state law. For this reason, these proposed actions:

- Are not significant regulatory actions subject to review by the Office of Management and Budget under Executive Orders 12866 (58 FR 51735, October 4, 1993) and 13563 (76 FR 3821, January 21, 2011);
- Are not Executive Order 13771 (82 FR 9339, February 2, 2017) regulatory actions because SIP approvals and redesignations are exempted under Executive Order 12866;
- Do not impose an information collection burden under the provisions of the Paperwork Reduction Act (44 U.S.C. 3501 *et seq.*);
- Are certified as not having a significant economic impact on a substantial number of small entities under the Regulatory Flexibility Act (5 U.S.C. 601 *et seq.*);
- Do not contain any unfunded mandate or significantly or uniquely affect small governments, as described in the Unfunded Mandates Reform Act of 1995 (Pub. L. 104–4);
- Do not have Federalism implications as specified in Executive Order 13132 (64 FR 43255, August 10, 1999);
- Are not economically significant regulatory actions based on health or safety risks subject to Executive Order 13045 (62 FR 19885, April 23, 1997);
- Are not significant regulatory actions subject to Executive Order 13211 (66 FR 28355, May 22, 2001);
- Are not subject to requirements of Section 12(d) of the National Technology Transfer and Advancement Act of 1995 (15 U.S.C. 272 note) because application of those requirements would be inconsistent with the CAA; and
- Will not have disproportionate human health or environmental effects under Executive Order 12898 (59 FR 7629, February 16, 1994).

The SIP is not approved to apply on any Indian reservation land or in any other area where EPA or an Indian tribe has demonstrated that a tribe has jurisdiction. In those areas of Indian country, the proposed actions do not have tribal implications as specified by Executive Order 13175 (65 FR 67249, November 9, 2000), nor will it impose substantial direct costs on tribal governments or preempt tribal law.

List of Subjects

40 CFR Part 52

Environmental protection, Air pollution control, Incorporation by reference, Intergovernmental relations, Lead, Reporting and recordkeeping requirements.

40 CFR Part 81

Environmental protection, Air pollution control.

Authority: 42 U.S.C. 7401 *et seq.*

Dated: April 2, 2018.

Onis ''Trey'' Glenn, III

Regional Administrator, Region 4.

[FR Doc. 2018–07654 Filed 4–12–18; 8:45 am]

BILLING CODE 6560–50–P

ENVIRONMENTAL PROTECTION AGENCY

40 CFR Parts 60, 61, and 63

[EPA–R06–OAR–2016–0091; FRL–9975–92–Region 6]

New Source Performance Standards and National Emission Standards for Hazardous Air Pollutants; Delegation of Authority to New Mexico

AGENCY: Environmental Protection Agency (EPA).

ACTION: Proposed rule.

SUMMARY: The New Mexico Environment Department (NMED has submitted updated regulations for receiving delegation and approval of a program for the implementation and enforcement of certain New Source Performance Standards (NSPS) and National Emission Standards for Hazardous Air Pollutants (NESHAP) for all sources (both Title V and non-Title V sources). These updated regulations apply to certain NSPS promulgated by the EPA at part 60, as amended between September 24, 2013 and January 15, 2017; certain NESHAP promulgated by the EPA at part 61, as amended between January 1, 2011 and January 15, 2017; and other NESHAP promulgated by the EPA at part 63, as amended between August 30, 2013 and January 15, 2017, as adopted by the NMED. The delegation of authority under this action does not apply to sources located in Bernalillo County, New Mexico or to sources located in Indian Country. The EPA is providing notice that it is updating the delegation of certain NSPS to NMED and proposing to approve the delegation of certain NESHAP to NMED.

DATES: Written comments should be received on or before May 14, 2018.

ADDRESSES: Submit your comments, identified by Docket ID No. EPA–R06–OAR–2016–0091, at *http://www.regulations.gov* or via email to *barrett.richard@epa.gov.* For additional information on how to submit comments see the detailed instructions in the **ADDRESSES** section of the direct final rule located in the rules section of this issue of the **Federal Register**.

FOR FURTHER INFORMATION CONTACT: Mr. Rick Barrett (6MM–AP), (214) 665–7227; email: *barrett.richard@epa.gov.*

SUPPLEMENTARY INFORMATION: In the final rules section of this issue of the **Federal Register**, the EPA is approving NMED's request for delegation of authority to implement and enforce certain NSPS and NESHAP for all sources (both Title V and non-Title V sources). NMED has adopted certain NSPS and NESHAP by reference into New Mexico's state regulations. In addition, the EPA is waiving certain notification requirements required by the delegated standards so that sources will only need to notify and report to NMED, thereby avoiding duplicative notification and reporting to the EPA.

The EPA is taking direct final action without prior proposal because the EPA views this as a noncontroversial action and anticipates no relevant adverse comments. A detailed rationale for the approval is set forth in the direct final rule. If no relevant adverse comments are received in response to this action, no further activity is contemplated. If the EPA receives relevant adverse comments, the direct final rule will be withdrawn, and all public comments received will be addressed in a subsequent final rule based on this proposed rule. The EPA will not institute a second comment period. Any parties interested in commenting should do so at this time.

For additional information, see the direct final rule which is located in the rules section of this issue of the **Federal Register**.

Dated: March 22, 2018.

Wren Stenger,

Director, Multimedia Division, Region 6.

[FR Doc. 2018–07326 Filed 4–12–18; 8:45 am]

BILLING CODE 6560–50–P

DEPARTMENT OF COMMERCE

National Oceanic and Atmospheric Administration

50 CFR Part 217

[Docket No. 170908887–8328–01]

RIN 0648–BH24

Taking and Importing Marine Mammals; Taking Marine Mammals Incidental to U.S. Navy Pier Construction Activities at Naval Submarine Base New London

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

ACTION: Proposed rule; request for comments and information.

SUMMARY: NMFS has received a request from the U.S. Navy (Navy) for authorization to take marine mammals incidental to the pier construction activities conducted at the Naval Submarine Base New London in Groton, Connecticut, over the course of five years (2018–2023). 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 May 14, 2018.

ADDRESSES: You may submit comments, identified by NOAA–NMFS–2018–0047, by any of the following methods:

- *Electronic submissions:* Submit all electronic public comments via the Federal eRulemaking Portal, Go to *www.regulations.gov/#!docketDetail;D=NOAA-NMFS-2018-0047,* click the ''Comment Now!'' icon, complete the required fields, and enter or attach your comments.
- *Mail:* Submit comments to Jolie Harrison, Chief, Permits and Conservation Division, Office of Protected Resources, National Marine Fisheries Service, 1315 East-West Highway, Silver Spring, MD 20910–3225.

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 *www.regulations.gov* without change. All personal identifying information (*e.g.,* name, address, etc.), confidential business information, or otherwise sensitive information submitted voluntarily by the sender may be publicly accessible. Do not submit Confidential Business Information or otherwise sensitive or protected information. 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: Shane Guan, Office of Protected Resources, NMFS; phone: (301) 427–8401. Electronic copies of the application and supporting documents, as well as a list of the references cited in this document, may be obtained online at: *www.nmfs.noaa.gov/pr/permits/incidental/construction.htm.* In case of problems accessing these documents, please call the contact listed above.

SUPPLEMENTARY INFORMATION:

Purpose and Need for Regulatory Action

This proposed rule would establish a framework under the authority of the MMPA (16 U.S.C. 1361 *et seq.*) to allow for the authorization of take of marine mammals incidental to the Navy's construction activities related to marine structure maintenance and pile replacement at a facility in Groton, Connecticut.

We received an application from the Navy requesting five-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 five 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 I provide the legal basis for issuing this proposed rule containing five-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

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

- Required 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.

Background

Sections 101(a)(5)(A) and (D) of the Marine Mammal Protection Act of 1972, as amended (MMPA; 16 U.S.C. 1361 *et seq.*) direct the Secretary of Commerce (Secretary) to allow, upon request, the incidental, but not intentional taking of marine mammals by U.S. citizens who engage in a specified activity (other than commercial fishing) if certain findings are made and regulations are issued or, if the taking is limited to harassment, notice of a proposed authorization is provided to the public for review.

Authorization for incidental takings shall be granted if NMFS finds that the taking will have a negligible impact on the species or stock(s), will not have an unmitigable adverse impact on the availability of the species or stock(s) for subsistence uses (where relevant), and if the permissible methods of taking and requirements pertaining to the mitigation, monitoring and reporting of such taking 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.

The MMPA states that the term ''take'' means to harass, hunt, capture, kill or attempt to harass, hunt, capture, or kill any marine mammal. 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 (NEPA)

Issuance of an MMPA authorization requires compliance with NEPA.

In accordance with NEPA (42 U.S.C. 4321 *et seq.*) and NOAA Administrative Order (NAO) 216–6A, we have

preliminarily determined that issuance of this rule and subsequent LOAs qualifies to be categorically excluded from further NEPA review. Issuance of the rule is consistent with categories of activities identified in CE B4 of the Companion Manual and we have not identified any extraordinary circumstances listed in Chapter 4 of the Companion Manual that would preclude use of this categorical exclusion. We will consider all public comments prior to making a final decision regarding application of CE B4.

We will review all comments submitted in response to this notice as we complete the NEPA process, prior to making a final decision on the incidental take authorization request.

Summary of Request

On March 22, 2017, NMFS received an application from the Navy requesting authorization to incidentally take harbor and gray seals, by Level A and Level B harassment, incidental to noise exposure resulting from conducting pier construction activities at the Navy Submarine Base New London in Groton, Connecticut, from October 2018 to March 2022. These regulations would be valid for a period of five years. On August 31, 2017, NMFS deemed the application adequate and complete.

The use of sound sources such as those described in the application (*e.g.,* piledriving) may result in the take of marine mammals through disruption of behavioral patterns or may cause auditory injury of marine mammals. Therefore, incidental take authorization under the MMPA is warranted.

Description of the Specified Activity

Overview

The Navy is planning to demolish Pier 32 and Pier 10 and construct a new Pier 32 at Naval Submarine Base New London (SUBASE), Groton, Connecticut.

Recent Global Shore Infrastructure Plans and Regional Shore Infrastructure Plans identified a requirement for 11 adequate submarine berths at SUBASE. There are currently six adequate berths available via Piers 6, 17, and 31, leaving a shortfall of five adequate berths. The remaining submarine berthing piers (8, 10, 12, 32, and 33) are classified as inadequate because of their narrow width and short length compared to current SSN (hull classification) berthing design standards (Unified Facilities Criteria 4–152–01, Design Standards for Piers and Wharves).

The Proposed Action is to demolish Pier 32 and Pier 10, and replace them with a new Pier 32 that meets all current Navy SSN pier standards to accommodate Virginia Class submarines. The Proposed Action includes:

- Construction of a new, larger Pier 32 to be located approximately 150 feet (ft) north of the current location;
- Upgrade of the quaywall, north of Pier 32, may be required to accommodate a crane weight test area;
- Demolition of existing Pier 32 and Pier 10;
- Dredging of the sediment mounds beneath the existing Pier 32 (approximately 9,400 cubic yards [cy]) and the existing Pier 10 (approximately 10,000 cy) to a depth of 36 ft below mean lower low water (−36 ft MLLW) plus 2 ft of over dredge (additional dredge depth that allows for varying degrees of accuracy of different types of dredging equipment). Any remaining timber piles beneath the existing piers would be pulled with a strap;
- Dredging of the berthing areas alongside the proposed new Pier 32 (approximately 74,000 sq ft) to a depth of −38 feet MLLW plus 2 feet of over dredge; and
- Dredging of two additional areas (approximately 10,200 cy and 31,100 cy) in the Thames River navigation channel to a depth of −36 ft MLLW plus 2 ft of over dredge.

Two species of marine mammals are expected to potentially be present in the Thames River near SUBASE: Harbor seal (*Phoca vitulina*) and gray seal (*Halichoeris grypus*). Harbor seals and gray seals are more likely to occur at SUBASE from September to May.

Dates and Duration

Pile installation for the new Pier 32 and pile removal associated with the demolition of the existing Piers 32 and 10 is expected to take a total of approximately 3.5 years. Construction and demolition activities are expected to begin in October 2018 and proceed to completion in March 2022.

In-water activities expected to result in incidental takes of marine mammals would occur during approximately 35 non-consecutive months of the project beginning in October 2018. The estimated duration of pile installation and removal, including duration of the vibratory and impact hammer activities, is provided in Table 1 below for each year of construction and demolition. Also included in the Table are the durations for wood piles and steel fender piles to be pulled by a crane using a sling or strap attached to the pile. The durations of proposed pile driving/removal activities are primarily derived from information provided by Naval Facilities Engineering Command (NAVFAC) Mid-Atlantic Public Works Department, Facilities Engineering and Acquisition Department (FEAD) Design Manager and the record of pile driving activities documented during the construction of SUBASE Pier 31 (American Bridge 2010–2011). The proposed new Pier 32 would be comparable to Pier 31 in design and location and would have similar sub-surface geological conditions along this reach of the Thames River.

Specified Geographical Region

SUBASE is located in the towns of Groton and Ledyard in New London County, Connecticut. SUBASE occupies approximately 687 acres along the east bank of the Thames River, 6 mi north of the river's mouth at Long Island Sound (Figure 1–1 in LOA application). The Thames River is the easternmost of Connecticut's three major rivers and is formed by the confluence of the Shetucket and Yantic rivers in Norwich, from which it flows south for 12 mi to New London Harbor. The Thames River discharges freshwater and sediment from the interior of eastern Connecticut into Long Island Sound. It is the main drainage of the Thames River Major Drainage Basin, which encompasses approximately 3,900 square mi of eastern Connecticut and central Massachusetts (USACE 2015). The lower Thames River and New London Harbor sustains a variety of military, commercial, and recreational vessel usage. New London Harbor provides protection to a number of these.

Detailed Description of Specified Activity

1. Construction of New Pier 32

Pile driving would most likely be conducted using a barge and crane. However, the contractor may choose to use a temporary pile-supported work trestle that would be constructed by driving approximately 60 steel 14-inch diameter H-piles.

Structural support piles for Pier 32 would consist of approximately 120 concrete-filled steel pipe piles measuring 36 inches in diameter. The piles would be driven between 40 ft below the mudline near the shore and 150 ft below the mudline at the end of the pier. Fender piles would also be installed and would consist of approximately 194 fiberglass-reinforced plastic piles measuring 16 inches in diameter.

Special construction features would include drilling rock sockets into bedrock in an estimated 60 places to hold the piles. A rotary drill using a rock core barrel and rock muck bucket would be used inside of the steel pipe

piles to drill a minimum of 2 ft down into bedrock to create the rock socket that would be filled with concrete. Sediment would be lifted out and re-deposited within 10 ft of the pipe pile during rock socket drilling. Underwater noise from the rock drill as it is operated inside a steel pipe would be much less than that produced by vibratory and impact pile driving of the steel pipes (Martin *et al.,* 2012).

Impact and vibratory hammers would be used for installing piles where rock sockets are not required. Based on previous construction projects at SUBASE, it is estimated that an average of one 36-inch pile per week (with driving on multiple days) and two plastic piles per day would be installed. The per-pile drive time for each pile type and method will vary based on environmental conditions (including substrate) where each pile is driven. Impact or vibratory pile driving may result in harassment of marine mammals.

Construction of Pier 32 may also require upgrade of the quaywall north of Pier 32 to provide the reinforcement needed to support a crane weight test area. Because there is potential that a work trestle would be used and the requirement for the upgrade will not be determined until final design, the pile driving is included in the analyzed activities. The quaywall upgrade would include up to approximately eighteen 30-inch diameter concrete-filled steel pipe piles that would be installed into rock sockets driven into bedrock adjacent and parallel to the existing steel sheet pile wall. Pile caps and a concrete deck would be installed above the piles. A fender system composed of approximately nine 16-inch diameter plastic piles would also be installed into rock sockets approximately 2 ft in front of the new deck.

2. Demolition and Removal of Pier 32 and Pier 10

When the new Pier 32 is operational, the existing Pier 32 would be demolished using a floating crane and a series of barges. Pier 10 would be demolished after the demolition of existing Pier 32. The concrete decks of the piers would be cut into pieces and placed on the barges. Demolition debris would be sorted and removed by barge and recycled to the maximum extent practicable. Any residual waste would be disposed of offsite in accordance with applicable federal, state, and local regulations. Once the decks are removed, the steel H piles and pipe piles that support the existing pier would be pulled using a vibratory extraction method (hammer). The vibratory hammer would be attached to the pile head with a clamp. Once attached, vibration would be applied to the pile that would liquefy the adjacent sediment allowing the pile to be removed.

Demolition of existing Pier 32 would include the removal by vibratory driver-extractor (hammer) of approximately 60 steel piles from the temporary work trestle, 120 concrete-encased steel H-piles, and 70 steel H-piles. Fifty-six wood piles would be pulled with a sling. Demolition of Pier 10 would include the removal by vibratory hammer of 24 concrete-encased, steel H-piles and 166 cast-in-place, reinforced concrete piles. Eighty-four steel fender piles and 41 wood piles would be pulled with a sling. A total of 440 piles would be removed by vibratory hammer for both piers and the work trestle.

3. Dredging of Pier Areas and Navigation Channel

The Proposed Action would also include dredging of approximately 60,000 cy of sediment in two areas of the Thames River navigation channel near Pier 32, the berthing areas alongside the new Pier 32, and underneath existing Pier 32 and Pier 10 after demolition. All dredging for the Proposed Action would support safe maneuvering for entry and departure of submarines at the proposed new Pier 32 and existing Piers 8, 12, 17, and 31. The proposed design dredge depth in all areas to be dredged is −36 ft relative to MLLW plus 2 ft of over dredge.

Dredging would be conducted in two phases. Dredging of the new Pier 32 area and the northern portion of the channel dredge areas would be conducted in the first construction year. The footprints of the demolished Pier 32 and Pier 10 and the southern portions of the channel dredge areas would be dredged after demolition of the existing piers in the fourth year of construction. Dredging would occur only during the period between October 1 and January 31 to avoid potential impacts on shellfish and fisheries resources in the area. Each dredging and disposal phase would take approximately 2 weeks to complete.

After the demolition of Pier 32, any remnant timber piles present underneath existing Pier 32 would be pulled with a strap. The sediment mound that has formed beneath the pier would be dredged (approximately 9,400 cy) to the design depth. Dredging would also be required immediately west of Piers 31 and 32 (approximately 10,200 cy) and along the eastern edge (approximately 31,100 cy) of the navigation channel to achieve the required minimum depths to maneuver the submarines. Once the existing Pier 10 and any remnant timber piles are removed, the sediment mound beneath the old pier would be dredged (approximately 10,000 cy). Since dredging and disposal activities would be slow moving and conspicuous to marine mammals, they pose negligible risks of physical injury. An environmental bucket would be used for dredging to minimize turbidity compared with the turbidity generated by hydraulic dredging. Noise emitted by dredging equipment is broadband, with most energy below 1 kilohertz (kHz), and would be similar to that generated by vessels and maritime industrial activities that regularly operate within the action area (Clarke *et al.,* 2002; Todd *et al.,* 2015). Due to the low noise output and slow and steady transiting nature of the dredging activity, NMFS does not consider it would result to the level of harassment under the MMPA. Therefore, dredging is not considered further in this document.

TABLE 1—SUMMARY OF CONSTRUCTION ACTIVITIES FOR THE NAVY SUBMARINE BASE NEW LONDON

Activity	Pile number	Pile type	Method	Piles/day	Total driving days	Strike number (impact) or duration(s) per pile	Duration
Year 1							
Pier 32 construction	60	14″ steel H-pile temp. work trestle.	Impact	4	15	1,000 strikes	3 weeks.
	60	36″ x 100′ concrete-filled steel pipe piles.	Vibratory hammer & rock socket drilling.	0.5	120	1,200 seconds	6 months.

TABLE 1—SUMMARY OF CONSTRUCTION ACTIVITIES FOR THE NAVY SUBMARINE BASE NEW LONDON—Continued

Activity	Pile number	Pile type	Method	Piles/day	Total driving days	Strike number (impact) or duration(s) per pile	Duration
	20	36″ x 180′ concrete-filled steel piles.	Vibratory hammer	0.2	100	1,800 seconds	5 months.
	20	36″ x 180′ concrete-filled steel piles.	Impact hammer to last 20–40 ft	2.5	8	1,000 strikes	2 weeks.
Quaywall upgrade	18	30″ x 100′ concrete-filled steel pipe piles.	Rock socket drilling	0.5	36	15,000 seconds	Concurrent with Pier 32.
	9	16″ fiberglass reinforced plastic piles.	Rock socket drilling	0.5	18	7,500 seconds.	
Year 2							
Pier 32 construction	40	36″ x 180′ concrete-filled steel piles.	Vibratory hammer	0.2	200	1,800 seconds	10 months.
	40	36″ x 180′ concrete-filled steel piles.	Impact hammer to drive last 20–40 ft.	2.5	16	1,000 strikes	3.5 weeks.
Year 3							
Pier 32 construction	194	16″ fiberglass reinforced plastic piles.	Vibratory hammer	2	97	1,200 seconds	5 months.
	64	16″ fiberglass reinforced plastic piles.	Impact hammer to drive last 20–40 ft.	2.5	26	1,000 strikes	1.5 months.
Year 4							
Pier 32 demolition	60	14″ steel H-piles temp. work trestle.	Vibratory hammer (removal)	5	14	1,200 seconds	3 weeks.
	24	33″ concrete-encased steel H piles.	Vibratory hammer (removal)	2	12	1,200 seconds	3.5 months.
	96	24″ concrete-encased steel H piles.	Vibratory hammer (removal)	2	48	1,200 seconds.	
	70	14″ steel H piles	Vibratory hammer (removal)	5	14	1,200 seconds.	
Pier 10 demolition	24	24″ concrete-encased steel H piles.	Vibratory hammer (removal)	9.5	2.5	1,200 seconds	0.5 month.
	166	24″ cast-in-place reinforced concrete piles.	Vibratory hammer (removal)	9.5	17.5	1,200 seconds	0.5 month.

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 the Specified Activities

Marine mammal species that could be present in the Study Area and their associated stocks are presented in Table 2 along with an abundance estimate, an associated coefficient of variation value, and best/minimum abundance estimates. There are other species of marine mammals, including a number of cetaceans, that are known to be present in nearby Long Island Sound. However, since received noise levels from the project are not expected to reach the mouth of the Thames River due to geographical boundaries, these species are excluded from further discussion. The Navy proposes to take individuals of harbor seal and gray seal by Level A and B harassment incidental to pier construction activities. Neither of these marine mammal species is listed as endangered or threatened under the Endangered Species Act (ESA).

Information on the status, distribution, and abundance of these seal species in the Study Area may be viewed in the Navy's LOA application. Additional information on the general biology and ecology of marine mammals are included in the application. In addition, NMFS annually publishes Stock Assessment Reports (SARs) for all marine mammals in U.S. EEZ waters, including stocks that occur within the Study Area—U.S. Atlantic and Gulf of Mexico Marine Mammal Stock Assessment Reports (Hayes *et al.,* 2017).

TABLE 2—MARINE MAMMALS THAT MAY OCCUR WITHIN NAVY SUBMARINE BASE NEW LONDON AREA

Common name	Scientific name	Stock	ESA/MMPA status	Stock abundance best/minimum population	Occurrence in study area
Order Carnivora					
Suborder Pinnipedia					
Family Phocidae (true seals)					
Gray seal	*Halichoerus grypus*	Western North Atlantic		505,000*	Thames River.
Harbor seal	*Phoca vitulina*	Western North Atlantic		75,834 (0.15)/66,884	Thames River.

*There are an estimated 27,131 seals in U.S. waters; however, gray seals form one population not distinguished on the basis of the U.S./Canada boundary.

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. Current data indicate that 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) recommended that marine mammals be divided into functional hearing groups based on directly measured or estimated hearing ranges on the basis of available behavioral response data, audiograms derived using auditory evoked potential techniques, anatomical modeling, and other data. Note that no direct measurements of hearing ability have been successfully completed for mysticetes (*i.e.,* low-frequency cetaceans). Subsequently, NMFS (2016) described generalized hearing ranges for these marine mammal hearing groups. Generalized hearing ranges were chosen based on the approximately 65 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. The functional groups and the associated frequencies are indicated below (note that these frequency ranges correspond to the range for the composite group, with the entire range not necessarily reflecting the capabilities of every species within that group):

- Low-frequency cetaceans (mysticetes): Generalized hearing is estimated to occur between approximately 7 Hz and 35 kHz;
- Mid-frequency cetaceans (larger toothed whales, beaked whales, and most delphinids): Generalized hearing is estimated to occur between approximately 150 Hz and 160 kHz;
- High-frequency cetaceans (porpoises, river dolphins, and members of the genera *Kogia* and *Cephalorhynchus;* including two members of the genus *Lagenorhynchus,* on the basis of recent echolocation data and genetic data): Generalized hearing is estimated to occur between approximately 275 Hz and 160 kHz;
- Phocidae (true seals): Generalized hearing is estimated to occur between approximately 50 Hz to 86 kHz;
- Otariidae (eared seals): Generalized hearing is estimated to occur between 60 Hz and 39 kHz.

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 (2016) for a review of available information. Only two marine mammal species (both are phocid species) have the reasonable potential to co-occur with the proposed construction activities. Please refer to Table 2.

Potential Impacts to Marine Mammals

The Navy's Submarine Base New London pier construction using in-water pile driving and pile removal could adversely affect marine mammal species and stocks by exposing them to elevated noise levels in the vicinity of the activity area.

Exposure to high intensity sound for a sufficient duration may result in auditory effects such as a noise-induced threshold shift (TS)—an increase in the auditory threshold after exposure to noise (Finneran *et al.,* 2005). Factors that influence the amount of threshold shift include the amplitude, duration, frequency content, temporal pattern, and energy distribution of noise exposure. The magnitude of hearing threshold shift normally decreases over time following cessation of the noise exposure. The amount of TS just after exposure is the initial TS. If the TS eventually returns to zero (*i.e.,* the threshold returns to the pre-exposure value), it is a temporary threshold shift (TTS) (Southall *et al.,* 2007).

Threshold Shift (noise-induced loss of hearing)—When animals exhibit reduced hearing sensitivity (*i.e.,* sounds must be louder for an animal to detect them) following exposure to an intense sound or sound for long duration, it is referred to as a noise-induced TS. An animal can experience TTS or permanent threshold shift (PTS). TTS can last from minutes or hours to days (*i.e.,* there is complete recovery), can occur in specific frequency ranges (*i.e.,* an animal might only have a temporary loss of hearing sensitivity between the frequencies of 1 and 10 kHz), and can be of varying amounts (for example, an animal's hearing sensitivity might be reduced initially by only 6 dB or reduced by 30 dB). PTS is permanent, but some recovery is possible. PTS can also occur in a specific frequency range and amount as mentioned above for TTS.

For marine mammals, published data are limited to the captive bottlenose dolphin, beluga, harbor porpoise, and Yangtze finless porpoise (Finneran *et al.,* 2000, 2002, 2003, 2005, 2007, 2010a, 2010b; Finneran and Schlundt, 2010; Lucke *et al.,* 2009; Mooney *et al.,* 2009a, 2009b; Popov *et al.,* 2011a, 2011b; Kastelein *et al.,* 2012a; Schlundt *et al.,* 2000; Nachtigall *et al.,* 2003, 2004). For pinnipeds in water, data are limited to measurements of TTS in harbor seals, an elephant seal, and California sea lions (Kastak *et al.,* 1999, 2005; Kastelein *et al.,* 2012b).

Lucke *et al.* (2009) found a TS of a harbor porpoise after exposing it to airgun noise with a received sound pressure level (SPL) at 200.2 dB (peak-to-peak) re: 1 micropascal (μPa), which corresponds to a sound exposure level of 164.5 dB re: 1 μPa^2 s after integrating exposure. Because the airgun noise is a broadband impulse, one cannot directly determine the equivalent of root mean square (rms) SPL from the reported peak-to-peak SPLs. However, applying a conservative conversion factor of 16 dB for broadband signals from seismic surveys (McCauley, *et al.,* 2000) to correct for the difference between peak-to-peak levels reported in Lucke *et al.* (2009) and rms SPLs, the rms SPL for TTS would be approximately 184 dB re: 1 μPa, and the received levels associated with PTS (Level A harassment) would be higher. Therefore, based on these studies, NMFS recognizes that TTS of harbor porpoises is lower than other cetacean species empirically tested (Finneran & Schlundt, 2010; Finneran *et al.,* 2002; Kastelein and Jennings, 2012).

Marine mammal hearing plays a critical role in communication with conspecifics, and interpretation of environmental cues for purposes such as predator avoidance and prey capture. 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 occurs during a time 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. Also, depending on the degree

and frequency range, the effects of PTS on an animal could range in severity, although it is considered generally more serious because it is a permanent condition. Of note, 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 one can infer that strategies exist for coping with this condition to some degree, though likely not without cost.

In addition, chronic exposure to excessive, though not high-intensity, noise could cause masking at particular frequencies for marine mammals, which utilize sound for vital biological functions (Clark *et al.,* 2009). Acoustic masking is when other noises such as from human sources interfere with animal detection of acoustic signals such as communication calls, echolocation sounds, and environmental sounds important to marine mammals. Therefore, under certain circumstances, marine mammals whose acoustical sensors or environment are being severely masked could also be impaired from maximizing their performance fitness in survival and reproduction.

Masking occurs at the frequency band that the animals utilize. Therefore, since noise generated from vibratory pile driving is mostly concentrated at low frequency ranges, it may have less effect on high frequency echolocation sounds by odontocetes (toothed whales). However, lower frequency man-made noises are more likely to affect detection of communication calls and other potentially important natural sounds such as surf and prey noise. It may also affect communication signals when they occur near the noise band and thus reduce the communication space of animals (*e.g.,* Clark *et al.,* 2009) and cause increased stress levels (*e.g.,* Foote *et al.,* 2004; Holt *et al.,* 2009).

Unlike TS, masking, which can occur over large temporal and spatial scales, can potentially affect the species at population, community, or even ecosystem levels, as well as individual levels. Masking affects both senders and receivers of the signals and could have long-term chronic effects on marine mammal species and populations. Recent science suggests that low frequency ambient sound levels have increased by as much as 20 dB (more than three times in terms of sound pressure level) in the world's ocean from pre-industrial periods, and most of these increases are from distant shipping (Hildebrand, 2009). For the Navy's Submarine Base New London pier construction, noises from vibratory pile driving and pile removal contribute to the elevated ambient noise levels in the project area, thus increasing potential for or severity of masking. Baseline ambient noise levels in the vicinity of project area are high due to ongoing shipping, construction and other activities in the Thames River.

Finally, marine mammals' exposure to certain sounds could lead to behavioral disturbance (Richardson *et al.,* 1995), such as: Changing durations of surfacing and dives, number of blows per surfacing, or moving direction and/or speed; reduced/increased vocal activities; changing/cessation of certain behavioral activities (such as socializing or feeding); visible startle response or aggressive behavior (such as tail/fluke slapping or jaw clapping); avoidance of areas where noise sources are located; and/or flight responses (*e.g.,* pinnipeds flushing into water from haulouts or rookeries).

The onset of behavioral disturbance from anthropogenic noise depends on both external factors (characteristics of noise sources and their paths) and the receiving animals (hearing, motivation, experience, demography) and is also difficult to predict (Southall *et al.,* 2007). Currently NMFS uses a received level of 160 dB re 1 µPa (rms) to predict the onset of behavioral harassment from impulse noises (such as impact pile driving), and 120 dB re 1 µPa (rms) for continuous noises (such as vibratory pile driving). For the Navy's Submarine Base New London pier construction, both 160- and 120-dB levels are considered for effects analysis because the Navy plans to use both impact pile driving and vibratory pile driving and pile removal.

The biological significance of many of these behavioral disturbances is difficult to predict, especially if the detected disturbances appear minor. However, the consequences of behavioral modification could be biologically significant if the change affects growth, survival, and/or reproduction, which depends on the severity, duration, and context of the effects.

Potential Effects on Marine Mammal Habitat

The primary potential impacts to marine mammal habitat are associated with elevated sound levels produced by vibratory pile removal and pile driving in the area. However, other potential impacts to the surrounding habitat from physical disturbance are also possible.

With regard to fish as a prey source for cetaceans and pinnipeds, fish are known to hear and react to sounds and to use sound to communicate (Tavolga *et al.,* 1981) and possibly avoid predators (Wilson and Dill, 2002). Experiments have shown that fish can sense both the strength and direction of sound (Hawkins, 1981). Primary factors determining whether a fish can sense a sound signal, and potentially react to it, are the frequency of the signal and the strength of the signal in relation to the natural background noise level.

The level of sound at which a fish will react or alter its behavior is usually well above the detection level. Fish have been found to react to sounds when the sound level increased to about 20 dB above the detection level of 120 dB (Ona, 1988); however, the response threshold can depend on the time of year and the fish's physiological condition (Engas *et al.,* 1993). In general, fish react more strongly to pulses of sound (such as noise from impact pile driving) rather than continuous signals (such as noise from vibratory pile driving) (Blaxter *et al.,* 1981), and a quicker alarm response is elicited when the sound signal intensity rises rapidly compared to sound rising more slowly to the same level.

During in-water pile driving only a small fraction of the available habitat would be ensonified at any given time. Disturbance to fish species would be short-term and fish would return to their pre-disturbance behavior once the pile driving activity ceases. Thus, the proposed construction would have little, if any, impact on marine mammals' prey availability in the area where construction work is planned.

Disposal of dredged material in the confined aquatic disposal (CAD) cell would have a direct impact to the benthos as a result of burial and suffocation. Most, if not all, sessile marine invertebrates are not expected to survive burial. Some motile marine organisms would be buried and unable to survive, while others such as burrowing specialists, may survive. Survival rates would depend primarily on burial depth. From 2010 through 2012, biannual benthic sampling of the CAD cell area was conducted to assess the timeframe for recovery of benthic populations of the CAD cells, in accordance with Water Quality Certificate conditions for the 2010 waterfront maintenance dredging project at the submarine base. The sampling results of the CAD cell were compared to sampling results of an undisturbed reference site located upriver. The degree of similarity of population and community structures was assessed. The results of the three year survey program indicated that a progressive recovery to a stable benthic population was occurring at the CAD cell. As demonstrated by the biannual benthic survey, benthic assemblages are

anticipated to recover within three to five years after the completion of the project, and disposal impacts would not be significant (CardnoTEC 2015).

Project activities would temporarily disturb benthic and water column habitats and change bottom topography to a minor degree, but effects on prey availability and foraging conditions for marine mammals would be temporary and limited to the immediate area of pier demolition/construction, dredging, and disposal. The new surfaces of piles and exposed concrete on the new pier would likely result in establishment of fouling communities on the new structures, and may attract fish and benthic organisms resulting in small scale shifts in prey distribution.

There are no known haulouts within the vicinity of the Proposed Action.

The project activities would not permanently modify existing marine mammal habitat. The activities may kill some fish and cause other fish to leave the area temporarily, 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. Therefore, given the consideration of potential impacts to marine mammal prey species and their physical environment, the Navy's proposed construction activity at the submarine base would not adversely affect marine mammal habitat.

Estimated Take

This section provides an estimate of the number of incidental takes proposed to be authorized through this rule, which will inform both NMFS' consideration of whether the number of takes is ''small'' and the negligible impact determination.

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

Authorized takes would be by Level A and Level B harassments, in the form of mild permanent hearing threshold shift (Level A) and disruption of behavioral patterns (Level B) for individual marine mammals resulting from exposure to noise generated from impact pile driving and vibratory pile driving and removal. Based on the nature of the activity and the anticipated effectiveness of the mitigation measures (*e.g.,* shutdown measures—discussed in detail below in Mitigation section), serious injury or mortality is neither anticipated nor authorized.

As described previously, no mortality is anticipated or authorized for this activity. Below we describe how the take is estimated.

Described in the most basic way, 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) and the number of days of activities. Below, we describe these components in more detail and present the take estimate.

Acoustic Thresholds

Using the best available science, NMFS has developed 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 for non-explosive sources—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 (*e.g.,* frequency, predictability, duty cycle), the environment (*e.g.,* bathymetry), and the receiving animals (hearing, motivation, experience, demography, behavioral context) and can be difficult to predict (Southall *et al.,* 2007, Ellison *et al.,* 2011). Based on what the available science indicates and the practical need to use a threshold based on a factor that is both predictable and measurable for most activities, NMFS uses a generalized acoustic threshold based on received level to estimate the onset of behavioral harassment. NMFS predicts that marine mammals are likely to be behaviorally harassed in a manner we consider Level B harassment when exposed to underwater anthropogenic noise above received levels of 120 dB re 1 µPa (rms) for continuous (*e.g.,* vibratory pile-driving, drilling) and above 160 dB re 1 µPa (rms) for non-explosive impulsive (*e.g.,* seismic airguns) or intermittent (*e.g.,* scientific sonar) sources.

Applicant's proposed activity includes the use of continuous (vibratory pile driving and removal) and impulsive (impact pile driving) sources, and therefore the 120 and 160 dB re 1 µPa (rms) levels are applicable.

Level A harassment for non-explosive sources—NMFS' Technical Guidance for Assessing the Effects of Anthropogenic Sound on Marine Mammal Hearing (Technical Guidance, 2016) 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). Applicant's proposed activity includes the use of non-impulsive (vibratory pile driving and pile removal) sources.

These thresholds were developed by compiling and synthesizing the best available science and soliciting input multiple times from both the public and peer reviewers to inform the final product, and are provided in the table below. The references, analysis, and methodology used in the development of the thresholds are described in NMFS' 2016 Technical Guidance, which may be accessed at: *http://www.nmfs.noaa.gov/pr/acoustics/guidelines.htm.*

TABLE 3—CURRENT ACOUSTIC EXPOSURE CRITERIA FOR NON-EXPLOSIVE SOUND UNDERWATER

Hearing group	PTS onset thresholds		Behavioral thresholds	
	Impulsive	Non-impulsive	Impulsive	Non-impulsive
Low-Frequency (LF) Cetaceans	$L_{pk,flat}$: 219 dB; $L_{E,LF,24h}$: 183 dB	$L_{E,LF,24h}$: 199 dB	$L_{rms,flat}$: 160 dB	$L_{rms,flat}$: 120 dB.
Mid-Frequency (MF) Cetaceans	$L_{pk,flat}$: 230 dB; $L_{E,MF,24h}$: 185 dB.	$L_{E,MF,24h}$: 198 dB.		

TABLE 3—CURRENT ACOUSTIC EXPOSURE CRITERIA FOR NON-EXPLOSIVE SOUND UNDERWATER—Continued

Hearing group	PTS onset thresholds		Behavioral thresholds	
	Impulsive	Non-impulsive	Impulsive	Non-impulsive
High-Frequency (HF) Cetaceans	$L_{pk,flat}$: 202 dB; $L_{E,HF,24h}$: 155 dB.	$L_{E,HF,24h}$: 173 dB.		
Phocid Pinnipeds (PW) (Underwater).	$L_{pk,flat}$: 218 dB; $L_{E,PW,24h}$: 185 dB.	$L_{E,PW,24h}$: 201 dB.		
Otariid Pinnipeds (OW) (Underwater).	$L_{pk,flat}$: 232 dB; $L_{E,OW,24h}$: 203 dB.	$L_{E,OW,24h}$: 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 (Lpk) has a reference value of 1 µPa, and cumulative sound exposure level (LE) has a reference value of 1µPa2s. 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 will feed into identifying the area ensonified above the acoustic thresholds.

Source Levels

The project includes impact pile driving and vibratory pile driving and removal of various piles. Source levels of pile driving and removal activities are based on reviews of measurements of the same or similar types and dimensions of piles available in the literature (Caltrans, 2015; Martin *et al.,* 2012; Dazey *et al.,* 2012; WSDOT, 2007, 2012; NAVFAC Southwest, 2014). Based on this review, the following source levels are assumed for the underwater noise produced by construction activities:

- Impact driving of 14-inch steel H-piles for the temporary trestle is assumed to generate a peak SPL of 208 dB re 1µPa, and a root-mean-squared (rms) SPL of 187 dB re 1 µPa, based on adding 10 dB to a single-strike SEL of 177 dB re 1 µPa²-sec at 10 m (33 ft) reported by Caltrans (2015). This assumption is based on differences between SEL and rms values of other piles reported by Caltrans (2015).
- Impact driving of 36-inch steel piles would be assumed to generate an instantaneous peak SPL of 209 dB, an rms SPL of 198 dB, and a SEL of 183 dB at the 10 m (33 ft) distance, based on the weighted average of similar pile driving at the Bangor Naval Base, Naval Base Point Loma, Washington State Department of Transportation (WSDOT) Anacortes Ferry Terminal, and WSDOT Mukilteo Ferry Terminal.
- Vibratory driving of 36-inch steel piles would be assumed to generate a 168 dB SPLrms and a 168 dB SEL at 10 m (33 ft), based on the weighted average of similar pile driving measured at Bangor Naval Base, Naval Base Point Loma, and WSDOT Anacortes Ferry Terminal.
- Impact driving of the 16-inch plastic piles, for which no data specific to that size and composition are available, are assumed to be similar to available data on13-inch plastic piles: 177 dB peak SPL and 153 dB rms SPL. No SEL measurements were made, but the SEL at 10 m (33 ft) can be assumed to be 9 dB less than the rms value (based on differences of rms and SEL values of in-water impact pile-driving data of other piles summarized by Caltrans 2015), which would put the SEL value for the plastic piles at 144 dB. For vibratory pile driving of the same plastic piles, the SPL rms of impact driving is used as a proxy due to lack of measurement.
- Vibratory removal of 14-inch steel H-piles is conservatively assumed to have rms and SEL values of 158 dB based on a relatively large set of measurements from the vibratory installation of 14-inch H-piles.
- Drilling the rock sockets is assumed to be an intermittent, non-impulsive, broadband noise source, similar to vibratory pile driving, but using a rotary drill inside a pipe or casing, which is expected to reduce sound levels below those of typical pile driving (Martin *et al.* 2012). Measurements made during a pile drilling project in 1–5 m (3–16 ft) depths at Santa Rosa Island, CA, by Dazey *et al.,* (2012) appear to provide reasonable proxy source levels for the proposed activities. Dazey *et al.* (2012) reported average rms source levels ranging from 151 to 157 dB re 1µPa, normalized to a distance of 1 m (3 ft) from the pile, during activities that included casing removal and installation as well as drilling, with an average of 154 dB re 1µPa during 62 days that spanned all related drilling activities during a single season.
- Since no source level data are available for vibratory extraction of concrete or concrete encased 24-inch and 33-inch steel H-piles, conservative proxy source levels were based on the summary values reported for vibratory driving of 24-inch steel sheet piles by Caltrans (2015). There are two reasons for using 24-in steel sheet pile driving source level as a proxy: (1) In general, pile extraction generates less noise in comparison to pile driving, and (2) piling of concrete or concrete encased piles generated less noise in comparison to steel piles. Since there are no source levels available for extraction of the 24-in concrete or concrete encased piles and 33-in steel H-piles, we defer to the pile driving source level of 24-in steel sheet pile reported by Caltrans (2015). The Caltrans (2015) typical source level of 160 dB rms and SEL was used for vibratory removal of 24-inch concrete piles and 24-inch concrete encased steel H-piles, whereas the loudest source level of 165 dB rms and SEL was used for vibratory removal of 33-inch concrete encased steel piles.

A summary of source levels from different pile driving and pile removal activities is provided in Table 4.

TABLE 4—SUMMARY OF IN-WATER PILE DRIVING SOURCE LEVELS

[At 10 m from source]

Method	Pile type/size	SPL_{pk} (dB re 1 μPa)	SPL_{rms} (dB re 1 μPa)	SEL (dB re 1 μPa^2-s)
Impact driving	14-in steel H pile	208	187	177
Impact driving	36-in concrete-filled steel pile	209	198	183
Vibratory driving	30- and 36-in concrete-filled steel pipe pile; 16-in fiberglass plastic pile.	NA	168	168
Impact driving	16-in fiberglass plastic pile	177	153	144
Vibratory driving	16-in fiberglass plastic pile	NA	153	153
Rock socket drilling	30-in steel pile & 16-in plastic pile	NA	154	154
Vibratory removal	14-in steel H pile	NA	158	158
Vibratory removal	24-in concrete-encased steel H pile	NA	160	160
Vibratory removal	33-in concrete-encased steel H pile	NA	165	165

These source levels are used to compute the Level A injury zones and to estimate the Level B harassment zones. For Level A harassment zones, since the peak source levels for both pile driving methods are below the injury thresholds, cumulative SEL were used to do the calculations using the NMFS acoustic guidance (NMFS 2016).

Estimating Injury Zones

When NMFS' Technical Guidance (2016) was published, in recognition of the fact that ensonified area/volume could be more technically challenging to predict because of the duration component in the new thresholds, we developed a User Spreadsheet that includes tools to help predict a simple isopleth that can be used in conjunction with marine mammal density or occurrence to help predict takes. We note that because of some of the assumptions included in the methods used for these tools, we anticipate that isopleths produced are typically going to be overestimates of some degree, which will result in some degree of overestimate of Level A take. However, these tools offer the best way to predict appropriate isopleths when more sophisticated 3D modeling methods are not available, and NMFS continues to develop ways to quantitatively refine these tools, and will qualitatively address the output where appropriate.

For cumulative SEL (L_E), distances to marine mammal injury thresholds were estimated using NMFS' Optional User Spreadsheet based on the noise exposure guidance. For impact pile driving, the single strike SEL/pulse equivalent was used, and for vibratory pile driving, the rms SPL source level was used. Per the NMFS Spreadsheet, default Weighting Factor Adjustments (WFA) were used for calculating PTS from both vibratory and impact pile driving, using 2.5 kHz and 2.0 KHz, respectively. These WFAs are acknowledged by NMFS as conservative. A transmission loss coefficient of 15 is used with reported source levels measured at 10m.

Isopleths to Level B behavioral zones are based on rms SPL (SPL_{rms}) that are specific for non-impulse (vibratory pile driving) sources. Distances to marine mammal behavior thresholds were calculated using practical spreading.

A summary of the measured and modeled harassment zones is provided in Table 5. In modeling transmission loss from the project area, the conventional assumption would be made that acoustic propagation from the source is impeded by natural and manmade features that extend into the water, resulting in acoustic shadows behind such features. While not solid structures, given the density of structural pilings under the many pile-supported piers located south of Piers 32 and 10, coupled with the docking of submarines at these piers, the piers are presumed to disrupt sound propagation southward in the river.

TABLE 5—CALCULATED AREAS OF ZONE OF INFLUENCE AND MAXIMUM DISTANCES

Year	Activity description	Source level @10m, dB (rms/SEL)	Level A distance (m)/area (km^2)	Level B distance (m)/area (km^2)
1	Impact driving 14″ steel H-pile	187/177	536/0.4468	631/0.5468.
	Vibratory & rock socket drilling installation of 36″ concrete-filled steel piles	168	<4/<0.0001	4,642/2.2002.
	Impact driving 36″ concrete-filled steel piles	198/183	984/0.886	3,415/2.037.
	Rocket socket drilling of 30″ concrete-filled steel piles and 16″ fiberglass reinforced plastic piles.	154	Activity will occur concurrently with above activities that have much bigger zones.	
2	Vibratory installation of 36″ concrete-filled steel piles	168	<4/<0.0001	4,642/2.2002.
	Impact pile driving 36″ concrete-filled steel piles	198/183	984/0.886	3,415/2.037.
3	Vibratory installation of 16″ fiberglass plastic piles	153	0.9/<0.0001	1,584/1.1584.
	Impact installation of 16″ fiberglass plastic piles	153/144	2.5/<0.0001	1/<0.000.
4	Vibratory removal of 14″ steel H-piles	158	<4/<0.0001	2,415/1.8372.
	Vibratory removal of 24″ concrete-filled steel piles (Pier 32)	160	2.7/<0.0001	4,334/2.029.
	Vibratory removal of 30″ concrete-filled steel piles (Pier 32)	165	5.9/<0.0001	4,334/2.029.
	Vibratory removal of 24″ concrete-filled steel piles (Pier 10)	160	7.7/<0.0001	4,642/3.317.

Marine Mammal Occurrence

In this section we provide the information about the presence, density, or group dynamics of marine mammals that will inform the take calculations.

The Navy's Marine Species Density Database (NMSDD) has density estimates for harbor and gray seals that occur in Long Island Sound. The NMSDD density estimates for harbor seals and gray seals are the same, 0.0703/km² during fall, winter, and spring, and 0.0174/km² during summer months. These estimates, however, are based on broad-scale oceanic surveys, which have not extended up the Thames River.

Marine mammal surveys were conducted in fall 2014 and winter, spring, and summer of 2015 as part of a nearshore biological survey at Submarine Base New London. No marine mammals were observed (Tetra Tech 2016). Harbor seals have been sighted in the Thames River near the submarine base by Navy personnel. Both gray and harbor seals have rookeries in Long Island Sound. A two-year detailed, systematic survey of marine mammals in the Thames River began in January 2017. During the first nine months of the survey through September, one pinniped (gray seal) was observed approximately 2¾ miles downstream of SUBASE at a fishing dock near the ferry terminal, approximately 3,000 feet south of the Gold Star Memorial Bridge (I–95).

Based on the repeated sightings at the Submarine Base New London, the average presence of seals (harbor or gray) is estimated to be 4 per week or 0.6 per day from September through May. The majority (75 percent) of these are likely to be harbor seals. There are no areas (haulouts) where seals are known to be concentrated nor have there been contemporary sightings of larger numbers of seals along this stretch of the river, and the animals seen at the submarine base are likely to move up and down as well as across the river. Given that the Thames River is about 500 m (1,640 ft) wide at the Submarine Base New London, and similarly developed areas extend about 1 km (3,280 ft) up and down the river, the Navy believes it is reasonable to extrapolate the observations at the Submarine Base New London to an area of about 1 km² for the purpose of estimating density. This would result in an average density of 0.45 harbor and 0.15 gray seals per km² within the project ZOIs from September through May. Very few animals were sighted outside the September through May time frame. Therefore, the September through May data is used for density estimates to be conservative.

Take Calculation and Estimation

Here we describe how the information provided above is brought together to produce a quantitative take estimate. For both harbor and gray seals, estimated takes are calculated based on ensonified area for a specific pile driving activity multiplied by the marine mammal density in the action area, multiplied by the number of pile driving (or removal) days. Distances to and areas of different harassment zones are listed in Table 4.

For both Level A and Level B harassment, take calculations and assumptions are as follows:

- Number of takes per activity = density (average number of seals per km²) * area of ZOI (km²) * number of days, rounded to the nearest whole number;
- Seal density in the project area is estimated as 0.6/km² from September through May (zero from June through August), consisting of 75 percent harbor seals (0.45/km²) and 25 percent gray seals (0.15/km²);
- Assumes as a worst case that activities will occur up to a maximum of 180 workdays (5 days per week) when seals are present (September through May) during each full construction year;
- Assumes vibratory and impact hammer pile driving would not occur on the same days;
- Level A and Level B takes are calculated separately based on the respective ZOIs for each type of activity, providing a maximum estimate for each type of take which corresponds to the authorization requested under the MMPA; and
- Assumes that the effective implementation of a 10 m shutdown zone will prevent non-acoustic injuries and will prevent animals from entering acoustic harassment ZOIs that extend less than 10 m from the source.

The maximum extent of the potential injury zone (for impact pile driving of steel piles) is 984 m (3,228 ft) from the source for 36-inch concrete-filled steel piles and 536 m (1,758 ft) for 14-inch steel H-piles; other potential acoustic injury ZOIs for vibratory pile extraction and installation are only 1 to 7.7 m (3 to 25 ft) from the source (Table 4). Seals within about 10 m (33 ft) of in-water construction or demolition may also be at risk of injury from interaction with construction equipment. These potential injury zones and the 10 m (33 ft) exclusion distance would be monitored during all in-water construction/demolition activities, and the activities would be halted if a marine mammal were to approach within these distances.

The estimated numbers of instances of acoustic harassment (takes) by year, species and severity (Level A or Level B) are shown in Table 6. Total Level A takes are estimated as 12 harbor seals and 4 gray seals (total 16), and Level B takes are estimated as 504 harbor seals and 168 gray seals (total 672).

TABLE 6—ESTIMATED NUMBERS OF MARINE MAMMALS THAT MAY BE EXPOSED TO RECEIVED NOISE LEVELS THAT CAUSE LEVEL A AND LEVEL B HARASSMENT

Year	Species	Estimated level A take	Estimated level B take	Estimated total take	Abundance	Percentage
1	Harbor seal	6	166	172	75,834	0.23
	Gray seal	2	55	57	27,131	0.21
2	Harbor seal	6	177	183	75,834	0.24
	Gray seal	2	59	61	505,000	0.01
3	Harbor seal	0	51	51	75,834	0.07
	Gray seal	0	17	17	27,131	0.06
4	Harbor seal	0	110	110	75,834	0.15
	Gray seal	0	37	37	27,131	0.14

Proposed Mitigation

In order to issue an LOA under section 101(a)(5)(A) of the MMPA, NMFS must set forth the permissible methods of taking pursuant to such activity, and other means of effecting the least practicable impact on such species or stock and its habitat, paying particular attention to rookeries, mating grounds, and areas of similar significance, and on the availability of such 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 such 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, we carefully consider two primary factors:

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

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

Mitigation for Marine Mammals and Their Habitat

1. Time Restriction

Work would occur only during daylight hours, when visual monitoring of marine mammals can be conducted.

2. Establishing and Monitoring Level A and Level B Harassment Zones, and Exclusion Zones

Before the commencement of in-water construction activities, which include impact pile driving and vibratory pile driving and pile removal, the Navy shall establish Level A harassment zones where received underwater SEL_{cum} could cause PTS (see Table 5 above).

The Navy shall also establish Level B harassment zones where received underwater SPLs are higher than 160 dB_{rms} re 1 µPa for impulsive noise sources (impact pile driving) and 120 dB_{rms} re 1 µPa for non-impulsive noise sources (vibratory pile driving and pile removal).

The Navy shall establish a 10-m (33-ft) exclusion zone for all in-water construction and demolition work.

If marine mammals are found within the exclusion zone, pile driving of the segment would be delayed until they move out of the area. If a marine mammal is seen above water and then dives below, the contractor would wait 15 minutes. If no marine mammals are seen by the observer in that time it can be assumed that the animal has moved beyond the exclusion zone.

If pile driving of a segment ceases for 30 minutes or more and a marine mammal is sighted within the designated exclusion zone prior to commencement of pile driving, the observer(s) must notify the pile driving operator (or other authorized individual) immediately and continue to monitor the exclusion zone. Operations may not resume until the marine mammal has exited the exclusion zone or 15 minutes have elapsed since the last sighting.

3. Shutdown Measures

The Navy shall implement shutdown measures if a marine mammal is detected moving towards or entered the 10-m (33-ft) exclusion zone.

Further, the Navy shall implement shutdown measures if the number of authorized takes for any particular species reaches the limit under the LOA (if issued) and such marine mammals are sighted within the vicinity of the project area and are approaching the Level B harassment zone during in-water construction activities.

4. Soft Start

The Navy shall implement soft start techniques for impact pile driving. The Navy shall conduct an initial set of three strikes from the impact hammer at 40 percent energy, followed by a 1-minute waiting period, then two subsequent three strike sets. Soft start shall be required for any impact driving, including at the beginning of the day, and at any time following a cessation of impact pile driving of thirty minutes or longer.

Whenever there has been downtime of 30 minutes or more without impact driving, the contractor shall initiate impact driving with soft-start procedures described above.

Based on our evaluation of the required measures, NMFS has preliminarily determined that the prescribed mitigation measures provide the means 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) state 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 in the proposed action area. 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 action; 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.

Proposed Monitoring Measures

The Navy shall employ trained protected species observers (PSOs) to conduct marine mammal monitoring for its Submarine Base New London pier construction project. The purposes of marine mammal monitoring are to implement mitigation measures and learn more about impacts to marine mammals from the Navy's construction activities. The PSOs will observe and collect data on marine mammals in and around the project area for 15 minutes before, during, and for 30 minutes after all pile removal and pile installation work.

Protected Species Observer Qualifications

NMFS-approved PSOs shall meet the following requirements:

1. Independent observers (*i.e.,* not construction personnel) are required;

2. At least one observer must have prior experience working as an observer;

3. Other observers may substitute education (undergraduate degree in biological science or related field) or training for experience;

4. Where a team of three or more observers are required, one observer should be designated as lead observer or monitoring coordinator. The lead observer must have prior experience working as an observer; and

5. NMFS will require submission and approval of observer CVs.

Marine Mammal Monitoring Protocols

The Navy shall conduct briefings between construction supervisors and crews and the PSO team prior to the start of all pile driving activities, and when new personnel join the work, in order to explain responsibilities, communication procedures, marine mammal monitoring protocol, and operational procedures. All personnel working in the project area shall watch the Navy's Marine Species Awareness Training video. An informal guide shall be included with the monitoring plan to aid in identifying species if they are observed in the vicinity of the project area.

The Navy will monitor the Level A and Level B harassment zones before, during, and after pile driving activities. The Marine Mammal Monitoring Plan would include the following procedures:

• PSOs will be primarily located on boats, docks, and piers at the best vantage point(s) in order to properly see the entire shutdown zone(s);

• PSOs will be located at the best vantage point(s) to observe the zone associated with behavioral impact thresholds;

• During all observation periods, PSOs will use high-magnification (25X), as well as standard handheld (7X) binoculars, and the naked eye to search continuously for marine mammals;

• Monitoring distances will be measured with range finders. Distances to animals will be based on the best estimate of the PSO, relative to known distances to objects in the vicinity of the PSO;

• Bearings to animals will be determined using a compass;

• Pile driving shall only take place when the exclusion and Level A zones are visible and can be adequately monitored. If conditions (*e.g.,* fog) prevent the visual detection of marine mammals, activities with the potential to result in Level A harassment shall not be initiated. If such conditions arise after the activity has begun, impact pile driving would be halted but vibratory pile driving or extraction would be allowed to continue;

• Three (3) PSOs shall be posted to monitor marine mammals during in-water pile driving and pile removal. One PSO will be located on land and two will be located in a boat to monitor the farther locations;

• **Pre-Activity Monitoring**

The exclusion zone will be monitored for 15 minutes prior to in-water construction/demolition activities. If a marine mammal is present within the 10-m exclusion zone, the activity will be delayed until the animal(s) leave the exclusion zone. Activity will resume only after the PSO has determined that, through sighting or by waiting 15 minutes, the animal(s) has moved outside the exclusion zone. If a marine mammal is observed approaching the exclusion zone, the PSO who sighted that animal will notify all other PSOs of its presence.

• **During Activity Monitoring**

If a marine mammal is observed entering the Level A or Level B zones outside the 10-m exclusion zone, the pile segment being worked on will be completed without cessation, unless the animal enters or approaches the exclusion zone, at which point all pile driving activities will be halted. If an animal is observed within the exclusion zone during pile driving, then pile driving will be stopped as soon as it is safe to do so. Pile driving can only resume once the animal has left the exclusion zone of its own volition or has not been re-sighted for a period of 15 minutes.

• **Post-Activity Monitoring**

Monitoring of all zones will continue for 30 minutes following the completion of the activity.

Reporting Measures

The Navy is required to submit an annual report within 90 days after each activity year, starting from the date when the LOA is issued (for the first annual report) or from the date when the previous annual report ended. These reports would detail the monitoring protocol, summarize the data recorded during monitoring, and estimate the number of marine mammals that may have been harassed during the period of the report. NMFS would provide comments within 30 days after receiving these reports, and the Navy should address the comments and submit revisions within 30 days after receiving NMFS comments. If no comment is received from NMFS within 30 days, the annual report is considered completed.

The Navy is also required to submit a draft monitoring report within 90 days after completion of the construction work or the expiration of the final LOA (if issued), whichever comes earlier. This report would synthesize all data recorded during marine mammal monitoring, and estimate the number of marine mammals that may have been harassed through the entire project. NMFS would provide comments within 30 days after receiving this report, and the Navy should address the comments and submit revisions within 30 days after receiving NMFS comments. If no comment is received from NMFS within 30 days, the monitoring report is considered as final.

In addition, NMFS would require the Navy to notify NMFS' Office of Protected Resources and NMFS' Greater Atlantic Stranding Coordinator within 48 hours of sighting an injured or dead marine mammal in the construction site. The Navy shall provide NMFS and the Stranding Network with the species or description of the animal(s), the condition of the animal(s) (including carcass condition, if the animal is dead), location, time of first discovery, observed behaviors (if alive), and photo or video (if available).

In the event that the Navy finds an injured or dead marine mammal that is not in the construction area, the Navy would report the same information as listed above to NMFS as soon as operationally feasible.

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 responses (*e.g.,* intensity, duration), the context of any responses (*e.g.,* critical reproductive time or location, migration), 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's 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 environmental 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, this introductory discussion of our analyses applies to both of the species listed in Table 2, given that the anticipated effects of the Navy's Submarine Base New London pier construction project activities involving pile driving and pile removal on marine mammals are expected to be relatively similar in nature. There is no information about the nature or severity of the impacts, or the size, status, or structure of any species or stock that would lead to a different analysis by species for this activity, or else species-specific factors would be identified and analyzed.

Although a few individual seals (6 harbor seals and 2 gray seals each in year 1 and year 2) are estimated to experience Level A harassment in the form of PTS if they stay within the Level A harassment zone during the entire pile driving for the day, the degree of injury is expected to be mild and is not likely to affect the reproduction or survival of the individual animals. It is expected that, if hearing impairments occurs, most likely the affected animal would lose a few dB in its hearing sensitivity, which in most cases is not likely to affect its survival and recruitment. Hearing impairment that might occur for these individual animals would be limited to the dominant frequency of the noise sources, *i.e.,* in the low-frequency region below 2 kHz. Nevertheless, as for all marine mammal species, it is known that in general these pinnipeds will avoid areas where sound levels could cause hearing impairment. Therefore it is not likely that an animal would stay in an area with intense noise that could cause severe levels of hearing damage.

Under the majority of the circumstances, anticipated takes are expected to be limited to short-term Level B harassment. Marine mammals present in the vicinity of the action area and taken by Level B harassment would most likely show overt brief disturbance (startle reaction) and avoidance of the area from elevated noise levels during pile driving and pile removal. Given the limited estimated number of incidents of Level A and Level B harassment and the limited, short-term nature of the responses by the individuals, the impacts of the estimated take cannot be reasonably expected to, and are not reasonably likely to, rise to the level that they would adversely affect either species at the population level, through effects on annual rates of recruitment or survival.

There are no known important habitats, such as rookeries or haulouts, in the vicinity of the Navy's proposed Submarine Base New London pier construction project. The project also is not expected to have significant adverse effects on affected marine mammals' habitat, including prey, as analyzed in detail in the ''Anticipated Effects on Marine Mammal Habitat'' section.

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 take from the proposed activity will have a negligible impact on all affected marine mammal species or stocks.

Small Numbers

As noted above, only small numbers of incidental take may be authorized under section 101(a)(5)(A) of the MMPA for specified activities other than military readiness activities. The MMPA does not define small numbers and so, in practice, 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.

The estimated takes are below one percent of the population for all marine mammals (Table 6).

Based on the analysis contained herein of the proposed activity (including the prescribed 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 Subsistence 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 maintenance construction activities would contain an adaptive management component.

The reporting requirements associated with this proposed rule are designed to provide NMFS with monitoring data from the previous year 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 subsequent LOAs.

Endangered Species Act (ESA)

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 notice and referenced documents provide all environmental information relating to our proposed action for public review.

Classification

Pursuant to the procedures established to implement Executive Order 12866, the Office of Management and Budget has determined that this proposed rule is not significant.

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 U.S. 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. Notwithstanding any other provision of law, no person is required to respond to nor shall a person be subject to a penalty for failure to comply with a collection of information subject to the requirements of the PRA unless that collection of information displays a currently valid OMB control number. These requirements have been approved by OMB under control number 0648–0151 and include applications for regulations, subsequent LOAs, and reports.

List of Subjects in 50 CFR Part 218

Exports, Fish, Imports, Incidental take, Indians, Labeling, Marine mammals, Navy, Penalties, Reporting and recordkeeping requirements, Seafood, Sonar, Transportation.

Dated: April 10, 2018.

Samuel D. Rauch III,

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

For reasons set forth in the preamble, 50 CFR part 217 is proposed to be amended as follows:

PART 218—REGULATIONS GOVERNING THE TAKING AND IMPORTING OF MARINE MAMMALS

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

Authority: 16 U.S.C. 1361 *et seq.*

■ 2. Add subpart J to part 217 to read as follows:

Subpart J—Taking and Importing Marine Mammals; U.S. Navy's Submarine Base New London Pier Construction

Sec.

217.90 Specified activity and specified geographical region.
217.91 Effective dates.
217.92 Permissible methods of taking.
217.93 Prohibitions.
217.94 Mitigation requirements.
217.95 Requirements for monitoring and reporting.
217.96 Letters of Authorization.
217.97 Renewals and modifications of Letters of Authorization.
217.98 [Reserved]
217.99 [Reserved]

Subpart J—Taking and Importing Marine Mammals; U.S. Navy's Submarine Base New London Pier Construction

§ 217.90 Specified activity and specified 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 occurs in the area outlined in paragraph (b) of this section and that occurs incidental to the activities described in paragraph (c) of this section.

(b) The taking of marine mammals by the Navy may be authorized in Letters of Authorization (LOAs) only if it occurs within the Navy Submarine Base New London Study Area, which is located in the towns of Groton and Ledyard in New London County, Connecticut.

(c) The taking of marine mammals by the Navy is only authorized if it occurs incidental to the Navy's conducting in-water pier construction or demolition activities.

§ 217.91 Effective dates and definitions.

Regulations in this subpart are effective [EFFECTIVE DATE OF FINAL RULE] through [DATE 5 YEARS AFTER EFFECTIVE DATE OF FINAL RULE].

§ 217.92 Permissible methods of taking.

Under LOAs issued pursuant to § 216.106 of this chapter and § 217.96, the Holder of the LOAs (hereinafter ''Navy'') may incidentally, but not intentionally, take marine mammals within the area described in § 217.90(b) by Level A harassment and Level B harassment associated with in-water pile driving and pile removal activities, provided the activity is in compliance with all terms, conditions, and requirements of the regulations in this subpart and the applicable LOAs.

§ 217.93 Prohibitions.

Notwithstanding takings contemplated in § 217.92 and authorized by LOAs issued under § 216.106 of this chapter and § 217.96, no person in connection with the activities described in § 217.90 of this chapter may:

(a) 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 § 217.96;

(b) Take any marine mammal not specified in such LOAs;

(c) Take any marine mammal specified in such LOAs in any manner other than as specified;

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

(d) Take a marine mammal specified in such LOAs if NMFS determines such taking results in an unmitigable adverse impact on the availability of such species or stock of marine mammal for taking for subsistence uses.

§ 217.94 Mitigation requirements.

When conducting the activities identified in § 217.90(c), the mitigation measures contained in any LOAs issued under § 216.106 of this chapter and § 217.96 must be implemented. These mitigation measures shall include but are not limited to:

(a) *Time Restriction.* In-water construction and demolition work shall occur only during daylight hours;

(b) Establishment of monitoring and exclusion zones:

(1) For all relevant in-water construction and demolition activity, the Navy shall implement shutdown zones with radial distances as identified in any LOA issued under § 216.106 of this chapter and § 217.96. If a marine mammal comes within or approaches the shutdown zone, such operations shall cease;

(2) For all relevant in-water construction and demolition activity, the Navy shall designate monitoring zones with radial distances as identified in any LOA issued under § 216.106 of this chapter and § 217.96; and

(3) For all in-water construction and demolition activity, the Navy shall implement a minimum shutdown zone of a 10 meter (m) radius around the pile. If a marine mammal comes within or approaches the shutdown zone, such operations shall cease;

(c) *Shutdown Measures.* (1) The Navy shall deploy three protected species observers (PSO) to monitor marine mammals during in-water pile driving and pile removal. One PSO will be located on land and two will be located in a boat to monitor the farther locations.

(2) Monitoring shall take place from 15 minutes prior to initiation of pile driving or removal activity through 30 minutes post-completion of pile driving or removal activity. Pre-activity monitoring shall be conducted for 15 minutes to ensure that the shutdown zone is clear of marine mammals, and pile driving or removal may commence when observers 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 shall be allowed to remain in the shutdown zone (*i.e.,* must leave of their own volition) and their behavior shall be monitored and documented. Monitoring shall occur throughout the time required to drive or remove a pile. 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).

(3) If a marine mammal approaches or enters the shutdown zone, all pile driving or removal activities at that location shall be halted. If pile driving or removal 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 fifteen minutes have passed without re-detection of the animal.

(4) Monitoring shall be conducted by trained observers, who shall have no other assigned tasks during monitoring periods. Trained observers shall be placed at the best vantage point(s) practicable to monitor for marine mammals and implement shutdown or delay procedures when applicable through communication with the equipment operator. The Navy shall adhere to the following additional observer qualifications:

(i) Independent observers (*i.e.,* not construction personnel) are required;

(ii) At least one observer must have prior experience working as an observer;

(iii) Other observers may substitute education (degree in biological science or related field) or training for experience;

(iv) Where a team of three or more observers are required, one observer shall be designated as lead observer or monitoring coordinator. The lead observer must have prior experience working as an observer; and

(v) The Navy shall submit observer CVs for approval by NMFS;

(5) The Navy shall implement shutdown measures if the number of authorized takes for any particular species reaches the limit under the applicable LOA and if such marine mammals are sighted within the vicinity of the project area and are approaching the Level B harassment zone during in-water construction or demolition activities.

(c) *Soft Start.* (1) The Navy shall implement soft start techniques for impact pile driving. The Navy shall conduct an initial set of three strikes from the impact hammer at 40 percent energy, followed by a 1-minute waiting period, then two subsequent three strike sets.

(2) Soft start shall be required for any impact driving, including at the beginning of the day, and at any time following a cessation of impact pile driving of 30 minutes or longer.

§ 217.95 Requirements for monitoring and reporting.

(a) *Marine Mammal Monitoring Protocols.* The Navy shall conduct briefings between construction supervisors and crews and the observer team prior to the start of all pile driving and removal activities, and when new personnel join the work. Trained observers shall receive a general environmental awareness briefing conducted by Navy staff. At minimum, training shall include identification of marine mammals that may occur in the project vicinity and relevant mitigation and monitoring requirements. All observers shall have no other construction-related tasks while conducting monitoring.

(b) Pile driving or removal shall only take place when the exclusion and Level A zones are visible and can be adequately monitored. If conditions (*e.g.,* fog) prevent the visual detection of marine mammals, activities shall not be initiated. If such conditions arise after the activity has begun, impact pile driving would be halted but vibratory pile driving or removal would be allowed to continue.

(c) *Reporting Measures.*—(1) *Annual Reports.* (i) The Navy shall submit an annual report within 90 days after each activity year, starting from the date when the LOA is issued (for the first annual report) or from the date when the previous annual report ended.

(ii) Annual reports would detail the monitoring protocol, summarize the data recorded during monitoring, and estimate the number of marine mammals that may have been harassed during the period of the report.

(iii) NMFS would provide comments within 30 days after receiving annual reports, and the Navy shall address the comments and submit revisions within 30 days after receiving NMFS comments. If no comment is received from the NMFS within 30 days, the annual report is considered completed.

(2) *Final Report.* (i) The Navy shall submit a comprehensive summary report to NMFS not later than 90 days following the conclusion of marine mammal monitoring efforts described in this subpart.

(ii) The final report shall synthesize all data recorded during marine mammal monitoring, and estimate the number of marine mammals that may have been harassed through the entire project.

(iii) NMFS would provide comments within 30 days after receiving this report, and the Navy shall address the comments and submit revisions within 30 days after receiving NMFS comments. If no comment is received from the NMFS within 30 days, the final report is considered as final.

(3) Reporting of injured or dead marine mammals:

(i) In the unanticipated event that the construction or demolition activities clearly cause the take of a marine mammal in a prohibited manner, such as an injury, serious injury, or mortality, the Navy shall immediately cease all operations and immediately report the incident to the NMFS Office of Protected Resources, NMFS, and the Greater Atlantic Region Stranding Coordinators. The report must include the following information:

(A) Time, date, and location (latitude/longitude) of the incident;

(B) Description of the incident;

(C) Status of all sound source use in the 24 hours preceding the incident;

(D) Environmental conditions (*e.g.,* wind speed and direction, sea state, cloud cover, visibility, and water depth);

(E) Description of marine mammal observations in the 24 hours preceding the incident;

(F) Species identification or description of the animal(s) involved;

(G) The fate of the animal(s); and

(H) Photographs or video footage of the animal (if equipment is available).

(ii) Activities shall not resume until NMFS is able to review the circumstances of the prohibited take. NMFS shall work with the Navy to determine what is necessary to minimize the likelihood of further prohibited take and ensure MMPA compliance. The Navy may not resume their activities until notified by NMFS via letter, email, or telephone.

(iii) In the event that the Navy discovers an injured or dead marine mammal, and the lead PSO determines that the cause of the injury or death is unknown and the death is relatively recent (*i.e.,* in less than a moderate state of decomposition as described in the next paragraph), the Navy will immediately report the incident to the NMFS Office of Protected Resources, NMFS, and the Greater Atlantic Regional Stranding Coordinators. The report must include the same information identified in paragraph (c)(3)(i) of this section. Activities may continue while NMFS reviews the circumstances of the incident. NMFS will work with the Navy to determine whether modifications in the activities are appropriate.

(iv) In the event that the Navy discovers an injured or dead marine mammal, and the lead protected species observer determines that the injury or death is not associated with or related to the activities authorized in the IHA (*e.g.,* previously wounded animal, carcass with moderate to advanced decomposition, or scavenger damage), the Navy shall report the incident to the NMFS Office of Protected Resources, NMFS, and the Greater Atlantic Regional Stranding Coordinators, within 24 hours of the discovery. The Navy shall provide photographs or video footage (if available) or other documentation of the stranded animal sighting to NMFS and the Marine Mammal Stranding Network. The Navy can continue its operations under such a case.

§ 217.96 Letters of Authorization.

(a) To incidentally take marine mammals pursuant to these regulations, the Navy must apply for and obtain LOAs in accordance with § 216.106 of this chapter for conducting the activity identified in § 217.90(c) of this subpart.

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

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

(d) In the event of projected changes to the activity or to mitigation, monitoring, reporting (excluding changes made pursuant to the adaptive management provision of § 217.97(c)(1)) required by an LOA, the Navy must apply for and obtain a modification of LOAs as described in § 217.97.

(e) Each LOA shall set forth:

(1) Permissible methods of incidental taking;

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

(3) Requirements for monitoring and reporting.

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

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

§ 217.97 Renewals and modifications of Letters of Authorization.

(a) An LOA issued under § 216.106 of this subchapter and § 217.96 for the activity identified in § 217.90(c) shall 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 (excluding changes made pursuant to the adaptive management provision in paragraph (c)(1) of this section), and

(2) NMFS determines that the mitigation, monitoring, and reporting measures required by the previous LOA(s) 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 measures (excluding changes made pursuant to the adaptive management provision in paragraph (c)(1) of this section) 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 § 217.96 for the activity identified in § 217.90 (c) may be modified by NMFS under the following circumstances:

(1) Adaptive Management—After consulting with the Navy regarding the practicability of the modifications, NMFS may modify (including by adding or removing measures) the existing mitigation, monitoring, or reporting measures 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 the Navy's monitoring from the previous year(s).

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

(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.

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

(2) Emergencies—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 LOAs issued pursuant to § 216.106 of this chapter and § 217.96, an LOA may be modified without prior notice or opportunity for public comment. Notice would be published in the **Federal Register** within thirty days of the action.

§ 217.98 [Reserved]

§ 217.99 [Reserved]

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