implications under Executive Order 12630.

Executive Order 12988 (Civil Justice Reform)

This ANRPM meets applicable standards in sections 3(a) and 3(b)(2) of Executive Order 12988, Civil Justice Reform, to minimize litigation, eliminate ambiguity, and reduce burden.

Executive Order 13045 (Protection of Children)

FTA has analyzed this ANPRM under Executive Order 13045, Protection of Children from Environmental Health Risks and Safety Risks. FTA certifies that this action will not cause an environmental risk to health or safety that might disproportionately affect children.

Executive Order 13175 (Tribal Consultation)

FTA has analyzed this ANPRM under Executive Order 13175, dated November 6, 2000, and believes that it will not have substantial direct effects on one or more Indian tribes; will not impose substantial direct compliance costs on Indian tribal governments; and will not preempt tribal laws. Therefore, a tribal summary impact statement is not required.

Executive Order 13211 (Energy Effects)

FTA has analyzed this action under Executive Order 13211, Actions Concerning Regulations That Significantly Affect Energy Supply, Distribution, or Use. FTA has determined that this action is not a significant energy action under that order and is not likely to have a significant adverse effect on the supply, distribution, or use of energy. Therefore, a Statement of Energy Effects is not required.

Executive Order 12898 (Environmental Justice)

Executive Order 12898 (Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations) and DOT Order 5610.2(a) (77 FR 27534, May 10, 2012) (*https://www.transportation.gov/transportation-policy/environmental-justice/department-transportation-order-56102a*) require DOT agencies to achieve Environmental Justice (EJ) as part of their mission by identifying and addressing, as appropriate, disproportionately high and adverse human health or environmental effects, including interrelated social and economic effects, of their programs, policies, and activities on minority and low-income populations. All DOT agencies must address compliance with Executive Order 12898 and the DOT Order in all rulemaking activities. On August 15, 2012, FTA's Circular 4703.1 became effective, which contains guidance for recipients of FTA financial assistance to incorporate EJ principles into plans, projects, and activities (*https://www.transit.dot.gov/regulations-and-guidance/fta-circulars/environmental-justice-policy-guidance-federal-transit*).

FTA has evaluated this action under the Executive order, the DOT Order, and the FTA Circular and FTA has determined that this action will not cause disproportionately high and adverse human health and environmental effects on minority or low-income populations.

Regulation Identifier Number

A Regulation Identifier Number (RIN) is assigned to each regulatory action listed in the Unified Agenda of Federal Regulations. The Regulatory Information Service Center publishes the Unified Agenda in April and October of each year. The RIN number contained in the heading of this document can be used to cross-reference this rulemaking with the Unified Agenda.

List of Subjects in 49 CFR Part 675

Mass transportation, Safety.

(Authority: 49 U.S.C. 5329; 49 CFR 1.91)

Nuria I. Fernandez,

Administrator.

[FR Doc. 2023–23916 Filed 10–27–23; 8:45 am]

BILLING CODE 4910–57–P

DEPARTMENT OF COMMERCE

National Oceanic and Atmospheric Administration

50 CFR Part 217

[Docket No. 231023–0251]

RIN 0648–BL79

Takes of Marine Mammals Incidental to Specified Activities; Taking Marine Mammals Incidental to the Naval Magazine Indian Island Ammunition Wharf Maintenance and Pile Replacement Project, Puget Sound, Washington

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

ACTION: Proposed rule, request for comments.

SUMMARY: NMFS has received a request from the U.S. Navy (Navy) for authorization to take marine mammals incidental to the maintenance and pile replacement construction activities at the Ammunition Wharf at Naval Magazine (NAVMAG) Indian Island in Puget Sound, Washington, over the course of 5 years (2024–2029). As required by the Marine Mammal Protection Act (MMPA), NMFS is proposing regulations to govern that take, and requests comments on the proposed regulations. NMFS will consider public comments prior to making any final decision on the issuance of the requested MMPA authorization and agency responses will be summarized in the final notice of our decision.

DATES: Comments and information must be received no later than November 29, 2023.

ADDRESSES: You may submit comments on this document, identified by NOAA–NMFS–2023–0122, by the following method:

- *Electronic submission:* Submit all electronic public comments via the Federal e-Rulemaking Portal. Go to *https://www.regulations.gov* and enter NOAA–NMFS–2023–0122 in the Search box, click the ''Comment'' icon, complete the required fields, and enter or attach your comments.

Instructions: Comments sent by any other method, to any other address or individual, or received after the end of the comment period, may not be considered by NMFS. All comments received are a part of the public record and will generally be posted for public viewing on *https://www.regulations.gov* without change. All personal identifying information (*e.g.,* name, address), confidential business information, or otherwise sensitive information submitted voluntarily by the sender will be publicly accessible. NMFS will accept anonymous comments (enter ''N/A'' in the required fields if you wish to remain anonymous). Attachments to electronic comments will be accepted in Microsoft Word, Excel, or Adobe PDF file formats only.

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

SUPPLEMENTARY INFORMATION:

Availability of Navy's Application, Marine Mammal Monitoring Plan, and List of References

A copy of the Navy's application, monitoring plan, 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-taking-marine-mammals-incidental-naval-magazine-indian-island. In case of problems accessing these documents, please call the contact listed above (see **FOR FURTHER INFORMATION CONTACT**).

Purpose and Need for Regulatory Action

This proposed rule, if adopted, would establish a framework under the authority of the MMPA (16 U.S.C. 1361 *et seq.*) to authorize, for a five-year period (2024–2029), take of marine mammals incidental to the Navy's construction activities associated with maintenance and pile replacement at the Ammunition Wharf at NAVMAG Indian Island.

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

Legal Authority for the Proposed Action

Section 101(a)(5)(A) of the MMPA (16 U.S.C. 1371(a)(5)(A)) 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 makes certain findings 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 stocks and their habitat (see the discussion below in the Proposed Mitigation section), as well as monitoring and reporting requirements. Section 101(a)(5)(A) of the MMPA and the implementing regulations at 50 CFR part 216, subpart R provide the legal basis for issuing this proposed rule containing 5-year regulations, and for any subsequent letters of authorization (LOAs). As directed by this legal authority, this proposed rule contains mitigation, monitoring, and reporting requirements.

Summary of Major Provisions Within the Proposed Rule

The following is a summary of the major provisions of this proposed rule regarding Navy construction activities. These provisions include measures requiring:

- 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 driving steel piles.

Background

Section 101(a)(5)(A) of the MMPA (16 U.S.C. 1361 *et seq.*) directs the Secretary of Commerce (as subsequently 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, regulations are issued, and notice is provided to the public.

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), and if the permissible methods of taking and requirements pertaining to the mitigation, monitoring and reporting of the takings are set forth.

NMFS has defined ''negligible impact'' in 50 CFR 216.103 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.

Except with respect to certain activities not pertinent here, 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).

National Environmental Policy Act

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

This action is consistent with categories of activities identified in Categorical Exclusion B4 of the Companion Manual for NOAA Administrative Order 216–6A, which do not individually or cumulatively have the potential for significant impacts on the quality of the human environment and for which we have not identified any extraordinary circumstances that would preclude this categorical exclusion. Accordingly, NMFS has preliminarily determined that the issuance of the proposed rule qualifies to be categorically excluded from further NEPA review.

Information in the Navy's application and this document collectively provide the environmental information related to proposed issuance of these regulations and subsequent incidental take authorization for public review and comment. We will review all comments submitted in response to this notice of proposed rulemaking prior to concluding our NEPA process and prior to making a final decision on the request for incidental take authorization.

Summary of Request

In May 2021, NMFS received a request from the Navy requesting authorization to take small numbers of eight species of marine mammals incidental to construction activities at the Ammunition Wharf at NAVMAG Indian Island. The Navy has requested regulations that would establish a process for authorizing such take via an LOA. NMFS reviewed the Navy's application, and sent initial questions regarding the application to the Navy on October 5, 2021. The Navy addressed the questions and submitted a revised LOA application on March 24, 2022. After additional questions were sent by NMFS, the Navy submitted another revised application on May 13, 2022, and the revised application was deemed adequate and complete on June 9, 2022. The application was published for public review and comment on August 4, 2022 (87 FR 47722). Following publication of the application, the Navy delayed the project start date by 1 year.

The Navy requests authorization to take eight species of marine mammals by Level B harassment. They have also requested authorization to take one of these species by Level A harassment. Neither the Navy nor NMFS expects serious injury or mortality to result from this activity. The proposed regulations would be valid for 5 years (2024–2029).

Description of Proposed Activity

Overview

The Navy proposes to replace defective structural concrete and fender piles as well as conduct maintenance and repair activities on the Ammunition Wharf at NAVMAG Indian Island. Maintaining this wharf structure is vital to sustaining the Navy's mission and ensuring readiness. The Navy proposes to replace up to 118 structural concrete piles or fender piles, conduct maintenance, and engage in repair activities over a 7-year period on the Ammunition Wharf. However, the proposed LOA would only be valid for 5 years. The Navy plans to conduct necessary work, including impact and vibratory pile driving, to replace and maintain the wharf structure. Under the proposed 5-year LOA, up to 110 structurally unsound structural piles or fender piles would be replaced. Structural concrete piles would be replaced with 24-inch concrete piles and old fender piles would be replaced with 14-inch steel H piles or 18.75-inch composite piles. Up to eight steel piles may also be installed in addition to the structural concrete piles if necessary. The 2 years following the expiration of the LOA would consist of removal and installation of concrete piles, and maintenance and repair work. The Navy would request incidental take authorizations as necessary for the final 2 years of work.

Dates and Duration

The proposed regulations would be valid for a period of 5 years from October 1, 2024, until September 30, 2029. All pile driving would be conducted during the prescribed in-water work window of October 1 to January 15 to avoid conducting activities when juvenile salmonids are most likely to be present. A conservative estimate of annual pile driving days over the duration of the 5-year LOA based on the assumption that pile driving rates would be relatively slow would be approximately 24 days per year with up to 22 concrete piles or fender piles, and up to 2 steel piles installed per year. Conservatively, one concrete pile would be installed per day using jetting followed by proofing with an impact hammer. There may be extra days for additional proofing or weather/equipment delays. Actual daily production rates may be higher (often two piles are installed in a day), resulting in fewer actual pile driving days.

Specific Geographic Region

NAVMAG Indian Island is located near Port Hadlock in Jefferson County, Washington, southeast of Port Townsend, at the northeast corner of the Olympic Peninsula (Figure 1). The island is approximately 8 kilometers (km) long and 2 km wide, and comprises approximately 11 km square (km^2). NAVMAG Indian Island is located between Port Townsend Bay and Kilisut Harbor. The Federal Government owns the island and provides an easement on a small portion of the southern extent of the island to Washington State Department of Transportation for access to Marrowstone Island along State Route 116. NAVMAG Indian Island is the West Coast ammunition ordnance storage center supporting the U.S. Navy Pacific Fleet.

NAVMAG Indian Island occupies approximately 19 km of shoreline within Port Townsend Bay. There are two marine structures located at NAVMAG Indian Island, the Ammunition Wharf and the Small Craft Pier, but only the Ammunition Wharf activities are addressed in this proposed rule. Its primary mission is to load, offload, and provide storage and logistics management for ordnance used on Navy vessels.

BILLING CODE 3510–22–P

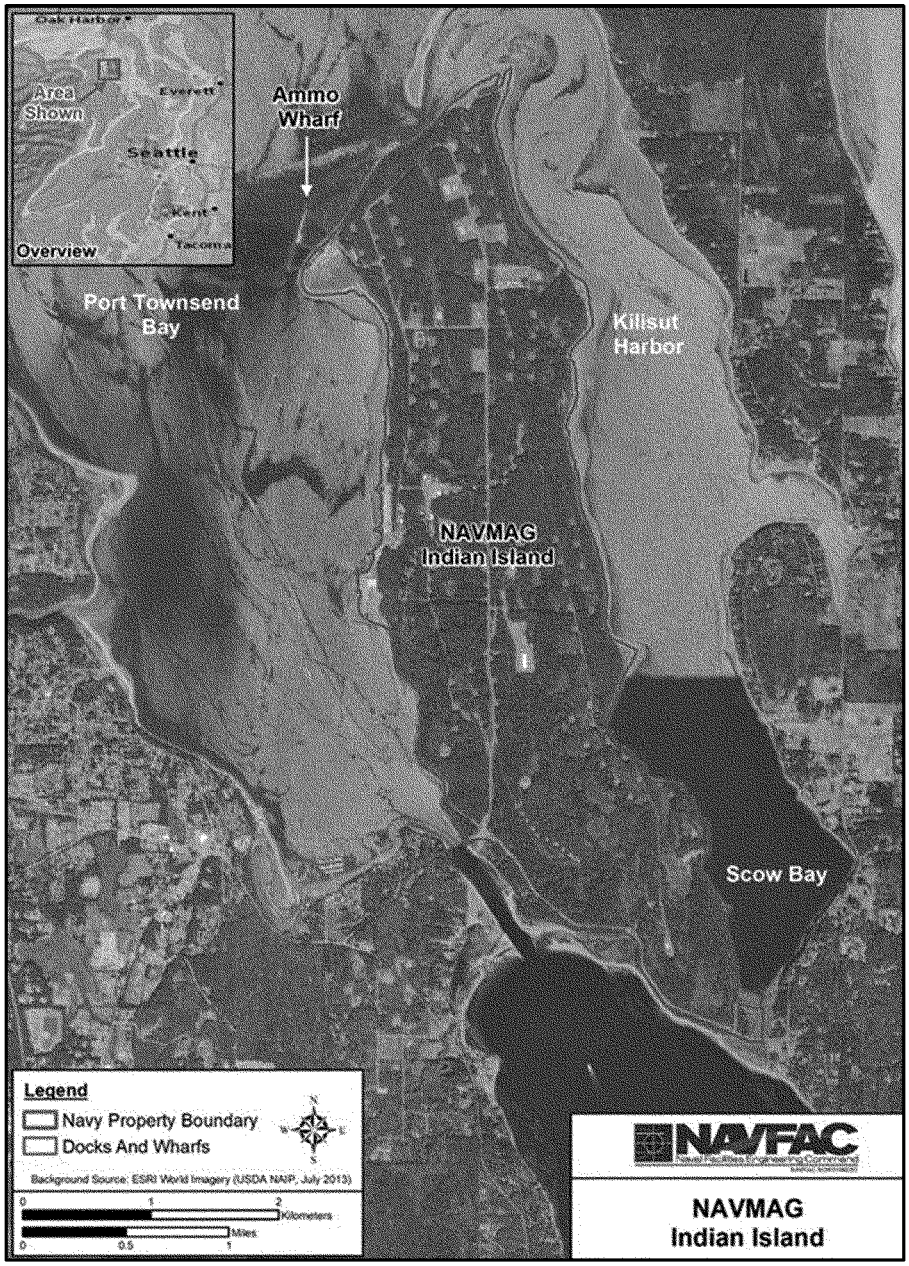

Figure 1 -- Location of Ammunition (Ammo) Wharf on Naval Magazine Indian Island

BILLING CODE 3510–22–C

Detailed Description of the Specified Activity

NAVMAG Indian Island is the West Coast ammunition ordnance storage center supporting the U.S. Navy Pacific Fleet. Its primary mission is to load, offload, and provide storage and logistics management for ordnance used on Navy vessels. Construction of the Ammunition Wharf was completed in 1979, and there are a total of 1,783 piles in the Ammunition Wharf: 1,391 structural piles, 306 fender piles and 86 Operations Building piles.

The Ammunition Wharf was originally constructed using precast concrete piles. As a result of the steam curing process used at that time, an unknown quantity of piling is susceptible to a potentially catastrophic condition called Delayed Ettringite Formation (DEF). DEF is a result of high early temperatures in the concrete, which prevents the normal formation of ettringite. DEF occurs rapidly and without warning.

The Navy schedules inspections on waterfront facilities that usually occur every 3 years, but due to DEF at the Ammunition Wharf, inspections for that structure occur every two years. Based on the most recent inspection in 2021, there are 161 piles (158 under Ammunition Pier and three under the Operations Building at Ammunition Wharf) with some appreciable level of DEF damage (most or all of those piles will be replaced). More piles with DEF damage may be detected and therefore may need to be replaced over the duration of the LOA.

Table 1 shows the details of the proposed construction activities which are described below in greater detail.

TABLE 1—PROJECT COMPONENTS FOR PILE REPLACEMENT FOR THE AMMUNITION WHARF

Wharf structure (in-water construction)	Construction details
Total Piles	Up to 118 piles installed over 5 years (including up to eight steel piles, with the remainder concrete).
Quantity of concrete piles (24-inch)	Up to 22 per year over 5 years.
Quantity of permanent steel piles (36-inch)	Up to 2 per year (Maximum of 8) over 5 years (Currently no steel pile installation is planned, installation would depend on future pile inspections).
Pile Removal Method	Cutting.
Pile Installation Method	Jetting and impact driving of concrete piles; Vibratory and impact driving of steel piles. No simultaneous pile driving will occur.
Quantity of piles above −30 feet MLLW	All.
Maximum number of piles driven per day (approximately)	Two concrete piles per day. One steel pile per day.
Total duration of impact pile driving	No more than 45 minutes per day (mean = 10 minutes for concrete piles; 15 minutes for steel piles).
Maximum duration of vibratory pile driving	No more than 30 minutes (mean = 10 minutes per steel pile).
Marine Construction Duration (including in-water restrictions).	3.5 months per year (In water work window: October 1–January 15).

Removal of Existing Piles

After demolition of the deck portions of the wharf located above the waterline, three methods of pile removal (cutting/chipping, clamshell removal, and direct pull) may be used. However, hydraulic cutting will be the primary method of pile removal due to working under the wharf and the DEF damage to the piles. In some cases, piles may be cut at or below the mudline, with the below-mudline portion of the pile left in place. None of these pile removal activities are anticipated to result in take of marine mammals; therefore, they are not discussed further beyond the brief elaboration on jetting and pile cutting provided below.

Pile Installation

Three methods of pile installation for concrete and steel piles may be used (vibratory, jetting, and impact) depending on the type of pile and site conditions. Only one pile will be installed at a time; no simultaneous pile driving will occur. These methods are described below.

The primary methods of concrete pile installation would be water jetting to within 3 meters (m) of final depth and then impact pile driving to set or proof the final 3 m. Water jetting aids the penetration of a pile into a dense sand or sandy gravel stratum. Water jetting utilizes a carefully directed and pressurized flow of water at the pile tip, which disturbs a ring of soils directly beneath it. The jetting technique liquefies the soils at the pile tip during pile placement, reducing the friction and interlocking between adjacent sub grade soil particles around the water jet. For load-bearing structures, an impact hammer is typically required to strike a pile a number of times to ensure it has met the load-bearing specifications; this is referred to as ''proofing.'' Load-bearing piles installed with water jetting would still need to be proofed with an impact pile driver.

A vibratory hammer may be used to install the structural steel piles and fender piles. The primary method of pile installation for steel piles would be vibratory to within 3 m of final depth and then impact pile driving to set or proof the final 3 m. The vibratory pile driver method is a technique that may be used in pile installation where the substrate allows. Use of this technique may be limited in very hard substrates. This process begins by placing a choker cable around a pile and lifting it into vertical position with a crane. The pile is then lowered into position and set in place at the mudline. The pile is held steady while the vibratory driver installs the pile to the required tip elevation. In some substrates, a vibratory driver may be unable to advance a pile until it reaches the required depth. In these cases, an impact hammer may be used to advance the pile to the required depth.

Impact hammers may be used to proof concrete piles that have been jetted to depth or steel piles that have been driven using the vibratory method. Proofing involves impact pile driving to determine if the pile has been driven to the proper load-bearing specifications within the substrate. Proofing of concrete piles at the Ammunition Wharf in 2015 and 2016 required 200–600 strikes per pile to complete (Navy, 2016).

Impact hammers have a heavy piston that moves up and down striking the top of the pile and driving the pile into the substrate from the downward force of the hammer. Impact hammer pile proofing can typically take a minute or less to 30 minutes depending on pile type, pile size, and conditions (*i.e.,* bedrock, loose soils, *etc.*) to reach the required tip elevation.

The Navy states that piles will be advanced to the extent practicable with a vibratory driver and only impact driven when required for proofing or when a pile cannot be advanced with a vibratory driver due to hard substrate conditions.

Existing piles that are structurally sound may require additional repair activities. Such activities could include wetwell repair; recoating of piles and mooring fittings; installation or replacement of passive cathode protection systems; repair and replacement of pile caps; concrete repair; mooring foundation and substructure repair; replacement of components (*e.g.* hand rails, safety ladders, light poles); and rewrapping or replacement of steel cable straps on dolphins. These repairs are described in greater detail in the Navy's application but would not result in the take of marine mammals and are not discussed further.

Operation of the following equipment types is not reasonably expected to result in take of marine mammals and will not be discussed further beyond the brief summaries provided below:

- Jetting produces much lower sound levels (approximately 147.5 decibel (dB) Root Mean Square (RMS); NAVFAC SW, 2020) than vibratory pile driving 166 dB RMS (Navy, 2015). The sounds produced by jetting are of similar frequencies to the sounds produced by vessels, and are anticipated to diminish to background noise levels (or be masked by background noise levels) in Port Townsend Bay.
- Hydraulic cutting would be used be used to assist with removal of piles. Similar to jetting, the sounds produced by cutting are of similar frequencies to the sounds produced by vessels (NAVFAC SW, 2020), and are anticipated to diminish to background noise levels (or be masked by

background noise levels) in Port Townsend Bay relatively close to the Ammunition Wharf. Cutting of 24-inch concrete piles also produces much lower sound levels (approximately 141.4 decibel (dB) Root Mean Square (RMS); NAVFAC SW, 2020) than vibratory pile driving 166 dB RMS (Navy, 2015).

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

Description of Marine Mammals in the Area of Specified Activities

To characterize potential species occurrence, the Navy's application utilized density information available for Puget Sound, and recent research and survey information conducted on-site or in Puget Sound. The Navy also discussed species occurrence with local species experts and reviewed incidental sighting reports from the Orca Network (Whidbey Island, WA) and Center for Whale Research (Friday Harbor, WA) for verified or reasonably verified species presence, as well as information on seasonal, intermittent, or unusual species occurrences.

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

Table 2 lists all species or stocks for which take is expected and proposed to be authorized for this activity, and summarizes information related to the population or stock, including regulatory status under the MMPA and Endangered Species Act (ESA) and potential biological removal (PBR), where known. PBR is defined by the MMPA as the maximum number of animals, not including natural mortalities, that may be removed from a marine mammal stock while allowing that stock to reach or maintain its optimum sustainable population (as described in NMFS' SARs). While no serious injury or mortality is expected to occur, 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 stocks managed under the MMPA in this region are assessed in NMFS' U.S. Pacific Marine Mammal Stock Assessment Report. All values presented in Table 2 are the most recent available at the time of publication and are available online at: *https://www.fisheries.noaa.gov/national/marine-mammal-protection/marine-mammal-stock-assessments.*

TABLE 2—MARINE MAMMAL SPECIES [4] LIKELY TO OCCUR NEAR THE PROJECT AREA THAT MAY BE TAKEN BY THE NAVY'S ACTIVITIES

Common name	Scientific name	Stock	ESA/MMPA status; strategic (Y/N) [1]	Stock abundance (CV, N_{min}, most recent abundance survey) [2]	PBR	Annual M/SI [3]
Order Artiodactyla—Cetacea—Mysticeti (baleen whales)						
Family Eschrichtiidae:						
Gray Whale	*(Eschrichtius robustus)*	Eastern N Pacific	-,-, N	26,960 (0.05, 25,849, 2016) ..	801	131
Family Balaenopteridae (rorquals):						
Humpback Whale	*Megaptera novaeangliae*	Central America/Southern Mexico-California-Oregon-Washington.	E, D, Y	1,496 (0.171, 1,284, 2021)	3.5	14.9
		Mainland Mexico-California-Oregon-Washington.	T, D, Y	3,477 (0.101, 3,185, 2018)	43	22
		Hawaii	-, -, N	11,278 (0.56, 7,265, 2020)	127	27.09
Minke Whale	*Balaenoptera acutorostrata*	CA/OR/WA	-, -, N	915 (0.792, 509, 2018)	4.1	≥0.59
Odontoceti (toothed whales, dolphins, and porpoises)						
Family Phocoenidae (porpoises):						
Dall's Porpoise	*Phocoenoides dalli*	CA/OR/WA	-, -, N	16,498 (0.61, 10,286, 2019) ..	99	≥0.66
Harbor Porpoise	*Phocoena phocoena*	Washington Inland Waters	-, -, N	11,233 (0.37, 8,308, 2015)	66	≥7.2
Family Delphinidae:						
Killer Whale	*Orcinus orca*	West Coast Transient	-, -, N	349 (N/A, 349, 2018)	3.5	0.4
		Eastern North Pacific Southern Resident.	E, D, Y	74 (N/A, 74, 2021)	0.13	≥0.4
Order Carnivora—Pinnipedia						
Family Otariidae (eared seals and sea lions):						
CA Sea Lion	*Zalophus californianus*	U.S	-, -, N	257,606 (N/A,233,515, 2014)	14011	>320
Steller Sea Lion	*Eumetopias jubatus*	Eastern	-, -, N	43,201 (N/A, 43,201, 2017) ...	2,592	112
Family Phocidae (earless seals):						
Harbor Seal	*Phoca vitulina*	Washington Northern Inland Waters.	-, -, N	11,036 [5] (UNK, UNK, 1999) ...	UND	9.8

TABLE 2—MARINE MAMMAL SPECIES [4] LIKELY TO OCCUR NEAR THE PROJECT AREA THAT MAY BE TAKEN BY THE NAVY'S ACTIVITIES—Continued

Common name	Scientific name	Stock	ESA/ MMPA status; strategic (Y/N) [1]	Stock abundance (CV, N_{min}, most recent abundance survey) [2]	PBR	Annual M/SI [3]
Northern Elephant Seal	*Mirounga angustirostris*	CA Breeding	-, -, N	187,386 (NA, 85,369, 2013) ..	5122	13.7

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

[2] NMFS marine mammal stock assessment reports online at: *https://www.fisheries.noaa.gov/national/marine-mammal-protection/marine-mammal-stock-assessment-reports.* CV is coefficient of variation; Nmin is the minimum estimate of stock abundance.

[3] 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.

[4] Information on the classification of marine mammal species can be found on the web page for The Society for Marine Mammalogy's Committee on Taxonomy (*https://marinemammalscience.org/science-and-publications/list-marine-mammal-species-subspecies/;* Committee on Taxonomy (2022)).

[5] The abundance estimate for this stock is greater than 8 years old and is therefore not considered current. PBR is considered undetermined for this stock, as there is no current minimum abundance estimate for use in calculation. We nevertheless present the most recent abundance estimates, as these represent the best available information for use in this document.

As indicated above, all nine species (with nine managed stocks) in Table 2 temporally and spatially co-occur with the activity to the degree that take is reasonably likely to occur. However, no take is proposed for authorization for killer whales and humpback whales for the reasons provided below.

Southern resident killer whales do occur occasionally in the waters north of NAVMAG Indian Island although as of June 2023 they have not been reported near Port Townsend since December 2020 and then only by hydrophones so the exact locations are unknown (Orca Network, 2023). It is unlikely any would occur close to the Ammunition Wharf. Occurrence in the inland waters are low in the winter through early spring (Orca Network, 2023), when project activities would occur. While critical habitat has been designated in Puget Sound for southern resident killer whales, the designation does not include the Port Townsend/Indian Island/Walan Point naval restricted area which extends out 500 m from the Ammunition Wharf (73 FR 78633; December 23, 2008). In contrast to southern resident killer whales, which exclusively prey on fish, the main diet of transient killer whales consists of marine mammals. Within Puget Sound, transient killer whales primarily hunt pinnipeds and porpoises, though some groups will occasionally target larger whales. The seasonal movements of transients are largely unpredictable, although there is a tendency to investigate harbor seal haulouts off Vancouver Island more frequently during the pupping season in August and September (Baird, 1994; Ford, 2014). The movements and locations of southern resident killer whales are tracked daily by the Center for Whale Research and the Orca Network, therefore, exposures to noise from pile driving can be avoided if southern resident killer whales are known to be near the project area.

Similarly, humpback whales are considered to be regular, but not frequent visitors to Puget Sound, especially south of Admiralty Inlet. Opportunistic sightings primarily occur April through July in Puget Sound, although sightings have been reported in every month of the year. In addition to the timing of the planned activity, which minimizes potential for occurrence of humpback and killer whales, the Navy proposes to implement shutdown procedures for all cetaceans as needed to avoid harassment. For highly visible species, such as large whales, this is expected to be successful in avoiding any potential for take. No take of these species is anticipated or proposed for authorization, and we do not discuss them further.

Gray Whale

Two North Pacific populations of gray whales are formally recognized: the Western Pacific subpopulation (also known as the Western North Pacific or the Korean-Okhotsk population) (WNP) that is critically endangered and the Eastern Pacific population (also known as the Eastern North Pacific or the California-Chukchi population) (ENP) that appears to have recovered from exploitation and was removed from listing under the ESA in 1994 (Carretta *et al.,* 2016). The two populations have historically been considered geographically isolated from each other; however, data from satellite-tracked whales indicate that there is some overlap between the stocks. Two WNP whales were tracked from Russian foraging areas along the Pacific rim to Baja California (Mate *et al.,* 2011), and, in one case where the satellite tag remained attached to the whale for a longer period, a WNP whale was tracked from Russia to Mexico and back again (International Whaling Commission [IWC, 2012]). Between 22–24 WNP whales are known to have occurred in the eastern Pacific through comparisons of ENP and WNP photo-identification catalogs (IWC, 2012; Weller *et al.,* 2012; Burdin *et al.,* 2011). Urban *et al.* (2013) compared catalogs of photo-identified individuals from Mexico with photographs of whales off Russia and reported a total of 21 matches. Therefore, a portion of the WNP population is assumed to migrate, at least in some years, to the eastern Pacific during the winter breeding season. However, it is extremely unlikely that a gray whale in close proximity to NAVMAG Indian Island construction activity would be one of the few WNP whales that have been documented in the eastern Pacific. The likelihood that a WNP whale would be present in the vicinity of the proposed project is insignificant and discountable, and WNP gray whales are omitted from further analysis.

Eastern gray whales, however, are known to migrate along the U.S. West Coast on both their northward and southward migrations. As the majority of gray whales migrate past the Strait of Juan de Fuca in route to or from their feeding or breeding grounds, a few of them enter Washington inland waters to feed (Stout *et al.,* 2001; Calambodkidis *et al.,* 2015). Gray whales are observed in Washington inland waters, including Puget Sound in all months of the year (Calambokidis *et al.,* 2010; Orca Network, 2023) with peak numbers from March through June (Calambokidis *et al.,* 2010, 2015). Fewer than 20 gray whales are documented in the inland waters of Washington and British Columbia each year beginning in

January (Orca Network, 2011, as cited by Washington Department of Fish and Wildlife [WDFW], 2012). Most whales sighted are part of a small regularly occurring group of 6 to 10 gray whales that use mudflats in the Whidbey Island and the Camano Island area as a springtime feeding area (Calambokidis *et al.,* 2010). Gray whales feed on benthic invertebrates, including dense aggregations of ghost shrimp and tubeworms (Weitkamp *et al.,* 1992, Richardson, 1997).

Gray whales that are not identified with the regularly occurring group in the Whidbey Island and Camano Island area are occasionally sighted in Puget Sound. These whales are not associated with feeding areas and are often emaciated (WDFW, 2012). Gray whales are expected to occur in the waters surrounding NAVMAG Indian Island. They are expected to occur primarily from March through June when in-water construction work will not occur. Therefore, some exposure to individual gray whales could occur over the duration of the project; however, project timing will help to minimize potential exposures.

Minke Whale

Minke whales from California to Washington appear to be behaviorally distinct from migratory whales further north (*i.e.,* Alaska stock). Animals from the California, Oregon, and Washington stock, including Washington inland waters are considered ''resident''. Minke whales appear to establish home ranges in the inland waters of Washington (Dorsey, 1983; Dorsey *et al.,* 1990). They are reported in the inland waters year-round, although the majority of the records are from March through November (Calambokidis & Baird, 1994). Minke whales are sighted primarily in the San Juan Islands and Strait of Juan de Fuca but are relatively rare in Puget Sound south of Admiralty Inlet (Orca Network, 2023). In the Strait of Juan de Fuca, individuals move within and between specific feeding areas around submarine banks (Stern *et al.,* 1990). Dorsey *et al.* (1990) noted minke whales feeding in locations of strong tidal currents. Hoelzel *et al.* 16 (1989) reported that 80 percent of feeding observations in the San Juan Islands were over submarine slopes of moderate incline at a depth of about 20 m to 100 m. Three feeding grounds have been identified in the Strait of Juan de Fuca and San Juan Islands area (Osborne *et al.,* 1988; Hoelzel *et al.,* 1989; Dorsey *et al.,* 1990; Stern *et al.,* 1990). There is year-to-year variation in the use of these feeding areas, and other feeding areas probably exist (Osborne *et al.,* 1988; Dorsey *et al.,* 1990). A review of Washington inland water sighting data from January 2005 through August 2012 indicates that Minke whales typically occur as lone individuals or in small groups of two or three (Orca Network, 2023).

No minke whales have been reported in Port Townsend Bay although they have been reported in the Strait of Juan de Fuca and north of Port Townsend and along the western side of Whidbey Island near Smith Island in October (Orca Network, 2023).

Based on the information presented, the number of minke whales potentially present near NAVMAG Indian Island is expected to be very low in October and unlikely from November through February (Orca Network, 2023).

Dall's Porpoise

Dall's porpoise is one of the most common odontocete species in North Pacific waters (Jefferson, 1991; 2 Ferrero & Walker, 1999; Calambokidis & Barlow, 2004; Williams & Thomas, 2007). Dall's porpoise is found from northern Baja California, Mexico, north to the northern Bering Sea and south to southern Japan (Jefferson *et al.,* 1993). However, the species is only common between 32° N lat. and 62° N lat. in the eastern North Pacific (Morejohn, 1979; Houck & Jefferson, 1999). Dall's porpoise are found in outer continental shelf, slope, and oceanic waters, typically in temperatures less than 17 °C (Houck & Jefferson, 1999; Reeves *et al.,* 2002; Jefferson *et al.,* 2015).

Dall's porpoises may occur in Washington inland waters year-round, but appear to be very rare (Evenson *et al.,* 2016). Extensive aerial surveys conducted in Puget Sound and Hood Canal in all seasons from 2013–2015 logged only one sighting of one individual (Jefferson *et al.,* 2016). Only four Dall's porpoise were detected in aerial surveys of the northern inland waters of Washington (Strait of Juan de Fuca, San Juan Islands, Strait of Georgia) during spring 2015 (Smultea *et al.,* 2015). Additional sightings have been reported in the Strait of Juan de Fuca and Haro Strait between San Juan Island and Vancouver Island (Nysewander *et al.,* 2005; Orca Network, 2023). Tagging studies suggest Dall's porpoises seasonally move between the Haro Strait area and the Strait of Juan de Fuca or farther west (Hanson *et al.,* 1998).

Dall's porpoise were detected in Puget Sound during aerial surveys in winter (1993–2008) and summer (1992–1999) (Nysewander *et al.,* 2005; WDFW, 2008), with additional observations reported to Orca Network (2023). During the surveys, Dall's porpoise were sighted in Puget Sound as far south as Carr Inlet in southern Puget Sound and as far north as Saratoga Passage, north of Naval Station (NAVSTA) Everett (Nysewander *et al.,* 2005; WDFW, 2008). Recent extensive aerial surveys of Puget Sound and Hood Canal during 2013–2015 detected only one individual (Jefferson *et al.,* 2016), but did not specify its location. The number of Dall's porpoises potentially present near NAVMAG Indian Island is expected to be very low in any month.

Harbor Porpoise

In Washington inland waters, harbor porpoise are known to occur in the Strait of Juan de Fuca and the San Juan Islands area year-round (Calambokidis and Baird, 1994; Osmek *et al.,* 1996; Carretta *et al.,* 2012). Harbor porpoises were historically one of the most commonly observed marine mammals in Puget Sound (Scheffer and Slipp, 1948); however, there was a significant decline in sightings beginning in the 1940s (Everitt *et al.,* 1979; Calambokidis *et al.,* 1992). Only a few sightings were reported between the 1970s and 1980s (Calambokidis *et al.,* 1992; Osmek *et al.,* 1996; Raum-Suryan and Harvey, 1998), and no harbor porpoise sightings were recorded during multiple ship and aerial surveys conducted in Puget Sound (including Hood Canal) in 1991 and 1994 (Calambokidis *et al.,* 1992; Osmek *et al.,* 1996).

Incidental sightings of marine mammals during aerial bird surveys conducted as part of the Puget Sound Ambient Monitoring Program (PSAMP) detected few harbor porpoises in Puget Sound between 1992 and 1999 (Nysewander *et al.,* 2005). However, these sightings may have been negatively biased due to the low elevation of the plane, which may have caused an avoidance behavior. Since 1999, PSAMP data, stranding data, and aerial surveys conducted from 2013 to 2016 documented increasing numbers of harbor porpoise in Puget Sound, indicating that the species is increasing in the area (Nysewander, 2008; WDFW, 2008; Jeffries, 2013; Smultea *et al.,* 2017).

Little information is available on harbor porpoise occurrence outside of Hood Canal and no site-specific information is available for NAVMAG Indian Island. No harbor porpoises have been reported in Port Townsend Bay although they have been reported just north of Port Townsend and along Marrowstone Island as they move south into Puget Sound (Orca Network, 2023). Based on the information presented, the number of harbor porpoises present near

NAVMAG Indian Island is expected to be very low in any month and even lower in winter months.

California Sea Lion

During the summer, California sea lions breed on islands from the Gulf of California to the Channel Islands and forage in the Southern California Bight. The primary rookeries are located on the California Channel Islands of San Miguel, San Nicolas, Santa Barbara, and San Clemente. In the nonbreeding season, adult and subadult males migrate northward along the coast to central and northern California, Oregon, Washington, and Vancouver Island, and return south in the spring (DeLong *et al.,* 2017; Weise and Harvey, 2008). Primarily male California sea lions migrate into northwest waters with most adult females with pups remaining in waters near their breeding rookeries off the coasts of California and Mexico (Melin *et al.,* 2000; Lowry and Maravilla-Chavez, 2005; Kuhns and Costa., 2014; Lowry *et al.,* 2017). California sea lions also enter bays, harbors, and river mouths and often haul out on artificial structures such as piers, jetties, offshore buoys, and oil platforms.

Jeffries *et al.* (2000) and Jeffries (2012 personal communication) identified dedicated, regular haulouts used by adult and sub-adult California sea lions in Washington inland waters (See Figure 4–1 in the Navy's application). California sea lions are typically present most of the year except for mid-June through July in Washington inland waters, with peak abundance between October and May (NMFS, 1997; Jeffries *et al.,* 2000). California sea lions would be expected to forage within the area, following local prey availability.

Steller Sea Lion

The eastern stock of Steller sea lions is found along the coasts of southeast Alaska to northern California where they occur at rookeries and numerous haulout locations along the coastline (Jeffries *et al.,* 2000; Scordino, 2006). Male Steller sea lions often disperse widely outside of the breeding season from breeding rookeries in northern California (*e.g.,* St. George Reef) and southern Oregon (*e.g.,* Rogue Reef) (Scordino, 2006; Wright *et al.,* 2010). Based on mark recapture sighting studies, males migrate back into these Oregon and California locations from winter feeding areas in Washington, British Columbia, and Alaska (Scordino, 2006).

In Washington, Steller sea lions use haulout sites primarily along the outer coast from the Columbia River to Cape Flattery, as well as along the Vancouver Island side of the Strait of Juan de Fuca (Jeffries *et al.,* 2000). A major winter haulout is located in the Strait of Juan de Fuca at Race Rocks, British Columbia, Canada (Canadian side of the Strait of Juan de Fuca) (Edgell & Demarchi, 2012). Numbers vary seasonally in Washington with peak numbers present during the fall and winter months and a decline in the summer months that corresponds to the breeding season at coastal rookeries (approximately late May to early June) (Jeffries *et al.,* 2000). In Puget Sound, Jeffries (2012 personal communication) identified five winter haulout sites used by adult and subadult (immature or pre-breeding animals) Steller sea lions, ranging from immediately south of Port Townsend (near Admiralty Inlet) to Olympia in southern Puget Sound (see Figure 4–1 in the Navy's application). Numbers of animals observed at these sites ranged from a few to less than 100 (Jeffries, 2012 personal communication). In addition, Steller sea lions opportunistically haul out on various navigational buoys in Admiralty Inlet south through southern Puget Sound near Olympia (Jeffries, 2012 personal communication). One or two animals occur on these buoys.

No haulouts are known in the immediate vicinity of NAVMAG Indian Island; therefore, no shore-based surveys have been conducted there and no opportunistic sightings have been reported. The nearest Steller sea lion haul-outs to NAVMAG Indian Island is located on the east side of Marrowstone Island, approximately 7 km away (Figure 4–1 in the Navy's application). Monitoring during pile driving in 2015 and 2016 did not observe any Steller sea lions hauled out on the Port Security Barrier or swimming through the area (Navy, 2014, 2016, 2021). Therefore, Steller sea lions are expected to be rare in the waters off NAVMAG Indian Island.

Northern Elephant Seal

The northern elephant seal occurs almost exclusively in the eastern and central North Pacific. Rookeries are located from central Baja California, Mexico, to northern California (Stewart & Huber, 1993). Adult elephant seals engage in two long migrations per year, one following the breeding season, and another following the annual molt (Stewart and DeLong, 1995; Robinson *et al.,* 2012). Between the two foraging periods they return to land to molt with females returning earlier than males (March through April versus July through August). After the molt, adults then return to their northern feeding areas until the next winter breeding season. Breeding occurs from December to March (Stewart & Huber, 1993). Juvenile elephant seals typically leave the rookeries in April or May and head north, traveling an average of 900 to 1,000 km. Most elephant seals return to their natal rookeries when they start breeding (Huber *et al.,* 1991). Their foraging range extends thousands of miles offshore into the central North Pacific. Adults tend to stay offshore, but juveniles and subadults are often seen along the coasts of Oregon, Washington, and British Columbia (Condit & Le Boeuf, 1984; Stewart & Huber, 1993).

In Washington inland waters, there are regular haulout sites in the Strait of Juan de Fuca at Smith and Minor Islands, Dungeness Spit, and Protection Island that are thought to be used year-round (Jeffries *et al.,* 2000; Jeffries, 2012 personal communication) (Figure 4–1 in the Navy's application). Pupping has occurred at these sites, as well as Race Rocks on the British Columbia side of the Strait of Juan de Fuca (Jeffries, 2012 personal communication).

No haulouts occur in Puget Sound with the exception of individual elephant seals occasionally hauling out for 2 to 4 weeks to molt, usually during the spring and summer and typically on sandy beaches (Calambokidis & Baird, 1994). These animals are usually yearlings or subadults and their haulout locations are unpredictable. Although regular haul-outs occur in the Strait of Juan de Fuca, the occurrence of elephant seals in Puget Sound is unpredictable and rare.

Pacific Harbor Seal

Harbor seals are a coastal species, rarely found more than 21 km from shore, and frequently occupy bays, estuaries, and inlets (Baird, 2001). Individual seals have been observed several kilometers upstream in coastal rivers (Baird, 2001). Ideal harbor seal habitat includes haul-out sites, shelter during the breeding periods, and sufficient food (Bjørge, 2002). Harbor seals generally do not make extensive pelagic migrations (*i.e.,* less than 50 km; Baird, 2001), Harbor seals have also displayed strong fidelity to haul-out sites.

Harbor seals are the most common, widely distributed marine mammal found in Washington marine waters and are frequently observed in the nearshore marine environment. They occur year-round and breed in Washington. Numerous harbor seal haulouts occur in Washington inland waters (Figure 4–1 in the Navy's application). Haulouts include intertidal and subtidal rock outcrops, beaches, reefs, sandbars, log

booms, and floats. Numbers of individuals at haul-outs range from a few to between 100 and 500 individuals (Jeffries *et al.,* 2000). Harbor seals are expected to occur year-round, the nearest documented haul-out to NAVMAG Indian Island is Rat Island at the north end of NAVMAG Indian Island approximately 2.4 km from the Ammunition Wharf. The haulout at Rat Island is estimated to have less than 100 individuals (Jeffries, 2012 personal communication).

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.*). Note that no direct measurements of hearing ability have been successfully completed for mysticetes (*i.e.,* low-frequency cetaceans). Subsequently, NMFS (2018) described generalized hearing ranges for these marine mammal hearing groups. Generalized hearing ranges were chosen based on the approximately 65 decibel (dB) threshold from the normalized composite audiograms, with the exception for lower limits for low-frequency cetaceans where the lower bound was deemed to be biologically implausible and the lower bound from Southall *et al.* (2007) retained. Marine mammal hearing groups and their associated hearing ranges are provided in Table 3.

TABLE 3—MARINE MAMMAL HEARING GROUPS

[NMFS, 2018]

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

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

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

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

Potential Effects of Specified Activities on Marine Mammals and Their Habitat

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

Acoustic effects on marine mammals during the specified activities can occur from impact pile driving and vibratory driving and removal. The effects of underwater noise from the Navy's proposed activities have the potential to result in Level A or Level B harassment of marine mammals in the action areas.

Description of Sound Sources

The marine soundscape is comprised of both ambient and anthropogenic sounds. Ambient sound is defined as the all-encompassing sound in a given place and is usually a composite of sound from many sources both near and far (American National Standards Institute [ANSI], 1995). The sound level of an area is defined by the total acoustical energy being generated by known and unknown sources. These sources may include physical (*e.g.,* waves, wind, precipitation, earthquakes, ice, atmospheric sound), biological (*e.g.,* sounds produced by marine mammals, fish, and invertebrates), and anthropogenic sound (*e.g.,* vessels, dredging, aircraft, construction).

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

In-water construction activities associated with the projects would include impact and vibratory pile installation and vibratory removal. The sounds produced by these activities fall into one of two general sound types: impulsive and non-impulsive. Impulsive sounds (*e.g.,* explosions,

sonic booms, impact pile driving) are typically transient, brief (less than 1 second), broadband, and consist of high peak sound pressure with rapid rise time and rapid decay (ANSI, 1986; National Institute for Occupational Safety and Health [NIOSH], 1998; NMFS, 2018). Non-impulsive sounds (*e.g.,* machinery operations such as drilling or dredging, vibratory pile driving, underwater chainsaws, and active sonar systems) can be broadband, narrowband or tonal, brief or prolonged (continuous or intermittent), and typically do not have the high peak sound pressure with raid rise/decay time that impulsive sounds do (ANSI 1995; NIOSH 1998; NMFS 2018). The distinction between these two sound types is important because they have differing potential to cause physical effects, particularly with regard to hearing (*e.g.,* Ward 1997 in Southall *et al.,* 2007).

Two types of hammers would be used on these projects, impact and vibratory. Impact hammers operate by repeatedly dropping and/or pushing a heavy piston onto a pile to drive the pile into the substrate. Sound generated by impact hammers is considered impulsive. Vibratory hammers install piles by vibrating them and allowing the weight of the hammer to push them into the sediment. Vibratory hammers produce non-impulsive, continuous sounds. Vibratory hammering generally produces sound pressure levels (SPLs) 10 to 20 dB lower than impact pile driving of the same-sized pile (Oestman *et al.,* 2009). Rise time is slower, reducing the probability and severity of injury, and sound energy is distributed over a greater amount of time (Nedwell and Edwards, 2002; Carlson *et al.,* 2005).

The likely or possible impacts of the Navy's proposed activities on marine mammals could be generated from both non-acoustic and acoustic stressors. Potential non-acoustic stressors include the physical presence of the equipment, vessels, and personnel; however, we expect that any animals that approach the project site(s) close enough to be harassed due to the presence of equipment or personnel would be within the Level B harassment zones from pile driving and would already be subject to harassment from the in-water activities. Therefore, any impacts to marine mammals are expected to primarily be acoustic in nature. Acoustic stressors are generated by heavy equipment operation during pile installation and removal (*i.e.,* impact and vibratory pile driving and removal).

Acoustic Impacts

The introduction of anthropogenic noise into the aquatic environment from pile driving equipment is the primary means by which marine mammals may be harassed from the Navy's specified activities. In general, animals exposed to natural or anthropogenic sound may experience physical and psychological effects, ranging in magnitude from none to severe (Southall *et al.,* 2007). Generally, exposure to pile driving and removal and other construction noise has the potential to result in auditory threshold shifts and behavioral reactions (*e.g.,* avoidance, temporary cessation of foraging and vocalizing, changes in dive behavior). Exposure to anthropogenic noise can also lead to non-observable physiological responses such as an increase in stress hormones. Additional noise in a marine mammal's habitat can mask acoustic cues used by marine mammals to carry out daily functions such as communication and predator and prey detection. The effects of pile driving and demolition noise on marine mammals are dependent on several factors, including, but not limited to, sound type (*e.g.,* impulsive vs. non-impulsive), the species, age and sex class (*e.g.,* adult male vs. mother with calf), duration of exposure, the distance between the pile and the animal, received levels, behavior at time of exposure, and previous history with exposure (Wartzok *et al.,* 2004; Southall *et al.,* 2007). Here we discuss physical auditory effects (threshold shifts) followed by behavioral effects and potential impacts on habitat. No physiological effects other than permanent threshold shift (PTS) (discussed below) are anticipated or proposed to be authorized, and therefore are not discussed further.

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

Permanent Threshold Shift (PTS)—NMFS defines PTS as a permanent, irreversible increase in the threshold of audibility at a specified frequency or portion of an individual's hearing range above a previously established reference level (NMFS 2018). Available data from humans and other terrestrial mammals indicate that a 40 dB TS approximates PTS onset (see Ward *et al.,* 1958, 1959; Ward, 1960; Kryter *et al.,* 1966; Miller, 1974; Ahroon *et al.,* 1996; Henderson *et al.,* 2008). PTS levels for marine mammals are estimates, because there are limited empirical data measuring PTS in marine mammals (*e.g.,* Kastak *et al.,* 2008), largely due to the fact that, for various ethical reasons, experiments involving anthropogenic noise exposure at levels inducing PTS are not typically pursued or authorized (NMFS, 2018).

Temporary Threshold Shift (TTS)—A temporary, reversible increase in the threshold of audibility at a specified frequency or portion of an individual's hearing range above a previously established reference level (NMFS, 2018). Based on data from cetacean TTS measurements (see Southall *et al.,* 2007), a TTS of 6 dB is considered the minimum TS shift clearly larger than any day-to-day or session-to-session variation in a subject's normal hearing ability (Schlundt *et al.,* 2000; Finneran *et al.,* 2000, 2002). As described in Finneran (2016), marine mammal studies have shown the amount of TTS increases with cumulative sound exposure level (SEL_{cum}) in an accelerating fashion: At low exposures with lower SEL_{cum}, the amount of TTS is typically small and the growth curves have shallow slopes. At exposures with higher SEL_{cum}, the growth curves become steeper and approach linear relationships with the noise SEL.

Depending on the degree (elevation of threshold in dB), duration (*i.e.,* recovery time), and frequency range of TTS, and the context in which it is experienced, TTS can have effects on marine mammals ranging from discountable to serious (similar to those discussed in auditory masking, below). For example, a marine mammal may be able to readily compensate for a brief, relatively small amount of TTS in a non-critical frequency range that takes place during a time when the animal is traveling through the open ocean, where ambient noise is lower and there are not as many

competing sounds present. Alternatively, a larger amount and longer duration of TTS sustained during time when communication is critical for successful mother/calf interactions could have more serious impacts. We note that reduced hearing sensitivity as a simple function of aging has been observed in marine mammals, as well as humans and other taxa (Southall *et al.,* 2007), so we can infer that strategies exist for coping with this condition to some degree, though likely not without cost.

Currently, TTS data only exist for four species of cetaceans (bottlenose dolphin, beluga whale (*Delphinapterus leucas*), harbor porpoise, and Yangtze finless porpoise (*Neophocoena asiaeorientalis*)) and five species of pinnipeds exposed to a limited number of sound sources (*i.e.,* mostly tones and octave-band noise) in laboratory settings (Finneran, 2015). TTS was not observed in trained spotted (*Phoca largha*) and ringed (*Pusa hispida*) seals exposed to impulsive noise at levels matching previous predictions of TTS onset (Reichmuth *et al.,* 2016). In general, harbor seals and harbor porpoises have a lower TTS onset than other measured pinniped or cetacean species (Finneran, 2015). The potential for TTS from impact pile driving exists. After exposure to playbacks of impact pile driving sounds (rate 2,760 strikes/hour) in captivity, mean TTS increased from 0 dB after 15 minute exposure to 5 dB after 360 minute exposure; recovery occurred within 60 minutes (Kastelein *et al.,* 2016). Additionally, the existing marine mammal TTS data come from a limited number of individuals within these species. No data are available on noise-induced hearing loss for mysticetes. For summaries of data on TTS in marine mammals or for further discussion of TTS onset thresholds, please see Southall *et al.* (2007), Finneran and Jenkins (2012), Finneran (2015), and Table 5 in NMFS (2018).

The Navy proposes to use impact pile driving to install some piles for these projects. There would likely be pauses in activities producing the sound (*e.g.,* impact pile driving) during each day. Given these pauses and the fact that many marine mammals are likely moving through the project areas and not remaining for extended periods of time, the potential for TS declines.

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

Disturbance may result in changing durations of surfacing and dives, number of blows per surfacing, or moving direction and/or speed; reduced/increased vocal activities; changing/cessation of certain behavioral activities (such as socializing or feeding); visible startle response or aggressive behavior (such as tail/fluke slapping or jaw clapping); or avoidance of areas where sound sources are located. Pinnipeds may increase their haulout time, possibly to avoid in-water disturbance (Thorson and Reyff, 2006). Behavioral responses to sound are highly variable and context-specific and any reactions depend on numerous intrinsic and extrinsic factors (*e.g.,* species, state of maturity, experience, current activity, reproductive state, auditory sensitivity, time of day), as well as the interplay between factors (*e.g.,* Richardson *et al.,* 1995; Wartzok *et al.,* 2004; Southall *et al.,* 2007; Weilgart, 2007; Archer *et al.,* 2010). Behavioral reactions can vary not only among individuals but also within an individual, depending on previous experience with a sound source, context, and numerous other factors (Ellison *et al.,* 2012), and can vary depending on characteristics associated with the sound source (*e.g.,* whether it is moving or stationary, number of sources, distance from the source). In general, pinnipeds seem more tolerant of, or at least habituate more quickly to, potentially disturbing underwater sound than do cetaceans, and generally seem to be less responsive to exposure to industrial sound than most cetaceans. Please see Appendices B and C of Southall *et al.* (2007) for a review of studies involving marine mammal behavioral responses to sound.

Disruption of feeding behavior can be difficult to correlate with anthropogenic sound exposure, so it is usually inferred by observed displacement from known foraging areas, the appearance of secondary indicators (*e.g.,* bubble nets or sediment plumes), or changes in dive behavior. As for other types of behavioral response, the frequency, duration, and temporal pattern of signal presentation, as well as differences in species sensitivity, are likely contributing factors to differences in response in any given circumstance (*e.g.,* Croll *et al.,* 2001; Nowacek *et al.,* 2004; Madsen *et al.,* 2006; Yazvenko *et al.,* 2007). A determination of whether foraging disruptions incur fitness consequences would require information on or estimates of the energetic requirements of the affected individuals and the relationship between prey availability, foraging effort and success, and the life history stage of the animal.

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

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

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

Relationships between these physiological mechanisms, animal behavior, and the costs of stress responses are well-studied through controlled experiments and for both laboratory and free-ranging animals (*e.g.,* Holberton *et al.,* 1996; Jessop *et al.,* 2003; Krausman *et al.,* 2004; Lankford *et al.,* 2005). Stress responses due to exposure to anthropogenic sounds or other stressors and their effects on marine mammals have also been reviewed (Fair and Becker, 2000; Romano *et al.,* 2002b) and, more rarely, studied in wild populations (*e.g.,* Romano *et al.,* 2002a). For example, Rolland *et al.* (2012) found that noise reduction from reduced ship traffic in the Bay of Fundy was associated with decreased stress in North Atlantic right whales. These and other studies lead to a reasonable expectation that some marine mammals will experience physiological stress responses upon exposure to acoustic stressors and that it is possible that some of these would be classified as ''distress.'' In addition, any animal experiencing TTS would likely also experience stress responses (NRC, 2003), however distress is an unlikely result of these projects based on observations of marine mammals during previous, similar projects in the area.

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

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

Airborne noise would primarily be an issue for pinnipeds that are swimming or hauled out near the project site within the range of noise levels elevated above the acoustic criteria. We recognize that pinnipeds in the water could be exposed to airborne sound that may result in behavioral harassment when looking with their heads above water. Most likely, airborne sound would cause behavioral responses similar to those discussed above in relation to underwater sound. For instance, anthropogenic sound could cause hauled out pinnipeds to exhibit changes in their normal behavior, such as reduction in vocalizations, or cause them to temporarily abandon the area and move further from the source. However, these animals would likely previously have been taken because of exposure to underwater sound above the behavioral harassment thresholds, which are generally larger than those associated with airborne sound. There are no haulouts in close proximity to the project site. Thus, the behavioral harassment of these animals is already accounted for in these estimates of potential take. Therefore, we do not believe that authorization of incidental take resulting from airborne sound for pinnipeds is warranted, and airborne sound is not discussed further here.

Marine Mammal Habitat Effects

The Navy's proposed construction activities could have localized, temporary impacts on marine mammal habitat, including prey, by increasing in-water sound pressure levels and slightly decreasing water quality. Increased noise levels may affect acoustic habitat (see masking discussion above) and adversely affect marine mammal prey in the vicinity of the project areas (see discussion below). During impact and vibratory pile driving or removal, elevated levels of underwater noise would ensonify the project areas where both fishes and mammals occur and could affect foraging success. Additionally, marine mammals may avoid the area during construction, however, displacement due to noise is expected to be temporary and is not expected to result in long-term effects to the individuals or populations. Construction activities are of short duration and would likely have temporary impacts on marine mammal habitat through increases in underwater and airborne sound.

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

In-Water Construction Effects on Potential Foraging Habitat—The area likely impacted by the project is relatively small compared to the available habitat in Port Townsend Bay and the larger Puget Sound. The area is highly influenced by anthropogenic activities. The total seafloor area affected by pile installation and removal is a small area compared to the vast foraging area available to marine mammals in the area. At best, the impact area provides marginal foraging habitat for marine mammals and fishes. Furthermore, pile driving and removal at the project site would not obstruct long-term movements or migration of marine mammals.

Avoidance by potential prey (*i.e.,* fish or, in the case of transient killer whales, other marine mammals) of the immediate area due to the temporary loss of this foraging habitat is also possible. The duration of fish and marine mammal avoidance of this area after pile driving stops is unknown, but a rapid return to normal recruitment, distribution, and behavior is anticipated. Any behavioral avoidance

by fish or marine mammals of the disturbed area would still leave significantly large areas of fish and marine mammal foraging habitat in the nearby vicinity.

In-Water Construction Effects on Potential Prey—Sound may affect marine mammals through impacts on the abundance, behavior, or distribution of prey species (*e.g.,* crustaceans, cephalopods, fish, zooplankton, other marine mammals). Marine mammal prey varies by species, season, and location. Here, we describe studies regarding the effects of noise on known marine mammal prey other than other marine mammals (which have been discussed earlier).

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

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

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

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

Construction activities, in the form of increased turbidity, have the potential to adversely affect forage fish in the project areas. Forage fish form a significant prey base for many marine mammal species that occur in the project areas. Increased turbidity is expected to occur in the immediate vicinity (on the order of 10 ft (3 m) or less) of construction activities. However, suspended sediments and particulates are expected to dissipate quickly within a single tidal cycle. Given the limited area affected and high tidal dilution rates any effects on forage fish are expected to be minor or negligible. Finally, exposure to turbid waters from construction activities is not expected to be different from the current exposure; fish and marine mammals in the project area are routinely exposed to substantial levels of suspended sediment from natural and anthropogenic sources.

In summary, given the brief and intermittent duration (24 days between October 1 and January 15) of sound associated with individual pile driving events and the relatively small areas being affected, pile driving activities associated with the proposed actions are not likely to have a permanent, adverse effect on any fish habitat, or populations of fish species. Any behavioral avoidance by fish of the disturbed area would still leave significantly large areas of fish and marine mammal foraging habitat in the nearby vicinity. Thus, we conclude that impacts of the specified activities are not likely to have more than short-term adverse effects on any prey habitat or populations of prey species. Further, any impacts to marine mammal habitat are not expected to result in significant or long-term consequences for individual marine mammals, or to contribute to adverse impacts on their populations.

Estimated Take

This section provides an estimate of the number of incidental takes proposed for authorization through this proposed rule, which will inform both NMFS' consideration of ''small numbers,'' 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).

Authorized takes would primarily be by Level B harassment, as use of the acoustic sources (*i.e.,* vibratory and impact pile driving equipment) 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 harbor seals (phocids) because these animals are known to occur in close proximity to the pile driving locations. Auditory injury is unlikely to occur for other hearing groups or species. The proposed mitigation and monitoring measures are expected to minimize the severity of the taking to the extent practicable.

As described previously, no serious injury or mortality is anticipated or proposed to be authorized for this activity. Below, we describe how the proposed take numbers are estimated.

For acoustic impacts, generally speaking, we estimate take by considering: (1) acoustic thresholds above which NMFS believes the best available science indicates marine mammals will be behaviorally harassed or incur some degree of permanent hearing impairment; (2) the area or volume of water that will be ensonified above these levels in a day; (3) the

density or occurrence of marine mammals within these ensonified areas; and, (4) the number of days of activities. We note that while these factors can contribute to a basic calculation to provide an initial prediction of potential takes, additional information that can qualitatively inform take estimates is also sometimes available (*e.g.,* previous monitoring results or average group size). Below, we describe the factors considered here in more detail and present the proposed take estimates.

Acoustic Thresholds

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

Level B Harassment—Though significantly driven by received level, the onset of behavioral disturbance from anthropogenic noise exposure is also informed to varying degrees by other factors related to the source or exposure context (*e.g.,* frequency, predictability, duty cycle, duration of the exposure, signal-to-noise ratio, distance to the source), the environment (*e.g.,* bathymetry, other noises in the area, predators in the area), and the receiving animals (hearing, motivation, experience, demography, life stage, depth) and can be difficult to predict (*e.g.,* Southall *et al.,* 2007, 2021; Ellison *et al.,* 2012). Based on what the available science indicates and the practical need to use a threshold based on a metric that is both predictable and measurable for most activities, NMFS typically uses a generalized acoustic threshold based on received level to estimate the onset of behavioral harassment. NMFS generally predicts that marine mammals are likely to be behaviorally harassed in a manner considered to be Level B harassment when exposed to underwater anthropogenic noise above root-mean-squared pressure received levels (RMS SPL) of 120 dB (referenced to 1 micropascal (re 1 µPa)) for continuous (*e.g.,* vibratory pile-driving, drilling) and above RMS SPL 160 dB re 1 µPa for non-explosive impulsive (*e.g.,* seismic airguns) or intermittent (*e.g.,* scientific sonar) sources.

The Navy's proposed activity includes the use of continuous (vibratory hammer source type) and impulsive (impact hammer) sources, and therefore the RMS SPL thresholds of 120 and 160 dB re 1 µPa are applicable.

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

These thresholds are provided in the Table 4 below. The references, analysis, and methodology used in the development of the thresholds are described in NMFS' 2018 Technical Guidance, which may be accessed at: *https://www.fisheries.noaa.gov/national/marine-mammal-protection/marine-mammal-acoustic-technical-guidance.*

TABLE 4—THRESHOLDS IDENTIFYING THE ONSET OF PERMANENT THRESHOLD SHIFT

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

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

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

Ensonified Area

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

The sound field in the project area is the existing background noise plus additional construction noise from the proposed project. Marine mammals are expected to be affected by sound generated by the primary components of the project (*i.e.,* impact and vibratory pile driving).

Data from prior pile driving projects at the Naval Base Kitsap Bangor and Bremerton waterfronts were reviewed in the analysis. The representative sound pressure levels used in the analysis are presented in Table 5.

For vibratory pile driving distances to the PTS thresholds, the transmission loss (TL) model described above incorporated the auditory weighting functions for each hearing group using a single frequency as described in the NMFS Spreadsheet (NMFS, 2018). For impact pile driving distances to the PTS thresholds for 36-inch steel pile and 24-inch concrete pile, the TL model described above incorporated frequency weighting adjustments by applying the auditory weighting function over the entire 1-second SEL spectral data sets from impact pile driving. If a source level for a particular pile size was not available, the next highest source level was used to produce a conservative estimate of areas above threshold values.

In order to calculate distances to the Level A harassment and Level B harassment thresholds for the methods and piles being used in this project, the Navy used acoustic monitoring data from various similar locations to develop source levels for the different pile types, sizes, and methods proposed for use (Table 5).

TABLE 5—SOURCE LEVELS FOR PROPOSED REMOVAL AND INSTALLATION ACTIVITIES

		Pile diameter (inches)	RMS [1] (dB re 1 μPa)	Peak [1] (dB re 1 μPa)	SEL [2] (dB re 1 μPa² sec)
Impact Installation	Concrete	24	174	189	167
	Steel Pipe [2]	36	192	211	184
Vibratory Removal	Steel Fender	14	150	N/A	N/A
Vibratory Installation	Steel Fender	14	150	N/A	N/A
	Composite Fender	18.75	150	N/A	N/A
	Steel pipe	36	167	N/A	N/A

Source: Navy, 2015; Navy, 2017, 2018, NAVFAC SW, 2020; WDOT, 2017.
Key: N/A = not applicable; RMS = root mean square; SEL = sound exposure level.
[1] Sound pressure levels are presented for a distance of 10 m from the pile. RMS and Peak levels are relative to 1 μPa and cumulative SEL levels are relative to 1 μPa_2 sec; and
[2] Values modeled for impact driving 36-inch steel piles will be reduced by 8 dB for noise exposure modeling to account for attenuation from a bubble curtain.

A bubble curtain will be used to minimize the noise generated by impact driving of steel pipe piles. Note that impact pile driving of steel piles would only occur if it is necessary to install the 36-inch steel piles and none are currently planned to be installed. If steel piles became necessary then a maximum of 2 piles would be installed within the 5-year effective period of the LOA. The bubble curtain is expected to attenuate impact pile driving sound levels an average of 8 dB based on past performance during similar Navy projects in Puget Sound (Navy, 2015); therefore, 8 dB was subtracted from values in Table 5 prior to modeling the behavioral and PTS thresholds for impact pile driving steel pipe piles. For the cumulative SEL PTS thresholds, auditory weighting functions were applied to the attenuated one-second SEL spectra for steel pipe piles.

Level B Harassment Zones

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:

$TL = B * Log10 (R1/R2)$,

Where:

TL = transmission loss in dB,
B = transmission loss coefficient (for practical spreading equals 15),
R1 = the distance of the modeled SPL from the driven pile, and
R2 = the distance from the driven pile of the initial measurement.

The recommended TL coefficient for most nearshore environments is the practical spreading value of 15. This value results in an expected propagation environment that would lie between spherical and cylindrical spreading loss conditions, which is the most appropriate assumption for the Navy' proposed activities. The Level B harassment zones and areas for the Navy's proposed activities are shown in Table 6.

TABLE 6—CALCULATED RADIAL DISTANCE(S) TO UNDERWATER MARINE MAMMAL VIBRATORY PILE DRIVING NOISE THRESHOLDS AND AREAS ENCOMPASSED WITHIN THRESHOLD DISTANCE

Type	Behavioral disturbance—Level B harassment (120 dB RMS)	
	Radial distance to threshold	Area encompassed by threshold
14-inch steel H fender pile (vibratory)	1,000 m	1.8 km.
18.75-in composite fender pile (vibratory)	1,000 m	1.8 km.
36-inch steel (vibratory)	13.6 km	54 km.

Level A Harassment Zones

The ensonified area associated with Level A harassment is more technically challenging to predict due to the need to account for a duration component. Therefore, NMFS developed an optional User Spreadsheet tool to accompany the Technical Guidance that can be used to relatively simply predict an isopleth distance for use in conjunction with marine mammal density or occurrence to help predict potential takes. We note that because of some of the assumptions included in the methods underlying this optional tool, we anticipate that the resulting isopleth estimates are typically going to be overestimates of some degree, which may result in an overestimate of potential take by Level A harassment. However, this optional tool offers the best way to estimate isopleth distances when more sophisticated modeling methods are not available or practical. For stationary sources such as impact and vibratory 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.

The isopleths generated by the User Spreadsheet used the same TL coefficient as the Level B harassment zone calculations (*i.e.,* the practical spreading value of 15). Inputs used in the User Spreadsheet (*e.g.,* number of piles per day, duration and/or strikes per pile) are presented in Table 7. The maximum RMS SPL/SEL SPL and resulting isopleths are reported below in Table 8 and Table 9. The maximum

RMS SPL value was used to calculate Level A harassment isopleths for vibratory pile driving while the single strike SEL SPL value was used to calculate Level A harassment isopleths for impact pile driving activities. Note that Peak PTS thresholds were smaller for all pile sizes and hearing groups compared to SEL SPL values.

TABLE 7— PARAMETERS OF PILE DRIVING ACTIVITY USED IN USER SPREADSHEET

	24-inch concrete	36-inch steel	Fender pile	Removal or installation of steel 14-inch steel or 18.75-inch composites	36-inch steel
Type of installation/removal	Impact	Impact	Vibratory	Vibratory	Vibratory.
Source Level	167 SEL/189 PK	184 SEL/211 PK	144 RMS	150 RMS	192 RMS
Weighting Factor Adjustment (kHz)	2	2	2.5	2.5	2.5.
(a) Number of strikes/pile	1,000	500			
(a) Activity Duration (min) within 24-h period			10	10	45.
Propagation (xLogR)	15	15	15	15	15.
Piles per day	2	1	2	2	1.
Distance of source level measurement (meters)	10	10	10	10	10.

TABLE 8—CALCULATED RADIAL DISTANCE(S) TO IMPACT PILE DRIVING NOISE THRESHOLDS FOR LEVEL A AND LEVEL B HARASSMENT AND ASSOCIATED AREAS [1]

	Level A harassment pinnipeds		Level A harassment cetaceans			Behavioral disturbance level B (160 dB RMS)	
	Harbor seal	Sea lion	LF	MF	HF	Radial distance to threshold	Area encompassed by threshold
24-inch concrete	29 m	2 m	54 m	2 m	64 m	86 m	0.02 km^2.
36-inch steel	182 m	13 m	243 m	8 m	256 m	398 m	0.5 km^2.

[1] Calculations based on SEL_{CUM} threshold criteria shown in Table 4 and source levels shown in Table 5.

TABLE 9—CALCULATED RADIAL DISTANCE(S) TO VIBRATORY PILE DRIVING NOISE THRESHOLDS FOR LEVEL A AND LEVEL B HARASSMENT AND ASSOCIATED AREAS [1]

Type	Level A harassment pinnipeds		Level A harassment cetaceans			Behavioral disturbance level B (120 dB RMS)	
	Phocids	Otariids	LF	MF	HF	Radial distance to threshold	Area encompassed by threshold
14-inch steel H fender pile (vibratory)	<1 m	<1 m	<1 m	<1 m	<1 m	1,000 m	1.8 km^2.
18.75-in composite fender pile (vibratory)	<1 m	<1 m	<1 m	<1 m	<1 m	1,000 m	1.8 km^2.
36-inch steel (vibratory)	4 m	<1 m	7 m	<1 m	11 m	13.6 km	54 km^2.

[1] Vibratory pile driving would only occur if it is necessary to install 36 inch steel piles, none are currently planned to be installed. If steel piles became necessary then only up to eight would be installed within the 5 years of the LOA.

Marine Mammal Occurrence and Take Calculation and Estimation

In this section we provide information about the occurrence of marine mammals, including density or other relevant information that will inform the take calculations. We describe how the information provided above is brought together to produce a quantitative take estimate for each species.

To quantitatively assess potential exposure of marine mammals to noise levels from pile driving over the NMFS threshold guidance, the following equation was first used to provide an estimate of potential exposures within estimated harassment zones:

Exposure estimate = N × Level B harassment zone (km^2) × maximum days of pile driving per year where N = density estimate (animals per km^2) used for each species.

Note that the area of the harassment zone is truncated by land masses surrounding the area (*i.e.,* Whidbey Island, Port Townsend mainland, and Indian Island). Densities are shown in Table 10.

In addition, local occurrence data from prior monitoring efforts, discussed in the next paragraph, was used as a supplement to estimate potential occurrence of harbor seals within the Level A harassment zones. This method is conservative in providing estimates of potential exposure above the total given using the aforementioned equation that we equate here with Level A harassment.

For harbor seals, which were the primary species found within 1,000 m of the Ammunition Wharf during pile driving monitoring from 2014–2016 and 2020 (Navy, 2014, 2016, 2021), a daily rate of harbor seal occurrence was determined for vibratory installation of fender piles for the Level A harassment zones. Only harbor seals were observed during pile driving monitoring (Navy, 2016, 2020) and weekly marine mammal surveys (2022) at NAVMAG Indian Island Ammunition Wharf with the exception of a single harbor porpoise and a single California sea lion. The site-specific data was used to estimate take only for harbor seals at a rate of 0.5 seals per day from concrete impact driving and eight seals per day from steel impact driving, based on the different estimated zone sizes.

During the site-specific monitoring efforts discussed above, only harbor seals were observed during pile driving monitoring (Navy, 2016, 2020) and weekly marine mammal surveys (2022) at NAVMAG Indian Island Ammunition Wharf, with the exception of a single harbor porpoise and a single California sea lion. For species other than harbor seal—for which use of the available density information and the equation given above provide low calculated take estimates (described in species-specific sections below)—it was assumed between one (*i.e.,* gray whale, minke whale) and three animals would be taken over the duration of the proposed rule (by Level B harassment only). For California sea lions, Steller sea lions, and northern elephant seals it was assumed that there would be 1 take per year from concrete/fender pile installation (by Level B harassment only). It was also assumed that there would be 1 additional take per year by Level B harassment during steel pile installation for the northern elephant seal. In contrast to pinniped species, Dall's porpoises and harbor porpoises often occur in pods of two to four porpoises. Therefore, it was assumed that there would be up to three takes per year by concrete/fender pile installation for each species with three additional takes per year only for Dall's porpoises per year due to steel pile installation. All takes are assumed to be by Level B harassment only, based on the assumed rarity of occurrence and the Navy's proposal to implement shutdown procedures for all cetaceans at the estimated Level B harassment distance.

The density estimates given in Table 10 come from the Pacific NMSDD, NAVFAC Pacific Technical Report (Navy, 2020) and Smultea *et al.* (2017) (for harbor porpoise). The seasonal density value for each species during the in-water work window at each site was used in the marine mammal take assessment calculation.

Note that The largest Level B harassment zone will be generated during vibratory driving. The Level B harassment zone for an impact hammer will be encompassed by the larger Level B harassment zone from the vibratory driver. Impact pile driving was assumed to be one pile per day but actual daily production rates may be higher with a maximum of two per day, resulting in fewer in-water pile driving days. It was assumed that 22 days of concrete pile installation would occur. This is a conservative estimate based on past work at NAVMAG. There would be up to 22 concrete piles (24-in) driven over the maximum of 22 days per year over 5 years with up to two 24-inch concrete piles driven per day (1-2 piles installed per day; mean of 1.8 piles installed per day) depending on accessing the wharf deck, weather, harbor seal delays, or equipment issues. Note that this conservative estimate of pile driving days is used solely to assess the number of days during which pile driving could occur if production was delayed due to equipment failure, safety, *etc.* In a real construction situation, pile driving production rates would be maximized when possible.

TABLE 10—MARINE MAMMAL SPECIES DENSITIES IN PROJECT AREA

Species	Region location	Density (October–February) * animals km^2
Gray whale	North Puget Sound	Zero (within 1,000 m) [1] 0.00048 (Fall and Winter).[2]
Minke Whale	Puget Sound	Zero (within 1,000 m) [1] 0.00045 (Annual).[2]
Harbor porpoise	North Puget Sound	1.16 (Annual).[2 3]
Dall's porpoise	Puget Sound	0.00045 (Annual) [2].
Steller sea lion	Puget Sound	Zero (within 1,000 m) [2] 0.0478 (Fall and Winter).[1]
California sea lion	Puget Sound	Zero (within 1,000 m) [1] 0.2211 (Fall) [2] 0.1100 (Winter).[2]
Northern elephant seal	Puget Sound	Zero (within 1,000 m) [1] 0.0000 (Annual).[2]
Harbor Seal	North Puget Sound	14-18.75 inch Fender Pile Driving: [1] Within 10 m = 0.0 seals/day (Level A zone). Within 1,000 m = 15.54 seals per day (Level B harassment zone).
		24 inch Concrete Impact Pile Driving: [1] Within 29 m = 0.5 seals/day (Level A harassment zone). Combine with the larger fender pile vibratory Level B harassment zone.
		36 inch Steel Impact Pile Driving: [1] Within 182 m = 8 seals/day (Level A harassment zone). Combine with the larger vibratory zone for Level B harassment.
		36 inch Steel Vibratory Pile Driving: Within 10 m = 0.0 seals/day (Level A zone). Within 13.6 km (54 km^2) = 2.83 seals/km^2.

* 13.6 km with an area of 54 km^2 (a large part of the area was truncated by land masses) was used for 36-inch steel pile vibratory installation.
Sources: [1] Navy, 2014, 2016; 2021; [2] NMSDD (Navy, 2020), [3] Smultea *et al.* (2017).

It is important to note that the successful implementation of mitigation methods (*i.e.,* visual monitoring and the use of shutdown zones) is expected to result in no Level A harassment exposure to all marine mammals except harbor seals because the injury zones and behavioral zones will be monitored during pile driving. Harbor seal Level A harassment exposure will be limited to the smallest extent practicable. The exposure assessment estimates the numbers of individuals potentially exposed to the effects of pile driving noise exceeding NMFS established thresholds. Results from acoustic impact exposure assessments should be regarded as conservative overestimates that are strongly influenced by limited marine mammal data, the assumption that marine mammals will be present during pile driving, and the assumptions that the maximum number of piles will be extracted or installed.

Gray Whale

Most gray whales in Puget Sound utilize the feeding areas in northern Puget Sound around Whidbey Island and in Port Susan in March through June with a few individual sightings occurring year-round that are not always associated with feeding areas. Therefore, gray whales are included in the proposed take authorization. The majority of in-water work will occur during the fall and winter when gray whales are less likely to be present in Puget Sound. Therefore, based on a low probability of occurrence within the vibratory harassment zones, the Navy used the formula described above to

calculate estimated exposures. The formula estimated zero takes per year; however, due to the uncertainty of gray whale movements and the large area of exposure during vibratory driving of 36-inch steel piles, the Navy has requested and NMFS proposes to authorize take by Level B harassment at a rate of one animal per year.

To protect gray whales from noise impacts, the Navy will implement a shutdown if protected species obervers (PSOs) see gray whales approaching or within any harassment zone. A PSO will be stationed at locations from which the injury zone and behavioral zone for impact and vibratory pile driving are visible and will implement shutdown if a whale approaches or enters either zone. With the implementation of monitoring, even if a whale enters an injury zone, shutdown would occur before cumulative exposure to noise levels that would result in PTS could occur. Because pile driving will be shut down if whales are in the injury zone, no Level A harassment take has been requested or is being proposed for authorization by NMFS. In summary, the Navy has requested, and NMFS proposes, to authorize one take of gray whale by Level B harassment each year for the duration of the 5-year LOA.

Minke Whale

Minke whales in Washington inland waters typically feed in the areas around the San Juan Islands and along banks in the Strait of Juan de Fuca. Minke whales are infrequent visitors to Puget Sound, especially east of Admiralty Inlet. When present, minke whales are usually seen singly or in pairs. Therefore, based on a low probability of occurrence within the vibratory harassment zones, the Navy used the same equation discussed above to calculate estimated exposures. The formula estimated zero takes annually for the duration of the LOA. However, due to the uncertainty of minke whale movements and the large area of exposure during vibratory driving of 36-inch steel piles, the Navy requested takes for the exposure of one minke whale per year for the duration of the 5-year LOA.

To protect minke whales from noise impacts, the Navy will implement a shutdown if PSOs see minke whales approaching or within any harassment zone. A PSO will be stationed at locations from which the injury zone and behavioral zone for impact and vibratory pile driving are visible and will implement shutdown if a whale approaches or enters either zone. PSOs may be stationed on boats to observe a greater portion of the shutdown zone than is visible from land-based locations. With the implementation of monitoring, even if a whale enters an injury zone, shutdown would occur before cumulative exposure to noise levels that would result in PTS could occur. Because pile driving will be shut down if whales are in the injury zone, no Level A harassment take has been requested or is being proposed for authorization by NMFS. In summary, although minke whales are rare in the project area, the Navy has requested and NMFS proposes to authorize one take of minke whale by Level B harassment each year for the duration of the 5-year LOA.

Dall's Porpoise

Dall's porpoises are most abundant in the Strait of Juan de Fuca and Haro Strait in the San Juan Islands area, but may be present in Puget Sound year-round. Group size is usually two to four, although larger groups are often sighted (Anderson *et al.,* 2018). In Puget Sound, the Navy has estimated that Dall's porpoise density is 0.045 animals/km^2, although they have not been reported near NAVMAG Indian Island in recent years and their occurrence in both the Salish Sea and Puget Sound appears to be declining (Smultea *et al.,* 2015; Evenson *et al.,* 2016; Jefferson *et al.,* 2016). The Navy used the formula described previously to calculate potential exposures. The formula estimated zero takes. Due to the uncertainty of Dall's porpoise movements and the large estimated harassment area during vibratory driving, the Navy assumed, and NMFS concurred, that there would be three takes from work on the fender piles and three takes from work on the steel piles each year, by Level B harassment only.

To protect Dall's porpoises from noise impacts, the Navy will implement a shutdown if PSOs see porpoises approaching or inside of any harassment zone. A PSO will be stationed at locations from which the harassment zones for impact and vibratory pile driving are visible and will implement shutdown if a porpoise approaches or enters any zone. With the implementation of monitoring, even if a Dall's porpoise enters an injury zone, shutdown would occur before cumulative exposure to noise levels that would result in PTS could occur. Because pile driving will be shut down if porpoises are in the injury zone, no Level A harassment take has been requested or is proposed for authorization. In summary, although Dall's porpoises are rare in the project area, the Navy has requested, and NMFS proposes, to authorize take of 30 Dall's porpoises (6 per year) by Level B harassment over the 5-year LOA period.

Harbor Porpoise

Harbor porpoises may be present in all major regions of Puget Sound throughout the year. Group sizes ranging from 1 to 150 individuals were reported in aerial surveys conducted from summer 2013 to spring 2016, but mean group size was 1.7 animals (Smultea *et al.,* 2017). The estimated harbor porpoise density in inland waters is provided in Table 10. The estimated exposure equation described previously was employed resulting in 125 takes per year from steel vibratory driving. Take from concrete/fender vibratory driving was calculated to be 0.05 exposures per year. However, the Navy requested authorization of three takes per year resulting from this activity as a precaution. Note that harbor porpoises were not observed during pile driving monitoring at NAVMAG Indian Island ammunition wharf from 2014 to 2016 (Navy, 2014; Navy 2016), but one was observed in 2020 within 200 m of the Wharf (Navy, 2021).

The Navy will implement a shutdown if porpoises are seen by PSOs entering or within any harassment zone in order to protect harbor porpoises from noise impacts. A monitor will be stationed at locations from which the injury and behavioral harassment zones for impact and vibratory pile driving are visible and will implement shutdown if a porpoise approaches or enters any harassment zone. With the implementation of monitoring, even if a harbor porpoise enters an injury zone, shutdown would occur before cumulative exposure to noise levels that would result in PTS could occur. Because pile driving will be shut down if porpoises are in the injury zone, no Level A harassment take has been requested or is proposed for authorization. In summary, the Navy has requested, and NMFS proposes, to authorize take of up to 640 harbor porpoises by Level B harassment (3 per year for work on concrete/fender piles and 125 per year from for work on steel piles) for the duration of the 5-year LOA.

California Sea Lion

California sea lions occur in Puget Sound from approximately August to June. This species occasionally hauls out on the port security barriers at NAVMAG Indian Island. These haulouts are adjacent to, in, or near the Level B harassment zones, so exposure may occur if animals move through Level B harassment zones during impact or

vibratory pile driving activities. California sea lions were not observed during previous pile driving monitoring at NAVMAG Indian Island ammunition wharf in 2014 to 2016 (Navy, 2014; Navy 2016), but one was observed during 2020 (Navy, 2021). Although calculated take was zero, reflecting their unlikely occurrence, Level B harassment exposures for the concrete and fender pile driving were estimated as one sea lion per year. Exposure estimates for vibratory driving of steel piles utilized the estimated exposure equation, resulting in estimated take of 17.88 sea lions per year, which was rounded up to 18 sea lion takes per year. Because a Level A harassment injury zone can be effectively monitored and a shutdown zone will be implemented, no take by Level A harassment is anticipated or proposed for authorization. Based on the aforementioned considerations, NMFS proposes to authorize take of 95 California sea lions (1 per year by work on concrete/fender piles and 18 per year from work on steel piles), by Level B harassment only, for the duration of the 5-year LOA.

Steller Sea Lion

Steller sea lions occur seasonally in Puget Sound primarily from September through May. Take may occur if these animals move through Level B harassment zones during impact or vibratory pile driving. Although their occurrence is unlikely, the Navy assumed that there would be one Level B harassment take from concrete and fender pile driving per year. Level B harassment exposure estimates for steel piles utilized the exposure estimate equation described previously using densities from Table 10 resulting in an estimated take of 5.16 animals per your rounded to 5 takes. Steller sea lions were not observed during previous monitoring at NAVMAG Indian Island ammunition wharf in 2014 to 2016 (Navy, 2014, 2016, 2021). Because the Level A harassment injury zone is small under all driving scenarios, it can be effectively monitored. A shutdown will be implemented if animals approach the injury zone and no exposure to Level A harassment noise levels is anticipated at any location. In summary, the Navy has requested, and NMFS proposes, to authorize take of up to 30 Steller sea lions (five for work on concrete/fender piles over 5 years and 25 for work on steel piles over 5 years) by Level B harassment for the duration of the 5-year LOA.

Northern Elephant Seal

Northern elephant seals are considered rare visitors to Puget Sound. No regular elephant seal haul outs occur in Puget Sound, although individual elephant seals have been detected hauling out for 2 to 4 weeks to molt, usually during the spring and summer. Haul out locations are unpredictable, but only one record is known for a Navy installation. The Navy reports a density of 0.0 in Puget Sound (Navy, 2020). However, because there are occasional sightings in Puget Sound, the Navy assumed that there would be one exposure from concrete/fender driving and one exposure from steel driving during each year of the LOA. Because elephant seals are rare in the project area and monitoring and shutdown measures will be implemented, no Level A harassment exposure is anticipated. In summary, the Navy has requested, and NMFS is proposing, to authorize take of up to 10 northern elephant seals (2 per year) by Level B harassment for the duration of the 5-year LOA.

Pacific Harbor Seal

Pacific harbor seals are expected to occur year-round at NAVMAG Indian Island. This species hauls out regularly at Rat Island adjacent to the northeastern end of NAVMAG Indian Island year-round with a dip in numbers in winter months. Harbor seals are most likely to be exposed to Level A harassment noise when they swim through the area near the Ammunition Wharf during impact pile driving (182 m for steel impact driving and 29 m for concrete impact driving). Pile driving will shutdown whenever a seal is detected by monitors nearing or within the injury zone, but harbor seals can dive for up to 15 minutes and may not be detected until they have been within the injury zone for a sufficient period of time to incur PTS. For most pile driving activities, exposure of harbor seals to pile driving noise will be limited to Level B harassment. Level B harassment exposure estimates for vibratory driving were determined using the formula of Level B harassment zone area × density × days of vibratory pile driving. The Navy has calculated take by Level B harassment of 1,710 harbor seals during vibratory installation of fender piles (342 per year), and 1,530 harbor seals during vibratory pile driving of steel piles (306 per year). Therefore, the Navy has requested, and NMFS proposes, to authorize take of up to 3,240 Pacific harbor seals by Level B harassment for the duration of the LOA. In addition, the Navy has requested and NMFS is proposing to authorize up to 135 harbor seal takes (27 per year) by Level A harassment during the 5-year LOA. This is based on the daily average of site-specific observations from several seasons of pile driving monitoring at the Ammunition Wharf and weekly surveys conducted at NAVMAG Indian Island provided above. Observations of seals within 29 m would be calculated to a mean of seals per day within the Level A harassment zone. (Using the density value would underestimate the number of seals in that small zone.) This assumption results in 11 Level A harassment takes per year (0.5 seals/day for 22 days) for impact driving of concrete piles (55 takes for 5 years) and 16 takes per year (8 seals/day for 2 days) for impact driving of steel piles (80 takes over 5 years).

The annual and total number of takes requested by the Navy and proposed for authorization by NMFS are shown in Table 11 and Table 12.

TABLE 11—PROPOSED ANNUAL TAKE BY LEVEL A AND LEVEL B HARASSMENT AND PERCENTAGE OF STOCK ABUNDANCE FOR AUTHORIZED SPECIES/STOCKS

Species	Exposures				Total annual	Population	Percent of stock/distinct population segmant (DPS) per year
	24 Inch concrete piles and/or 14-in/18.75-inch fender piles (up to 22 piles/year)		36 Inch steel piles (up to 2 piles/year)				
	Level B impact or vibratory	Level A Impact	Level B vibratory and impact	Level A impact			
Gray Whale	0	0	1	0	1	26,960	<0.01
Minke Whale	0	0	1	0	1	915	<0.01
Dall's Porpoise	3	0	3	0	3	16,498	<0.01
Harbor Porpoise	3	0	125	0	128	11,233	1.11
California Sea Lion	1	0	18	0	19	257,606	<0.01
Steller Sea Lion	1	0	5	0	6	43,201	<0.01

TABLE 11—PROPOSED ANNUAL TAKE BY LEVEL A AND LEVEL B HARASSMENT AND PERCENTAGE OF STOCK ABUNDANCE FOR AUTHORIZED SPECIES/STOCKS—Continued

Species	Exposures				Total annual	Population	Percent of stock/distinct population segmant (DPS) per year
	24 Inch concrete piles and/or 14-in/18.75-inch fender piles (up to 22 piles/year)		36 Inch steel piles (up to 2 piles/year)				
	Level B impact or vibratory	Level A Impact	Level B vibratory and impact	Level A impact			
Northern Elephant Seal	1	0	1	0	2	187,386	<0.01
Pacific Harbor Seal	342	11	306	16	675	11,036	6.11

TABLE 12—TOTAL 5-YEAR PROPOSED TAKES

[Level A Harassment and Level B Harassment]

Species	Stock	Level A harassment	Level B harassment	Total 5-year
Gray Whale	Eastern North Pacific	.....	5	5
Minke Whale	California/Oregon/Washington	.....	5	5
Dall's Porpoise	California/Oregon/Washington	.....	30	30
Harbor Porpoise	Washington Inland Waters	.....	640	640
California Sea Lion	United States	.....	95	95
Steller Sea Lion	Eastern United States	.....	30	30
Northern Elephant Seal	California Breeding	.....	10	10
Pacific Harbor Seal	Washington Northern Inland Waters	135	3,240	3,375

Proposed Mitigation

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

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

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

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

In order to limit impacts to marine mammals, vibratory installation will be used by the Navy to the extent practicable to drive steel piles to minimize high sound pressure levels associated with impact pile driving. Jetting will also be used to the extent possible to install concrete piles in order to minimize higher sound pressure levels associated with impact pile driving. Note that a draft monitoring plan will be submitted in the spring at least 90 days prior to the start of the in-water work period (October) during the first year of the project (2024). The final monitoring plan will be prepared and submitted to NMFS within 30 days following receipt of comments on the draft plan from NMFS.

The Navy will ensure that construction supervisors and crews, the monitoring team, and relevant Navy staff are trained and 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 will be trained prior to commencing work.

Shutdown Zones

Before the commencement of in-water construction activities, the Navy would establish shutdown zones for all impact and pile driving activities. The purpose of a shutdown zone is generally to define an area within which shutdown of the activity would occur upon sighting of a marine mammal (or in anticipation of an animal entering the defined area). Shutdown zones will vary based on the activity type and marine mammal hearing group but will include all areas where the underwater sound pressure levels are anticipated to equal or exceed the Level A harassment (injury) criteria for marine mammals. The shutdown zone will always be a minimum of 10 m to prevent injury from physical interaction of marine mammals with construction equipment. The Level A harassment zones are based on the maximum calculated radius for pinnipeds and cetaceans, specifically harbor porpoises, during installation of 36-inch steel piles and 24-inch concrete piles with impact techniques, and the Level B harassment zone for impact and vibratory pile installation.

Injury to harbor seals from noise due to impact and vibratory pile driving and physical interaction with construction equipment will be minimized to the extent practicable by implementing a shutdown if the animals are observed to be swimming towards the injury zone. For steel pile impact driving, to the

extent possible, PSOs would initiate shutdown when harbor seals enter the injury zone; however, because of the size of the zone and the inherent difficulty in monitoring harbor seals, a highly mobile species, it may not be practical, which is why Level A harassment take is proposed for authorization.

The Navy would establish shutdown zones for all marine mammals for which take has not been authorized or for which incidental take has been authorized but the authorized number of takes has been met. These zones are equivalent to the Level B harassment zones for each activity. If such animals are sighted within the vicinity of the project areas and are approaching the Level B harassment zone, the Navy would shut down the pile driving equipment to avoid possible take of these species.

Pile driving activities will cease if any cetaceans authorized for take are seen approaching or entering any harassment zone. Work will be halted and delayed until either the animal has voluntarily left and been visually confirmed beyond the injury zone or visual portion of the Level B harassment zone or 15 minutes have passed without re-detection of the animal. Additionally, if a shutdown zone is obscured by fog or poor lighting conditions, pile driving will not be initiated until the entire shutdown zone is visible.

If a pinniped approaches or enters a shutdown zone during pile impact or vibratory driving, work will be halted and delayed until either the animal has voluntarily left and been visually confirmed beyond the shutdown zone or 15 minutes have passed without re-detection of the animal. If a pinniped is observed in the Level B harassment zone, but not approaching or entering the shutdown zone, the work will be allowed to proceed without cessation of pile driving. Marine mammal behavior will be monitored and documented.

TABLE 13—SHUTDOWN AND HARASSMENT ZONES

Pile size and type	Shutdown zone (m)			Level B harassment zone (m)
	Cetaceans	Harbor seal	Sea lion	
24-inch Concrete Impact	90	30	10	90
36-inch Steel Impact	400	200	20	400
36-inch Steel Vibratory	13,600	10	10	13,600
Fender Vibratory	1,000	10	10	1,000

At minimum, the shutdown zone for all hearing groups and all activities would be 10 m. For in-water heavy machinery work other than pile driving (*e.g.,* standard barges, *etc.*), if a marine mammal comes within 10 m, operations would cease and vessels would reduce speed to the minimum level required to maintain steerage and safe working conditions. This type of work could include, for example, the movement of the barge to the pile location or positioning of the pile on the substrate via a crane.

Pre-Activity Monitoring

Prior to the start of daily in-water construction activity, or whenever a break in pile driving of 30 minutes or longer occurs, PSOs would observe the shutdown and Level B harassment zones for a period of 30 minutes. The shutdown zone would be considered cleared when a marine mammal has not been observed within the zone for that 30-minute period. If a marine mammal is observed within the shutdown zones listed in Table 13, pile driving activity would be delayed or halted. If pile driving is delayed or halted due to the presence of a marine mammal, the activity would not commence or resume until either the animal has voluntarily exited and been visually confirmed beyond the shutdown zones or 15 minutes have passed without re-detection of the animal. If work ceases for more than 30 minutes, the pre-activity monitoring of the shutdown zones would 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).

Monitoring will take place from 30 minutes prior to initiation through 30 minutes post-completion of pile driving. Prior to the start of pile driving, the shutdown zone will be monitored for 30 minutes to ensure that the shutdown zone is clear of marine mammals. Pile driving will only commence once PSOs have declared the shutdown zone clear of marine mammals.

Soft Start

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

Bubble Curtain

Should the use of 36-inch steel piles be necessary, a bubble curtain will be used for all impact driving of steel piles to attenuate noise. Because of the relatively low underwater noise levels associated with impact driving of concrete piles, bubble curtains are not proposed for impact installation of concrete piles.

A bubble curtain would be employed during impact installation or proofing of steel pile where water depths are greater than 0.67 m. A noise attenuation device would not be required during vibratory pile driving. If a bubble curtain or similar measure is used, it would distribute air bubbles around 100 percent of the piling perimeter for the full depth of the water column. A bubble curtain is usually a ring or series of stacked rings that are placed around a pile along the pile's entire length under water. The rings are made of tubing which has small puncture holes through which compressed air is pumped. As the compressed air bubbles flow from the tubing, they create an air barrier that impedes the sound produced during pile driving. Any other attenuation measure would be required to provide 100 percent coverage in the water column for the full depth of the pile. The lowest bubble ring would be in contact with the mudline for the full circumference of the ring. The weights attached to the bottom ring would ensure 100 percent mudline contact. No

parts of the ring or other objects would prevent full mudline contact.

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

Proposed Monitoring and Reporting

In order to issue an 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: (1) long-term fitness and survival of individual marine mammals; or (2) populations, species, or stocks;
- Effects on marine mammal habitat (*e.g.,* marine mammal prey species, acoustic habitat, or other important physical components of marine mammal habitat); and,
- Mitigation and monitoring effectiveness.

The Navy will submit a Marine Mammal Monitoring Plan to NMFS for approval at least 90 days in advance of the start of the first year of construction.

Visual Monitoring

- Monitoring must be conducted during pile driving activities by qualified, NMFS-approved PSOs, in accordance with the following conditions: PSOs must be independent of the activity contractor (for example, employed by a subcontractor) and have no other assigned tasks during monitoring periods.
- At least one PSO 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 other relevant experience, education (degree in biological science or related field), or training for prior experience performing the duties of a PSO during construction activity pursuant to a NMFS-issued incidental take authorization.
- Where a team of three or more PSOs is required, a lead PSO or monitoring coordinator must be designated. The lead PSO must have prior experience performing the duties of a PSO during construction activity pursuant to a NMFS-issued incidental take authorization.
- PSOs must be approved by NMFS prior to beginning any activity subject to this proposed rule.

All PSOs shall be trained in marine mammal identification and behaviors, and satisfy the following criteria:

- Visual acuity in both eyes (correction is permissible) sufficient to discern moving targets at the water's surface with ability to estimate target size and distance. Use of binoculars or spotting scope may be necessary to correctly identify the target.
- Advanced education in biological science, wildlife management, mammalogy or related field (Bachelor's degree or higher is preferred).
- Experience and ability to conduct field observations and collect data according to assigned protocols (this may include academic experience).
- Experience or training in the field identification of marine mammals (cetaceans and pinnipeds).
- Sufficient training, orientation or experience with vessel operation and pile driving operations to provide for personal safety during observations.
- Writing skills sufficient to prepare a report of observations. Reports should include such information as the number, type, and location of marine mammals observed; the behavior of marine mammals in the area of potential sound effects during construction; dates and times when observations and in-water construction activities were conducted; dates and times when in-water construction activities were suspended because of marine mammals, *etc.*
- Ability to communicate orally, by radio or in person, with project personnel to provide real time information on marine mammals observed in the area and necessary actions, as needed.

During pile driving activities, the Navy will assign PSOs to monitor the identified harassment zones. The number and placement of PSOs will vary depending upon the pile size, location, and number of piles being installed or removed. In order to effectively monitor the shutdown and Level B harassment zones, PSOs will be positioned at the best practicable vantage points, taking into consideration security, safety, and space limitations. The PSOs will be stationed on the pier, vessel, on shore, or on the pile driving barge in a location that will provide adequate visual coverage for the identified harassment zones. During pile driving, at least one PSO will be stationed on a vessel if practicable.

Monitoring would be conducted 30 minutes before, during, and 30 minutes after all in water construction activities. In addition, PSOs would record all incidents of marine mammal occurrence, regardless of distance from activity, and would document any behavioral reactions in concert with distance from piles being driven or removed.

Reporting

The Navy 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. 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 would include:

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

In addition, for each observation of a marine mammal, the marine mammal report would include the following information:

- Name of PSO who sighted the animal(s) and PSO location and activity at time of sighting;
- Time of sighting;
- Identification of the animal(s) (*e.g.,* genus/species, lowest possible taxonomic level, or unidentified), PSO confidence in identification, and the composition of the group if there is a mix of species;
- Distance and location of each observed marine mammal relative to the pile being driven for each sighting;
- Estimated number of animals (min/max/best estimate);
- Estimated number of animals by cohort (adults, juveniles, neonates, group composition, *etc.*);
- 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 implementation of any mitigation (*e.g.,* shutdowns and delays), a description of specified actions that ensued, and resulting changes in behavior of the animal(s), if any.

If no comments are received from NMFS within 30 days, the draft reports would constitute the final reports. If comments are received, a final report addressing NMFS' comments would be required to be submitted within 30 days after receipt of comments. All PSO datasheets and/or raw sighting data would be submitted with the draft marine mammal report.

Reporting of Injured or Dead Marine Mammals

In the event that personnel involved in the construction activities discover an injured or dead marine mammal, the Navy must report the incident to NMFS Office of Protected Resources (OPR) (*PR.ITP.MonitoringReports@noaa.gov*), NMFS (301–427–8401) and to the NMFS Northwest Regional Stranding Coordinator as soon as feasible. If the death or injury was clearly caused by the specified activity, the Navy 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. The Navy will 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.

Negligible Impact Analysis and Determination

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

To avoid repetition, the discussion of our analysis applies to the species listed in Table 12, given that many of the anticipated effects of this project on different marine mammal stocks are expected to be relatively similar in nature. Where there are meaningful differences among species, stocks, or groups of species, anticipated responses of individual animals to activities, and/or impacts of expected take on the population (due to differences in population status, or impacts on habitat), the outliers are described independently in the analysis below.

Pile driving activities associated with the project, as outlined previously, have the potential to disturb or displace marine mammals. Specifically, the specified activities may result in take, in the form of Level A and Level B harassment from underwater sounds generated by pile driving. Potential takes could occur if marine mammals are present in zones ensonified above the thresholds for Level A and Level B harassment, identified above, while activities are underway.

No serious injury or mortality would be expected even in the absence of the proposed mitigation measures. During all impact driving, implementation of soft-start procedures and monitoring of established shutdown zones will be required, significantly reducing the possibility of injury. Given sufficient notice through use of soft-start (for impact driving), marine mammals are expected to move away from an irritating sound source before it becomes potentially injurious. In addition, PSOs will be stationed within the project area whenever pile driving activities are underway. Depending on the activity, the Navy will employ land-based PSOs to ensure all monitoring and shutdown zones are properly observed.

For monitoring of larger harassment zones, the Navy would employ vessel-based PSOs if practicable. Some harbor seals could be exposed to Level A harassment levels of noise when they swim through the area near the Ammunition Wharf during impact pile driving. Pile driving will shut down whenever a seal is detected by PSOs nearing or within the injury zone, but harbor seals can dive for up to 15 minutes and may not be detected. Any animals that experience PTS would likely only receive slight PTS, *i.e.,* minor degradation of hearing capabilities within regions of hearing that align most completely with the frequency range of the energy produced by pile driving (*i.e.,* the low-frequency region below 2 kHz), not severe hearing impairment or impairment in the range of greatest hearing sensitivity. If hearing impairment does occur, it is most likely that the affected animal would lose a few dBs in its hearing sensitivity, which, in most cases, is not likely to meaningfully affect its ability to forage and communicate with conspecifics. As described above, we expect that, given sufficient notice through use of soft-start, marine mammals would be likely to move away from a sound source that represents an aversive stimulus, especially when the sound source is at levels that would be expected to result in PTS. For most pile driving activities, exposure of harbor seals to pile driving noise will be minimized to short-term behavioral harassment (Level B harassment).

Exposures to elevated sound levels produced during pile driving activities may cause behavioral disturbance of some individuals, but the behavioral disturbances are expected to be mild and temporary. However, as described previously, the mitigation and monitoring measures are expected to further reduce the likelihood of injury as well as reduce behavioral disturbances.

Effects on individuals that are taken by Level B harassment, as enumerated in the Estimated Take section, on the basis of reports in the literature as well as monitoring from other similar activities, will likely be limited to reactions such as increased swimming speeds, increased surfacing time, or decreased foraging (if such activity were occurring) (*e.g.,* Thorson and Reyff, 2006). Most likely, individual animals will simply move away from the sound source and be temporarily displaced from the areas of pile driving, although even this reaction has been observed primarily only in association with impact pile driving. The pile driving activities analyzed here are similar to, or less impactful than, numerous other construction activities conducted along both Atlantic and Pacific coasts, which have taken place with no known long-term adverse consequences from behavioral harassment. These reactions and behavioral changes are expected to subside quickly when the exposures cease. Level B harassment will be minimized through use of mitigation measures described herein, and, if sound produced by project activities is sufficiently disturbing, animals are likely to simply avoid the area while the activity is occurring, particularly as the project is located on a waterfront with vessel traffic from both Navy and non-Navy activities.

The project is also not expected to have significant adverse effects on any marine mammal habitat. The Navy's proposed pile driving activities and associated impacts will occur within a limited portion of the confluence of the Puget Sound-Port Townsend Bay area. The project activities will not modify existing marine mammal habitat since the project will occur within the same footprint as existing marine infrastructure. Impacts to the immediate substrate during installation and removal of piles are anticipated, but these would be limited to minor, temporary suspension of sediments, which could impact water quality and visibility for a short amount of time, but which would not be expected to have any effects on individual marine mammals. The nearshore and intertidal habitat where the project will occur is an area of consistent vessel traffic from Navy and non-Navy vessels, and some local individuals would likely be somewhat habituated to the level of activity in the area, further reducing the likelihood of more severe impacts. The closest pinniped haulout, Rat Island, is used by harbor seals and is 2.4 km from the Ammunition Wharf. However, for the reasons described immediately above (including the nature of expected responses and the duration of the project), impacts to reproduction or survival of individuals are not anticipated, and are not expected to have effects on the species or stock. There are no other biologically important areas for marine mammals near the project area.

Impacts to marine mammal prey species are expected to be minor and temporary. Overall, the area impacted by the project is very small compared to the available habitat in Port Townsend Bay and larger Puget Sound. The most likely impact to prey will be temporary behavioral avoidance of the immediate area. During pile driving activities, it is expected that some fish and marine mammals would temporarily leave the area of disturbance, thus impacting marine mammals' foraging opportunities in a limited portion of the foraging range; but, because of the short duration of the activities and the relatively small area of the habitat that may be affected, the impacts to marine mammal habitat are not expected to cause significant or long-term negative consequences.

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

- No mortality is anticipated or authorized;
- No Level A harassment is anticipated or authorized with the exception of limited take of harbor seals;
- Anticipated incidents of Level B harassment consist of, at worst, temporary modifications in behavior;
- The required mitigation measures (*i.e.,* shutdown zones) are expected to be effective in reducing the effects of the specified activity;
- Minimal impacts to marine mammal habitat/prey are expected; and
- There are no known biologically important areas in the vicinity of the project, with the exception of one harbor seal haulout (Rat Island). However, as described above, exposure to the work conducted in the vicinity of the haulout is not expected to impact the reproduction or survival of any individual seals.

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

Small Numbers

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

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

Take of eight marine mammal stocks proposed for authorization will comprise no more than 6.11 percent of a single stock abundance (Pacific harbor seal) as shown in Table 11. The number of animals proposed for authorization to be taken from these stocks would be considered small relative to the relevant stock's abundances even if each estimated take occurred to a new individual, which is an unlikely scenario. Based on the analysis contained herein of the proposed activity (including the mitigation and monitoring measures) and the anticipated take of marine mammals, NMFS preliminarily finds that small numbers of marine mammals will 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 Navy construction activities would contain 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 Navy 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 to 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.

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 proposed rules, NMFS consults internally whenever we propose to authorize take for endangered or threatened species, in this case with the NMFS West Coast Regional Office.

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

Request for Information

NMFS requests interested persons to submit comments, information, and suggestions concerning the Navy request and the proposed regulations (see **ADDRESSES**). All comments will be reviewed and evaluated as we prepare a final rule and make final determinations on whether to issue the requested authorization. This proposed rule and referenced documents provide all environmental information relating to our proposed action for public review.

Classification

The Office of Management and Budget has determined that this proposed 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 has certified to the Chief Counsel for Advocacy of the Small Business Administration that this proposed rule, if adopted, would not have a significant economic impact on a substantial number of small entities. The Navy is the sole entity that would be subject to the requirements in these proposed regulations, and the Navy is not a small governmental jurisdiction, small organization, or small business, as defined by the RFA. Because of this certification, a regulatory flexibility analysis is not required and none has been prepared.

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

Dated: October 23, 2023.

Jonathan M. Kurland,

Acting Deputy Assistant Administrator for Regulatory Programs, National Marine Fisheries Service.

List of Subjects in 50 CFR Part 217

Administrative practice and procedure, Exports, Fish, Imports, Marine mammals, Penalties, Reporting and recordkeeping requirements, Transportation, Wildlife.

For reasons set forth in the preamble, NMFS proposed to revise subpart of 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. Revised subpart I to part 217 to read as follows:

Subpart I—Taking and Importing Marine Mammals Incidental to U.S. Navy Construction at the Naval Magazine Indian Island Ammunition Wharf, Puget Sound, Washington

Sec.

§ 217.80 Specified activity and geographical region.

(a) Regulations in this subpart apply only to the U.S. Navy (Navy) and those persons it authorizes or funds to conduct activities on its behalf for the taking of marine mammals that occur in the areas outlined in paragraph (b) of this section and that occur incidental to construction activities, including maintenance and replacement of piles, at the Naval Magazine Indian Island Ammunition Wharf, Puget Sound, Washington.

(b) The taking of marine mammals by the Navy may be authorized in a Letter

of Authorization (LOA) only if it occurs at the Naval Magazine Indian Island Ammunition Wharf, Puget Sound, Washington.

§ 217.81 Effective dates.

Regulations in this subpart are effective from October 1, 2024, until September 30, 2029.

§ 217.82 Permissible methods of taking.

Under an LOA issued pursuant to § 216.106 of this chapter and § 217.86, the Holder of the LOA (hereinafter ''Navy'') may incidentally, but not intentionally, take marine mammals within the area described in § 217.80(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.

§ 217.83 Prohibitions.

(a) Except for the takings contemplated in § 217.82 and authorized by a LOA issued under § 216.106 of this chapter and § 217.86, it is unlawful for any person to do any of the following in connection with the activities described in § 217.80:

(1) Violate, or fail to comply with, the terms, conditions, and requirements of this subpart or a LOA issued under § 216.106 of this chapter and § 217.86;

(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 if 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]

§ 217.84 Mitigation requirements.

(a) When conducting the activities identified in § 217.80(a), the mitigation measures contained in any LOA issued under §§ 216.106 of this chapter and 217.86 must be implemented. These mitigation measures include but are not limited to:

(1) A copy of any issued LOA must be in the possession of the Navy, its designees, and work crew personnel operating under the authority of the issued LOA.

(2) The Navy must follow mitigation procedures as described in § 217.84. Protected Species Observers (PSOs) must monitor the designated harassment zones to the maximum extent possible based on daily visibility conditions.

(3) The Navy must ensure that construction supervisors and crews, the PSO team, and relevant Navy staff are trained 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 prior to commencing work.

(4) The Navy must avoid direct physical interaction with marine mammals during construction activity. If a marine mammal comes within 10 m of such activity, operations must cease and vessels must reduce speed to the minimum level required to maintain steerage and safe working conditions, as necessary, to avoid direct physical interaction.

(5) For all pile driving activity, the Navy must implement shutdown zones with radial distances as identified in a LOA issued under § 216.106 of this chapter and § 217.86. If a marine mammal comes within or approaches the shutdown zone, pile driving activity must cease.

(6) The Navy must shut down in-water activities when cetaceans are observed approaching or within any harassment zone.

(7) The Navy 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.

(8) The Navy must deploy PSOs as indicated in its Marine Mammal Monitoring Plan that has been approved by NMFS.

(9) The Navy must employ bubble curtain systems during impact driving of 36-inch steel piles except under conditions where the water depth is less than 0.67 meters (2 feet) 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.

(10) 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. At least one vessel-based PSO must be employed when practicable. Additional PSOs must be added if warranted by site conditions and/or the level of marine mammal activity in the area.

(11) 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. Pre-activity monitoring must be conducted for 30 minutes to ensure that the shutdown zone is clear of marine mammals, and pile driving may commence when PSOs have declared the shutdown zone clear of marine mammals. In the event of a delay or shutdown of activity resulting from marine mammals in the shutdown zone, animals must be allowed to remain in the shutdown zone (*i.e.,* must leave of their own volition) and their behavior must be monitored and documented. If a marine mammal is observed within the shutdown zone, a soft start cannot proceed until the animal has left the zone or has not been observed for 15 minutes. Monitoring must occur throughout the time required to drive a pile. If work ceases for more than 30 minutes, the pre-activity monitoring of the shutdown zones must commence. A determination that the shutdown zone is clear must be made during a period of good visibility.

(12) If a marine mammal approaches or enters the shutdown zone, all pile driving activities at that location must be halted. If pile driving is halted or delayed due to the presence of a marine mammal, the activity may not commence or resume until either the animal has voluntarily left and been visually confirmed beyond the shutdown zone or 15 minutes have passed without re-detection of the animal.

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

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

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

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

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

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

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

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

(b) [Reserved]

§ 217.85 Requirements for monitoring and reporting.

(a) The Navy must submit a Marine Mammal Monitoring Plan to NMFS for approval at least 90 days before the start of construction and abide by the Plan if approved.

(b) The Navy must deploy PSOs as indicated in its approved Marine Mammal Monitoring Plan.

(c) PSOs must be trained in marine mammal identification and behaviors. PSOs must have no other construction-related tasks while conducting monitoring.

(d) The Navy must monitor the Level B harassment zones (areas where SPLs are equal to or exceed the 160 dB root-mean-squared (rms) threshold for impact driving and the 120 dB rms threshold during vibratory pile driving) to the maximum extent practicable and the shutdown zones.

(e) The Navy must coordinate with the Center for Whale Research, Orca network, and NMFS to avoid noise exposure of southern resident killer whales. The Navy must shut down in-water activities when southern resident killer whales are observed or reported within or approaching any harassment zone.

(f) The Navy 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. 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 reports must contain the informational elements described at minimum below including:

(1) Dates and times (begin 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) Environmental conditions during monitoring periods (at beginning and end of PSO shift and whenever conditions change significantly), 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);

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

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

(ii) Time of sighting;

(iii) Identification of the animal (*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) Estimated number of animals (min/max/best);

(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.,* observed behaviors such as feeding or traveling), including an assessment of behavioral responses to the activity (*e.g.,* no response or changes in behavioral state such as ceasing feeding, changing direction, flushing, or breaching);

(ix) 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

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

(g) In the event that personnel involved in the construction activities discover an injured or dead marine mammal, the Navy 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 Navy 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 of this chapter and § 217.86. The Navy 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.

§ 217.86 Letters of Authorization.

(a) To incidentally take marine mammals pursuant to these regulations, the Navy 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

Navy 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 Navy must apply for and obtain a modification of the LOA as described in § 217.87.

(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.

§ 217.87 Renewals and modifications of Letters of Authorization.

(a) An LOA issued under §§ 216.106 of this chapter and 217.86 for the activity identified in § 217.80(a) may be renewed or modified upon request by the applicant, provided that:

(1) The proposed 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 for the 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 § 217.86 for the activity identified in § 217.80(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 Navy 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 Navy'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 § 217.86, 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.

§§ 217.88–217.89 [Reserved]

[FR Doc. 2023–23737 Filed 10–27–23; 8:45 am]

BILLING CODE 3510–22–P