HEU is within the scope of the underlying investigation, and HEU is covered by this Suspension Agreement. For the purpose of this Suspension Agreement, HEU means uranium enriched to 20 percent or greater in the isotope uranium-235.

Imports of uranium ores and concentrates, natural uranium compounds, and all forms of enriched uranium are currently classifiable under the Harmonized Tariff Schedule of the United States (HTSUS) subheadings: 2612.10.00, 2844.10.20, 2844.20.00, respectively. Imports of natural uranium metal and forms of natural uranium other than compounds are currently classifiable under HTSUS subheadings: 2844.10.10 and 2844.10.50. HTSUS subheadings are provided for convenience and Customs purposes. The written description of the scope of this proceeding is dispositive.

Continuation of Suspension of Investigation

As a result of the determinations by the Department and the ITC that termination of the Agreement and the suspended investigation would be likely to lead to continuation or recurrence, respectively, of dumping and material injury to an industry in the United States, pursuant to section 751(d)(2) of the Act, the Department hereby orders the continuation of the Agreement. The effective date of continuation of the Agreement will be the date of publication in the **Federal Register** of this notice of continuation. Pursuant to Section XII of the 2008 Amendment to the Agreement, the Department intends to terminate the Agreement, and the underlying antidumping investigation, on December 31, 2020.[5]

This five-year (sunset) review and notice are in accordance with section 751(c) of the Act and published pursuant to section 777(i)(1) of the Act.

Dated: September 27, 2017.

Carole Showers,

Executive Director, performing the non-exclusive duties of Deputy Assistant Secretary for Enforcement and Compliance.

[FR Doc. 2017–21211 Filed 9–29–17; 8:45 am]

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until October 3, 1998. *See Amendments to the Agreement Suspending the Antidumping Investigation on Uranium from the Russian Federation,* 61 FR 56665, 56667 (November 4, 1996).

[5] *See Amendment to the Agreement Suspending the Antidumping Investigation on Uranium From the Russian Federation,* 73 FR 7705 (February 11, 2008).

DEPARTMENT OF COMMERCE

National Oceanic and Atmospheric Administration

National Sea Grant Advisory Board; Public Meeting of the National Sea Grant Advisory Board's Fall 2017 Meeting

AGENCY: National Oceanic and Atmospheric Administration, Department of Commerce (NOAA), Department of Commerce (DOC).

ACTION: Notice of public meeting of the National Sea Grant Advisory Board (NSGAB).

SUMMARY: This notice sets forth the schedule and proposed agenda of a forthcoming meeting of the NSGAB. NSGAB members will discuss and provide advice on the National Sea Grant College Program (NSGCP) in the areas of program evaluation, strategic planning, education and extension, science and technology programs, and other matters as described in the agenda found on the NSGCP Web site at *http://seagrant.noaa.gov/WhoWeAre/Leadership/NationalSeaGrantAdvisoryBoard/UpcomingAdvisoryBoardMeetings.aspx.*

DATES: The announced meeting is scheduled for Monday, October 16 from 8:00 a.m. to 4:45 p.m. ET and Tuesday, October 17 from 8:00 a.m. to 12:00 p.m. ET.

ADDRESSES: The meeting will be held at the Embassy Suites by Hilton, 605 West Oglethorpe Avenue, Savannah, Georgia 31401.

Status: The meeting will be open to public participation with a 15-minute public comment period on Tuesday, October 17, 2017 at 11:30 a.m. ET. (Check agenda using link in the Summary section to confirm time prior to attending.)

The NSGAB expects that public statements presented at its meetings will not be repetitive of previously submitted verbal or written statements. In general, each individual or group making a verbal presentation will be limited to a total time of three (3) minutes. Written comments should be received by Elizabeth Rohring by Friday, October 13, 2017 to provide sufficient time for NSGAB review. Written comments received after the deadline will be distributed to the NSGAB, but may not be reviewed prior to the meeting date. Seats will be available on a first-come, first-serve basis.

Contact Information: For any questions concerning the meeting, please contact Elizabeth Rohring, National Sea Grant College Program, National Oceanic and Atmospheric Administration, 1315 East-West Highway, Room 11861, Silver Spring, Maryland 20910, 301–734–1082, or via email at *elizabeth.rohring@noaa.gov.*

Special Accomodations: These meetings are physically accessible to people with disabilities. Requests for sign language interpretation or other auxiliary aids should be directed to Elizabeth Rohring by Friday, October 6, 2017. See Contact Information.

SUPPLEMENTARY INFORMATION: The NSGAB, which consists of a balanced representation from academia, industry, state government, and other relevant fields, was established in 1976 by Section 209 of the Sea Grant Improvement Act (Pub. L. 94–461, 33 U.S.C. 1128). The NSGAB advises the Secretary of Commerce and the Director of the NSGCP with respect to operations under the Act, and such other matters as the Secretary refers to them for review and advice.

Dated: September 22, 2017.

David Holst,

Acting Chief Financial Officer/CAO, Office of Oceanic and Atmospheric Research, National Oceanic and Atmospheric Administration.

[FR Doc. 2017–21090 Filed 9–29–17; 8:45 am]

BILLING CODE 3510–KA–P

DEPARTMENT OF COMMERCE

National Oceanic and Atmospheric Administration

RIN 0648–XF541

Takes of Marine Mammals Incidental to Specified Activities; Taking Marine Mammals Incidental to a Pier Replacement Project in San Diego, CA

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

ACTION: Notice; issuance of an incidental harassment authorization.

SUMMARY: In accordance with the regulations implementing the Marine Mammal Protection Act (MMPA) as amended, notification is hereby given that NMFS has issued an incidental harassment authorization (IHA) to the Navy to incidentally harass, by Level B harassment only, marine mammals during construction activities associated with the pier replacements project at Naval Base Point Loma.

DATES: This Authorization is effective from October 8, 2017, through October 7, 2018.

FOR FURTHER INFORMATION CONTACT: Laura McCue, Office of Protected Resources, NMFS, (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:

Background

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

An 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 takings are set forth.

NMFS has defined ''negligible impact'' in 50 CFR 216.103 as an impact resulting from the specified activity that cannot be reasonably expected to, and is not reasonably likely to, adversely affect the species or stock through effects on annual rates of recruitment or survival.

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)

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

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

Summary of Request

On June 19, 2017, we received a request from the Navy for an IHA to take marine mammals incidental to pile installation and demolition associated with a pier replacement project in San Diego Bay at Naval Base Point Loma (NBPL) in San Diego, CA, including a separate monitoring plan. The Navy also submitted a draft monitoring report on June 13, 2017, pursuant to requirements of the previous IHA. These final application and monitoring plan were deemed adequate and complete on July 20, 2017. The pier replacement project is planned to occur over multiple years; this IHA would cover only the fifth year of work and would be valid for a period of one year from the date of issuance. Hereafter, use of the generic term ''pile driving'' may refer to both pile installation and removal unless otherwise noted. The Navy's request is for take of nine species of marine mammals by Level B harassment. Neither the Navy nor NMFS expect mortality to result from this activity and, therefore, an IHA is appropriate.

Monitoring reports are available online at *www.nmfs.noaa.gov/pr/permits/incidental/construction.htm* and provide environmental information related to issuance of this IHA.

This IHA will cover one year of a larger project for which the Navy obtained prior IHAs and this request for take authorization is for the fifth year of the project, following the IHAs issued effective from October 8, 2016, through October 7, 2017 (81 FR 66628), from September 1, 2013, through August 31, 2014 (78 FR 44539), from October 8, 2014, through October 7, 2015 (79 FR 65378), and from October 8, 2015, through October 7, 2016 (80 FR 62032). The Navy complied with all the requirements (*e.g.,* mitigation, monitoring, and reporting) of the previous IHA. Monitoring reports are available online at *www.nmfs.noaa.gov/pr/permits/incidental/construction.htm* and provide environmental information related to issuance of this IHA.

Description of the Specified Activity

Overview

NBPL provides berthing and support services for Navy submarines and other fleet assets. The existing fuel pier serves as a fuel depot for loading and unloading tankers and Navy underway replenishment vessels that refuel ships at sea (''oilers''), as well as transferring fuel to local replenishment vessels and other small craft operating in San Diego Bay, and is the only active Navy fueling facility in southern California. Portions of the pier are over one hundred years old, while the newer segment was constructed in 1942. The pier as a whole is significantly past its design service life and does not meet current construction standards.

The Navy plans to demolish and remove the existing pier and associated pipelines and appurtenances while simultaneously replacing it with a generally similar structure that meets relevant standards for seismic strength and is designed to better accommodate modern Navy ships. Demolition and construction are planned to occur in two phases to maintain the fueling capabilities of the existing pier while the new pier is being constructed. During the fifth year of construction (the specified activity considered under this IHA), the Navy anticipates construction at two locations: The fuel pier area and at the Naval Mine and Anti-Submarine Warfare Command (NMAWC), where the Navy's Marine Mammal Program (MMP) was temporarily moved during fuel pier construction (see Figure 1–1 in the Navy's application). A detailed description of the planned Project is provided in the **Federal Register** notice for the proposed IHA (82 FR 36360; August 4, 2017). Since that time, no changes have been made to the planned activities. Therefore, a detailed description is not provided here. Please refer to that **Federal Register** notice for the description of the specific activity.

Comments and Responses

A notice of NMFS's proposal to issue an IHA to the Navy was published in the **Federal Register** on August 4, 2017 (82 FR 36360). That notice described, in

detail, the Navy's activity, the marine mammal species that may be affected by the activity, and the anticipated effects on marine mammals. During the 30-day public comment period, NMFS received comments from the Marine Mammal Commission (Commission).

Comment 1: The Commission recommended that NMFS share the rounding criteria with the Commission such that the matter of when rounding should occur in the take calculation can be resolved in the near future.

Response: NMFS will share the rounding criteria with the Commission soon and looks forward to working with them in the future to resolve this issue.

Description of Marine Mammals in the Area of the Specified Activity

Species with the expected potential to be present during all or a portion of the in-water work window include the California sea lion (*Zalophus californianus*), harbor seal (*Phoca vitulina richardii*), northern elephant seal (*Mirounga angustirostris*), gray whale (*Eschrichtius robustus*), bottlenose dolphin (*Tursiops truncatus truncatus*), Pacific white-sided dolphin (*Lagenorhynchus obliquidens*), Risso's dolphin (*Grampus griseus*), and either short-beaked or long-beaked common dolphins (*Delphinus* spp.). California sea lions are present year-round and are very common in the project area, while bottlenose dolphins and harbor seals are common and likely to be present year-round but with more variable occurrence in San Diego Bay. Gray whales may be observed in San Diego Bay sporadically during migration periods. The remaining species are known to occur in nearshore waters outside San Diego Bay, but are generally only rarely observed near or in the bay. However, recent observations indicate that these species may occur in the project area and therefore could potentially be subject to incidental harassment from the aforementioned activities.

There are four marine mammal species which are either resident or have known seasonal occurrence in the vicinity of San Diego Bay, including the California sea lion, harbor seal, bottlenose dolphin, and gray whale (see Figures 3–1 through 3–4 and 4–1 in the Navy's application). In addition, common dolphins (see Figure 3–4 in the Navy's application), the Pacific white-sided dolphin, Risso's dolphin, and northern elephant seals are known to occur in deeper waters in the vicinity of San Diego Bay and/or have been observed within the bay during the course of this project's monitoring. Although the latter three species of cetacean would not generally be expected to occur within the project area, the potential for changes in occurrence patterns in conjunction with recent observations leads us to believe that authorization of incidental take is warranted. Common dolphins have been documented regularly at the Navy's nearby Silver Strand Training Complex, and were observed in the project area during previous years of project activity. The Pacific white-sided dolphin has been sighted along a previously used transect on the opposite side of the Point Loma peninsula (Merkel and Associates 2008) and there were several observations of Pacific white-sided dolphins during Year 2 monitoring. Risso's dolphin is fairly common in southern California coastal waters (*e.g.,* Campbell *et al.,* 2010), and could occur in the bay. Northern elephant seals are included based on their continuing increase in numbers along the Pacific coast (Carretta *et al.,* 2016) and the likelihood that animals that reproduce on the islands offshore of Baja California and mainland Mexico—where the population is also increasing—could move through the project area during migration, as well as the observation of a juvenile seal near the fuel pier in April 2015.

Note that common dolphins could be either short-beaked (*Delphinus delphis delphis*) or long-beaked (*D. delphis bairdii*) subspecies. While it is likely that common dolphins observed in the project area would be long-beaked, as it is the most frequently stranded species in the area from San Diego Bay to the U.S.-Mexico border (Danil and St. Leger 2011), the species distributions overlap and it is unlikely that observers would be able to differentiate them in the field. Therefore, we consider that any common dolphins observed—and any incidental take of common dolphins—could be either long- or short-beaked common dolphins.

In addition, other species that occur in the Southern California Bight may have the potential for isolated occurrence within San Diego Bay or just offshore. In particular, a short-finned pilot whale (*Globicephala macrorhynchus*) was observed off Ballast Point, and a Steller sea lion (*Eumetopias jubatus monteriensis*) was seen in the project area during Year 2. These species are not typically observed near the project area and, unlike the previously mentioned species, we do not believe it likely that they will occur in the future. Given the unlikelihood of their exposure to sound generated from the project, these species are not considered further.

Table 1 lists all marine mammal species with expected potential for occurrence in the vicinity of NBPL during the project timeframe and summarizes key information, including regulatory status under the MMPA and ESA and potential biological removal (PBR), where known. A detailed description of the species likely to be affected by the Navy's project, including brief introductions to the species and relevant stocks as well as available information regarding population trends and threats, and information regarding local occurrence, were provided in the **Federal Register** notice for the proposed IHA (82 FR 36360; August 4, 2017); since that time, we are not aware of any changes in the status of these species and stocks; therefore, detailed descriptions are not provided here. Please refer to that **Federal Register** notice for these descriptions. Please also refer to NMFS' Web site (*www.nmfs.noaa.gov/pr/species/mammals/*) for generalized species accounts.

TABLE 1—MARINE MAMMALS POTENTIALLY PRESENT IN THE VICINITY OF NBPL

Species	Stock	ESA/MMPA status; strategic (Y/N) [1]	Stock abundance (CV, N_{min}, most recent abundance survey) [2]	PBR [3]	Annual M/SI [4]	Relative occurrence in San Diego Bay; season of occurrence
Order Cetartiodactyla—Cetacea—Superfamily Mysticeti (baleen whales)						
Family Eschrichtiidae						
Gray whale	Eastern North Pacific	–; N	20,990 (0.05; 20,125; 2011).	624	132	Occasional migratory visitor; winter.

TABLE 1—MARINE MAMMALS POTENTIALLY PRESENT IN THE VICINITY OF NBPL—Continued

Species	Stock	ESA/MMPA status; strategic (Y/N) [1]	Stock abundance (CV, N_{min}, most recent abundance survey) [2]	PBR [3]	Annual M/SI [4]	Relative occurrence in San Diego Bay; season of occurrence
Superfamily Odontoceti (toothed whales, dolphins, and porpoises)						
Family Delphinidae						
Bottlenose dolphin	California coastal	–; N	453 (0.06; 346; 2011)	2.7	≥2.0	Common; year-round.
Short-beaked common dolphin.	California/Oregon/Washington.	–; N	969,861 (0.17; 839,325; 2014).	8,393	≥40	Occasional; year-round (but more common in warm season).
Long-beaked common dolphin.	California	–; N	101,305 (0.49; 68,432; 2014).	657	≥35.4	Occasional; year-round (but more common in warm season).
Pacific white-sided dolphin.	California/Oregon/Washington.	–; N	26,814 (0.28; 21,195; 2014).	191	7.5	Uncommon; year-round.
Risso's dolphin	California/Oregon/Washington.	–; N	6,336 (0.32; 4,817; 2014).	46	≥3.7	Rare; year-round (but more common in cool season).
Order Carnivora—Superfamily Pinnipedia						
Family Otariidae (eared seals and sea lions)						
California sea lion	U.S.	–; N	296,750 (n/a; 153,337; 2011).	9,200	389	Abundant; year-round.
Family Phocidae (earless seals)						
Harbor seal	California	–; N	30,968 (n/a; 27,348; 2012).	1,641	43	Common; year-round.
Northern elephant seal	California breeding	–; N	179,000 (n/a; 81,368; 2010).	4,882	8.8	Rare; year-round.

[1] Endangered Species Act (ESA) status: Endangered (E), Threatened (T)/MMPA status: Depleted (D). A dash (–) indicates that the species is not listed under the ESA or designated as depleted under the MMPA. Under the MMPA, a strategic stock is one for which the level of direct human-caused mortality exceeds PBR (see footnote 3) or which is determined to be declining and likely to be listed under the ESA within the foreseeable future. Any species or stock listed under the ESA is automatically designated under the MMPA as depleted and as a strategic stock.

[2] CV is coefficient of variation; N_{min} is the minimum estimate of stock abundance. In some cases, CV is not applicable. For certain stocks of pinnipeds, abundance estimates are based upon observations of animals (often pups) ashore multiplied by some correction factor derived from knowledge of the species (or similar species) life history to arrive at a best abundance estimate; therefore, there is no associated CV. In these cases, the minimum abundance may represent actual counts of all animals ashore.

[3] Potential biological removal, defined by the MMPA as the maximum number of animals, not including natural mortalities, that may be removed from a marine mammal stock while allowing that stock to reach or maintain its optimum sustainable population size (OSP).

[4] These values, found in NMFS' SARs, represent annual levels of human-caused mortality plus serious injury from all sources combined (*e.g.,* commercial fisheries, subsistence hunting, ship strike). Annual M/SI often cannot be determined precisely and is in some cases presented as a minimum value.

Potential Effects of the Specified Activity on Marine Mammals and Their Habitat

The effects of underwater noise from Navy's activities for the pier replacement project have the potential to result in behavioral harassment of marine mammals in the vicinity of the action area. The **Federal Register** notice for the proposed IHA (82 FR 36360; August 4, 2017) included a discussion of the effects of anthropogenic noise on marine mammals, therefore that information is not repeated here; please refer to the **Federal Register** notice (82 FR 36360; August 4, 2017) for that information.

Estimated Take

This section provides an estimate of the number of incidental takes authorized through this IHA, 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 B harassment only, in the form of disruption of behavioral patterns for individual marine mammals resulting from exposure to acoustic sources. Based on the nature of the activity and the anticipated effectiveness of the mitigation measures (*i.e.,* shutdown, soft start, *etc.*—discussed in detail below in *Mitigation Measures* section), Level A harassment 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). 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.,* impact pile driving) or intermittent *(e.g.,* scientific sonar) sources.

The Navy's planned activity includes the use of continuous (vibratory pile driving, demolition) and impulsive (impact pile driving) sources, and therefore the 120 and 160 dB re 1 µPa (rms) are applicable.

Level A harassment for non-explosive sources—NMFS's Technical Guidance for Assessing the Effects of Anthropogenic Sound on Marine Mammal Hearing (NOAA 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). The Navy's construction project includes the use of impulsive (impact pile driving) and non-impulsive (vibratory pile driving) 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 2—THRESHOLDS IDENTIFYING THE ONSET OF PERMANENT THRESHOLD SHIFT

Hearing group	PTS onset acoustic thresholds * (received level)	
	Impulsive	Non-impulsive
Low-frequency cetaceans	*Cell 1:* Lpk,flat: 219 dB; LE,LF,24h: 183 dB	*Cell 2:* LE,LF,24h: 199 dB.
Mid-frequency cetaceans	*Cell 3:* Lpk,flat: 230 dB; LE,MF,24h: 185 dB	*Cell 4:* LE,MF,24h: 198 dB.
High-frequency cetaceans	*Cell 5:* Lpk,flat: 202 dB; LE,HF,24h: 155 dB	*Cell 6:* LE,HF,24h: 173 dB.
Phocid Pinnipeds (underwaters)	*Cell 7:* Lpk,flat: 218 dB; LE,PW,24h: 185 dB	*Cell 8:* LE,PW,24h: 201 dB.
Otariid Pinnipeds (underwater)	*Cell 9:* Lpk,flat: 232 dB; LE,OW,24h: 203 dB	*Cell 10:* LE,OW,24h: 219 dB.

* [NMFS 2016]

Ensonified Area

Here, we describe operational and environmental parameters of the activity that will feed into identifying the area ensonified above the acoustic thresholds.

The intensity of pile driving or sounds is greatly influenced by factors such as the type of piles, hammers, and the physical environment in which the activity takes place. For the installation of 30-inch (in) steel piles and pile cutting activities, acoustic monitoring during the first and second IHA periods (NAVFAC 2015) resulted in empirical data that are directly applicable to the fifth IHA period in terms of the activities and the location, depth, sizes and types of piles.

Table 3 identifies the sound source levels that are used in evaluating impact and vibratory pile driving and extraction in the current IHA application. Sound levels for the hydraulic pile cutter, diamond saw caisson cutting, and pile jetting were measured during the fourth IHA period (NAVFAC SW 2017). No acoustic data are available from the vibratory driving of 16-in concrete piles, so the data for vibratory installation of 30-in steel piles from the second IHA period are used as a conservative proxy (NAVFAC SW 2015). Finally, SPLs were measured for the impact driving of 16-in poly-concrete piles during the third IHA monitoring period (NAVFAC SW 2016a), and are used in this application for the same activities.

TABLE 3—UNDERWATER SOUND PRESSURE LEVELS FROM SIMILAR IN SITU MONITORED CONSTRUCTION ACTIVITIES FROM PREVIOUS YEARS

Project and location	Pile size and type	Method	Water depth	Measured sound pressure levels (rms) at 10 m (dB re 1 µPa)	
				mean [1]	max [2]
NBPL Fuel Pier, San Diego, CA.	13 to 24-in concrete	Hydraulic pile cutting	9 m (30 ft)	145	165.3
NBPL Fuel Pier, San Diego, CA.	66- and 84-in steel caisson	Diamond saw cutting	9 m (30 ft)	149	155.6

TABLE 3—UNDERWATER SOUND PRESSURE LEVELS FROM SIMILAR IN SITU MONITORED CONSTRUCTION ACTIVITIES FROM PREVIOUS YEARS—Continued

Project and location	Pile size and type	Method	Water depth	Measured sound pressure levels (rms) at 10 m (dB re 1 μPa)	
				mean [1]	max [2]
NBPL Fuel Pier, San Diego, CA.	24-in concrete	Jetting	9 m (30 ft)	155	159.9
NBPL Fuel Pier, San Diego, CA.	30-in Steel Pipe	Vibratory	9 m (30 ft)	162.5	[3] 162.5
NBPL Fuel Pier, San Diego, CA.	16-in Poly-Concrete	Impact	9 m (30 ft)	188.9	[4] 195

[1] Mean source levels used from data from previous monitoring reports (NAVFAC SW 2015, 2016a, 2017). Mean source levels were used to calculate Level B ZOIs.

[2] Maximum source levels used from data from previous monitoring reports (NAVFAC SW 2015, 2016a, 2017). Max source levels were used to calculate Level A ZOIs. Maximum source levels used were proposed by the Navy.

[3] Mean source levels for 30-in steel pipe piles were used as a proxy to calculate ZOIs for vibratory driving of 16-in concrete guide piles (NAVFAC SW 2015).

[4] The maximum source level is included for reference only. The distance to the Level B ZOI is based on *in situ* data collected for 16-in poly-concrete piles and was documented in NAVFAC SW (2016a).

Scarce data exists on airborne and underwater noise levels associated with vibratory hammer extraction. However, it can reasonably be assumed that vibratory extraction emits SPLs that are no higher than SPLs caused by vibratory hammering of the same materials, and results in lower SPLs than caused by impact hammering comparable piles. For this application, the same value (162.5 decibels (dB) re 1 micropascal (μPa)) that was obtained for vibratory hammering of the 30-in steel piles at the Fuel Pier (NAVFAC SW 2015) is used for the vibratory hammering of 16-in round concrete piles at NMAWC. None of the peak sound pressure levels (SPL)s for the various sound sources reach the injury thresholds identified in the new NMFS (2016) Technical Guidance; therefore, injury from peak sound levels is not considered further.

Table 5 provides the calculated areas of Level A and Level B zones of influence (ZOI)s associated with the impulsive and continuous sounds that are anticipated during the fifth-year IHA period. Table 4 provides the data that were used to calculate the distances to the Level A and B ZOIs presented in Table 5. It should be noted that the ZOI for Level A harassment would be closely monitored and subject to shutdowns if a marine mammal enters the area. The ZOI areas and maximum distances for the activities at the fuel pier and NMAWC are shown in Figures 6–1 and 6–2, respectively of the Navy's application. The figures reflect the conventional assumption that the natural or manmade shoreline acts as a barrier to underwater sound. It is generally accepted practice to model underwater sound propagation from pile driving as continuing in a straight line past a shoreline projection such as Ballast Point (Dahl 2012). Similarly, it is reasonable to assume that project sound would not propagate east of Zuniga Jetty (Dahl 2012).

All of the ZOIs for potential Level A acoustic harassment (Table 5) would be buffered and encompassed by a larger shutdown zone. For example, the ZOIs for potential Level A acoustic harassment to pinnipeds from impact pile driving (Table 5) would be contained within a 60 meters (m) (196 feet (ft)) shutdown zone. For impact pile driving at NMAWC, two methods identified in NMFS (2016) were evaluated to determine the most conservative distances to the Level A ZOIs using: (1) Root mean square (rms) SPL source levels; and (2) single strike equivalent SEL. The calculations showed that the first method was the most conservative and this method was subsequently used to determine the distances to the Level A ZOIs (Table 4). In all Level A ZOI calculations, the default values for the weighting factor adjustment and practical spreading for propagation loss were used (see Appendix A of the Navy's application).

TABLE 4—DATA USED TO CALCULATE DISTANCES TO LEVEL B ZOIS

Activity	Impact pile driving	Vibratory pile driving	Pile jetting	Caisson cutting	Pile clipping
References for Source Level and Duration.	Year 3 report #1 (NAVFAC SW 2016a).	Year 2 report (NAVFAC SW 2015).	Year 4 report (NAVFAC SW 2017).	Year 3 report #1 (NAVFAC SW 2016a).	Year 4 report (NAVFAC SW 2017).
Size & Type of Piles used for Source Data.	16-in poly-concrete piles.	30-in steel piles	24x30-in concrete piles.	84-in caissons	24-in concrete piles.
Source Level (rms SPL)	188.9	162.5	159.9	155.6	165.3.
Distance to Level B ZOI (m)	270	1,848	1,165	631	2,511.

The Level B ZOIs and distances are based on the validated SPLs directly measured during the IHA monitoring (NAVFAC SW 2014–2017), as available. For example, the distance to the Level B ZOI for impact driving of 16-in poly-concrete piles was 270 m (886 ft) during Year 3 monitoring (NAVFAC SW 2016a). In cases where monitoring data are not available to empirically measure the extent of the Level B ZOI (activities at NMAWC), ''practical spreading loss'' from the source at 10 m has been assumed (15 log[distance/10]) and used to calculate the maximum extent of the ZOI based on the applicable threshold. Computed distances to the threshold for acoustic disturbance from non-impulsive sources are based on the distances at which the project sound source declines to ambient. Because the

mean ambient sound levels in San Diego Bay in the vicinity of the project range from approximately 128 to 130 dB rms (NAVFAC SW 2015), the 120 dB acoustic threshold for the Level B ZOIs have been modified based on an approximate measured value between 128 and 129 dB. The distances for all activities producing sound at NMAWC will be verified via hydrophone during project activities.

TABLE 5—CALCULATED MAXIMUM AREAS OF ZOIS AND DISTANCES TO RELEVANT THRESHOLDS

Activity	Measured/calculated distances to thresholds (m) and areas of ZOIs (m^2 or km^2)							
	Underwater						Airborne	
	Level A [1 2 3]				Level B [4]		Level B	
	LF	MF	PW	OW	160 dB	120 dB [5]	100 dB [6]	90 dB [6]
Old Fuel Pier and Temporary Mooring Dolphin Demolition								
66-in and 84-in caissons (Diamond saw cutting).	3.6 m 41 m^2	0.3 m <1 m^2	2.2 m 15 m^2	0.2m <1 m^2	N/A	631 m 0.7157 km^2 ...	N/A	
Concrete piles (Pile clipping) ...	1.2 m 4 m^2	0.1 m <1 m^2	0.7 m <1 m^2	0.0 m 0 m^2	.....	2,511 m 4.4512 km^2		
NMAWC Construction and Demolition								
16-in concrete piles (Vibratory extraction/driving) [8].	8.3 m 216 m^2	0.7 m <1 m^2	5.1 m 82 m^2	0.4 m <1 m^2	N/A	1,848 m 2.4473 km^2 ...	42 m 5,503 m^2	149 m 69,646 m^2
16-in concrete piles (Impact driving) [9].	63.4 m 0.0126 km^2 ...	2.3 m 17 m^2	33.9 m 3,610 m^2	2.5 m 20 m^2	270 m 0.1408 km^2 ...	N/A.		
16-in concrete piles (Jetting pile extraction).	3.9 m 47.8 m^2	0.3 m <1 m^2	2.4 m 18 m^2	0.2 m <1 m^2	N/A	1,165 m 1.4268 km^2 ...	N/A	

[1] If measured value thresholds are less than 10 m (33 ft), a minimum monitoring distance of 10 m (33 ft) would be implemented.
[2] Based on measured mean source levels. The relevant data have been included in Appendix A of the Navy's application, which provides information from previous years' data collected as part of the Fuel Pier Project (NAVFAC SW 2015, 2016a, 2017).
[3] LF = Low-frequency cetaceans; MF = Mid-frequency cetaceans; PW = Phocid pinnipeds; OW = Otariid pinnipeds. The high-frequency cetacean hearing group (HF) is omitted, because no species in the hearing group occur in, or around, the Project area.
[4] Based on measured maximum source levels, unless otherwise stated. The relevant data have been included in Appendix A, which provides information from previous years' data collected as part of the Fuel Pier Project (NAVFAC SW 2015, 2016a, 2017).
[5] Average ambient sound levels in San Diego Bay are approximately 128 to 130 dB rms (NAVFAC SW 2015), and all 120 dB Level B ZOIs are based on an approximate value between 128 and 129, which represents ambient levels in the Bay.
[6] Airborne ZOIs based on conservative representative data (collected during 30-inch vibratory pile driving from IHA #4). Airborne noise levels did not exceed thresholds during IHA #4 monitoring of demolition activities.
[7] Plasma torch noise levels are not expected to exceed underwater or airborne regulatory thresholds.
[8] Based on conservative representative source levels of 162.5 dB rms (30-inch steel vibratory pile driving, NAVFAC SW 2015).
[9] This SL that corresponds with the measured pulse duration is 185 db. However, the Navy used a more conservative source level of 188.9, derived from a compilation of measured source levels over several years, which resulted in these larger Level A zones.

Airborne Sound

Although sea lions are known to haul-out regularly on man-made objects in the vicinity of the project site (see Figure 4–1 of the Navy's application), and harbor seals are occasionally observed hauled out on rocks along the shoreline in the vicinity of the project site, none of these are within the ZOIs for airborne sound, and we believe that incidents of take resulting solely from airborne sound are unlikely. The zones for sea lions are within the minimum shutdown zone defined for underwater sound and, although the zones for harbor seals are larger, they have not been observed to haul out as readily on man-made structures in the immediate vicinity of the project site. There is a possibility that an animal could surface in-water, but with head out, within one of the defined zones and thereby be exposed to levels of airborne sound that we associate with harassment, but any such occurrence would likely be accounted for in our estimation of incidental take from underwater sound.

We generally recognize that pinnipeds occurring within an estimated airborne harassment zone, whether in the water or hauled out, could be exposed to airborne sound that may result in behavioral harassment. However, any animal exposed to airborne sound above the behavioral harassment threshold is likely to also be exposed to underwater sound above relevant thresholds (which are typically in all cases larger zones than those associated with airborne sound). Thus, the behavioral harassment of these animals is already accounted for in these estimates of potential take. While the likelihood of multiple incidents of exposure to sound above NMFS' thresholds for behavioral harassment to one individual could potentially result in increased behavioral disturbance, via either nature or intensity of disturbance reaction, if they occur within one day they are still only counted as one take and any differential impacts would be considered qualitatively. Therefore, we do not believe that authorization of additional incidental take resulting from airborne sound for pinnipeds is warranted, and airborne sound is not discussed further here. Distances associated with airborne sound and shown in Table 4 are for reference only.

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 stationary sources such as vibratory pile driving, NMFS User Spreadsheet predicts the closest distance at which, if a marine mammal remained at that distance the whole duration of the

activity, it would not incur PTS. Inputs used in the User Spreadsheet, and the resulting isopleths are reported below.

TABLE 6—LEVEL A USER SPREADSHEET INPUT

	Impact pile driving	Vibratory pile driving	Caisson cutting	Pile clipping	Pile jetting
References for Source Level and Duration.	Year 3 report #1 (NAVFAC SW 2016a).	Year 2 report (NAVFAC SW 2015).	Year 3 report #1 (NAVFAC SW 2016a).	Year 4 report (NAVFAC SW 2017).	Year 4 report (NAVFAC SW 2017).
Spreadsheet Tab Used	(E.1) Impact pile driving.	(A.) Non-Impulse Stat-Cont.	(A.) Non-Impulse Stat-Cont.	(A.) Non-Impulse Stat-Cont.	(A.) Non-Impulse Stat-Cont.
Source Level (Single Strike/shot SEL).	188.9 *	162.5	149	145	155.
Weighting Factor Adjustment (kHz).	2	2.5	2.5	2.5	2.5.
(a) Activity Duration (h) within 24-h period.	0.71	0.95	6	2.82	1.74.
Propagation (xLogR)	15	15	15	15	15.
Distance of source level measurement (m).	10	10	10	10	10.
Pulse duration (sec) [1]	0.03	n/a	n/a	n/a	n/a.
Number of strikes in 1 h	193	n/a	n/a	n/a	n/a.

[1] Pulse duration was measured in previous construction years and the average pulse duration was 0.03 at 10 m (NAVFAC SW 2016a).
* This SL that corresponds with the measured pulse duration is 185 db. However, the Navy used a more conservative source level of 188.9, derived from a compilation of measured source levels over several years, which resulted in larger Level A zones.

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.

For all species, the best scientific information available was considered for use in the marine mammal take assessment calculations. Although various regional offshore surveys for marine mammals have been conducted, it is unlikely that these data would be representative of the species or numbers that may be encountered in San Diego Bay. However, the Navy has conducted a large number of ongoing site-specific marine mammal surveys during appropriate seasons (*e.g.,* Merkel and Associates 2008; Johnson 2010, 2011; Lerma 2012, 2014). Whereas analyses for the first-year IHA relied on surveys conducted from 2007–12, continuing surveys by the Navy have generally indicated increasing abundance of all species and the second-year IHA relied on 2012–14 survey data. In addition, the Navy has developed estimates of marine mammal densities in waters associated with training and testing areas (including Hawaii-Southern California) for the Navy Marine Species Density Database (NMSDD). A technical report (Hanser *et al.,* 2015) describes methodologies and available information used to derive these densities, which are based upon the best available information, except where specific local abundance information is available and applicable to a specific action area. The document is publicly available online at: *nwtteis.com/DocumentsandReferences/NWTT Documents/SupportingTechnical Documents.aspx* (accessed July 13, 2017).

Year 2 project monitoring showed even greater abundance of certain species, and we consider all of these data in order to provide the most up-to-date estimates for marine mammal abundances during the period of this IHA. Although Years 3 and 4 project monitoring showed declines in marine mammal abundance in the vicinity of the project, we retain prior density estimates as a conservative measure for estimating exposure. Density information is shown in Table 8. These data are from dedicated line-transect surveys, required project marine mammal monitoring, opportunistic observations for more rarely observed species (see Figures 3–1 through 3–5 of the Navy's application), or the NMSDD.

Take Calculation and Estimation

Here we describe how the information provided above is brought together to produce a quantitative take estimate.

The following assumptions are made when estimating potential incidences of take:

- All marine mammal individuals potentially available are assumed to be present within the relevant area, and thus incidentally taken;
- An individual can only be taken once during a 24-h period;
- The assumed ZOIs and days of activity are as shown in Table 4; and,
- Exposures to sound levels at or above the relevant thresholds equate to take, as defined by the MMPA.

In this case, the estimation of marine mammal takes uses the following calculation:

Exposure estimate = n * ZOI * days of total activity

Where:

n = density estimate used for each species/season

ZOI = sound threshold ZOI area; the area encompassed by all locations where the SPLs equal or exceed the threshold being evaluated.

The ZOI impact area is estimated using the relevant distances in Table 4, assuming that sound radiates from a central point in the water column slightly offshore of the existing pier and taking into consideration the possible affected area due to topographical constraints of the action area (*i.e.,* radial distances to thresholds are not always reached).

TABLE 7—AREAS OF ACOUSTIC INFLUENCE AND DAYS OF ACTIVITY

Activity	Number of days *	ZOI (km^2)
66-in and 84-in caissons (Diamond saw cutting)	50	0.7157

TABLE 7—AREAS OF ACOUSTIC INFLUENCE AND DAYS OF ACTIVITY—Continued

Activity	Number of days *	ZOI (km^2)
Concrete piles (Pile clipping)	100	4.4512
16-in concrete piles (Vibratory extraction/driving) [1]	25	2.4473
16-in concrete piles (Jetting pile extraction)	15	1.4268

[1] We assume that impact driving of 16-in concrete piles would always occur on the same day as vibratory driving of the same piles. Therefore, the impact driving ZOI (0.1408 km^2) would always be subsumed by the vibratory driving ZOI.

* There are a total of 196 days of construction, but 6 of those days include piles being cut off at the mudline with a plasma torch, which would not create a ZOI.

There are a number of reasons why estimates of potential incidents of take may be conservative, assuming that available density and estimated ZOI areas are accurate. We assume, in the absence of information supporting a more refined conclusion, that the output of the calculation represents the number of individuals that may be taken by the specified activity. In fact, in the context of stationary activities such as pile driving and in areas where resident animals may be present, this number more realistically represents the number of incidents of take that may accrue to a smaller number of individuals. While pile driving can occur any day throughout the period of validity, and the analysis is conducted on a per day basis, only a fraction of that time (typically a matter of hours on any given day) is actually spent pile driving. The potential effectiveness of mitigation measures in reducing the number of takes is typically not quantified in the take estimation process. For these reasons, these take estimates likely overestimate the number of individuals taken. See Table 8 for total estimated incidents of take.

California Sea Lion

During the second IHA period, an average of 90.35 California sea lions were seen per day within the maximum ZOI for pile driving, an area of 5.6752 square kilometers (km^2) extending 3,000 m from the Fuel Pier. This equates to a density of 15.9201/km^2. This density is used to estimate numbers of takes within the different ZOIs. NMFS estimates 8,971 Level B takes for this species. The maximum extents of the potential acoustic Level A ZOIs for cumulative exposure from all of the activities are much less than 10 m from the source, and therefore the 60-m shutdown zone will reduce the chance for Level A take. As a result, no Level A take of California sea lions is anticipated or authorized.

Harbor Seal

Sightings of harbor seals averaged 2.83 individuals per day during the period of the second IHA (NAVFAC SW 2015), a density of 0.4987/km^2 within the maximum ZOI for pile driving. This density is used to estimate numbers of takes within the different ZOIs. NMFS estimates 281 Level B takes for this species. The maximum extent of the potential acoustic Level A ZOI for cumulative exposure from impact pile driving extends 34 m from the source; for all other activities, the Level A ZOIs are much less than 10 m from the source, therefore a 60-m shutdown zone will be in place to avoid Level A takes to harbor seals. Level A takes are not anticipated nor authorized.

Northern Elephant Seal

Only a single individual elephant seal was sighted during the second IHA period (NAVFAC SW 2015), but with increasing numbers (Carretta *et al.,* 2016), they are considered a reasonable possibility to occur more frequently during the fifth IHA period. The regional density estimate of 0.0760/km^2 (Navy 2017) is assumed for the project area. This density is used to estimate numbers of takes within the different ZOIs. NMFS estimates 43 Level B takes for this species. Potential takes would likely involve single individuals that are on the shoreline or structures at the identified location, or swimming in the vicinity, most likely near the mouth of the bay. The maximum extent of the potential acoustic Level A ZOI for cumulative exposure from impact pile driving extends 34 m from the source; for all other activities, the Level A ZOIs are much less than 10 m from the source, therefore a shutdown will be in place to avoid Level A takes to harbor seals. Level A takes are not anticipated nor authorized.

Bottlenose Dolphin

Coastal bottlenose dolphins can occur at any time of year in northern San Diego Bay. Numbers sighted have been highly variable but have increased in recent years (NAVFAC SW 2014, 2015). During the second IHA period, an average of 7.09 individuals were seen per day, a density of 1.2493/km^2. This density is used to estimate numbers of takes within the different ZOIs. NMFS estimates 704 Level B takes for this species. The maximum extents of the potential acoustic Level A ZOIs for cumulative exposure from all of the activities are much less than 10 m from the source, and therefore the minimum 10 m shutdown will reduce the chance for Level A take. As a result, no Level A take of bottlenose dolphins is anticipated nor authorized.

Common Dolphin

An average of 8.67 common dolphins was seen per day, a density of 1.5277/km^2 within the maximum ZOI, during the second IHA period (NAVFAC SW 2015). This density is considerably higher than the regional density estimate for long-beaked common dolphins—the species most likely to occur (Navy 2017), but is reasonable for the project area given the group sizes observed for these species. Barlow (2010) reported average group sizes in southern California of 122 for short-beaked common dolphins and 195 for long-beaked common dolphins, and during the second IHA period, groups of approximately 170 and 300 individuals entered the project area on different occasions (NAVFAC SW 2015). Considering the possibility for one or more large groups of common dolphins to enter San Diego Bay during in-water activities and the fact that the Level B ZOIs will extend completely across the bay during pile driving, the density estimate is considered appropriate. A density of 1.5277/km^2 is used to estimate numbers of takes within the different ZOIs. NMFS estimates 861 Level B takes for this species. The maximum extents of the potential acoustic Level A ZOIs for cumulative exposure from all of the activities are much less than 10 m from the source, and therefore the shutdown will reduce the chance for Level A take. As a result, no Level A take of common dolphins is anticipated nor authorized.

Pacific White-Sided Dolphin

Pacific white-sided dolphins are more commonly seen offshore, but were documented in the project area on several occasions during the second IHA

period. An average of 0.28 individuals per day was seen during the second IHA period (NAVFAC SW 2015), a density of 0.0493/km^2 within the maximum ZOI. This density is used to estimate numbers of takes within the different ZOIs. NMFS estimates 28 Level B takes for this species. The maximum extents of the potential acoustic Level A ZOIs for cumulative exposure from all of the activities are much less than 10 m from the source, and therefore the shutdown will reduce the chance for Level A take. As a result, no Level A take of Pacific white-sided dolphins is anticipated nor authorized.

Risso's Dolphin

While there have been no sightings of Risso's dolphin within the project area, the species is considered a reasonable possibility for the fifth IHA period given recent El Niño conditions (Shane 1995) and its abundance in Southern California coastal waters (Jefferson *et al.,* 2014). The upper limit of the regional density estimate, 0.2029/km^2 (Navy 2017), is used to estimate numbers of takes within the different ZOIs. NMFS estimates 114 Level B takes for this species. The maximum extents of the potential acoustic Level A ZOIs for cumulative exposure from all of the activities are much less than 10 m from the source, and therefore the shutdown will reduce the chance for Level A take. As a result, no Level A take of Risso's dolphins is anticipated nor authorized.

Gray Whale

Gray whale occurrence within northern San Diego Bay is sporadic and would likely consist of one to a few individuals that venture close to, or enter the bay for a brief period, and then continue on their migration. A density estimate based on the rare sightings of gray whales near the mouth of the bay during the second IHA period (NAVFAC SW 2015), would be less than 0.01/km^2, which is slightly less than the regional density estimate of 0.0179/km^2 in southern California waters during winter-spring (Navy 2017). The regional density estimate is applied here as a reasonable estimate given the possibility of animals moving closer to shore and entering the mouth of the bay during the fifth IHA period. This density is used to estimate numbers of takes within the different ZOIs. NMFS estimates 10 Level B takes for this species. The maximum extent of the potential acoustic Level A ZOI for cumulative exposure from impact pile driving extends 63 m from the source; for all other activities, the Level A ZOIs are much less than 10 m from the source. Gray whales are not expected to occur that close to the source; however, the Navy will implement a minimum of 10 m (100 m for impact driving) shutdown will be in place to avoid Level A takes to gray whales. Level A takes are not anticipated nor authorized.

TABLE 8—CALCULATIONS FOR INCIDENTAL TAKE ESTIMATION

Species	Density	Diamond saw cutting of 66-inch and 84-inch caissons	Pile clipping concrete piles	Vibratory extraction/ driving of 16-inch concrete piles	Jetting pile extraction of 16 in concrete piles	Total Level B takes *	Total authorized takes (% of total stock)
California sea lion	15.9201	570	7086	974	341	8,971	3.023
Harbor seal	0.4987	18	222	31	11	281	0.907
Northern elephant seal	0.076	3	34	5	2	43	0.024
Bottlenose dolphin	1.2493	45	556	76	27	704	[2] 155
Common dolphin	1.5277	55	680	93	33	861	[3] 0.088; [4] 0.85
Pacific white-sided dolphin	0.0493	2	22	3	1	28	0.104
Risso's dolphin	0.2027	7	90	12	4	114	1.799
Gray whale	0.0179	1	8	1	0	10	0.048

* Due to rounding of takes to the nearest whole number of animals, (which occurs at the very end, not per activity), totals may not always equal the sum of the takes from individual activities.

[1] We assume that impact driving of steel piles would occur on the same day as vibratory driving of the same piles and that the zone for vibratory driving would always subsume the zone for impact driving. Therefore, separate estimates are not provided for impact driving of steel piles.

[2] The numbers of authorized take for bottlenose dolphins are higher relative to the total stock abundance estimate and would not represent small numbers if a significant portion of the take was for a new individual. However, these numbers represent the estimated incidents of take, not the number of individuals taken. That is, it is likely that a relatively small subset of California coastal bottlenose dolphins would be incidentally harassed by project activities.

[3] SB = short-beaked common dolphin.

[4] LB = long-beaked common dolphin.

Mitigation Measures

In order to issue an IHA under section 101(a)(5)(D) of the MMPA, NMFS must set forth the permissible methods of taking pursuant to 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, impact on operations, and, in the case of a military readiness activity,

personnel safety, practicality of implementation, and impact on the effectiveness of the military readiness activity.

The mitigation strategies described below largely follow those required and successfully implemented under the first four IHAs associated with this project. For this IHA, data from acoustic monitoring conducted during the first four years of work was used to estimate zones of influence (ZOIs; see *Estimated Take by Incidental Harassment*); these values were used to develop mitigation measures for pile driving activities at NBPL. The ZOIs effectively represent the mitigation zone that would be established around each pile to minimize Level A harassment to marine mammals, while providing estimates of the areas within which Level B harassment might occur. In addition, the Navy has defined buffers to the estimated Level A harassment zones to further reduce the potential for Level A harassment. In addition to the measures described later in this section, the Navy would conduct briefings between construction supervisors and crews, marine mammal monitoring team, acoustic monitoring team, and Navy staff prior to the start of all pile driving activity, and when new personnel join the work, in order to explain responsibilities, communication procedures, marine mammal monitoring protocol, and operational procedures.

Monitoring and Shutdown for Pile Driving

The following measures would apply to the Navy's mitigation through shutdown and disturbance zones:

Shutdown Zone—For all pile driving and removal activities, the Navy will establish a shutdown zone intended to contain the area in which SPLs equal or exceed the calculated Level A zones (refer to table). The purpose of a shutdown zone is to define an area within which shutdown of activity would occur upon sighting of a marine mammal (or in anticipation of an animal entering the defined area), thus preventing injury of marine mammals (serious injury or death are unlikely outcomes even in the absence of mitigation measures). Estimated radial distances to the relevant thresholds are shown in Table 4. For certain activities, the shutdown zone would not exist because source levels indicate that the radial distance to the threshold would be less than 10 m. However, a minimum shutdown zone of 10 m will be established during all pile driving and removal activities, regardless of the estimated zone. In addition the Navy plans to effect a buffered shutdown zone that is intended to significantly reduce the potential for Level A harassment given that, in particular, California sea lions are quite abundant in the project area and bottlenose dolphins may surface unpredictably and move erratically in an area with a large amount of construction equipment. These buffers are approximately double the distance to the Level A ZOI. These zones are also shown in Table 9. These precautionary measures are intended to prevent the already unlikely possibility of physical interaction with construction equipment and to establish a precautionary minimum zone with regard to acoustic effects.

TABLE 9—SHUTDOWN ZONES FOR LEVEL A ZOIS AND MONITORING ZONES FOR LEVEL B ZONES

Activity	Monitored distances to thresholds (meters [feet])					
	Underwater					
	Level A (shutdown)				Level B	
	LF [1]	MF [1]	PW [1]	OW [1]	160 dB	120 dB [2]
Old Fuel Pier and Temporary Mooring Dolphin Demolition						
66-inch and 84-inch caissons (Diamond saw cutting)	10				N/A	631
Concrete piles (Pile clipping)	10				N/A	2,511
NMAWC Construction and Demolition						
16-inch concrete piles (Vibratory extraction/driving)	[4] 20		10		N/A	1,848
16-inch concrete piles (Impact driving)	[5] 100		[6] 60		270	N/A
16-inch concrete piles (Jetting pile extraction)	10				N/A	1,165
16-inch concrete piles (Pile dead-pull)	10				N/A	

[1] LF = Low-frequency cetaceans; MF = Mid-frequency cetaceans; PW = Phocid pinnipeds; OW = Otariid pinnipeds. The high-frequency cetacean hearing group (HF) is omitted, because no species in the hearing group occur in, or around, Project area.
[2] Mean ambient sound levels in San Diego Bay are approximately 128 dB rms (NAVFAC SW 2015), and all 120 dB Level B ZOIs are based on the ambient value. The distances for all activities producing sound at NMAWC will be verified via hydrophone during project activities.
[3] Airborne noise levels did not exceed regulatory thresholds during previous IHAs. No airborne monitoring will take place for diamond saw cutting of caissons, plasma torch cutting of temporary mooring dolphin 30-inch steel piles, jetting or dead-pull extraction of concrete piles.
[4] Includes buffer of calculated Level A threshold out to 20 m (65.6 ft).
[5] Includes buffer of calculated Level A threshold out to 100 m (328 ft).
[6] Includes buffer of calculated Level A threshold out to 60 m (328 ft).

Disturbance Zone—Disturbance zones are the areas in which SPLs equal or exceed 160 and 120 dB rms (for impulse and continuous sound, respectively). Disturbance zones provide utility for monitoring conducted for mitigation purposes (*i.e.,* shutdown zone monitoring) by establishing monitoring protocols for areas adjacent

to the shutdown zones. Monitoring of disturbance zones enables observers to be aware of and communicate the presence of marine mammals in the project area but outside the shutdown zone and thus prepare for potential shutdowns of activity. However, the primary purpose of disturbance zone monitoring is for documenting incidents of Level B harassment; disturbance zone monitoring is discussed in greater detail later (see *Monitoring and Reporting Measures*). Nominal radial distances for disturbance zones are shown in Table 9.

In order to document observed incidents of harassment, monitors record all marine mammal observations, regardless of location. The observer's location, as well as the location of the pile being driven, is known from a GPS. The location of the animal is estimated as a distance from the observer, which is then compared to the location from the pile. If acoustic monitoring is being conducted for that pile, a received SPL may be estimated, or the received level may be estimated on the basis of past or subsequent acoustic monitoring. It may then be determined whether the animal was exposed to sound levels constituting incidental harassment in post-processing of observational and acoustic data, and a precise accounting of observed incidences of harassment created. Therefore, although the predicted distances to behavioral harassment thresholds are useful for estimating incidental harassment for purposes of authorizing levels of incidental take, actual take may be determined in part through the use of empirical data.

Acoustic measurements will continue during the fifth year of project activity and zones would be adjusted as indicated by empirical data. Please see the Navy's Acoustic and Marine Species Monitoring Plan (Monitoring Plan; available at *www.nmfs.noaa.gov/pr/permits/incidental/construction.htm*) for full details.

Monitoring Protocols—Monitoring would be conducted before, during, and after pile driving activities. In addition, observers shall record all incidents of marine mammal occurrence, regardless of distance from activity, and shall document any behavioral reactions in concert with distance from piles being driven. Observations made outside the shutdown zone will not result in shutdown; that pile segment would be completed without cessation, unless the animal approaches or enters the shutdown zone, at which point all pile driving activities would be halted. Monitoring will take place from fifteen minutes prior to initiation through thirty minutes post-completion of pile driving activities. Pile driving activities include the time to remove a single pile or series of piles, as long as the time elapsed between uses of the pile driving equipment is no more than thirty minutes. Please see the Monitoring Plan for full details of the monitoring protocols.

The following additional measures apply to visual monitoring:

(1) Monitoring will be conducted by qualified observers, who will be placed at the best vantage point(s) practicable (as defined in the Monitoring Plan) to monitor for marine mammals and implement shutdown/delay procedures when applicable by calling for the shutdown to the hammer operator. Qualified observers are trained biologists, with the following minimum qualifications:

(a) Visual acuity in both eyes (correction is permissible) sufficient for discernment of moving targets at the water's surface with ability to estimate target size and distance; use of binoculars may be necessary to correctly identify the target;

(b) Ability to conduct field observations and collect data according to assigned protocols

(c) Experience or training in the field identification of marine mammals, including the identification of behaviors;

(d) Sufficient training, orientation, or experience with the construction operation to provide for personal safety during observations;

(e) Writing skills sufficient to prepare a report of observations including but not limited to the number and species of marine mammals observed; dates and times when in-water construction activities were conducted; dates and times when in-water construction activities were suspended to avoid potential incidental injury from construction sound of marine mammals observed within a defined shutdown zone; and marine mammal behavior; and

(f) Ability to communicate orally, by radio or in person, with project personnel to provide real-time information on marine mammals observed in the area as necessary.

(2) Prior to the start of pile driving activity, the shutdown zone will be monitored for fifteen minutes to ensure that it is clear of marine mammals. Pile driving will only commence once observers have declared the shutdown zone clear of marine mammals; animals will be allowed to remain in the shutdown zone (*i.e.,* must leave of their own volition) and their behavior will be monitored and documented. The shutdown zone may only be declared clear, and pile driving started, when the entire shutdown zone is visible (*i.e.,* when not obscured by dark, rain, fog, *etc.*). In addition, if such conditions should arise during impact pile driving that is already underway, the activity would be halted.

(3) If a marine mammal approaches or enters the shutdown zone during the course of pile driving operations, activity will be halted and delayed until either the animal has voluntarily left and been visually confirmed beyond the shutdown zone or fifteen minutes have passed without re-detection of small cetaceans or pinnipeds and 30 minutes for gray whales. Monitoring will be conducted throughout the time required to drive a pile and for thirty minutes following the conclusion of pile driving.

Sound Attenuation Devices

The use of bubble curtains to reduce underwater sound from impact pile driving was considered prior to the start of the project but was determined to not be practicable. Use of a bubble curtain in a channel with substantial current may not be effective, as unconfined bubbles are likely to be swept away and confined curtain systems may be difficult to deploy effectively in high currents. Data gathered during monitoring of construction on the San Francisco-Oakland Bay Bridge indicated that no reduction in the overall linear sound level resulted from use of a bubble curtain in deep water with relatively strong current (Illingworth & Rodkin 2001). During project monitoring for pile driving associated with the Richmond-San Rafael Bridge, also in San Francisco Bay, it was observed that performance in moderate current was significantly reduced (Oestman *et al.,* 2009). Lucke *et al.* (2011) also note that the effectiveness of most currently used curtain designs may be compromised in stronger currents and greater water depths. We believe that conditions (relatively deep water and strong tidal currents of up to 3 knots (kn)) at the project site would disperse the bubbles and compromise the effectiveness of sound attenuation.

Timing Restrictions

In-order to avoid impacts to least tern populations when they are most likely to be foraging and nesting, in-water work will be concentrated from October 1–April 1 or, depending on circumstances, to April 30. However, this limitation is in accordance with agreements between the Navy and FWS, and is not a requirement of this IHA. All in-water construction activities would occur only from 45 minutes after sunrise to 45 minutes before sunset.

Soft Start

The use of a soft start procedure is believed to provide additional protection to marine mammals by warning or providing a chance to leave the area prior to the hammer operating at full capacity, and typically involves a requirement to initiate sound from the hammer at reduced energy followed by a waiting period. This procedure is repeated two additional times. It is difficult to specify the reduction in energy for any given hammer because of variation across drivers and, for impact hammers, the actual number of strikes at reduced energy will vary because operating the hammer at less than full power results in ''bouncing'' of the hammer as it strikes the pile, resulting in multiple ''strikes.'' The project will utilize soft start techniques for impact pile driving. We require an initial set of three strikes from the impact hammer at reduced energy, followed by a 30-second waiting period, then two subsequent three strike sets. Soft start will be required at the beginning of each day's impact pile driving work and at any time following a cessation of impact pile driving of thirty minutes or longer; the requirement to implement soft start for impact driving is independent of whether vibratory driving has occurred within the prior thirty minutes.

Based on our evaluation of the Navy's planned measures, as well as any other potential measures that may be relevant to the specified activity, we have determined that the mitigation measures provide the means of effecting the least practicable impact on marine mammal species or stocks and their habitat, paying particular attention to rookeries, mating grounds, and areas of similar significance.

Monitoring and Reporting Measures

In order to issue an IHA for an activity, section 101(a)(5)(D) of the MMPA states that NMFS must set forth requirements pertaining to the monitoring and reporting of such taking. The MMPA implementing regulations at 50 CFR 216.104 (a)(13) indicate that requests for incidental take 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 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 impacts from multiple stressors.
- How anticipated responses to stressors impact either: (1) Long-term fitness and survival of an individual; or (2) Population, species, or stock.
- Effects on marine mammal habitat (*e.g.* marine mammal prey species, acoustic habitat, or other important physical components of marine mammal habitat).
- Mitigation and monitoring effectiveness.

Please see the Monitoring Plan (available at *www.nmfs.noaa.gov/pr/permits/incidental/construction.htm*) for full details of the requirements for monitoring and reporting. Notional monitoring locations (for biological and acoustic monitoring) are shown in Figures 3–1 and 3–2 of the Plan. The purpose of this Plan is to provide protocols for acoustic and marine mammal monitoring implemented during pile driving and removal activities. We have determined this monitoring plan, which is summarized here and which largely follows the monitoring strategies required and successfully implemented under the previous IHAs, to be sufficient to meet the MMPA's monitoring and reporting requirements. The previous monitoring plan was modified to integrate adaptive changes to the monitoring methodologies as well as updates to the scheduled construction activities. Monitoring objectives are as follows:

- Monitor in-water construction activities, including the implementation of in-situ acoustic monitoring efforts to continue to measure SPLs from in-water construction and demolition activities not previously monitored or validated during the previous IHAs. This would include collection of acoustic data for activities and pile types for which sufficient data has not previously been collected, including for diamond saw cutting of caissons and pile clipping of the concrete piles during fuel pier demolition. The Navy also plans to collect acoustic data for vibratory extraction and/or driving, impact driving, and jetting pile extraction of the concrete piles at NMAWC.
- Monitor marine mammal occurrence and behavior during in-water construction activities to minimize marine mammal impacts and effectively document marine mammals occurring within ZOI boundaries.

Collection of ambient underwater sound measurements in the absence of project activities has been concluded, as a rigorous baseline dataset for the project area has been developed.

Acoustic Measurements

The primary purpose of acoustic monitoring is to empirically verify modeled injury and behavioral disturbance zones (defined at radial distances to NMFS-specified thresholds; see *Estimated Take by Incidental Harassment*). For non-pulsed sound, distances will continue to be evaluated for attenuation to the point at which sound becomes indistinguishable from background levels. Empirical acoustic monitoring data will be used to document transmission loss values determined from past measurements and to examine site-specific differences in SPL and affected ZOIs on an as needed basis.

Should monitoring results indicate it is appropriate to do so, marine mammal mitigation zones may be revised as necessary to encompass actual ZOIs. Acoustic monitoring will be conducted as specified in the approved Monitoring Plan. Please see Table 2–2 of the Plan for a list of equipment to be used during acoustic monitoring. Monitoring locations will be determined based on results of previous acoustic monitoring effort and the best professional judgment of acoustic technicians.

For activities such as demolition of the old fuel pier and temporary mooring dolphin, the Navy will continue to collect in situ acoustic data to validate source levels and ZOIs. Environmental data would be collected including but not limited to: Wind speed and direction, air temperature, humidity, surface water temperature, water depth, wave height, weather conditions and other factors that could contribute to influencing the airborne and underwater sound levels (*e.g.,* aircraft, boats). Full details of acoustic monitoring

requirements may be found in section 4.2 of the Navy's Monitoring Plan.

Visual Marine Mammal Observations

The Navy will collect sighting data and behavioral responses to construction for marine mammal species observed in the region of activity during the period of activity. All observers will be trained in marine mammal identification and behaviors and are required to have no other construction-related tasks while conducting monitoring. The Navy will monitor the shutdown zone and disturbance zone before, during, and after pile driving as described under *Mitigation Measures* and in the Monitoring Plan, with observers located at the best practicable vantage points. Notional monitoring locations are shown in Figures 3–3 and 3–4 of the Navy's Plan. Please see that plan, available at *www.nmfs.noaa.gov/pr/permits/incidental/construction.htm,* for full details of the required marine mammal monitoring. Section 3.2 of the Plan and Section 13 of the Navy's application offer more detail regarding monitoring protocols. Based on our requirements, the Navy would implement the following procedures for pile driving:

- Marine Mammal Observers (MMO)s would be located at the best vantage point(s) in order to properly see the entire shutdown zone and as much of the disturbance zone as possible.
- During all observation periods, observers will use binoculars and the naked eye to search continuously for marine mammals.
- If the shutdown zones are obscured by fog or poor lighting conditions, pile driving at that location will not be initiated until that zone is visible. Should such conditions arise while impact driving is underway, the activity would be halted.
- The shutdown and disturbance zones around the pile will be monitored for the presence of marine mammals before, during, and after any pile driving or removal activity.

One MMO will be placed in the most effective position near the active construction/demolition platform in order to observe the respective shutdown zones for vibratory and impact pile driving or for applicable demolition activities. Monitoring would be primarily dedicated to observing the shutdown zone; however, MMOs would record all marine mammal sightings beyond these distances provided it did not interfere with their effectiveness at carrying out the shutdown procedures. Additional land, pier, or vessel-based MMOs will be positioned to monitor the shutdown zones and the buffer zones, as notionally indicated in Figures 3–3 and 3–4 of the Navy's application.

For all pile driving and applicable demolition activities, a minimum of one observer shall monitor the shutdown zones. However, any action requiring the impact or vibratory hammer will necessitate two MMOs. For impact and vibratory pile driving of 16-in concrete piles, two observers shall be positioned for optimal monitoring of the surrounding waters.

The MMOs will record all visible marine mammal sightings. Confirmed takes will be registered once the sightings data has been overlaid with the isopleths identified in Table 4 and visualized in Figures 6–2, 6–3, and 6–4 of the Navy's application, or based on refined acoustic data, if amendments to the ZOIs are needed. Acousticians on duty may be noting SPLs in real-time, but, to avoid biasing the observations, will not communicate that information directly to the MMOs. These platforms may move closer to, or farther from, the source depending on whether received SPLs are less than or greater than the regulatory threshold values. All MMOs will be in radio communication with each other so that the MMOs will know when to anticipate incoming marine mammal species and when they are tracking the same animals observed elsewhere.

If any species for which take is not authorized is observed by a MMO during applicable construction or demolition activities, all construction will be stopped immediately. Pile driving will commence if the animal has not been seen inside the Level B ZOI for at least one hour of observation. If the animal is resighted again, pile driving will be stopped and a boat-based MMO (if available) will follow the animal until it has left the Level B ZOI. If the animal is resighted again, pile driving will be stopped and a boat-based MMO (if available) will follow the animal until it has left the Level B ZOI.

Individuals implementing the monitoring protocol will assess its effectiveness using an adaptive approach. Monitoring biologists will use their best professional judgment throughout implementation and seek improvements to these methods when deemed appropriate. Any modifications to protocol will be coordinated between NMFS and the Navy.

Data Collection

We require that observers use approved data forms. Among other pieces of information, the Navy will record detailed information about any implementation of shutdowns, including the distance of animals to the pile and description of specific actions that ensued and resulting behavior of the animal, if any. In addition, the Navy will attempt to distinguish between the number of individual animals taken and the number of incidents of take. We require that, at a minimum, the following information be collected on the sighting forms:

- Date and time that monitored activity begins or ends;
- Construction activities occurring during each observation period;
- Weather parameters (*e.g.,* percent cover, visibility);
- Water conditions (*e.g.,* sea state, tide state);
- Species, numbers, and, if possible, sex and age class of marine mammals;
- Description of any observable marine mammal behavior patterns, including bearing and direction of travel and distance from pile driving activity, and if possible, the correlation to measured SPLs;
- Distance from pile driving activities to marine mammals and distance from the marine mammals to the observation point;
- Description of implementation of mitigation measures (*e.g.,* shutdown or delay);
- Locations of all marine mammal observations; and
- Other human activity in the area.

In addition, photographs would be taken of any gray whales observed. These photographs would be submitted to NMFS' West Coast Regional Office for comparison with photo-identification catalogs to determine whether the whale is a member of the WNP population.

Reporting

A draft report would be submitted to NMFS within 45 calendar days of the completion of marine mammal monitoring, or 60 days prior to the issuance of any subsequent IHA for this project, whichever comes first. The report will include marine mammal observations pre-activity, during-activity, and post-activity during pile driving days, and will also provide descriptions of any behavioral responses to construction activities by marine mammals and a complete description of all mitigation shutdowns and the results of those actions. A final report would be prepared and submitted within 30 days following resolution of comments on the draft report. Required contents of the monitoring reports are described in more detail in the Navy's Acoustic and Marine Species Monitoring Plan.

Monitoring Results From Previously Authorized Activities

The Navy complied with the mitigation and monitoring required under the previous authorizations for this project. Acoustic and marine mammal monitoring was implemented as required, with marine mammal monitoring occurring before, during, and after each pile driving event. During the course of Year 4 activities, the Navy did not exceed the take levels authorized under the IHA (please see the Navy's monitoring report for more details and below for further discussion).

The general objectives of the monitoring plan were similar to those described above for the Year 5 monitoring plan. For acoustic monitoring, the primary goal was to continue to collect in situ data towards validation of the acoustic ZOIs defined based on previous data collection efforts and using the transmission loss modeling effort conducted prior to the start of the project, and to continue collection of data on background noise conditions in San Diego Bay.

Acoustic Monitoring Results—For a full description of acoustic monitoring methodology, please see section 2.3 of the Navy's monitoring report, including Figure 2–3 for representative monitoring locations. Results from Years 1–4 are displayed in Table 10. Please see our notices of proposed IHAs for the Years 2, 3, and 4 IHAs (79 FR 53026, September 5, 2014; 80 FR 53115, September 2, 2015; and 81 FR 66628, September 28, 2016) or the Navy's Year 1 and 2 monitoring reports for more detailed description of monitoring accomplished during the first two years of the project.

For acoustic monitoring associated with impact pile driving, continuous hydroacoustic monitoring systems were positioned at source (10 m from the pile) and opportunistically at predicted 160-dB Level B ZOIs. The far-field data collections were conducted at multiple locations during impact driving of 16-in concrete-filled poly piles and 24 x 30-in concrete fender piles, *i.e.,* approximately 20 to 550 m from source. Hydrophones were deployed from the dock, barge, or moored vessel at half the water depth. The SPLs for driving of 30-in steel pipe piles were measured intermittently and archived (but not reported) because associated SPLs for the size, type, and location of the piles were previously validated. Source SPLs were recorded and analyzed for a minimum of five piles for each of the concrete pile types. Additional measurements were archived.

SPLs of pile driving and demolition activities conducted during Year 2 fell within expected levels but varied spatially relative to the existing fuel pier structure and maximum source levels for individual piles (Table 10). For both vibratory and impact pile driving methods, results from the IPP (Year 1) and 2014/2015 production pile driving (Year 2) showed that transmission loss for piles driven in shallow water inside of the existing fuel pier was greater than piles driven in deep water outside of the existing pier. Differences in depth, sediment type, and existing in-water pier/wharf structures likely accounted for variations in transmission loss and measured differences in SPLs recorded at the shutdown and far-field locations for shallow versus deep piles of the same type and size. SPLs documented during vibratory and impact pile driving of shallow and deep steel pipe piles of the same size displayed notable differences in SPLs at shutdown range and to a lesser extent at source.

Measurements of impact driving of concrete piles conducted during Year 3 produced greater than expected SPLs at source. Differences in the subsurface conditions may account for the discrepancy, as a hardened layer is found at approximately 20–40 m below the mudline. SPLs documented during driving of 16-in piles generally displayed relatively low sound source levels during initial driving then appreciable increases observed once the piles interacted with this layer. Measurements from driving of the square concrete piles showed greatest sound source levels during initial impact pile driving, which then decreased once the piles transitioned through the hardened layer. While source SPLs were observed to be greater than expected for both pile types, attenuation was also greater. Despite greater than expected source levels, the measured isopleth distances were similar to modeled predictions. Far-field impact pile driving results varied substantially between piles and locations for the various pile sizes, types, and locations. Both pile types were driven adjacent to the new fuel pier and source SPLs were subject to a wide variety of boundary conditions from recently driven piles and associated pier infrastructure. Further detail and discussion is provided in the Navy's report.

During Year 4, measurements were conducted for pile clipping, caisson cutting, pile jetting, and airborne vibratory and impact driving. The average SPLs for pile clipping at source ranged from 138.0 to 144.6 dB rms, with maximum SPLs at source ranging from 156.1 to 165.3 dB rms (see Table 6–3 of the Navy's monitoring report). Measurements were conducted on eight piles and took one to three minutes to cut.

Caisson demolition was conducted on 18 84-in concrete-filled caissons, with an average duration of approximately 6 hours per caisson. Underwater acoustic data was collected for seven caissons using the vibratory setting. For some of the recordings, there were two caissons being cut simultaneously and the acousticians captured the SPLs for comparison between a single cutter versus two cutters. If two cutters were running, the distance measured was from the closest caisson to the location. Average SPLs at source for a single cutter were 136.1 and 141.4 dB rms. Maximum SPLs at source for a single cutter were 140.9 and 146.5 dB rms. Average SPLs at source for two cutters running simultaneously were 146.5 and 149.0 dB rms. Maximum SPLs at source for two cutters running simultaneously were 149.0 and 155.6 dB rms. On average, there was a 10 dB difference between a single cutter and two at source. Far-field recordings for a single cutter were collected at far-field locations ranging from 20 to 430 m (66 to 1,411 ft), with documented maximum SPL values from 136.6 to 145.5 dB rms. Far-field recordings for two cutters were also collected at far-field locations ranging from 85 to 810 m (279 to 2,657 ft), with documented maximum SPL values from 133.2 to 146.8 dB rms.

SPLs of pile installation activities for the 24 x 30 concrete piles had not been previously documented. The only jetting data collected during the Project was at NMAWC during the removal of 12-inch and 16-inch concrete piles. A total of sixteen 24 x 30 concrete non-structural fender piles were driven using two techniques: (1) Method 1 (M1) utilized a custom-made spud jet with four nozzles welded to the tip that used a high-pressure water system (900 gallons per minute with a maximum pounds per square inch (psi) of 300), to make the initial break through the bay point formation sediment layer; and (2) Method 2 (M2) used the 24 x 30 pile, outfitted with two pipes inside the full length of the pile, which then used a high-pressure water system (maximum psi of 300) to remove sediment and place the pile. Pile jetting averaged 24.5 minutes per pile and acoustic recordings were collected for the entire duration. Collection of underwater acoustic data were completed on six piles using the vibratory setting. For M1, the average sound pressure levels (SPL) at source ranged from 152.6 dB rms to 155.1 dB rms, and maximum SPLs at

source ranged from 156.5 dB rms to 159.9 dB rms. For M2, the average SPL at source ranged from 133.0 dB to 149.8 dB and maximum SPLs at source ranged from 137.1 dB to 153.2 dB rms. A vessel based drift method was used to obtain far-field recordings during M1 and M2 jetting techniques; the vessel was initially positioned at the closest feasible distance to source, and then allowed to drift on the natural tidal current until near ambient sound pressure levels were obtained. The SPLs at far-field for the first drift during jetting M1 reached near ambient at 165 m (541 ft) from pile with an SPL of 128.0 dB. The SPLs at far-field for the first drift during pile jetting M2 reached near ambient at 80 m (262 ft) from pile with an SPL of 127.6 dB. Recordings during the vessel drifts showed that jetting reached near ambient levels for both methods between 80 m (262 ft) and 165 m (541 ft; M1 and M2, respectively).

Airborne sound levels were recorded during vibratory pile driving on fourteen 30-inch steel piles. The maximum recorded airborne dB rms values at source was 106.3 dB re 20 µPa, and average values ranged from 96.0 to 102.7 dB re 20 µPa. Airborne sound levels were recorded during impact pile driving on sixteen 30-inch steel piles. The maximum recorded airborne dB values at source was 118.5 dB re 20 µPa, and average values ranged from 105.8 to 112.5 dB re 20 µPa. Further detail and discussion is provided in the Navy's report.

TABLE 10—ACOUSTIC MONITORING RESULTS FOR YEAR 4

Location	Activity	Pile type	Number of piles measured	Average underwater SPL at 10 m (dB rms)	Average airborne SPL (LZF_{max}) [1]
Fuel Pier (Year 4)	Pile Clipping	24-in square concrete pile	4	141	
	Caisson Demolition (1 cutter)	84-in caisson	10	136	
	Caisson Demolition (2 cutters).	84-in caisson	8	138	
	Vibratory	30-in steel (at source)	7		100
	Vibratory	30-in steel (far field)	7		86
	Impact	30-in steel (at source)	9		110
	Impact	30-in steel (far field)	7		88
NMAWC (Year 4)	Pile Jetting	24 x 30	10	147	

[1] Measured from Source (15.2 m) and Far-field Distances for 30-inch Steel Piles.

Marine Mammal Monitoring Results—Marine mammal monitoring was conducted as required under the IHA and as described in the Year 4 monitoring plan and in our **Federal Register** notice of proposed authorization associated with the Year 4 IHA. For a full description of monitoring methodology, please see section 2 of the Navy's monitoring report, including Figure 2–1, 2–2, and 2–7 for representative monitoring locations and Figures 2–2 through 2–5 for monitoring zones. Monitoring protocols were managed adaptively during the course of the fourth-year IHA. Multiple shutdowns were implemented due to marine mammals being observed within buffered shutdown zones, but no animals were observed within actual predicted Level A harassment zones while pile driving was occurring (one harbor seal was seen within the Level A ZOI after a shutdown of construction had been implemented).

Monitoring results are presented in Table 11. The Navy recorded all observations of marine mammals, including pre- and post-construction monitoring efforts. Animals observed during these periods or that were determined to be outside relevant ZOIs were not considered to represent incidents of take. Please see Figures 3–11, 3–12, 3–22, 3–23, 3–30, and 3–31 of the Navy's Monitoring Report for locations of observations and incidents of take relative to the project sites. Take authorization for the second-year authorization was informed by an assumption that 115 days of in-water construction would occur, whereas only fifty total days actually occurred. However, the actual observed rates per day were in all cases lower than what was assumed. Therefore, we expect that the Navy would not have exceeded the take allowances even if the full 115 days had been reached.

There were considerably fewer individuals and sightings during the Year 3 IHA when compared to the same months during the Year 2 IHA, and only three species were observed. This may be due to environmental fluctuations as part of the on-going El Niño event. Water temperatures during Year 3 were warmer than during the same months during Year 2. Although the temperatures were still higher than the average water temperatures for the region prior to the current El Niño event, it shows that the event may have been dissipating. In addition, California sea lion strandings decreased. No evidently significant behavioral changes were reported.

Similar to Year 3, there were considerably fewer individuals and sightings during the Year 4 IHA when compared to the same months during the Year 2 IHA, and only four species were observed. This may be due to environmental fluctuations as part of the on-going El Niño event. Water temperatures during Year 4 were slightly warmer than during the same months during Year 2. Although the temperatures were still higher than the average water temperatures for the region prior to the current El Niño event, it shows that the event may have been dissipating. In addition, California sea lion strandings decreased, but may be returning to numbers more commonly observed. No evidently significant behavioral changes were reported.

TABLE 11—MARINE MAMMAL MONITORING RESULTS FOR YEAR 4

Species	Total sightings	Total individuals	Observed incidents of Level B take	Extrapolated incidents of Level B take [1]	Total estimated Level B take
California sea lion	717	2,037	156	1,835	1,991

TABLE 11—MARINE MAMMAL MONITORING RESULTS FOR YEAR 4—Continued

Species	Total sightings	Total individuals	Observed incidents of Level B take	Extrapolated incidents of Level B take [1]	Total estimated Level B take
Harbor seal	87	102	21	57	78
Bottlenose dolphin	18	45	4	144	148
Gray whale	1	1	0	13	13

[1] Assumed density and unmonitored area of assumed Level B ZOI used with actual pile driving time to generate assumed take for unmonitored areas.

Negligible Impact Analysis and Determination

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. 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).

Construction and demolition activities associated with the pier replacement project, as outlined previously, have the potential to disturb or displace marine mammals. Specifically, the specified activities may result in take, in the form of Level B harassment (behavioral disturbance) only, from underwater sounds generated from pile driving. Potential takes could occur if individuals of these species are present in the ensonified zone when pile driving or removal is happening.

No injury, serious injury, or mortality is anticipated given the nature of the activity and measures designed to minimize the possibility of injury to marine mammals. The potential for these outcomes is minimized through the construction method and the implementation of the planned mitigation measures. Impact pile driving produces short, sharp pulses with higher peak levels and much sharper rise time to reach those peaks. When impact driving is necessary, required measures (implementation of buffered shutdown zones) significantly reduce any possibility of injury. Given sufficient ''notice'' through use of soft start (for impact driving), marine mammals are expected to move away from a sound source that is annoying prior to its becoming potentially injurious. The likelihood that marine mammal detection ability by trained observers is high under the environmental conditions described for San Diego Bay (approaching 100 percent detection rate, as described by trained biologists conducting site-specific surveys) further enables the implementation of shutdowns to avoid injury, serious injury, or mortality.

Effects on individuals that are taken by Level B harassment, on the basis of reports in the literature as well as monitoring from past years of this project and other similar activities, will likely be limited to reactions such as increased swimming speeds, increased surfacing time, or decreased foraging (if such activity were occurring) (*e.g.,* Thorson and Reyff 2006; HDR 2012; Lerma 2014). Most likely, individuals will simply move away from the sound source and be temporarily displaced from the areas of pile driving, although even this reaction has been observed primarily only in association with impact pile driving. In response to vibratory driving, pinnipeds (which may become somewhat habituated to human activity in industrial or urban waterways) have been observed to orient towards and sometimes move towards the sound. The pile driving activities analyzed here are similar to, or less impactful than, numerous other construction activities conducted in San Francisco Bay and in the Puget Sound region, which have taken place with no reported injuries or mortality to marine mammals, and no known long-term adverse consequences from behavioral harassment. Repeated exposures of individuals to levels of sound that may cause Level B harassment are unlikely to result in hearing impairment or to significantly disrupt foraging behavior. Thus, even repeated Level B harassment of some small subset of the overall stock is unlikely to result in any significant realized decrease in fitness for the affected individuals, and thus would not result in any adverse impact to the stock as a whole. Level B harassment will be reduced to the level of least practicable impact through use of mitigation measures described herein and, if sound produced by project activities is sufficiently disturbing, animals are likely to simply avoid the project area while the activity is occurring.

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

- No mortality is anticipated or authorized;
- No injury is anticipated or authorized;
- The anticipated incidents of Level B harassment consist of, at worst, temporary modifications in behavior;
- The absence of any significant habitat within the project area, including rookeries, significant haul-outs, or known areas or features of special significance for foraging or reproduction; and
- The presumed efficacy of the mitigation measures in reducing the effects of the specified activity to the level of least practicable impact.

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 monitoring and mitigation measures, NMFS finds that the total marine mammal take from the planned activity will have a negligible impact on all

affected marine mammal species or stocks.

Small Numbers

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

The number of incidents of take planned for authorization for these stocks, with the exception of the coastal bottlenose dolphin (see below), would be considered small relative to the relevant stocks or populations (see Table 8) even if each estimated taking occurred to a new individual. This is an extremely unlikely scenario as, for pinnipeds occurring at the NBPL waterfront, there will almost certainly be some overlap in individuals present day-to-day and in general, there is likely to be some overlap in individuals present day-to-day for animals in estuarine/inland waters.

The numbers of authorized take for bottlenose dolphins are higher relative to the total stock abundance estimate and would not represent small numbers if a significant portion of the take was for a new individual. However, these numbers represent the estimated incidents of take, not the number of individuals taken. That is, it is likely that a relatively small subset of California coastal bottlenose dolphins would be incidentally harassed by project activities. California coastal bottlenose dolphins range from San Francisco Bay to San Diego (and south into Mexico) and the specified activity would be stationary within an enclosed water body that is not recognized as an area of any special significance for coastal bottlenose dolphins (and is therefore not an area of dolphin aggregation, as evident in Navy observational records). We therefore believe that the estimated numbers of takes, were they to occur, likely represent repeated exposures of a much smaller number of bottlenose dolphins and that, based on the limited region of exposure in comparison with the known distribution of the coastal bottlenose dolphin, these estimated incidents of take represent small numbers of bottlenose dolphins.

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

Impact on Availability of Affected Species for Taking for Subsistence Uses

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

Endangered Species Act (ESA)

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

The Navy initiated informal consultation under section 7 of the ESA with NMFS Southwest Regional Office (now West Coast Regional Office) on March 5, 2013. NMFS concluded on May 16, 2013, that the planned action may affect, but is not likely to adversely affect, WNP gray whales. The Navy has not requested authorization of the incidental take of WNP gray whales and we are not authorizing it, and there are no other ESA-listed marine mammals found in the action area. Therefore, no consultation under the ESA is required.

Dated: September 27, 2017.

Donna S. Wieting,

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

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DEPARTMENT OF COMMERCE

National Oceanic and Atmospheric Administration

RIN 0648–XF697

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

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

ACTION: Notice; receipt of application for letter of authorization; request for comments and information.

SUMMARY: NMFS has received a request from the U.S. Navy (Navy) for authorization to take, by harassment, of marine mammals incidental to conducting pier construction at the Navy Submarine Base New London in Groton, Connecticut, beginning October 2018 and ending March 2022. Pursuant to the implementing regulations of the Marine Mammal Protection Act (MMPA), NMFS is announcing our receipt of the Navy's request for regulations governing the incidental taking of marine mammals and inviting information, suggestions, and comments on the Navy's application and request.

DATES: Comments and information must be received no later than November 1, 2017.

ADDRESSES: Comments on the application should be addressed to Jolie Harrison, Chief, Permits, Conservation and Education Division, Office of Protected Resources, National Marine Fisheries Service, 1315 East-West Highway, Silver Spring, MD 20910–3225. The mailbox address for providing email comments is *ITP.guan@noaa.gov.*

Instructions: NMFS is not responsible for email comments sent to addresses other than the one provided here. Comments sent via email, including all attachments, must not exceed a 10-megabyte file size. All comments received are a part of the public record and will generally be posted to *www.nmfs.noaa.gov/pr/permits/incidental/construction.htm* without change. All Personal Identifying Information (for example, name, address, etc.) voluntarily submitted by the commenter may be publicly accessible. Do not submit Confidential Business Information or otherwise sensitive or protected information.

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

SUPPLEMENTARY INFORMATION: