and effecting the least practicable adverse impact on marine mammal
species or stocks and their habitat, as well as monitoring and reporting requirements.

DATES: This rule is effective from November 1, 2027 through February 29, 2032.

ADDRESSES: A copy of the USACE's application and any supporting documents, as
well as a list of the references cited in this document, may be obtained online at:

*[https://www.fisheries.noaa.gov/action/incidental-take-authorization-us-army-corps-
engineers-lower-columbia-river-dredged-material](https://www.fisheries.noaa.gov/action/incidental-take-authorization-us-army-corps-engineers-lower-columbia-river-dredged-material).*

In case of problems accessing these documents, please call the contact listed below.

FOR FURTHER INFORMATION CONTACT: Robert Pauline, Office of Protected Resources, NMFS, (301) 427-8401.

SUPPLEMENTARY INFORMATION:

Purpose and Need for Regulatory Action

This rule establishes a framework under the authority of the Marine Mammal Protection Act (MMPA) (16 U.S.C. 1361 *et seq.*) to allow for the authorization of take of marine mammals incidental to the USACE's construction activities related to the Lower Columbia River (LCR) Dredged Materials Management Plan (DMMP).

We received an application from the USACE requesting 5-year regulations and authorization to take multiple species of marine mammals. Take is anticipated to occur incidental to impact and vibratory pile driving, by Level A and Level B harassment only. Please see Background below for definitions of harassment.

Legal Authority for the Action

Section 101(a)(5)(A)(i) of the MMPA (16 U.S.C. 1371(a)(5)(A)(i)) directs the Secretary of Commerce 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 for up to 5 years if, after notice and public comment, the agency "finds that the total of such taking during each . . . period concerned will have a negligible impact on such species or stock and will not have an unmitigable adverse impact on the availability of such species or stock for taking for subsistence uses" and issues regulations that set forth "permissible methods of taking pursuant to that activity, and other means of effecting the least practicable adverse impact on [the affected] species or stock and their habitat" as well as monitoring and reporting requirements. As such, this provision of the MMPA and the implementing regulations at 50 CFR §§ 216.105 and 216.106 provides the legal basis for issuing this rule containing 5-year regulations and for any subsequent LOAs.

Summary of Major Provisions

The major provisions of this final rule include:

- Monitoring of the construction areas to detect the presence of marine mammals before beginning construction activities;
- Shutdown of construction activities under certain circumstances to avoid injury of marine mammals;
- Soft start for impact pile driving to allow marine mammals the opportunity to leave the area prior to beginning impact pile driving at full power; and
- Use of bubble curtains to attenuate sound levels when impact pile driving.

Legal Background

The MMPA prohibits the “take” of marine mammals, with certain exceptions. sections 101(a)(5)(A) and (D) of the MMPA (16 U.S.C. 1361 *et seq.*) direct the Secretary of Commerce (as delegated to NMFS) to allow, upon request, the incidental, but not intentional, taking of small numbers of marine mammals by U.S. citizens who engage in a specified activity (other than commercial fishing) within a specified geographical region if certain findings are made and either regulations are proposed or, if the taking is limited to harassment, a notice of a proposed incidental take authorization (ITA) 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 mitigation, monitoring and reporting of the takings are set forth (section 101(5)(A)(i)(II)(aa)).

Summary of Request

On October 18, 2023, NMFS received a request (Application) from the USACE for authorization to take marine mammals incidental to construction activities associated with the LCR DMMP in Oregon and Washington. After the applicant responded to our questions and redrafted the Application, we determined the Application was adequate and complete on April 25, 2024. On May 14, 2024, we published a notice of receipt of the USACE Application in the **Federal Register**, requesting comments and information related to the request for 30 days (89 FR 41941). We received no public comments during the public comment period.

On November 13, 2024, NMFS published a notice of proposed rulemaking and request for public comments in the **Federal Register** (89 FR 89543). All comments were considered in development of this final rule (see **Comments and Responses**). The USACE's request is for the take of harbor seal (*Phoca vitulina*), Steller sea lion (*Eumetopias jubatus*), and California sea lion (*Zalophus californianus*) by Level B harassment and, for harbor seal only, by Level A harassment. The regulations are valid for 5 years (2027-2032).

Description of the Activity

The USACE has developed a draft DMMP to support continued operation and maintenance of the LCR Federal Navigation Channel (FNC) for the next 20 years. The full draft DMMP includes planned dredging and placement operations between river miles (RM) 3 (4.8 kilometers (km)) and 105.5 (169.8 km). However, the scope of this request for a LOA is limited to potential pile driving that would be associated with any new steel and timber piles installed between RM 23 and 36. Work on additional reaches of the LCR will likely occur in subsequent years. The USACE is anticipating up to 141

days of in-water work between November 2027 and February 2032 and is planning to install 1,039 steel piles and 1,029 timber piles by vibratory and impact driving over the 5-year LOA period for a total of 2,068 piles. No concurrent driving of piles is planned.

A detailed description of the planned construction project is provided in the **Federal Register** notice for the proposed rule (89 FR 89543). Since that time, no changes have been made to the planned activities. Therefore, a detailed description is not provided here.

Comments and Responses

NMFS' notice of proposed rulemaking was published in the **Federal Register** on November 13, 2024 (89 FR 89543). That proposed rule described, in detail, the USACE's activities, the marine mammal species that may be affected by the activities, and the anticipated effects on marine mammals. In that proposed rule, we requested public input on the request for authorization described therein, our analyses, the proposed authorization, and any other aspect of the notice of proposed rulemaking, and requested that interested persons submit relevant information, suggestions, and comments.

During the 30-day public comment period, NMFS received four substantive comment submissions from members of the public and from the Center for Regulatory Freedom. NMFS' responses to the comments are provided below, and all comments are available online at: <https://www.regulations.gov/document/NOAA-NMFS-2024-0123-0001/comment>.

Comment 1: One commenter inquired if plans for the dredging project extend beyond the allotted 5-year LOA effective period of 2027-2032. The commenter also asked if the USACE would reapply for authorized take if work were undertaken beyond the end of the effective date of this LOA (February 29, 2032).

Response: The USACE has stated that it plans additional construction activities at other locations during the 2033/2034 and 2034/2035 work windows along the LCR that

were not analyzed and are not covered under this rulemaking and LOA. The USACE would need to submit an application for an ITA in the form of an IHA or LOA for any work that could result in incidental take of marine mammals occurring after the end of the LOA's effective date (February 29, 2032). Additionally, any activities planned to occur under this LOA that were not completed would need to be included in subsequent incidental take authorizations requested by the USACE.

Comment 2: A commenter asked how NMFS would respond in a situation in which take of marine mammals is higher than predicted.

Response: In the event that the USACE exceeds the authorized or predicted take levels, any further take would be unauthorized and therefore, prohibited under the MMPA. The USACE would require authorization for additional activities that could result in incidental take. Providing such authorization would require NMFS to reanalyze its small numbers and negligible impact determinations. Under certain conditions, including monitoring data showing rates of take in excess of expectations, the LOA could potentially be modified to increase the number of authorized takes and/or adjust mitigation measures. See **Adaptive Management** section and 50 CFR 217.77 (addressing LOA modification requests).

Comment 3: A member of the public asked if alternate locations are available to install the specified infrastructure.

Response: The LCR DMMP is a coordinated, long-term plan for managing dredged material generated by the continued operations and maintenance (O&M) of the LCR Federal Navigation Channel (FNC) for a minimum of 20 years to continue to provide a 43-foot-deep and 600-foot-wide channel. Existing pile dike structures reduce dredging needs and confine dredged material. The purpose of repairs or replacement is to restore full function of a pile dike system in the context of existing (present day) channel configuration, hydrologic, and environmental river conditions. Functional pile dikes are

critical for continued navigation channel maintenance and have been placed in specific locations to maximize operational conditions. Specifically, these defined locations are the best solution for providing sufficient dredged material placement capacity while also providing environmental, economic, and social benefits by sustaining the Columbia River's sediment budget and morphology, developing fish and wildlife habitat, and providing opportunities for recreation and commercial uses to include fishing, nourishment, aesthetics, and bird watching. Removal and relocation of these pile dikes would likely negatively impact one or more of the described benefits.

Comment 4: A member of the public asked to see alternate plans in the case of undue harm to local wildlife populations at the proposed pile-driving sites.

Response: NMFS did not develop alternatives as part of the analysis of the Application because the agency determined the action fell within Categorical Exclusion B4 of the Companion Manual for NAO 216-6A (available at <https://www.noaa.gov/sites/default/files/2021-10/NOAA-NAO-216-6A-Companion-Manual-03012018%20%281%29.pdf>), and therefore a National Environmental Policy Act (NEPA) analysis (which could include an alternatives analysis) is unnecessary. Any undue harm would likely be exceedance of authorized take numbers or take in excess of expected levels. In such situations, the LOA could be modified to accommodate the predicted increase in take and/or mitigation measures could be revised if such modifications would have a reasonable likelihood of reducing adverse effects to marine mammals and if the measures are practicable. See **Adaptive Management** section and 50 CFR 217.77(c) (addressing LOA modification requests).

Comment 5: One commenter inquired about the potential impacts to affected animals when they are physically moved to areas away from the project location.

Response: The USACE did not request and NMFS has not authorized the intentional relocation of marine mammals away from the project area. The USACE

requested and NMFS has authorized the take of marine mammals incidental to DMMP project activities. Take would occur by harassment only (defined in **Estimated Take of Marine Mammals** section), incidental to impact and vibratory pile driving. Relocation of marine mammals would constitute an intentional act, *i.e.*, not an incidental taking, and, therefore, cannot be addressed through sections 101(a)(5)(A) or (D) of the MMPA. Note that this action is not related to the Pinniped Removal Program at Bonneville Dam (<https://www.fisheries.noaa.gov/west-coast/marine-mammal-protection/marine-mammal-protection-act-section-120-pinniped-removal>).

Comment 6: A member of the public who supported the issuance of the LOA also strongly encouraged NMFS to implement comprehensive mitigation measures designed to protect vulnerable species. Recommended measures included abiding by season restrictions, utilizing real-time monitoring systems, employing advanced noise reduction techniques, and applying adaptive management strategies. They also stressed the importance of transparency in monitoring and reporting efforts.

Response: All of the mitigation measures described by the commenter have been included in the regulations and the LOA. See the **Mitigation** section for information on noise reduction techniques (*i.e.* bubble curtains, soft-start). Information on seasonal restrictions, real-time monitoring (*i.e.* use of protected species observers (PSOs)) and reporting may be found in the **Monitoring and Reporting** section. Transparency is achieved by requiring monitoring during all activities that could result in the harassment of marine mammals and posting monitoring reports to our website for the public to view after they have been submitted and then reviewed and approved by NMFS.

(<https://www.fisheries.noaa.gov/permit/incidental-take-authorizations-under-marine-mammal-protection-act>). Adaptive management options are also included in the regulations with additional information located in the **Adaptive Management** section.

Comment 7: The Center for Regulatory Freedom (CRF) indicated support for the authorization of incidental take associated with the dredging activities at issue. However, CRF recommended withdrawal of the proposed rule and a “fundamental reform of incidental takings under the MMPA and ESA,” stating that transparency, consistency, and fairness in decision-making should be prioritized (and suggesting that these are currently lacking). The CRF wrote that Federal agencies tasked with enforcing the MMPA and ESA must establish clear, science-based standards for evaluating environmental impacts.

Response: NMFS appreciates the support for the authorization of incidental take of marine mammals associated with the project. The comment does not provide analysis or information specific to the impact of this project on marine mammals. The commenters' concerns about the overall framework of the MMPA and ESA incidental take regulations are outside the scope of this individual authorization and rulemaking.

Changes From the Proposed Rule to Final Rule

On May 3, 2024, NMFS published (89 FR 36762) and solicited public comment on its draft updated Technical Guidance (<https://www.fisheries.noaa.gov/national/marine-mammal-protection/marine-mammal-acoustic-technical-guidance>), which includes updated thresholds and weighting functions to inform auditory injury estimates, and is intended to replace the 2018 Technical Guidance (NMFS 2018). The 2024 Technical Guidance was finalized on October 24, 2024 (89 FR 84872). The **Federal Register** notice for the proposed rule (89 FR 89543) for this regulation included a basic comparative analysis of the 2018 and 2024 Technical Guidance document since at that time it was unclear when the 2024 Technical Guidance would be finalized. The revised guidance results in changes to the Level A harassment and shutdown zones (see **Estimated Take and Mitigation**), which are discussed below. The updated analysis

based on the 2024 Technical Guidance did not change the take numbers authorized through this rule.

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) (see <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 at: <https://www.fisheries.noaa.gov/find-species>.

Table 1 lists all species or stocks for which take is expected and authorized for this activity and summarizes information related to the population or stock, including regulatory status under the MMPA and the 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 authorized here, PBR and annual serious injury and mortality from anthropogenic sources are included here as gross indicators of the status of the species or stocks and other threats.

Marine mammal abundance estimates presented in this document represent the total number of individuals that make up a given stock or the total number estimated within a particular study or survey area. NMFS' stock abundance estimates for most species represent the total estimate of individuals within the geographic area, if known, that comprises that stock. For some species, this geographic area may extend beyond U.S.

waters. All managed stocks in this region are assessed in NMFS' U.S. Pacific and Alaska SARs. All values presented in table 1 are the most recent available at the time of publication (including from the 2023 SARs) and are available online at:

<https://www.fisheries.noaa.gov/national/marine-mammal-protection/marine-mammal-stock-assessments>.

Table 1 — Marine Mammal Species¹ Likely Impacted by the Specified Activities

Common name	Scientific name	Stock	ESA/MMPA status; Strategic (Y/N) ²	Stock abundance (CV, N _{min} , most recent abundance survey) ³	PBR	Annual M/SI ⁴
<i>Order Carnivora – Pinnipedia</i>						
<i>Family Otariidae (eared seals and sea lions)</i>						
California Sea Lion	<i>Zalophus californianus</i>	U.S.	-, -, N	257,606 (N/A, 233,515, 2014)	14,011	>321
Steller Sea Lion	<i>Eumetopias jubatus</i>	Eastern	-, -, N	36,308 ⁵ (N/A, 36,308, 2022)	2,178	93.2
<i>Family Phocidae (earless seals)</i>						
Harbor Seal	<i>Phoca vitulina</i>	OR/WA Coastal	-, -, N	24,731 ⁶ (1999)	UND	10.6

¹ Information on the classification of marine mammal species can be found on the web page for The Society for Marine Mammalogy's Committee on Taxonomy at: <https://marinemammalscience.org/science-and-publications/list-marine-mammal-species-subspecies>.

² ESA status: Endangered (E), Threatened (T)/MMPA status: Depleted (D). A dash (-) indicates that the species is not listed under the ESA or designated as depleted under the MMPA. Under the MMPA, a strategic stock is one for which the level of direct human-caused mortality exceeds PBR or which is determined to be declining and likely to be listed under the ESA within the foreseeable future. Any species or stock listed under the ESA is automatically designated under the MMPA as depleted and as a strategic stock.

³ NMFS marine mammal SARs 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. In some cases, CV is not applicable.

⁴ These values, found in NMFS's SARs, represent annual levels of human-caused mortality plus serious injury from all sources combined (e.g., commercial fisheries, ship strike). Annual M/SI often cannot be determined precisely and is in some cases presented as a minimum value or range. A CV associated with estimated mortality due to commercial fisheries is presented in some cases.

⁵ Nest is best estimate of counts, which have not been corrected for animals at sea during abundance surveys. Estimates provided are for the U.S. only.

⁶ There is no current estimate of abundance available for this stock. Value presented is the most recent available and based on 1999 data.

A detailed description of the species likely to be affected by the USACE's construction project, including brief introductions to the species and relevant stocks as well as available information regarding population trends and threats, and information regarding local occurrence, were provided in the **Federal Register** notice for the proposed rule (89 FR 89543, November 13, 2024); since that time, we are not aware of any changes in the status of these species and stocks; therefore, detailed descriptions are

not provided here. Please refer to that **Federal Register** notice for these descriptions. Please also refer to NMFS' website (<https://www.fisheries.noaa.gov/find-species>) for generalized species information.

Marine Mammal Hearing

Hearing is the most important sensory modality for marine mammals underwater, and exposure to anthropogenic sound can have deleterious effects. To appropriately assess the potential effects of exposure to sound, it is necessary to understand the frequency ranges marine mammals are able to hear. Not all marine mammal species have equal hearing capabilities (*e.g.*, Richardson *et al.*, 1995; Wartzok and Ketten, 1999; Au and Hastings, 2008). To reflect this, Southall *et al.* (2007, 2019) recommended that marine mammals be divided into hearing groups based on directly measured (behavioral or auditory evoked potential techniques) or estimated hearing ranges (behavioral response data, anatomical modeling, *etc.*). Subsequently, NMFS (2018, 2024) described generalized hearing ranges for these marine mammal hearing groups. Generalized hearing ranges were chosen based on the approximately 65 decibel (dB) threshold from the normalized composite audiograms, with the exception for lower limits for low-frequency cetaceans where the lower bound was deemed to be biologically implausible and the lower bound from Southall *et al.* (2007) retained.

As noted in **Changes From the Proposed Rule to Final Rule**, we previously considered both the 2018 and 2024 Technical Guidance in our effects and estimated take analysis. However for the final rule we are only including information relevant to the 2024 Technical Guidance.

Marine mammal hearing groups and their associated hearing ranges from NMFS (2024) are provided in table 2. In the Updated Technical Guidance, mid-frequency cetaceans have been re-classified as high-frequency cetaceans, and high-frequency cetaceans have been updated to very-high-frequency (VHF) cetaceans. Additionally, the

Updated Technical Guidance includes in-air data for phocid (PA) and otariid (OA) pinnipeds.

Table 2 — 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, <i>Kogia</i> , river dolphins, Cephalorhynchid, <i>Lagenorhynchus cruciger</i> & <i>L. australis</i>)	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>i.e.</i> , 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 <i>et al.</i> 2007; Southall. 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 frequency ranges, please see NMFS (2024) for a review of available information.

Effects of Specified Activities on Marine Mammals and Their Habitat

The effects of underwater noise from the USACE’s construction activities have the potential to result in behavioral harassment of marine mammals in the vicinity of the project area. The proposed rule (89 FR 89543) included a discussion of the effects of anthropogenic noise on marine mammals and the potential effects of underwater noise from the USACE’s construction on marine mammals and their habitat. That information and analysis is referenced in this final rule and is not repeated here.

Estimated Take of Marine Mammals

This section provides an estimate of the number of incidental takes that may be authorized, which will inform both NMFS' consideration of whether the activities will take “small numbers” of marine mammals and the negligible impact determinations.

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) (16 U.S.C. 1362(18)(A)(i)-(ii)).

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

Authorized takes would primarily be by Level B harassment, as use of the acoustic source (*i.e.*, pile driving) has the potential to result in disruption of behavioral patterns for individual marine mammals. There is also some potential for auditory injury (Level A harassment) to result, primarily for phocids because predicted auditory injury zones are larger than for otariids. Auditory injury is unlikely to occur for otariids. The required mitigation and monitoring measures are expected to minimize the severity of the taking to the extent practicable.

As described previously, no serious injury or mortality is anticipated or authorized for this activity. We describe below how the authorized take numbers have been estimated.

Acoustic Thresholds

NMFS uses acoustic thresholds to 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 permanent threshold shift (PTS), 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 levels” (89 FR at 89550) (i.e. hearing loss) of some degree (equated to Level A harassment).

Level B Harassment – Though significantly driven by received level (the level of sound at a specified distance of interest (*i.e.*, at the animal or receiver)), 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 μ Pa)) for continuous sources of noise (*e.g.*, vibratory pile driving, drilling) and above RMS SPL 160 dB re 1 μ Pa for non-explosive impulsive (*e.g.*, seismic airguns) or intermittent (*e.g.*, scientific sonar) sources. Level B harassment could also take place due to temporary threshold shift

(TTS), “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” (89 FR at 89552) (i.e. temporary hearing loss) . Generally speaking, Level B harassment take estimates based on behavioral harassment thresholds are expected to include any likely takes by TTS as, in most cases, takes from TTS are likely at shorter distances from the source 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 (e.g., conspecific communication, predators, prey) may result in changes in behavior patterns that would not otherwise occur.

The USACE’s planned activity includes the use of continuous (vibratory pile driving) and impulsive (impact pile driving) sources, and therefore NMFS will use the RMS SPL thresholds of 120 and 160 dB re 1 μ Pa to determine whether marine mammals are experiencing Level B harassment.

Level A harassment – NMFS’ 2024 Updated Technical Guidance (NMFS, 2024) identifies dual criteria to assess auditory injury (Level A harassment) to five different marine mammal groups (based on hearing sensitivity) as a result of exposure to noise from two different types of sources (impulsive or non-impulsive). These thresholds are provided in table 3 below. The references, analysis, and methodology used in the development of the thresholds are described in NMFS’ 2018 Technical Guidance and NMFS’ 2024 Updated Technical Guidance, both of which may be accessed at: <https://www.fisheries.noaa.gov/national/marine-mammal-protection/marine-mammal-acoustic-technical-guidance>.

The USACE’s planned activity includes the use of impulsive (impact pile driving) and non-impulsive (vibratory driving) sources.

Table 3 – NMFS’ 2024 Thresholds Identifying the Onset of Auditory Injury (AUD INJ)

	AUD INJ Acoustic Thresholds* (Received Level)	
Hearing Group	Impulsive	Non-impulsive
UNDERWATER		
Low-Frequency (LF) Cetaceans	<i>Cell 1</i> $L_{p,0-pk,flat}$: 222 dB $L_{E,p,LF,24h}$: 183 dB	<i>Cell 2</i> $L_{E,p,LF,24h}$: 197 dB
High-Frequency (HF) Cetaceans	<i>Cell 3</i> $L_{p,0-pk,flat}$: 230 dB $L_{E,p,HF,24h}$: 193 dB	<i>Cell 4</i> $L_{E,p,HF,24h}$: 201 dB
Very High-Frequency (VHF) Cetaceans	<i>Cell 5</i> $L_{p,0-pk,flat}$: 202 dB $L_{E,p,VHF,24h}$: 159 dB	<i>Cell 6</i> $L_{E,p,VHF,24h}$: 181 dB
Phocid Pinnipeds (PW) (Underwater)	<i>Cell 7</i> $L_{p,0-pk,flat}$: 223 dB $L_{E,p,PW,24h}$: 183 dB	<i>Cell 8</i> $L_{E,p,PW,24h}$: 195 dB
Otariid Pinnipeds (OW) (Underwater)	<i>Cell 9</i> $L_{p,0-pk,flat}$: 230 dB $L_{E,p,OW,24h}$: 185 dB	<i>Cell 10</i> $L_{E,p,OW,24h}$: 199 dB
IN-AIR		
Phocid Pinnipeds (PA) (In-Air)	<i>Cell 11</i> $L_{p,0-pk,flat}$: 162 dB $L_{E,p,PA,24h}$: 140 dB	<i>Cell 12</i> $L_{E,p,PA,24h}$: 154 dB
Otariid Pinnipeds (OA) (In-Air)	<i>Cell 13</i> $L_{p,0-pk,flat}$: 177 dB $L_{E,p,OA,24h}$: 163 dB	<i>Cell 14</i> $L_{E,p,OA,24h}$: 177 dB
<p>* Dual metric acoustic thresholds for impulsive sounds: Use whichever results in the largest isopleth for calculating AUD INJ onset. If a non-impulsive sound has the potential of exceeding the peak sound pressure level thresholds associated with impulsive sounds, these thresholds should also be considered.</p> <p>Note: Peak sound pressure (L_{pk}) has a reference value of 1 μPa, and cumulative sound exposure level (L_E) has a reference value of 1 μPa²s. In this table, thresholds are abbreviated to reflect American National Standards Institute standards (ANSI, 2013). However, peak sound pressure is defined by ANSI as incorporating frequency weighting, which is not the intent for NMFS’ 2018 Technical Guidance. Hence, the subscript “flat” is being included to indicate peak sound pressure should be flat weighted or unweighted within the generalized hearing range. The subscript associated with cumulative sound exposure level thresholds indicates the designated marine mammal auditory weighting function (LF, MF, and HF cetaceans, and PW and OW pinnipeds) and that the recommended accumulation period is 24 hours. The cumulative sound exposure level thresholds could be exceeded in a multitude of ways (<i>i.e.</i>, varying exposure levels and durations, duty cycle). When possible, it is valuable for action proponents to indicate the conditions under which these acoustic thresholds will be exceeded.</p>		

Ensonified Area

This section describes the operational and environmental parameters of the activity that are used in estimating the area ensonified (or sound field) above the acoustic thresholds, including source levels and transmission loss (*TL*) coefficient.

The sound field in the project area is the existing background noise plus additional construction noise from the planned project. Pile driving generates underwater noise that can potentially result in disturbance to marine mammals in the Project Area. The maximum (underwater) area ensonified is determined by the topography of the LCR, including intersecting land masses that will reduce the overall area of potential impact. Additionally, vessel traffic in the LCR during construction may contribute to elevated background noise levels, which may mask sounds produced by the project.

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:

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

TL = transmission loss in dB;

B = transmission loss coefficient; for practical spreading equals 15;

*R*₁ = the distance of the modeled SPL from the driven pile; and,

*R*₂ = the distance from the driven pile of the initial measurement.

This formula neglects loss due to scattering and absorption, which is assumed to be zero here. The degree to which underwater sound propagates away from a sound source is dependent on a variety of factors, most notably the water bathymetry and presence or absence of reflective or absorptive conditions including in-water structures and sediments. Spherical spreading occurs in a perfectly unobstructed (free-field) environment not limited by depth or water surface, resulting in a 6-dB reduction in sound

level for each doubling of distance from the source ($20 \times \log_{10}[\text{range}]$). Cylindrical spreading occurs in an environment in which sound propagation is bounded by the water surface and sea bottom, resulting in a reduction of 3 dB in sound level for each doubling of distance from the source ($10 \times \log_{10}[\text{range}]$). A practical spreading value of 15 is often used under conditions, such as the project site, where water increases with depth as the receiver moves away from the shoreline, resulting in an expected propagation environment that would lie between spherical and cylindrical spreading loss conditions. Practical spreading loss is assumed here.

The intensity of pile driving sounds is greatly influenced by factors such as the type of piles, hammers, and the physical environment in which the activity takes place. In order to calculate the distances to the Level A harassment and the Level B harassment sound thresholds for the methods and piles being used in this project, NMFS used acoustic monitoring data from other locations to develop proxy source levels for the various pile types, sizes and methods (table 4). Generally, we choose source levels from similar pile types from locations (*e.g.*, geology, bathymetry) similar to the project.

Table 4 — Proxy Sound Source Levels for Pile Sizes and Driving Methods

Pile Type	Sound Pressure Level (single strike)		
24-in Steel Pipe ¹ Vibratory (unattenuated)	---	159 dB _{RMS}	---
24-in Steel Pipe ^{1,3} Impact (attenuated)	198 dB _{PEAK}	185 dB _{RMS}	171 dB _{SEL}
12-in Timber ² Vibratory (unattenuated)	---	162 dB _{RMS}	---
12-in Timber ^{2,3} Impact (attenuated)	175 dB _{PEAK}	165 dB _{RMS}	155 dB _{SEL}
¹ Reference levels based on the Sand Island Test Piles project in the Columbia River (Robert Miner Dynamic Testing 2021). While the original study tested various pile tips for driving through existing enrockment, the DMMP will not use pile tips so we referenced sound levels solely for piles excluding tips during vibratory driving. For impact driving, all piles in the Sand Island study included tips so we used the average SPLs across all piles as a conservative estimate. ² All timber pile assumptions are based on Caltrans (2020). ³ We assume bubble curtains will be employed for all piles installed with an impact hammer under this LOA, thus, SPLs in this table reflect reference noise estimates reduced by 5 dB.			

The ensounded area associated with Level A harassment is more technically challenging to predict due to the need to account for a duration component. Therefore, NMFS developed an optional User Spreadsheet tool to accompany the Technical Guidance that can be used to relatively simply predict an isopleth distance for use in conjunction with marine mammal density or occurrence to help predict potential takes. We note that because of some of the assumptions included in the methods underlying this optional tool, we anticipate that the resulting isopleth estimates are typically going to be overestimates of some degree, which may result in an overestimate of potential take by Level A harassment. However, the optional User Spreadsheet tool offers the best way to estimate isopleth distances when more sophisticated modeling methods are not available or practical. For stationary sources such as pile driving, the optional User Spreadsheet tool predicts the distance at which, if a marine mammal remained at that distance for the duration of the activity, it would be expected to incur PTS. Inputs used in the optional User Spreadsheet tool, and the resulting estimated isopleths, are reported in table 5 below. The calculated Level A and Level B harassment isopleths are shown in table 6.

Table 5 — NMFS User Spreadsheet Inputs

Pile size and type	Spreadsheet tab used	Weighting factor adjustment (kHz)	Number of piles per day	Duration to drive a single pile (min)	Number of strikes per pile
Vibratory pile driving and removal					
24-in steel pile (Vibratory)	A.1) Vibratory pile driving	2.5	20	25	NA
12-in Timber (Vibratory)	A.1) Vibratory pile driving	2.5	20	25	NA
Impact pile driving					
24-in steel pile (Impact attenuated)	E.1) Impact pile driving	2	20	NA	45
12-in Timber (Impact attenuated)	E.1) Impact pile driving	2	20	NA	45

Table 6 — Calculated Distance of Level A (based on NMFS’ 2024 Updated Technical Guidance) and Level B Harassment by Pile Type and Pile Driving Method

Pile size and type	Level A harassment (m)		Level B harassment (m)
	Phocid	Otariid	
Vibratory pile driving			
24-in steel pile	35.9	12.1	3,981.1
12-in timber pile	56.9	19.1	6,309.6
Impact pile driving			
24-in steel pile	130.6	48.7	464.2
12-in timber pile	11.2	4.2	21.5

Marine Mammal Occurrence and Take Estimation

In this section we provide information about the occurrence of marine mammals, including density and/or other relevant information which will inform the take calculations and describe how the information provided is synthesized to produce a quantitative estimate of the take that is reasonably likely to occur and may be authorized. The USACE referenced data provided by the Oregon Department of Fish and Wildlife (ODFW) and the Washington Department of Fish and Wildlife (WDFW) to support assumptions regarding marine mammal occurrence in the project area. The ODFW conducts periodic counts of pinnipeds at haul out sites along the Oregon coast and in the LCR. The WDFW has collected recent anecdotal evidence of pinniped abundance at haul out sites in the LCR near the confluence of the Cowlitz River at RM 67.5 (108.6 km). While the confluence of the two rivers is located approximately 31.5 river miles (50.7 km) upstream from the project area, it is the closest site that features data on pinniped activity. The USACE used the proximal count estimates from ODFW and WDFW to estimate the number of harbor seals, Steller sea lions, and California sea lions that could transit or occupy the project area during planned pile driving in winter (*i.e.*, November through February). For sea lions, the USACE estimated the maximum number of animals likely to be encountered in a single day based on the maximum number of animals detected at haul out sites within 5 mi. (3.1 km) of planned pile driving, as well as the

closest haul out sites upstream or downstream. For harbor seals, the USACE estimated the harbor seal density using the approximate span of river where they have been observed at haul out sites.

Harbor Seal

The most recent harbor seal aerial surveys were conducted by ODFW during the 2021 summer pupping season. The average, maximum daily count of harbor seals counted across all haulout sites in the project vicinity in May and June was 837 (pups and non-pups combined) (USACE, 2024). After applying the Huber *et al.* (2001) correction factor of 1.53, used to account for likely imperfect detection during surveys, the adjusted number of harbor seals that may have been present during the 2021 surveys was 1,281 individuals. However, that estimate is not necessarily representative of the number of harbor seals that may be present in winter.

Jeffries *et al.* (1984) synthesized survey data collected by the state of Washington to document pinniped abundance and distribution in the LCR between 1980 and 1983. Table 7 summarizes the harbor seal count by month detected over that roughly 3-year study period (Jeffries *et al.*, 1984). The USACE used this data to calculate the average, maximum total count observed across all haulout sites in the project vicinity to estimate the proportion of animals present from November through February relative to counts observed from May to June. The average harbor seal count observed between November and February was approximately 618 animals, whereas the average count for May and June was roughly 464. The count of harbor seals in winter was 1.33 times the number counted in May and June. To account for this seasonality, the most recent estimate of 1,281 harbor seals in the project vicinity during the pupping season, based on ODFW counts, could equate to a maximum of 1,706 harbor seals in the project vicinity each day in winter. While the USACE and NMFS acknowledge that the seasonal correction factor is based on data that is over 40 years old, all recent surveys have focused solely on the

summer pupping season and there is no winter data corresponding to those counts.

Therefore, the USACE, with NMFS' concurrence, relied on available data from a historic study that included counts for multiple seasons in the same year.

The USACE assumed the maximum winter abundance of 1,706 individuals and an even distribution of animals throughout the span of river between the river mouth and the upstream end of Tenasillahe Island shown in figure 6-21 in the Application. The hatched area in figure 6-21 represents the project area and amounts to roughly 377 square kilometers (km²), yielding an approximate daily harbor seal density of five individuals per km² in the project area.

Table 7 — Maximum monthly counts of harbor seals detected during low-tide aerial surveys at haulout locations in the Lower Columbia River Estuary between 1980 and 1983 (adapted from Jeffries *et al.*, 1984)

Month	South Jetty	Baker Bay	Desdemona Sands	Taylor Sands	Grays Bay	Miller Sands	Green Island	N. of Woody Island	TOTAL
January	0	0	566	444	1	381	0	72	1,464
February	0	NS	NS	NS	NS	200*	NS	55	255
March	1	0	650*	548	0	82	0	3	1,284
April	0	20*	884	260	20*	137	0	18	1,339
May	0	1	568	4	4	0	16	0	593
June	1	0	273	22	11	1	26*	0*	334
July	0	0	525	21	10	0	38	0	594
August	3	7	378	0	0	32	35	0	455
September	4	11	563	7	12	0	26	0	623
October	0	25*	223	59	0	6	0	0	313
November	NS	NS	230*	NS	NS	NS	NS	NS	230
December	0	0	301	174	0	46	0	0	521

NS = Not Surveyed

*Count based on visual estimate from airplane, boat, or jetty

For harbor seals only, take by Level A and Level B harassment was calculated based on the following equations, which were performed for Level A and Level B harassment and for steel and timber piles:

$$\text{Harassment} = \text{Harbor seal density} * \text{ensonified area} * \text{pile driving workdays}$$

The estimated isopleth areas associated with the longest pile dike at each site are presented in table 8. These inputs were used in the equation above to estimate the number of harbor seals possible within those isopleths each day (table 9) and then calculate the overall level of take based on the number of workdays projected in each year (table 10). The number of takes requested by Level A and Level B harassment by the USACE for Year 1 through Year 5 are shown in table 10. The calculated take by Level A harassment is likely an overestimate because the likelihood of a harbor seal coming within a specified Level A harassment isopleth of the pile and remaining long enough to experience PTS during the brief period of potential impact driving that could be needed to reach the last ~5 ft (1.5 m) of embedment depth is fairly low. In addition, the USACE utilized the Level A harassment isopleth area of the longest pile dike at each site, when in actuality, some sites have shorter structures, and a pile dike is composed of multiple individual piles with much smaller noise isopleths. NMFS concurs with this assessment and will authorize harbor seal take according to the totals contained in table 10.

Table 8 — Pile Dike Lengths (m) and Corresponding Level A and Level B Harassment Areas (km²)

Site	Pile Dike Length (m)	Phocids Level A (km ²) 24-in Steel Impact	All Marine Mammals Level B (km ²) 24-in Steel Impact	All Marine Mammals Level B (km ²) 24-in Steel Vibratory	All Marine Mammals Level B (km ²) 12-in Timber Vibratory
O-23.5-BN-ADD1	22.40	0.213	0.74	37.29	81.45
O-23.5-BN-ADD2	25.00	0.180	0.58	18.06	30.79
O-27.3-BN	27.86	0.162	0.68	13.52	22.97
O-31.4-BN	31.46	0.293	1.05	17.97	26.33

O-35.6-IW-D	35.41	0.135	0.63	10.70	16.51
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Table 9 — Estimated Harbor Seals in Level A and Level B Harassment Zones per Day

Site	Installation Timeframe	HS* in Level A Isopleth Area	HS in Level B Isopleth Area	HS in Level B Isopleth Area	HS in Level B Isopleth Area
		24-in Steel Impact	24-in Steel Impact	24-in Steel Vibratory	12-in Timber Vibratory
O-23.5-BN-ADD1	LOA YR-3	2	4	187	408
O-23.5-BN-ADD2	LOA YR-1	1	3	91	154
O-27.3-BN	LOA YR-4	1	4	68	115
O-31.4-BN	LOA YR-5	2	6	90	132
O-35.6-IW-D	LOA YR-2	1	4	54	83

Table 10 — Calculated Level A and Level B Harassment Take for Harbor Seals During Pile Driving Activities Each Year

	Site	Steel Pile Driving Workdays	Timber Pile Driving Workdays	Level A (steel piles)	Level B (steel piles)	Level B (timber piles)
YR-1	O-23.5-BN-ADD2	13	12	26	2,405	4,896
YR-2	O-35.6-IW-D	1	0	1	90	0
YR-3	O-23.5-BN-ADD1	17	17	17	1,139	1,955
YR-4	O-27.3-BN	15	15	30	1,320	1,980
YR-5	O-31.4-BN	26	25	26	1,378	2,075

California and Steller sea lions

Take estimates for California and Steller sea lions were based on assumed daily abundances in the project area rather than the estimated densities. The ODFW counted sea lions during recent aerial surveys of three key haulout locations in the LCR. All sea lions detected in winter are non-pup males and average counts of both California and Steller sea lions observed during surveys between 2019 and 2022 are shown in table 11. The haulout at East Mooring Basin (EMB) is just south of the project area and likely downstream of pile driving harassment isopleths. The USACE used the average counts

observed at EMB (RM 15 (25 km) from there) as a proxy for sea lions that may be present during pile driving and used the average across all winter months as a proxy for the number of sea lions in the project area since that haulout is closer to the project area (RM 23 (37 km) to RM 36 (57.9 km)) compared to the Rainer (RM 67 (107.8 km)) and Coffin Rock (RM 72 115.9 km)) locations. Based on counts of sea lions at the EMB site (table 11), the USACE estimated 182 California sea lions and 3 Steller sea lions by Level B harassment per day in the project vicinity. Level A harassment is not likely since the Level A harassment zones for otariids are smaller than the shutdown zone calculated (15-20 m) for all pile driving scenarios as shown in table 9, and no such take is authorized.

Table 11 — Average counts of California and Steller sea lions detected at haulout locations depicted in Figure 4-2 during ODFW winter aerial surveys, 2019-2022 (USACE, 2024)

Haulout Site	Month	Average of CSL	Average of SSL
East Mooring Basin (EMB)	November	128	0
	December	234	3
	January	166	4
	February	197	5

Take estimates for California and Steller sea lions were calculated based on the

equation below and number of workdays shown in table 12:

$$\text{Level B exposure} = N \text{ animals/day} * \text{total driving days}$$

There could be 25 total days of noise exposure from pile driving during year 1

(YR-1); 34 days in YR-3; 30 days in YR-4, and up to 51 days in YR-5

Table 12 — Authorized Take by Level B Harassment for California and Steller Sea Lions Likely to be in the Project Vicinity

	Total Pile Driving Workdays	Level B Harassment CSL	Level B Harassment SSL
YR-1	25	4,550	75
YR-2	1	182	3
YR-3	34	6,188	102
YR-4	30	5,460	90
YR-5	51	9,282	153

The annual and total number of takes of marine mammal species requested by the USACE and authorized for take by NMFS are shown in table 13.

Table 13 — Authorized Takes by Level A Harassment and Level B Harassment Annually Over 5 Years

Species	Stock	Yr 1		Yr 2		Year 3		Yr 4		Yr 5		5 -Yr Total	
		Level A	Level B	Level A	Level B	Level A	Level B	Level A	Level B	Level A	Level B	Level A	Level B
Harbor Seal	OR/WA Coastal	26	7,301	1	90	17	3,094	30	3,300	26	3,453	87	17,238
California sea lion	U.S.	--	4,550	--	182	--	6,188	--	5,460	--	9,282	--	25,662
Steller sea lion	Eastern	--	75	--	3	-	102	--	90	--	153	--	423

To inform both the negligible impact analysis and the small numbers determination, NMFS assesses the maximum number of takes of marine mammals that could occur within any given year during the effective LOA period. In this calculation, the maximum estimated number of Level A harassment takes in any one year is summed with the maximum estimated number of Level B harassment takes in any one year for each species to yield the highest number of estimated take that could occur in any year (table 14). Table 14 also depicts the number of takes that will be authorized by NMFS relative to the abundance of each stock.

Table 14 — Maximum Number of Authorized Takes (by Level A Harassment and Level B Harassment) that Could Occur in Any One Year of the Project Relative to Stock Population Size

Species	NMFS stock abundance	Maximum Level A harassment	Maximum Level B harassment	Maximum annual take ¹	Total percent stock taken based on maximum annual take
Harbor seal	24,732 ²	30	7,301	7,331	29.6
California sea lion	257,606	--	9,282	9,282	3.6
Steller sea lion	36,308	--	153	153	<0.01

¹ Calculations of the maximum annual take are based on the maximum requested Level A harassment take in any one year + the total requested Level B harassment take in any one year.

² The Oregon/Washington Coastal Stock was most recently estimated at 24,732 harbor seals in 1999 and more recent abundance data is not available (Carretta *et al.*, 2022).

Mitigation

Under section 101(a)(5)(D)(ii) of the MMPA, NMFS must set forth (1) “the permissible methods of taking pursuant to the activity” and (2) “other means of effecting the least practicable impact on the species or stock and its habitat, paying particular attention to rookeries, mating grounds, and areas of similar significance.” NMFS regulations require applicants for incidental take authorizations to include information about “the availability and feasibility (economic and technological) of equipment, methods, and manner of conducting [the] activity or other means of effecting the least

practicable adverse impact upon the affected species or stocks [and] their habitat.” (50 CFR 216.104(a)(11)).

In evaluating how mitigation may or may not be appropriate to ensure the least practicable adverse impact on species or stocks and their habitat, as well as subsistence uses where applicable, NMFS considers 2 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 (*e.g.*, likelihood, scope, range). It further considers the likelihood that the measure will be effective if implemented (*i.e.*, probability of accomplishing the mitigating result if implemented as planned), the likelihood of effective implementation (*i.e.*, probability of being implemented as planned); and

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

The mitigation measures described in the following sections would apply to the USACE in-water construction activities.

Shutdown, Harassment, and Monitoring Zones

USACE will employ shutdown, harassment, and monitoring zones in order to mitigate harm to marine mammals. Shutdown zones are areas in which pile driving will stop if any marine mammal enters and are pictured/identified in table 15. In most impact and pile driving scenarios, the shutdown zones exceed the calculated Level A isopleths, meaning that no marine mammal is expected to enter a shutdown zone except during impact pile driving of 24-in steel piles for phocids (*e.g.* harbor seals) when the calculated Level A harassment isopleth (130.6 m) exceeds the 50-m shutdown zone. There was concern that the potential for seals to enter into a shutdown zone of 130 m would result in frequent delays and could impede the project’s schedule. The shutdown zone will be

established at 50 m for phocid pinnipeds during impact driving of 24-in steel piles to provide adequate protection without unnecessary delay, thereby meeting the statutory “practicable” standard.

Table 15 — Shutdown Zones and Level B Monitoring Zones by Activity

Pile size and type	Shutdown Zone (m)		Level B Harassment (m)
	Phocid	Otariid	
Vibratory Pile driving			
24-in steel pile	50	15	3,981.1
12-in timber pile	60	20	6,309.6
Impact pile driving			
24-in steel pile	50	50	464.2
12-in timber pile	15	15	21.5

Prior to pile driving, PSOs will survey the shutdown zones shown in table 15 and surrounding areas for at least 30 minutes before pile driving activities start. If marine mammals are found within the shutdown zone, pile driving will be delayed until the animal has moved out of the shutdown zone, either verified by a PSO or by waiting until 15 minutes has elapsed without a sighting. If a marine mammal approaches or enters the shutdown zone during pile driving, the activity will be halted. Pile driving may resume after the animal has moved out of the shutdown zone or after at least 15 minutes has passed since the last observation of the animal.

All marine mammals will be monitored in the Level B harassment zone to the extent of visibility for the on-duty PSOs. If a marine mammal for which take is authorized enters the Level B harassment zone, in-water activities will continue and PSOs would document the animal's presence within the estimated harassment zone.

If a species for which authorization has not been granted, or for which the authorized takes are met, is observed approaching or within the Level B harassment zone, pile driving activities will be shut down immediately. Activities would not resume until the animal has been confirmed to have left the area or 15 minutes has elapsed with no

sighting of the animal. If a Shutdown Zone is obscured by fog or other weather/sea conditions that restrict the observers' ability to observe, pile driving will not be initiated or would cease until the entire Shutdown Zone is visible so that monitoring may resume.

PSOs

The placement of PSOs during all pile driving and removal activities (described in detail in the **Monitoring and Reporting** section and Marine Mammal Monitoring Plan) will ensure that the project area is monitored to the maximum extent possible based on the required number of PSOs, required monitoring locations, and environmental conditions.

Pre- and Post-Activity Monitoring

Monitoring must take place from 30 minutes prior to initiation of pile driving activities (*i.e.*, pre-clearance monitoring) through 30 minutes post-completion of pile driving. Prior to the start of daily in-water construction activity, or whenever a break in pile driving of 30 minutes or longer occurs, PSOs will observe the shutdown and monitoring zones for a period of 30 minutes. The shutdown zone will be considered cleared when a marine mammal has not been observed within the zone for a 30-minute period. If a marine mammal is observed within the shutdown zones, pile driving activity will be delayed or halted. If work ceases for more than 30 minutes, the pre-activity monitoring of the shutdown zones will commence. A determination that the shutdown zone is clear must be made during a period of good visibility (*i.e.*, the entire shutdown zone and surrounding waters must be visible to the naked eye).

Bubble Curtain

A bubble curtain must be employed during all impact pile driving activities. The bubble curtain must distribute air bubbles around 100 percent of the piling circumference for the full depth of the water column. The lowest bubble ring must be in contact with the mudline for the full circumference of the ring. The weights attached to the bottom ring

must ensure 100 percent substrate contact. No parts of the ring or other objects may prevent full substrate contact. Air flow to the bubblers must be balanced around the circumference of the pile.

Soft Start

Soft-start procedures are believed to provide additional protection to marine mammals by providing warning and/or giving marine mammals a chance to leave the area prior to the impact hammer operating at full capacity. For impact driving, an initial set of three strikes will be made by the hammer at reduced energy, followed by a 30-second waiting period, then 2 subsequent 3-strike sets before initiating continuous driving. Soft start will be implemented at the start of each day's impact pile driving and at any time following cessation of impact pile driving for a period of 30 minutes or longer.

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

Monitoring and Reporting

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

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

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

Visual Monitoring

Marine mammal monitoring during pile driving and removal associated with this project must be conducted by NMFS-approved PSOs as follows:

- PSOs must be independent of the contractor employed by USACE to conduct the project (*e.g.*, employed by a subcontractor) and have no other assigned tasks during monitoring periods;
- At least one PSO must have prior experience performing the duties of a PSO during construction activity pursuant to a NMFS-issued incidental take authorization;

- Other PSOs may substitute education (*i.e.*, 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;
- Where a team of three or more PSOs is required, a lead observer or monitoring coordinator must be designated. The lead observer must have prior experience performing the duties of a PSO during construction activity pursuant to a NMFS-issued incidental take authorization;
- PSOs must record all observations of marine mammals as described in the Marine Mammal Monitoring Plan, regardless of distance from the pile being driven. PSOs shall document any behavioral reactions in concert with distance from piles being driven or removed.

PSOs must 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: (1) the number and species of marine mammals observed; (2) dates and times when in-water construction activities were conducted; (3) dates, times, and reason for implementation of mitigation (or why mitigation was not implemented when required); and (4) marine mammal behavior; 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.

The USACE must employ a minimum of two PSOs. PSO locations will provide an unobstructed view of all water within the shutdown zone(s) and as much of the Level

A harassment and Level B harassment zones as possible. PSOs will be stationed along the shore of the LCR. One will be located on the closest shoreline or construction barge adjacent to planned pile driving and another observer could be stationed on a publicly accessible shoreline with a different vantage point of the disturbance area or be boat-based.

The USACE will ensure that construction supervisors and crews, the monitoring team, and relevant USACE staff are trained prior to the start of activities subject to the LOA, so that responsibilities, communication procedures, monitoring protocols, and operational procedures are clearly understood. New personnel joining during the project will be trained prior to commencing work. Monitoring will occur for all in-water pile driving activities during the pile installation work window (November 1 to February 28 (or February 29 in a leap year).

Data Collection

PSOs will use approved data forms to record the following information:

- Dates and times (beginning and end) of all marine mammal monitoring;
- PSO locations during marine mammal monitoring;
- Construction activities occurring during each daily observation period, including how many and what type of piles were driven or removed and by what method (*i.e.*, vibratory, impact);
- Weather parameters and water conditions;
- The number of marine mammals observed, by species, relative to the pile location and if pile driving or removal was occurring at time of sighting;
- Distance and bearings of each marine mammal observed to the pile being driven or removed;
- Description of marine mammal behavior patterns, including direction of travel;
- Age and sex class, if possible, of all marine mammals observed; and

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

Reporting

The USACE must submit a draft monitoring report to NMFS within 90 calendar days of the completion of each construction year. A draft comprehensive 5-year summary report must also be submitted to NMFS within 90 days of the end of the effective period of the LOA. The reports must detail the monitoring protocol and summarize the data recorded during monitoring. Final annual reports and the final comprehensive report must be prepared and submitted within 30 days following resolution of any NMFS comments on the draft report. If no comments are received from NMFS within 30 days of receipt of the draft report, the report must be considered final. If comments are received, a final report addressing NMFS comments must be submitted within 30 days after receipt of comments. The marine mammal report would include an overall description of work completed, a narrative regarding marine mammal sightings, and associated PSO data sheets. Specifically, the report must include:

- Dates and times (begin and end) of all marine mammal monitoring;
- Construction activities occurring during each daily observation period, including the number and type of piles driven or removed and by what method (*i.e.*, vibratory driving) and the total equipment duration for cutting for each pile;
- PSO locations during marine mammal monitoring;
- Environmental conditions during monitoring periods (at beginning and end of PSO shift and whenever conditions change significantly), including Beaufort sea state and any other relevant weather conditions including cloud cover, fog, sun glare, and overall visibility to the horizon, and estimated observable distance;

- Upon observation of a marine mammal, the following information: (1) name of PSO who sighted the animal(s) and PSO location and activity at time of sighting; (2) time of sighting; (3) 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; (4) distance and bearing of each marine mammal observed relative to the pile being driven for each sighting (if pile driving was occurring at time of sighting); (5) estimated number of animals (min/max/best estimate); (6) estimated number of animals by cohort (*e.g.*, adults, juveniles, neonates, group composition, *etc.*); (7) animal's closest point of approach and estimated time spent within the harassment zone; and (8) description of any marine mammal behavioral observations (*e.g.*, observed behaviors such as feeding or traveling), including an assessment of behavioral responses thought to have resulted from the activity (*e.g.*, no response or changes in behavioral state such as ceasing feeding, changing direction, flushing, or breaching);
- Number of marine mammals detected within the harassment zones, by species; and
- Detailed information about any implementation of any mitigation triggered (*e.g.*, shutdowns and delays), a description of specific actions that ensued, and resulting changes in behavior of the animal(s), if any.

Reporting Injured or Dead Marine Mammals

In the event that personnel involved in the construction activities discover an injured or dead marine mammal, the USACE will report the incident to the Office of Protected Resources (OPR), NMFS, and to the West Coast regional stranding network as soon as feasible. If the death or injury was clearly caused by the specified activity, the USACE must immediately cease the specified activities until NMFS is able to review the circumstances of the incident and determine what, if any, additional measures are appropriate to ensure compliance with the terms of the LOA. The USACE must not

resume their activities until notified by NMFS. The report must include the following information:

- Time, date, and location (latitude/longitude) of the first discovery (and updated location information if known and applicable);
- Species identification (if known) or description of the animal(s) involved;
- Condition of the animal(s) (including carcass condition if the animal is dead);
- Observed behaviors of the animal(s), if alive;
- If available, photographs or video footage of the animal(s); and
- General circumstances under which the animal was discovered.

Negligible Impact Analysis and Determination

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

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

The analysis that follows applies to California sea lions, Steller sea lions, and harbor seals, given that the anticipated effects of this activity on these different marine mammal stocks are expected to be similar since they have comparable behavioral sensitivities and, therefore, no meaningful differences in terms of likely impacts. 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 as regards the different species.

Vibratory and impact pile driving activities have the potential to disturb or displace marine mammals. Specifically, the project activities may result in take, in the form of Level A harassment and Level B harassment from underwater sounds generated from pile driving and removal. Potential takes could occur if individuals are present in the ensonified zone when these activities are underway.

The takes from Level B harassment would be due to potential behavioral disturbance and TTS. Level A harassment takes would be due to auditory injury. No mortality or serious injury is anticipated given the nature of the activity, even in the absence of the required mitigation. The potential for harassment is minimized through the construction method and the implementation of the required mitigation measures (see **Mitigation** section).

Take would occur within a limited, confined area (the LCR) of the stocks' ranges. The duration and intensity of authorized harassment events would be minimized through use of mitigation measures described herein. Further, the amount of take authorized is small when compared to stock abundance, and the project is not anticipated to impact any known important habitat areas for any marine mammal species.

Take by Level A harassment is authorized for a single species (harbor seal) to account for the potential that an animal could enter and remain within the area between a Level A harassment zone and the shutdown zone for a duration long enough to experience a take via Level A harassment. Limited take by Level A harassment is expected to arise from, at most, a small degree of auditory injury during impact driving, which will only be used briefly to achieve the final 5-ft (1.5 m) of embedment depth for a given pile. Animals would need to be exposed to higher levels and/or longer duration in order to incur any more than a small degree of auditory injury. Additionally, and as noted previously, some subset of the individuals that are behaviorally harassed could also simultaneously incur some small degree of TTS for a short duration of time. Because of the small degree anticipated, though, any auditory injury or TTS potentially incurred here would not be expected to adversely impact individual fitness, let alone annual rates of recruitment or survival.

Marine mammal behavioral responses to pile driving, if any, are expected to be mild and temporary. Marine mammals found within the Level B harassment zone 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 the limited number of piles to be installed per day and that pile driving would occur across a range of 1 to 51 days between November 1 and February 28 or February 29 in a leap year over the 5-year effective period of the LOA, the effects of any harassment would be temporary.

Impacts on marine mammal prey that would occur during the USACE's planned activity 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.

In addition, it is unlikely that minor noise effects in a small, localized area of habitat would have any effect on 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 will have only minor, short-term effects on individuals. The specified activities are not expected to impact rates of recruitment or survival and will therefore not result in population-level impacts.

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

- No serious injury or mortality is anticipated or authorized;
- The intensity of anticipated takes by Level B harassment is relatively low for all stocks and would not be of a duration or intensity expected to result in impacts on reproduction or survival;
- No important habitat areas have been identified within the project area;
- For species authorized for take, the project area is a very small and peripheral part of their range and anticipated habitat impacts are minor;
- The USACE would implement mitigation measures, such as bubble curtains and soft-starts for impact pile driving; and
- Monitoring and shutdowns would minimize the numbers of marine mammals exposed to injurious levels of sound to ensure that take by Level A harassment would result, at most, in a small degree of auditory injury.

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 required monitoring and mitigation measures, NMFS finds that the total marine mammal take from the planned activity will have a negligible impact on all affected marine mammal species or stocks.

Small Numbers

As noted previously, only take of small numbers of marine mammals may be authorized under sections 101(a)(5)(A) and (D) of the MMPA for specified activities other than military readiness activities. The MMPA does not define small numbers and so, in practice, where estimated numbers are available, NMFS compares the maximum number of individuals taken in any year 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 maximum annual number of individuals to be taken is fewer than one-third of the species or stock abundance, the take is considered to be of small numbers. See 86 FR 5322, 5439 (Jan. 19, 2021). Additionally, other qualitative factors may be considered in the analysis, such as the temporal or spatial scale of the activities.

Table 14 demonstrates the maximum number of Level A and Level B harassment events per year. Our analysis shows that no more than 29.6 percent of harbor seals, 3.6 percent of California sea lions and less than 0.01 percent of Steller sea lions could be taken by Level A and Level B harassment. The numbers of animals authorized to be taken for these stocks would be considered small relative to the relevant stock's abundances, even if each estimated taking occurred to a new individual—an extremely unlikely scenario.

Based on the analysis contained herein of the planned activity (including the required mitigation and monitoring measures) and the anticipated take of marine

mammals, NMFS 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.

Adaptive Management

The regulations governing the take of marine mammals incidental to the USACE's construction activities contains an adaptive management component. The reporting requirements associated with this rule are designed to provide NMFS with monitoring data from completed projects to allow consideration of whether any changes are appropriate. The use of adaptive management allows NMFS to consider new information from different sources to determine (with input from the USACE regarding practicability) on an annual or biennial basis if mitigation or monitoring measures should be modified (including additions or deletions). Mitigation measures could be modified if new data suggests that such modifications would have a reasonable likelihood of reducing adverse effects to marine mammals and if the measures are practicable.

The following are some of the possible sources of applicable data could be considered through the adaptive management process: (1) results from monitoring reports, as required by MMPA authorizations; (2) results from general marine mammal and sound research; and (3) any information which reveals that marine mammals may have been taken in a manner, extent, or number not authorized by these regulations or LOAs issues pursuant to these regulations. See § 217.77(c) below.

National Environmental Policy Act

To comply with NEPA (42 U.S.C. 4321 *et seq.*) and NOAA Administrative Order (NAO) 216-6A, NMFS must review our action (*i.e.*, promulgation of regulations and subsequent issuance of a 5-year LOA) 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 determined that the action qualifies to be categorically excluded from further review under NEPA.

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 incidental take authorizations, NMFS consults internally whenever NMFS authorizes take for endangered or threatened species.

No incidental take of ESA-listed species is authorized 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.

Classification

The Office of Management and Budget has determined that this rule is not significant for purposes of Executive Order 12866.

Pursuant to section 605(b) of the Regulatory Flexibility Act (RFA), the Chief Counsel for Regulation of the Department of Commerce certified to the Chief Counsel for Advocacy of the Small Business Administration at the proposed rule stage that this action will not have a significant economic impact on a substantial number of small entities. No comments were received regarding this certification or on the economic impacts of the rule more generally. As a result, a regulatory flexibility analysis is not required and none has been prepared.

This rule does not contain a collection-of-information requirement subject to the provisions of the Paperwork Reduction Act because the applicant is a Federal agency.

List of Subjects in 50 CFR 217

Acoustics, Administrative practice and procedure, Construction, Endangered and threatened species, Marine mammals, Mitigation and Monitoring requirements, Reporting requirements, and Wildlife

Dated: May 5, 2025.

Samuel D. Rauch, III,

Deputy Assistant Administrator for Regulatory Programs,

National Marine Fisheries Service

For the reasons set forth in the preamble, NMFS amends 50 CFR part 217 as follows:

**PART 217—REGULATIONS GOVERNING THE TAKE OF MARINE
MAMMALS INCIDENTAL TO SPECIFIED ACTIVITIES**

1. The authority citation for part 217 continues to read as follows:

Authority: 16 U.S.C. 1361 *et seq.*, unless otherwise noted.

2. Add subpart H to read as follows:

Subpart H – Taking Marine Mammals Incidental to the Lower Columbia River

Dredged Material Management Plan, Oregon and Washington

Sec.

217.70 Specified activity and geographical region.

217.71 Effective dates.

217.72 Permissible methods of taking.

217.73 Prohibitions.

217.74 Mitigation requirements.

217.75 Requirements for monitoring and reporting.

217.76 Letters of Authorization.

217.77 Renewals and modifications of Letters of Authorization.

217.78 - 217.279 [Reserved]

§ 217.70 Specified activity and geographical region.

(a) Regulations in this subpart apply only to the United States Army Corps of Engineers (USACE) and those persons it authorizes or funds to conduct construction activities, including maintenance and replacement of piles, as designated in the Lower Columbia River Dredged Material Management Plan, Oregon and Washington on its behalf that result in the incidental taking of marine mammals that occur in the areas outlined in paragraph (b) of this section. Requirements imposed on the USACE pursuant to this subpart must be implemented by those persons it authorizes or funds to conduct activities on its behalf.

(b) The taking of marine mammals by the USACE may be authorized in a Letter of Authorization (LOA) only if it occurs near the Mouth of the Columbia River in Oregon and Washington.

§ 217.71 Effective dates.

Regulations in this subpart are effective from November 1, 2027, through February 29, 2032.

§ 217.72 Permissible methods of taking.

Under an LOA issued pursuant to § 216.106 of this chapter and § 217.76, the Holder of the LOA (hereinafter “USACE”) may incidentally, but not intentionally, take

marine mammals within the area described in § 217.70 (b) by harassment associated with construction activities, provided the activity is in compliance with all terms, conditions, and requirements of the regulations in this subpart and the applicable LOA.

§ 217.73 Prohibitions.

(a) It is unlawful for any person to do any of the following in connection with the activities described in § 217.70:

(1) Violate, or fail to comply with, the terms, conditions, and requirements of this subpart or a LOA issued under this subpart;

(2) Take any marine mammal not specified in such LOA;

(3) Take any marine mammal specified in such LOA in any manner other than as specified;

(4) Take a marine mammal specified in such LOA after NMFS determines such taking results in more than a negligible impact on the species or stocks of such marine mammal; or

(5) Take a marine mammal specified in such LOA after NMFS determines such taking results in an unmitigable adverse impact on the species or stock of such marine mammal for taking for subsistence uses.

(b) [Reserved]

§ 217.74 Mitigation requirements.

(a) When conducting the activities identified in § 217.70(a), the mitigation measures contained in any LOA issued under this subpart must be implemented. These mitigation measures include but are not limited to:

(1) A copy of the LOA must be in the possession of the USACE, supervisory construction personnel, lead protected species observers (PSOs), and any other relevant designees of the USACE operating under the authority of the LOA at all times that activities subject to the LOA are being conducted.

(2) The USACE shall conduct training for supervisors and crews, the PSO team, and relevant USACE staff prior to the start of construction activity subject to this rule, so that responsibilities, communication procedures, monitoring protocols, and operational procedures are clearly understood. New personnel joining during the project must be trained in the aforementioned matters prior to commencing work.

(3) The USACE must employ PSOs and establish monitoring locations as described in the Marine Mammal Monitoring Plan. The USACE must monitor the harassment zones to the maximum extent possible based on the required number of PSOs, required monitoring locations, and environmental conditions.

(4) Monitoring must take place from 30 minutes prior to initiation of pile driving activity (*i.e.*, pre-start clearance monitoring) through 30 minutes post-completion of pile driving activity.

(5) Pre-start clearance monitoring must be conducted during periods of visibility sufficient for the lead PSO to determine that the shutdown zones are clear of marine mammals. Pile driving may commence following 30 minutes of diligent observation after which it is determined that the shutdown zones are clear of marine mammals.

(6) For all pile driving activity, the USACE must implement shutdown zones with radial distances as identified in a LOA issued under this subpart.

(7) If a marine mammal is observed entering or within the shutdown zones, pile driving activity must be delayed or halted. Pile driving must be commenced or resumed as described in § 217.74(a)(8).

(8) 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 to be beyond the shutdown zone or 15 minutes have passed without re-detection of the animal within the shutdown zone.

(9) The USACE must avoid direct physical interaction with marine mammals during construction activity. If a marine mammal comes within 15 m of such activity, operations must cease and vessels must reduce speed to the minimum level required to maintain steerage and safe working conditions, as necessary, to avoid direct physical interaction.

(10) The USACE must use soft start techniques when impact pile driving. Soft start requires contractors to provide an initial set of three strikes from the hammer at reduced energy, followed by a 30-second waiting period. Then two subsequent reduced-energy strike sets would occur. A soft start must be implemented at the start of each day's impact pile driving and at any time following cessation of impact pile driving for a period of 30 minutes or longer.

(11) The USACE must employ bubble curtain systems during all impact driving except where the water depth is less than 0.67 m (2 ft) in depth. Bubble curtains must meet the following requirements:

(i) The bubble curtain must distribute air bubbles around 100 percent of the piling perimeter for the full depth of the water column.

(ii) The lowest bubble ring must be in contact with the mudline and/or rock bottom for the full circumference of the ring, and the weights attached to the bottom ring shall ensure 100 percent mudline and/or rock bottom contact. No parts of the ring or other objects shall prevent full mudline and/or rock bottom contact.

(iii) The bubble curtain must be operated such that there is equal balancing of air flow to all bubblers.

(12) For all pile driving activities, land-based PSOs must be stationed at the best vantage points practicable to monitor for marine mammals and implement shutdown/delay procedures.

(13) Pile driving activity must be halted upon observation of a species for which either incidental take is not authorized or the authorized number of takes has been met entering or within the harassment zone.

(b) [Reserved]

§ 217.75 Requirements for monitoring and reporting.

(a) The USACE must submit a Marine Mammal Monitoring Plan (Monitoring Plan) to NMFS for approval at least 90 days in advance of construction. Marine mammal monitoring must be conducted in accordance with the conditions in this section and the approved Monitoring Plan.

(b) Monitoring must be conducted by qualified, NMFS-approved PSOs, in accordance with the following conditions:

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

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

(3) Other PSOs may substitute other relevant experience, education (*i.e.*, 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.

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

(5) PSOs must record all observations of marine mammals as described in the Monitoring Plan, regardless of distance from the pile being driven. PSOs shall document any behavioral reactions in concert with distance from piles being driven or removed.

(c) The USACE must establish monitoring locations as described in the Monitoring Plan. For all pile driving activities, a minimum of 1 PSO must be assigned to each active pile driving location to monitor the shutdown zones.

(d) The USACE must submit a draft monitoring report to NMFS within 90 calendar days of the completion of each construction year. A draft comprehensive 5-year summary report must also be submitted to NMFS within 90 days of the end of the project. The reports must detail the monitoring protocol and summarize the data recorded during monitoring. If no comments are received from NMFS within 30 days of receipt of the draft reports, the reports must be considered final. If comments are received, final annual reports and the final comprehensive report addressing NMFS comments must be submitted within 30 days after receipt of comments. The reports must contain the informational elements described at minimum below including:

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

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

(3) PSO locations during marine mammal monitoring;

(4) 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 (if less than the harassment zone distance);

(5) Upon observation of a marine mammal, the following information should be collected:

(i) PSO who sighted the animal, PSO location, and construction activity at time of sighting:

(ii) Time of sighting;

(iii) 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;

(iv) Distances and bearings of each marine mammal observed in relation to the pile being driven for each sighting (if pile driving was occurring at time of sighting);

(v) Minimum, maximum, and best estimated number of animals;

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

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

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

(ix) Number of marine mammals detected within the harassment zones by species.

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

(xi) All PSO datasheets and/or raw sightings data.

(e) In the event that personnel involved in the construction activities discover an injured or dead marine mammal, the USACE must report the incident to NMFS Office of Protected Resources (OPR) and to the West Coast Regional Stranding Coordinator as

soon as feasible. If the death or injury was caused by the specified activity, the USACE must immediately cease the specified activities until NMFS OPR is able to review the circumstances of the incident and determine what, if any, additional measures are appropriate to ensure compliance with the terms of this rule and the LOA issued under § 216.106 and § 217.76. The USACE must not resume their activities until notified by NMFS. The report must include the following information:

- (1) Time, date, and location (latitude/longitude) of the first discovery (and updated location information if known and applicable);
- (2) Species identification (if known) or description of the animal(s) involved;
- (3) Condition of the animal(s) (including carcass condition if the animal is dead);
- (4) Observed behaviors of the animal(s), if alive;
- (5) If available, photographs or video footage of the animal(s); and
- (6) General circumstances under which the animal was discovered.

§ 217.76 Letters of Authorization.

(a) To incidentally take marine mammals pursuant to these regulations, the USACE must apply for and obtain an LOA.

(b) An LOA, unless suspended or revoked, may be effective for a period of time not to exceed the expiration date of these regulations.

(c) If an LOA expires prior to the expiration date of these regulations, the USACE may apply for and obtain a renewal of the LOA.

(d) In the event of projected changes to the activity or to mitigation and monitoring measures required by an LOA, the USACE must apply for and obtain a modification of the LOA as described in § 217.77.

(e) The LOA must set forth the following information:

- (1) Permissible methods of incidental taking;

(2) Means of effecting the least practicable adverse impact (*i.e.*, mitigation) on the species, its habitat, and on the availability of the species for subsistence uses; and

(3) Requirements for monitoring and reporting.

(f) Issuance of the LOA must be based on a determination that the level of taking will be consistent with the findings made for the total taking allowable under these regulations.

(g) Notice of issuance or denial of an LOA must be published in the **Federal Register** within 30 days of a determination.

§ 217.77 Renewals and modifications of Letters of Authorization.

(a) An LOA issued under § 216.106 of this chapter and § 217.76 for the activity identified in § 217.70(a) may be renewed or modified upon request by the applicant, provided that:

(1) The specified activity and mitigation, monitoring, and reporting measures, as well as the anticipated impacts, are the same as those described and analyzed for these regulations; and

(2) NMFS determines that the mitigation, monitoring, and reporting measures required by the previous LOA under these regulations were implemented.

(b) For LOA modification or renewal requests by the applicant that include changes to the activity or the mitigation, monitoring, or reporting that do not change the findings made as the basis of these regulations or result in no more than a minor change in the total estimated number of takes (or distribution by species or years), NMFS may publish a notice of proposed LOA in the **Federal Register**, including the associated analysis of the change, and solicit public comment before issuing the LOA.

(c) An LOA issued under § 216.106 of this chapter and § 217.76 for the activity identified in § 217.70 (a) may be modified by NMFS under the following circumstances:

(1) NMFS may modify (including augment) the existing mitigation, monitoring, or reporting measures (after consulting with USACE regarding the practicability of the modifications) if doing so creates a reasonable likelihood of more effectively accomplishing the goals of the mitigation and monitoring set forth in the preamble for these regulations;

(i) Possible sources of data that could contribute to the decision to modify the mitigation, monitoring, or reporting measures in an LOA:

(A) Results from USACE's monitoring from previous years;

(B) Results from other marine mammal and/or sound research or studies; and

(C) Any information that reveals marine mammals may have been taken in a manner, extent or number not authorized by these regulations or subsequent LOAs; and

(ii) If, through adaptive management, the modifications to the mitigation, monitoring, or reporting measures are substantial, NMFS must publish a notice of proposed LOA in the **Federal Register** and solicit public comment.

(2) If NMFS determines that an emergency exists that poses a significant risk to the well-being of the species or stocks of marine mammals specified in a LOA issued pursuant to § 216.106 of this chapter and § 217.76, a LOA may be modified without prior notice or opportunity for public comment. Notification would be published in the **Federal Register** within 30 days of the action.

§§ 217.78 - 217.79 [Reserved]