BILLING CODE 3510-22-P

DEPARTMENT OF COMMERCE

National Oceanic and Atmospheric Administration

RIN 0648-XE744

Takes of Marine Mammals Incidental to Specified Activities; Taking Marine Mammals Incidental to a Pier Replacement Project

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 we have issued an incidental harassment authorization (IHA) to the U.S. Navy (Navy) to incidentally harass, by Level B harassment only, marine mammals during construction activities associated with a pier replacement project at Naval Base Point Loma, San Diego, CA.

DATES: This authorization is effective from October 8, 2016, through October 7, 2017.

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

SUPPLEMENTARY INFORMATION:

Availability

An electronic copy of the Navy's 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.

Background

Sections 101(a)(5)(A) and (D) of the MMPA (16 U.S.C. 1361 *et seq*.) direct the Secretary of Commerce to allow, upon request, the incidental, but not intentional, taking of small numbers of marine mammals by U.S. citizens who engage in a specified activity (other than commercial fishing) within a specified geographical region 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.

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."

Section 101(a)(5)(D) of the MMPA established an expedited process by which citizens of the U.S. can apply for an authorization to incidentally take small numbers of marine mammals by harassment. Section 101(a)(5)(D) establishes a 45-day time limit for NMFS review of an application followed by a 30-day public notice and comment period on any proposed authorizations for the incidental harassment of marine mammals. Within 45 days of the close of the comment period, NMFS must either issue or deny the authorization. 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]."

Summary of Request

On June 16, 2016, we received a request from the Navy for authorization 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 in San Diego, CA (NBPL), including a separate monitoring plan. The Navy also submitted a draft monitoring report on June 2, 2016, pursuant to requirements of the previous IHA. The Navy submitted revised versions of the request and monitoring plan on August 3, 2016 and a revised monitoring report on July 12, 2016. These documents were deemed adequate and complete. The pier replacement project is planned to occur over multiple years; this proposed IHA would cover only the fourth 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 use of both vibratory and impact pile driving, as well as various demolition techniques, is expected to produce underwater sound at levels that have the potential to result in behavioral harassment of marine mammals. 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.

This is the fourth such IHA, following the IHAs issued effective 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). 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 for public review and comment.

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 fourth 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). At the fuel pier, the Navy anticipates driving remaining concrete fender piles and driving remaining steel piles for mooring dolphins. At NMAWC, Navy anticipates extracting and driving concrete piles as needed to return the existing facility to its configuration prior to temporary placement of the MMP, which will be returned to its previous location near the fuel pier. For construction work at the fuel pier, Navy anticipates driving approximately 24 30-in steel pipe piles, 81 30 x 24-in concrete piles, and one 16-in concrete-filled fiberglass pile. Steel pipe piles would be installed to refusal using a vibratory driver and then finished using an impact hammer. Concrete piles would be installed to within five feet of tip elevation via jetting before being finished with an impact hammer, and the fiberglass pile would be installed entirely using an impact hammer. At NMAWC, Navy anticipates driving 21 16-in concrete piles using an impact hammer and removing forty existing 16-in concrete piles used for the

temporary MMP relocation. See Table 1-4 in the Navy's application for more detail on piles to be installed.

The proposed actions with the potential to incidentally harass marine mammals within the waters adjacent to NBPL are vibratory and impact pile installation and certain demolition (*i.e.*, pile removal) techniques when not occurring concurrently with pile installation. Concurrent use of multiple pile driving rigs is not planned.

Dates and Duration

The activities planned during the fourth year of work associated with the fuel pier project would occur for one year from the date of issuance of this proposed IHA. Under the terms of a memorandum of understanding (MOU) between the Navy and the U.S. Fish and Wildlife Service (FWS), all noise- and turbidity-producing in-water activities in designated least tern foraging habitat are to be avoided during the period when least terns are present and engaged in nesting and foraging (a window from approximately May 1 through September 15). However, it is possible that in-water work not expected to result in production of significant noise or turbidity (*e.g.*, demolition activities) could occur at any time during the period of validity of this IHA. The conduct of any such work would be subject to approval from FWS under the terms of the MOU. We expect that in-water construction work will primarily occur from October through April. Pile driving will occur during normal working hours (approximately 7 a.m. to 6 p.m.), and will not occur earlier than 45 minutes after sunrise or later than 45 minutes before sunset.

Specific Geographic Region

NBPL is located on the peninsula of Point Loma near the mouth and along the northern edge of San Diego Bay (see Figures 1-1 and 1-2 in the Navy's application). San

Diego Bay is a narrow, crescent-shaped natural embayment oriented northwest-southeast with an approximate length of 24 km and a total area of roughly 4,500 ha. The width of the bay ranges from 0.3 to 5.8 km, and depths range from 23 m mean lower low water (MLLW) near the tip of Ballast Point to less than 2 m at the southern end (see Figure 2-1 of the Navy's application). San Diego Bay is a heavily urbanized area with a mix of industrial, military, and recreational uses. The northern and central portions of the bay have been shaped by historic dredging to support large ship navigation. Dredging occurs as necessary to maintain constant depth within the navigation channel. Outside the navigation channel, the bay floor consists of platforms at depths that vary slightly. Sediments in northern San Diego Bay are relatively sandy as tidal currents tend to keep the finer silt and clay fractions in suspension, except in harbors and elsewhere in the lee of structures where water movement is diminished. Much of the shoreline consists of riprap and manmade structures. San Diego Bay is heavily used by commercial, recreational, and military vessels, with an average of over 80,000 vessel movements (in or out of the bay) per year (not including recreational boating within the Bay) (see Table 2-2 of the Navy's application). For more information about the specific geographic region, please see section 2.3 of the Navy's application.

Detailed Description of Activities

In order to provide context, we described the entire project in our *Federal Register* notice of proposed authorization associated with the first-year IHA (78 FR 30873; May 23, 2013). Please see that document for an overview of the entire fuel pier replacement project, or see the Navy's Environmental Assessment (2013) for more detail. In the notice of proposed authorization associated with the fourth-year IHA (81 FR

52637; August 9, 2016) we provided an overview of relevant construction methods before describing only the specific project portions scheduled for completion during the fourth work window. We do not repeat that information here; please refer to that document for more information. For the fourth year of work, approximately 106 steel and concrete piles are expected to be installed, completing in-water construction work for the new pier (with a total of approximately 518 steel and concrete piles installed). The Navy anticipates the need to request a fifth IHA related to completion of demolition work.

Description of Work Accomplished

During the first in-water work season, two primary activities were conducted: relocation of the MMP and the Indicator Pile Program (IPP). During the second in-water work season, the IPP was concluded and simultaneous construction of the new pier and demolition of the old pier begun. Production pile driving continued during the third in-water work season (2015-16). These activities were detailed in our **Federal Register** notice of proposed authorization (81 FR 52637; August 9, 2016) and are not repeated here.

Comments and Responses

We published a notice of receipt of the Navy's application and proposed IHA in the **Federal Register** on August 9, 2016 (81 FR 52637). We received a letter from the Marine Mammal Commission; the Commission's recommendation and our response is provided here, and the comments have been posted on the Internet at: *www.nmfs.noaa.gov/pr/permits/incidental/construction.htm*. Please see the Commission's letter for background and rationale regarding this recommendation.

Comment 1: The Commission provided some general discussion of approaches to estimation of take, and recommends that the following methods be used consistently for all future incidental take authorizations: (1) apply a 24-hour reset policy for enumerating the number of each species that could be taken during proposed activities, (2) apply standard rounding rules before summing the numbers of estimated takes across days, and (3) for species that have the potential to be taken but model-estimated or calculated takes round to zero, use group size to inform the take estimates.

Response: Calculating predicted take is not an exact science and there are arguments for taking different mathematical approaches in different situations, and for making qualitative adjustments in other situations. NMFS is currently engaged in developing a protocol to guide more consistent take calculation given certain circumstances. We believe, however, that the methodology for this action remains appropriate.

Description of Marine Mammals in the Area of the Specified Activity

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. A juvenile elephant seal was observed 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*). 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 stock.

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.

We have reviewed the Navy's detailed species descriptions, including life history information, for accuracy and completeness and refer the reader to Sections 3 and 4 of the Navy's application instead of reprinting the information here. Please also refer to NMFS' website (*www.nmfs.noaa.gov/pr/species/mammals*) for generalized species accounts and to the Navy's Marine Resource Assessment for the Southern California and Point Mugu Operating Areas, which provides information regarding the biology and behavior of the marine resources that may occur in those operating areas (DoN, 2008). The document is publicly available at *www.navfac.navy.mil/products_and_services/ev/products_and_services/marine_resources/marine_resource_assessments.html* (accessed July 26, 2016). In addition, we provided information for the potentially affected stocks, including details of stock-wide status, trends, and threats, in our *Federal Register* notices of proposed authorization associated with the first- and second-year IHAs (78 FR 30873; May 23, 2013 and 79 FR 53026; September 5, 2014) and refer the reader to those documents rather than reprinting the information here.

Table 1 lists the marine mammal species with expected potential for occurrence in the vicinity of NBPL during the project timeframe and summarizes key information regarding stock status and abundance. See also Figures 3-1 through 3-5 of the Navy's

application for observed occurrence of marine mammals in the project area. Taxonomically, we follow Committee on Taxonomy (2016). Please see NMFS' Stock Assessment Reports (SAR), available at *www.nmfs.noaa.gov/pr/sars*, for more detailed accounts of these stocks' status and abundance. All potentially affected species are addressed in the Pacific SARs (Carretta *et al*., 2016).

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
Superfamily Odontoceti (toothed whales, dolphins, and porpoises)						
Family Delphinidae						
Bottlenose dolphin	California coastal	-; N	323[5] (0.13; 290; 2005)	2.4	0.2	Common; year-round
Short-beaked common dolphin	California/Oregon/ Washington	-; N	411,211 (0.21; 343,990; 2008)	3,440	64	Occasional; year-round (but more common in warm season)
Long-beaked common dolphin	California	-; N	107,016 (0.42; 76,224; 2009)	610	13.8	Occasional; year-round (but more common in warm season)
Pacific white-sided dolphin	California/Oregon/ Washington	-; N	26,930 (0.28; 21,406; 2008)	171	17.8	Uncommon; year-round
Risso's dolphin	California/Oregon/ Washington	-; N	6,272 (0.3; 4,913; 2008)	39	1.6	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.

[5]This value is based on photographic mark-recapture surveys conducted along the San Diego coast in 2004-05, but is considered a likely underestimate, as it does not reflect that approximately 35 percent of dolphins encountered lack identifiable dorsal fin marks (Defran and Weller, 1999). If 35 percent of all animals lack distinguishing marks, then the true population size would be closer to 450-500 animals (Carretta *et al*., 2015).

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

We provided discussion of the potential effects of the specified activity on marine mammals and their habitat in our **Federal Register** notices of proposed authorization associated with the first- and second-year IHAs (78 FR 30873; May 23, 2013 and 79 FR 53026; September 5, 2014). The specified activity associated with this IHA is substantially similar to those considered for the first- and second-year IHAs and the potential effects of the specified activity are the same as those identified in those documents. Therefore, we do not reprint the information here but refer the reader to those documents. We also provided brief definitions of relevant acoustic terminology in our notice of proposed authorization associated with this IHA (81 FR 52637; August 9, 2016).

Mitigation

In order to issue an IHA under section 101(a)(5)(D) of the MMPA, NMFS must set forth the permissible methods of taking pursuant to 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.

The mitigation strategies described below largely follow those required and successfully implemented under the first three IHAs associated with this project. For this IHA, data from acoustic monitoring conducted during the first three 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 prevent 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 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 avoid the potential for acoustic injury. 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 or minimizing potential for some outcome for marine mammals, such as auditory injury or severe behavioral reactions. In this case, neither serious injury nor death are likely outcomes even in the absence of mitigation measures due to the nature of the specified activity. A minimum shutdown zone of 10 m will be established during all pile driving and removal activities. In addition the Navy will implement shutdown zones that are intended to significantly reduce the potential for Level A harassment. The Navy considered typical swim speeds (Godfrey, 1985; Lockyer and Morris, 1987; Fish, 1997; Fish *et al*., 2003; Rohr *et al*., 2002; Noren *et al*., 2006) and past field experience (*e.g.*, typical elapsed time from observation of an animal to shutdown of equipment) in initially defining these buffered zones, and then evaluated the practicality and effectiveness of the zones during the Year 2 construction period. 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.

Disturbance Zone – Disturbance zones are the areas in which sound pressure levels (SPL) equal or exceed 160 and 120 dB root mean square (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").

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 fourth 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 will be conducted before, during, and after pile driving activities. In addition, observers will record all incidents of marine mammal occurrence, regardless of distance from activity, and will 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:

- 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;
- Advanced education in biological science or related field (undergraduate degree or higher is required);
- Experience and ability to conduct field observations and collect data according to assigned protocols (this may include academic experience);
- Experience or training in the field identification of marine mammals, including the identification of behaviors;
- Sufficient training, orientation, or experience with the construction operation to provide for personal safety during observations;

- Writing skills sufficient to prepare a report of observations including but not limited to the number and species of marine mammals observed; dates and times when in-water construction activities were conducted; dates 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
- 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 the animal. Monitoring will be

conducted throughout the time required to drive a pile and for thirty minutes following the conclusion of pile driving.

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 thirty-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.

We have carefully evaluated the Navy's proposed mitigation measures and considered their effectiveness in past implementation to determine whether they are likely to effect the least practicable impact on the affected marine mammal species and stocks and their habitat. Our evaluation of potential measures included consideration of the following factors in relation to one another: (1) the manner in which, and the degree to which, the successful implementation of the measure is expected to minimize adverse impacts to marine mammals, (2) the proven or likely efficacy of the specific measure to minimize adverse impacts as planned; and (3) the practicability of the measure for applicant implementation.

Any mitigation measure(s) we prescribe should be able to accomplish, have a reasonable likelihood of accomplishing (based on current science), or contribute to the accomplishment of one or more of the general goals listed below:

(1) Avoidance or minimization of injury or death of marine mammals wherever possible (goals 2, 3, and 4 may contribute to this goal).

(2) A reduction in the number (total number or number at biologically important time or location) of individual marine mammals exposed to stimuli expected to result in incidental take (this goal may contribute to 1, above, or to reducing takes by behavioral harassment only).

(3) A reduction in the number (total number or number at biologically important time or location) of times any individual marine mammal would be exposed to

stimuli expected to result in incidental take (this goal may contribute to 1, above, or to reducing takes by behavioral harassment only).

(4) A reduction in the intensity of exposure to stimuli expected to result in incidental take (this goal may contribute to 1, above, or to reducing the severity of behavioral harassment only).

(5) Avoidance or minimization of adverse effects to marine mammal habitat, paying particular attention to the prey base, blockage or limitation of passage to or from biologically important areas, permanent destruction of habitat, or temporary disturbance of habitat during a biologically important time.

(6) For monitoring directly related to mitigation, an increase in the probability of detecting marine mammals, thus allowing for more effective implementation of the mitigation.

Based on our evaluation of the Navy's proposed measures, as well as any other potential measures that may be relevant to the specified activity, we have determined that the planned 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

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 proposed action area.

Any monitoring requirement we prescribe should improve our understanding of one or more of the following:

- Occurrence of marine mammal species in action area (*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 responses to acute stressors, or impacts of chronic exposures (behavioral or physiological).
- 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 and resultant impacts to marine mammals.
- 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 will 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 during fuel pier demolition. The Navy also plans to collect acoustic data for removal of 30-in steel piles via either vibratory extraction or torch cutting.
- 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.

Acoustic Measurements

The primary purpose of acoustic monitoring is to empirically verify modeled disturbance zones (defined at radial distances to NMFS-specified thresholds; see "Estimated Take by Incidental Harassment" below). 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 measurements collected during the IPP 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.

No acoustic data will be collected for 30-in steel piles as sufficient data has been collected for 36-in steel piles during previous years. For other activities, such as fender pile driving and demolition, 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" and in the Monitoring Plan, with observers located at the best practicable vantage points. Notional monitoring locations are shown in

Figures 3-1 and 3-2 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) 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 will be primarily dedicated to observing the shutdown zone; however, MMOs will 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 3-1 and 3-2 of the Navy's application.

During driving of steel piles, at least four additional MMOs (five total) will be deployed. Three of the five MMOs will be positioned in various pier-based locations around the new fuel pier to monitor the ZOIs. Two of these will be stationed at the north and south ends of the second deck of the new pier, and one MMO will be stationed on a second story balcony of a building on the existing pier. This building is scheduled to be demolished as part of the project. When the building is removed, a suitable secondary location with similar visibility will be used as an observation location. One MMO will be positioned in a boat at or near floating docks associated, and will focus on the furthest extent of the 450-m cetacean shutdown ZOI. The fifth MMO will be positioned on a second-story balcony of a Navy building on Ballast Point at the entrance to San Diego Bay, will focus on the furthest extent of the Level B ZOIs, and will monitor for marine mammals as they enter or exit San Diego Bay.

One additional team member – the "Command" position – will remain on the construction barge for the duration of monitoring efforts, and will log pile driving start and stop times. This position will act as a secondary MMO during monitoring efforts, but will not log marine species observations as part of their normal duties. They will use either verbal or visual communication procedures to stop active construction if an animal enters the shutdown zones.

During driving of 24 x 30-in concrete fender piles, two MMOs and the additional "Command" team member will be on duty. The two MMOs will be stationed on the second deck of the new fuel pier in the most appropriate locations. During driving of the

16-in poly-concrete pile, one MMO and the "Command" position will be on duty. One MMO will be on duty during demolition using the diamond saw. During activity at the NMAWC site, at least two MMOs will be on duty and will be located at the most appropriate positions.

The MMOs will record all visible marine mammal sightings. Confirmed takes will be registered once the sightings data has been overlaid with the appropriate zones 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. If a boat is available, MMOs will follow the animal(s) at a minimum distance of 100 m until the animal has left the Level B ZOI. 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.

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 will 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 western North Pacific population.

Reporting

A draft report will be submitted to NMFS within 45 calendar days of the completion of marine mammal monitoring, or sixty 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 will be prepared and submitted within thirty 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 3 activities, the Navy did not exceed the take levels authorized under the IHA. Previous acoustic and marine mammal

monitoring results were detailed in our **Federal Register** notice of proposed authorization (81 FR 52637; August 9, 2016) and are not repeated here.

Estimated Take by Incidental Harassment

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]."

All anticipated takes would be by Level B harassment resulting from vibratory and impact pile driving or demolition and involving temporary changes in behavior. The planned mitigation and monitoring measures (*i.e.*, buffered shutdown zones) are expected to minimize the possibility of Level A harassment such that we believe it is unlikely. We do not expect that injurious or lethal takes would occur even in the absence of the planned mitigation and monitoring measures.

Given the many uncertainties in predicting the quantity and types of impacts of sound on marine mammals, it is common practice to estimate how many animals are likely to be present within a particular distance of a given activity, or exposed to a particular level of sound. In practice, depending on the amount of information available to characterize daily and seasonal movement and distribution of affected marine mammals, it can be difficult to distinguish between the number of individuals harassed and the instances of harassment and, when duration of the activity is considered, it can result in a take estimate that overestimates the number of individuals harassed. In

particular, for stationary activities, it is more likely that some smaller number of individuals may accrue a number of incidences of harassment per individual than for each incidence to accrue to a new individual, especially if those individuals display some degree of residency or site fidelity and the impetus to use the site (*e.g.*, because of foraging opportunities) is stronger than the deterrence presented by the harassing activity.

The project area is not believed to be particularly important habitat for marine mammals, nor is it considered an area frequented by marine mammals (with the exception of California sea lions, which are attracted to nearby haul-out opportunities). Sightings of other species are relatively rare. Therefore, behavioral disturbances that could result from anthropogenic sound associated with these activities are expected to affect only a relatively small number of individual marine mammals, although those effects could be recurring over the life of the project if the same individuals remain in the project vicinity.

The Navy requested authorization for the potential taking of small numbers of California sea lions, harbor seals, bottlenose dolphins, common dolphins, Pacific white-sided dolphins, Risso's dolphins, northern elephant seals, and gray whales in San Diego Bay and nearby waters that may result from pile driving during construction activities associated with the fuel pier replacement project described previously in this document. In order to estimate the potential incidents of take that may occur incidental to the specified activity, we typically first estimate the extent of the sound field that may be produced by the activity and then consider in combination with information about marine mammal density or abundance in the project area. In this case, we have acoustic data

from project monitoring that provides empirical information regarding the sound fields likely produced by project activities.

We provided detailed information regarding the information used in estimating the sound fields, the available marine mammal density or abundance information, and the method of estimating potential incidents of take, in our **Federal Register** notice of proposed authorization (81 FR 52637; August 9, 2016). That information is unchanged, and our take estimates were calculated in the same manner and on the basis of the same information as what was described in the **Federal Register** notice. Total estimated incidents of take are shown in Table 3. Please see our **Federal Register** notice of proposed authorization (81 FR 52637; August 9, 2016) for full details of the process and information used in estimating potential incidents of take.

Technical Guidance for Assessing the Effects of Anthropogenic Sound on Marine Mammal Hearing

On August 4, 2016, NMFS released its Technical Guidance for Assessing the Effects of Anthropogenic Sound on Marine Mammal Hearing (Guidance). This new guidance established new thresholds for predicting auditory injury, or permanent threshold shift (PTS), which equates to Level A harassment under the MMPA. In the August 4, 2016, **Federal Register** notice announcing the Guidance (81 FR 51694), NMFS explained the approach it would take during a transition period, wherein we balance the need to consider this new best available science with the fact that some applicants have already committed time and resources to the development of analyses based on our previous thresholds and have constraints that preclude the recalculation of take estimates, as well as consideration of where the action is in the agency's decision-

making pipeline. In that notice, we included a non-exhaustive list of factors that would inform the most appropriate approach for considering the new guidance, including: the scope of effects; how far in the process the applicant has progressed; when the authorization is needed; the cost and complexity of the analysis; and the degree to which the guidance is expected to affect our analysis.

In this case, Navy submitted a timely request for authorization that was determined to be adequate and complete prior to availability of the guidance and indicated that they would need to receive an IHA (if issued) by September 2016. The Navy's analysis considered the potential for auditory injury to marine mammals, but ultimately concluded that injury would be unlikely to occur due to their robust mitigation measures. As described previously, the Navy calculated Level A harassment mitigation zones on the basis of NMFS' then-current thresholds for onset of permanent threshold shift (*i.e.*, 180/190 dB rms), and then increased the size of those zones by adding buffers intended to further minimize the potential for Level A harassment. Following release of the new Guidance, we have considered the likely implications for potential auditory injury of marine mammals. Based on the Guidance, likely injury zones would increase in size for two hearing groups that might be present in the Navy's project area. However, low-frequency cetaceans (*e.g.*, gray whales) rarely enter San Diego Bay and are extremely unlikely to approach the fuel pier construction area within several hundred meters. Phocid pinnipeds (*e.g.*, harbor seals) are more likely to be present in the construction area and to approach more closely, but the Navy's existing buffered shutdown zone for all pinnipeds (150 m) is larger than the injury zone indicated by the new guidance. Potential injury zones for other species expected to be present (*e.g.*,

bottlenose dolphin, California sea lion) are much smaller than previously expected (less than 10 m).

When the Navy's mitigation is considered in combination with the fact that many marine mammals would be expected to intentionally avoid making close approaches to this stationary acoustic source, we believe that injury is unlikely. In summary, we have considered the new Guidance and believe that the likelihood of injury is adequately addressed in the analysis and appropriate protective measures are in place in the IHA.

Description of Take Calculation

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 2; and,

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 and 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). When local abundance is the best available information, in lieu of the density-area method described above, we may simply multiply some number of animals (as determined through counts of animals hauled-out) by the number of days of activity, under the assumption that all of those animals will be present and incidentally taken on each day of activity.

Table 2. Areas of Acoustic Influence and Days of Activity

Activity	Number of days	ZOI (km^2)
Impact and vibratory driving, 30-in steel piles[1]	24	5.6752
Vibratory removal, 30-in steel piles	6	5.6752
Impact driving, 24x32-in concrete piles	28	0.5377
Impact driving, 16-in concrete-filled fiberglass piles	1	0.2180
Diamond saw cutting	69	0.8842
Impact driving, 16-in concrete piles (NMAWC)	10	0.0436
Vibratory removal, 16-in concrete piles (NMAWC)	8	2.7913

[1]We assume that impact driving of 30-in steel piles would always occur on the same day as vibratory driving of the same piles. Therefore, the impact driving ZOI (3.8894 km^2) would always be subsumed by the vibratory driving ZOI.

Where appropriate, we use average daily number of individuals observed within the project area during Navy marine mammal surveys converted to a density value by using the largest ZOI as the effective observation area. It is the opinion of the professional biologists who conducted these surveys that detectability of animals during these surveys, at slow speeds and under calm weather and excellent viewing conditions, approached 100 percent.

There are a number of reasons why estimates of potential incidents of take may be conservative, assuming that available density or abundance estimates and estimated ZOI areas are accurate (aside from the contingency correction discussed above). 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 may be conservative. See Table 3 for total estimated incidents of take.

Table 3. Calculations for Incidental Take Estimation

Species	Density	Vibratory driving/ removal, steel[1]	Impact driving, concrete 24x30	Impact driving, concrete/ fiberglass 16-in	Diamond saw	Impact driving, concrete (NMAWC)	Vibratory removal, concrete (NMAWC)	Total proposed authorized takes (% of total stock)
California sea lion	15.9201	2,710	240	3	971	7	113	4,044 (1.4)
Harbor seal	0.4987	85	8	0	30	0	4	127 (0.4)
Bottlenose dolphin	1.2493	213	19	0	76	1	9	318 (64.0)[2]
Common dolphin	1.5277	260	23	0	93	1	11	388 (0.4 [LB]/0.1 [SB])[3]
Gray whale	0.115	20	2	0	7	0	1	30 (0.1)
Northern elephant seal	0.0508	9	1	0	3	0	0	13 (0.01)
Pacific white-sided dolphin	0.0493	8	1	0	3	0	0	12 (0.04)
Risso's dolphin	0.2029	35	3	0	12	0	1	51 (0.8)

[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]Total stock assumed to be 500 for purposes of calculation.

[3]LB = long-beaked; SB = short-beaked.

Analyses and Determinations

Negligible Impact Analysis

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 Level B harassment 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 behavioral harassment, we consider 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 the number and nature of estimated Level A harassment takes, the number of estimated mortalities, and effects on habitat.

Construction and demolition activities associated with the pier replacement project 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. For example, use of vibratory hammers does not have significant potential to cause injury to marine mammals due to the relatively low source levels produced and the lack of potentially injurious source characteristics. 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 one hundred percent detection rate, as described by trained biologists conducting site-specific surveys) further enables the implementation of shutdowns to avoid injury.

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, this negligible impact analysis is founded on the following factors: (1) the possibility of injury, serious injury, or mortality may reasonably be considered discountable; (2) the anticipated incidents of Level B harassment consist of, at worst, temporary modifications in behavior; (3) 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; (4) the presumed efficacy of the planned mitigation measures in reducing the effects of the specified activity to the level of least practicable impact. In addition, these stocks are not listed under the ESA or considered depleted under the MMPA. In combination, we believe that these factors, as well as the available body of evidence from other similar activities, demonstrate that the

potential effects of the specified activity will have only short-term effects on individuals. The specified activity is not expected to impact rates of recruitment or survival and will therefore not result in population-level impacts. 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 planned monitoring and mitigation measures, we find that the total marine mammal take from Navy's pier replacement activities will have a negligible impact on the affected marine mammal species or stocks.

Small Numbers Analysis

The number of incidents of take authorized 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 3) 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 likely effects of the specified activity on marine mammals and their habitat, and taking into consideration the implementation of the mitigation and monitoring measures, we find that small numbers of marine mammals will be taken relative to the populations of the affected species or stocks.

Impact on Availability of Affected Species for Taking for Subsistence Uses

There are no relevant subsistence uses of marine mammals implicated by this action. Therefore, we have 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)

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 proposed 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 no such authorization was proposed, and there

are no other ESA-listed marine mammals found in the action area. Therefore, no consultation under the ESA is required.

National Environmental Policy Act (NEPA)

In compliance with the National Environmental Policy Act of 1969 (42 U.S.C. 4321 *et seq*.), as implemented by the regulations published by the Council on Environmental Quality (40 CFR parts 1500-1508), the Navy prepared an Environmental Assessment (EA) to consider the direct, indirect and cumulative effects to the human environment resulting from the pier replacement project. NMFS made the Navy's EA available to the public for review and comment, in relation to its suitability for adoption by NMFS in order to assess the impacts to the human environment of issuance of an IHA to the Navy. Also in compliance with NEPA and the CEQ regulations, as well as NOAA Administrative Order 216-6, NMFS has reviewed the Navy's EA, determined it to be sufficient, and adopted that EA and signed a Finding of No Significant Impact (FONSI) on July 8, 2013.

We have reviewed the Navy's application for a renewed IHA for ongoing construction activities for 2016-17 and the 2015-16 monitoring report. Based on that review, we have determined that the proposed action is very similar to that considered in the previous IHAs. In addition, no significant new circumstances or information relevant to environmental concerns have been identified. Thus, we have determined that the preparation of a new or supplemental NEPA document is not necessary, and, after review of public comments determine that the existing EA and FONSI provide adequate analysis related to the potential environmental effects of issuing an IHA to the Navy. The 2013

NEPA documents are available for review at *www.nmfs.noaa.gov/pr/permits/incidental/construction.htm*.

Authorization

As a result of these determinations, we have issued an IHA to the Navy for conducting the described pier replacement activities in San Diego Bay, from October 8, 2016 through October 7, 2017, provided the previously mentioned mitigation, monitoring, and reporting requirements are incorporated.

Dated: September 23, 2016.

_____

Donna S. Wieting,

Director,

Office of Protected Resources,

National Marine Fisheries Service.

[FR Doc. 2016-23389 Filed: 9/27/2016 8:45 am; Publication Date: 9/28/2016]