DEPARTMENT OF COMMERCE

National Oceanic and Atmospheric Administration

[RTID 0648–XC546]

New England Fishery Management Council; Public Meeting

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

ACTION: Notice of public meeting.

SUMMARY: The New England Fishery Management Council (Council) is scheduling a public webinar of its Scallop Committee to consider actions affecting New England fisheries in the exclusive economic zone (EEZ). Recommendations from this group will be brought to the full Council for formal consideration and action, if appropriate.

DATES: This meeting will be held on Thursday, December 1, 2022, at 1 p.m. Webinar registration URL information: *https://attendee.gotowebinar.com/register/4891148759124928l6.*

ADDRESSES:

Council address: New England Fishery Management Council, 50 Water Street, Mill 2, Newburyport, MA 01950.

FOR FURTHER INFORMATION CONTACT: Thomas A. Nies, Executive Director, New England Fishery Management Council; telephone: (978) 465–0492.

SUPPLEMENTARY INFORMATION:

Agenda

The Committee plans to discuss Framework 36 (FW36): Review specifications alternatives in FW36 and select final preferred alternatives. FW36 will set specifications including the overfishing limit (OFL), acceptable biological catch/annual catch limit (ABC/ACLs), days-at-sea (DAS), access area allocations for Limited Access (LA) vessels, quota and access area trip allocation to the Limited Access General Category (LAGC) Individual Fishing Quota (IFQ) component, Total Allowable Landings (TAL) for Northern Gulf of Maine (NGOM) management area, a target-TAC for LAGC incidental catch and set-asides for the observer and research programs for fishing year 2023, and default specifications for fishing year 2024. Other business will be discussed, if necessary.

Although non-emergency issues not contained on the agenda may come before this Council for discussion, those issues may not be the subject of formal action during this meeting. Council action will be restricted to those issues specifically listed in this notice and any issues arising after publication of this notice that require emergency action under section 305(c) of the Magnuson-Stevens Act, provided the public has been notified of the Council's intent to take final action to address the emergency. The public also should be aware that the meeting will be recorded. Consistent with 16 U.S.C. 1852, a copy of the recording is available upon request.

Special Accommodations

This meeting is physically accessible to people with disabilities. Requests for sign language interpretation or other auxiliary aids should be directed to Thomas A. Nies, Director, at (978) 465–0492, at least 5 days prior to the meeting date.

Authority: 16 U.S.C. 1801 *et seq.*

Dated: November 9, 2022.

Rey Israel Marquez,

Acting Deputy Director, Office of Sustainable Fisheries, National Marine Fisheries Service.

[FR Doc. 2022–24832 Filed 11–14–22; 8:45 am]

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DEPARTMENT OF COMMERCE

National Oceanic and Atmospheric Administration

[RTID 0648–XC335]

Takes of Marine Mammals Incidental to Specified Activities; Taking Marine Mammals Incidental To Replacement of Pier 302 at Naval Base Point Loma, San Diego, California

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

ACTION: Notice; proposed incidental harassment authorization; request for comments on proposed authorization and possible renewal.

SUMMARY: NMFS has received a request from the U.S. Navy for authorization to take marine mammals incidental to the replacement of Pier 302 at Naval Base Point Loma in San Diego Bay, San Diego, CA. Pursuant to the Marine Mammal Protection Act (MMPA), NMFS is requesting comments on its proposal to issue an incidental harassment authorization (IHA) to incidentally take marine mammals during the specified activities. NMFS is also requesting comments on a possible one-time, one-year renewal that could be issued under certain circumstances and if all requirements are met, as described in Request for Public Comments at the end of this notice. NMFS will consider public comments prior to making any final decision on the issuance of the requested MMPA authorization and agency responses will be summarized in the final notice of our decision.

DATES: Comments and information must be received no later than December 15, 2022.

ADDRESSES: Comments should be addressed to Jolie Harrison, Chief, Permits and Conservation Division, Office of Protected Resources, National Marine Fisheries Service and should be submitted via email to *ITP.jessicataylor@noaa.gov*.

Instructions: NMFS is not responsible for comments sent by any other method, to any other address or individual, or received after the end of the comment period. Comments, including all attachments, must not exceed a 25-megabyte file size. All comments received are a part of the public record and will generally be posted online at *www.fisheries.noaa.gov/permit/incidental-take-authorizations-under-marine-mammal-protection-act* without change. All personal identifying information (*e.g.,* name, address) 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: Jessica Taylor, 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: *https://www.fisheries.noaa.gov/national/marine-mammal-protection/incidental-take-authorizations-construction-activities*. In case of problems accessing these documents, please call the contact listed above.

SUPPLEMENTARY INFORMATION:

Background

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

Authorization for incidental takings shall be granted if NMFS finds that the taking will have a negligible impact on the species or stock(s) and will not have an unmitigable adverse impact on the availability of the species or stock(s) for taking for subsistence uses (where relevant). Further, NMFS must prescribe the permissible methods of taking and other ''means of effecting the least practicable adverse impact'' on the affected species or stocks and their habitat, paying particular attention to rookeries, mating grounds, and areas of similar significance, and on the availability of the species or stocks for taking for certain subsistence uses (referred to in shorthand as ''mitigation''); and requirements pertaining to the mitigation, monitoring and reporting of the takings are set forth. The definitions of all applicable MMPA statutory terms cited above are included in the relevant sections below.

National Environmental Policy Act

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

This action is consistent with categories of activities identified in Categorical Exclusion B4 (IHAs with no anticipated serious injury or mortality) of the Companion Manual for NOAA Administrative Order 216–6A, which do not individually or cumulatively have the potential for significant impacts on the quality of the human environment and for which we have not identified any extraordinary circumstances that would preclude this categorical exclusion. Accordingly, NMFS has preliminarily determined that the issuance of the proposed IHA qualifies to be categorically excluded from further NEPA review.

We will review all comments submitted in response to this notice prior to concluding our NEPA process or making a final decision on the IHA request.

Summary of Request

On July 27, 2022, NMFS received a request from the U.S. Navy for an IHA to take marine mammals incidental to construction activities associated with replacing Pier 302 at Naval Base Point Loma (NBPL), San Diego, CA. Following NMFS' review of the application, the U.S. Navy submitted a revised version on September 22, 2022. The application was deemed adequate and complete on October 27, 2022. The U.S. Navy's request is for take of six species of marine mammals by Level B harassment only. Neither the U.S. Navy nor NMFS expect serious injury or mortality to result from this activity, therefore, an IHA is appropriate.

NMFS has previously issued IHAs to the U.S. Navy for similar work over the past 9 years at NBPL in San Diego Bay (Bay), including IHAs issued effective from September 1, 2013, through August 31, 2014 (78 FR 44539, July 24, 2013; Year 1 Project), October 8, 2014 through October 7, 2015 (79 FR 65378, November 4, 2014; Year 2 Project), October 8, 2015 through October 7, 2016 (80 FR 62032, October 15, 2015; Year 3 Project), October 8, 2016 through October 7, 2017 (81 FR 66628, September 28, 2016; Year 4 Project), October 8, 2017 through October 7, 2018 (82 FR 45811, October 2, 2017; Year 5 Project), September 15, 2020 through September 14, 2021 (85 FR 33129, June 1, 2020; Floating Dry Dock Project), October 1, 2021 through September 30, 2022 (86 FR 7993, February 3, 2021; Pier 6 Replacement Project), and January 15, 2022 through January 14, 2023 (86 FR 48986, September 1, 2021; Fuel Pier Inboard Pile Removal Project). The U.S. Navy complied with all the requirements (*e.g.,* mitigation, monitoring, and reporting) of the previous IHA and information regarding their monitoring results specific to NBPL may be found in the Estimated Take section.

Description of Proposed Activity

Overview

The U.S. Navy plans to replace Pier 302 at the Naval Information Warfare Center (NIWC) Pacific Bayside Complex on NBPL. Pier 302 houses the U.S. Navy marine mammal pens and support vessels. As part of the proposed action, the U.S. Navy would use vibratory extraction to remove the existing components of marine mammal pens, and impact and vibratory hammers to install new pens. The purpose of the project is to provide the U.S. Navy's marine mammal program with adequate facilities to house its marine mammals and provide a safe working environment for personnel to support the U.S. Navy's overall mission to maintain, train, and equip combat ready Naval forces.

The Navy's proposed activity includes impact and vibratory pile driving, which may result in the incidental take of marine mammals, by harassment only. No Level A harassment is anticipated to occur, and none is proposed for authorization. Due to mitigation measures, only takes by Level B harassment are requested. NBPL is located along the mouth and northern edge of San Diego Bay, CA. The proposed action covers an area of 9,061 feet (ft.)^2 (842 meters (m)^2). Construction activities would begin on October 1, 2023 and last through September 30, 2024.

Dates and Duration

In-water construction activities would occur over 32 days within a 1 year window from October 1, 2023 to September 30, 2024. The Navy states that it will conduct work only in daylight hours. The proposed in-water work schedule is shown in Table 1. In-water work would consist of 18 days of pile removal, then 14 days of pile installation. Pile removal would occur at a rate of one to five piles per day, while pile installation would take place at a rate of one to four piles per day, depending upon the type of pile. It is assumed that pile removal and installation would occur on separate days. In addition to vibratory extraction, some piles may be removed by other methods, such as dead pull, hydraulic pile clipper, wire saw, underwater chainsaw, or high-pressure water jet (Table 1). However, these additional methods are not expected to result in take and are, therefore, not discussed further. In-water pile removal and pile driving is planned from October 1, 2023 through March 31, 2024 in order to avoid construction activities during the breeding and nesting season of the endangered California least tern.

TABLE 1—PROPOSED IN-WATER CONSTRUCTION ACTIVITY SCHEDULE

Pile type	Method	Number of piles	Piles/day	Estimated blow count per pile [3]	Estimated duration per pile (mm:ss) [3]	Total estimated days
Pile Removal Activities						
18″ octagonal concrete	Vibratory Extraction [1]	22	5	N/A	15:00	5
18″ round steel	Vibratory Extraction	3	1	N/A	15:00	3

TABLE 1—PROPOSED IN-WATER CONSTRUCTION ACTIVITY SCHEDULE—Continued

Pile type	Method	Number of piles	Piles/day	Estimated blow count per pile [3]	Estimated duration per pile (mm:ss) [3]	Total estimated days
14″ round timber	Dead pull	up to 10	1	N/A	N/A	10
Pile Installation Activities						
24″ octagonal concrete	Impact hammer [2]	30	4	500	N/A	8
14″ square concrete	Impact Hammer	2	1	250	N/A	2
6″ round steel	vibratory hammer	17	5	N/A	1:00	4

[1] While other methods of pile removal are possible, vibratory extraction is the most likely method that will be used to extract piles. No quantitative exposure analysis was conducted for other potential pile removal methods (hydraulic pile clipper, wire saw, underwater chainsaw, high-pressure water jet) as these methods are not expected to result in take.
[2] With or without high-pressure water jetting occurring simultaneously.
[3] Estimated durations and blow counts as provided by the construction contractor.

Specific Geographic Region

NBPL is located along the mouth and northern edge of San Diego Bay, California (Figure 1). San Diego Bay is a narrow, crescent-shaped natural embayment with an approximate length of 24 kilometers (km) and total area of approximately 11,000 acres (44.5 km ^{2}) (Port of San Diego, 2007). Depths of the bay range from 23 meters (m) below mean lower low water (MLLW) to less than 1.2 m below MLLW at the southern end of the bay (Merkel & Associates, Inc., 2009). The majority of the bay is less than 15 m deep (Merkel & Associates, Inc., 2009). The bay also includes a main navigation channel, maintained at a depth of 14.3 m below MLLW. This channel is utilized for transit by private, commercial, and military vessels (NOAA, 2010). Water depth in the area of Pier 302 ranges from approximately 0–6 m below MLLW.

San Diego Bay experiences mixed diurnal and semi-diurnal tides with a tidal range of approximately 1.7 m. Water temperature in the bay typically ranges from 15.1 to 26.1 °C while salinities of the proposed project area are similar to those of the open ocean, 32.8 to 33 parts per thousand (ppt) (Tierra Data Inc., 2012). San Diego Bay is heavily used by commercial, recreational, and military vessels. Ship noise in the bay has the potential to mask underwater sound produced by the proposed project. Based upon recent measurements of underwater sound in San Diego Bay, the median ambient underwater sound pressure level (SPL) in areas of the bay that may experience project construction noise averages approximately 129.6 dB re 1 μPa.

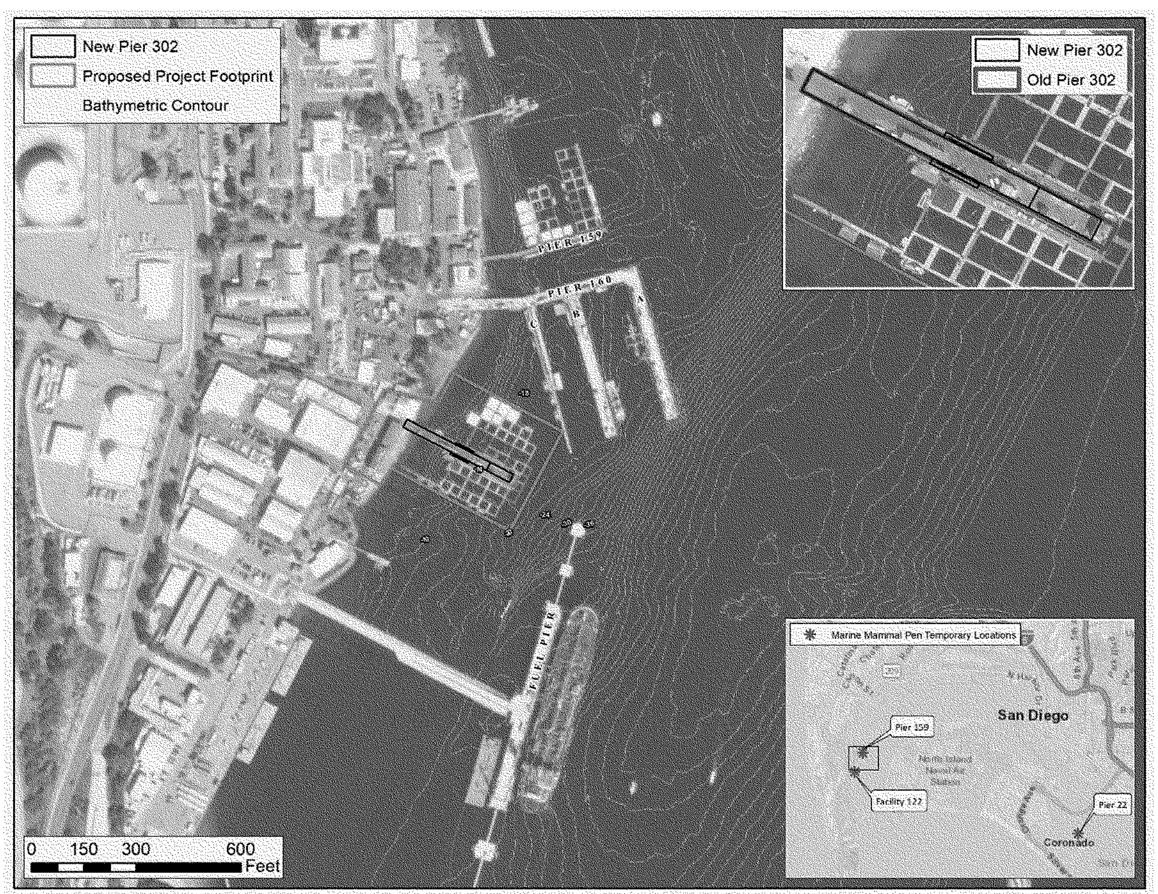

Figure 1—Proposed Action Area

Detailed Description of Specific Activity

The purpose of this project is to replace the existing Pier 302 at NBPL to provide the Navy's marine mammal program with adequate facilities to house its marine mammals and provide a safe working environment for personnel supporting the Navy's overall mission to maintain, train, and equip combat ready Naval forces. Pier 302 currently house the U.S. Navy marine mammal pens and small program support vessels. The existing Pier 302 was built in 1937 and partially modified in 1987. Currently, the steam beams are in poor condition, concrete piles are corroded, and timber decking is deteriorated (Collins, 2018). The existing pier covers a slightly larger area of 1,800 ft.^{2} (1,003 m^2) than the proposed action would cover.

The Navy proposes to remove the marine mammal pens, gangways, and floating walkways from the area and demolish the existing pier. The Navy would remove 22 18″ concrete structural piles, 3 18″ steel pipe guide piles, and up to 10 14″ timber piles potentially through a variety of extraction methods, including vibratory extraction, dead pull, hydraulic pile clipper, wire saw, underwater chainsaw, or high-pressure water jet (Table 1). Existing concrete and steel piles would be removed using a vibratory extractor and pile clamp by latching on to the pile with the clamp, vibrating the pile to break surface tension, and applying upward pressure to extract the whole pile. The dead pull method may also be used to remove steel or timber piles by securing the piles above the water line and applying upwards pressure to the pile. The timber piles are remnant piles from the original 1937 construction, but the total number of piles and their placement in the pier footprint are unknown. Some of these piles were cut during the 1987 modifications, but it is unknown how many of them remain nor at what depth they were cut. In the case of removal by a hydraulic pile clipper, the hydraulic clipper would be placed over each pile and lowered to 1 foot (0.3 m) below the mudline, where it would be cut. The pile below would remain in place. Diver assistance may or may not be required during this specific pile removal activity. Underwater chainsaws or wire saws operated by a diver may also be used to remove piles at the mudline. Once the piles are removed or cut, a crane would remove the pile and set it onto a barge for transport. Ultimately, the contractor would decide on the use one of the above described methods depending on which proves to be most efficient. Once extracted, the piles will be loaded onto a support barge for eventual offloading. For purposes of analysis, the Navy assumes that all steel and concrete piles would be removed via vibratory extraction. Removal of timber piles is assumed to occur via methods that are not anticipated to result in take of marine mammals.

After demolition of the existing pier, the Navy would construct a new cement pier and gangways through the installation of 30 24″ (0.6 m) structural concrete piles, 2 14″ (0.4 m) concrete guide piles, and 17 6″ (0.2 m) steel pipe guide piles. The piles would be installed either through the use of an impact hammer, with our without water jetting, or vibratory hammer. Floating walkways, gangways, and marine mammal pens would be reinstalled to the north and south of the newly constructed pier. The newly constructed Pier 302 would have a similar footprint to the original Pier 302.

Shore side improvements would include the construction of a new storm drain outlet and revetment under the base of the new pier. Shore side improvement, removal and installation of floating walkways, gangways, and marine mammal pens, and extraction methods such as dead pull, hydraulic pile clipper, wire saw, underwater chainsaw, or high-pressure water jet are not expected to result in take of marine mammals and are, therefore, not discussed further.

The Navy's previous work in the portion of San Diego Bay closest to the location of this proposed work was the Fuel Pier Replacement project, which occurred over 5 years from 2013 to 2018. We reference observational data obtained during monitoring required through IHAs issued to the Navy in association with this project in the following sections. Proposed mitigation, monitoring, and reporting measures are described in detail later in this document (please see Proposed Mitigation and Proposed Monitoring and Reporting).

Description of Marine Mammals in the Area of Specified Activities

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

Table 2 lists all species or stocks for which take is expected and proposed to be authorized for this activity, and summarizes information related to the population or stock, including regulatory status under the MMPA and Endangered Species Act (ESA) and potential biological removal (PBR), where known. PBR is defined by the MMPA as the maximum number of animals, not including natural mortalities, that may be removed from a marine mammal stock while allowing that stock to reach or maintain its optimum sustainable population (as described in NMFS' SARs). While no serious injury or mortality is expected to occur, PBR and annual serious injury and mortality from anthropogenic sources are included here as gross indicators of the status of the species or stocks and other threats.

There are six marine mammal species that are potentially expected to be present during all or a portion of the in-water work associated with this project in San Diego Bay, including the California sea lion (*Zalophus californianus*), the northern elephant seal (*Mirounga angustirostris*), the harbor seal (*Phoca vitulina*), the bottlenose dolphin (*Tursiops truncatus*), the Pacific white-sided dolphin (*Lagenorhynchus obliquidens*), and the common dolphin (*Delphinus delphis*). The Committee on Taxonomy (*https://marinemammalscience.org/science-and-publications/list-marine-mammal-species-subspecies/*) recently determined both the long-beaked and short-beaked common dolphin belong in the same species and we adopt this taxonomy. However, the SARs still describe the two as separate stocks, and that stock information is presented in Table 2. Marine mammal abundance estimates presented in this document represent the total number of individuals that make up a given stock or the total number estimated within a particular study or survey area. NMFS' stock abundance estimates. For some species, this geographic area may extend beyond U.S. waters. All stocks managed under the MMPA in this region are assessed in NMFS' U.S. Pacific 2021 SARs. All values presented in Table 2 are the most recent available at the time of publication and are available online at: *www.fisheries.noaa.gov/national/*

marine-mammal-protection/marine-mammal-stock-assessments).

TABLE 2—MARINE MAMMAL SPECIES [4] LIKELY IMPACTED BY THE SPECIFIED ACTIVITIES

Common name	Scientific name	Stock	ESA/MMPA status; strategic (Y/N) [1]	Stock abundance (CV, N_{min}, most recent abundance survey) [2]	PBR	Annual M/SI [3]
Order Artiodactyla—Infraorder Cetacea—Odontoceti (toothed whales, dolphins, and porpoises)						
Family Delphinidae:						
Bottlenose dolphin	*Tursiops truncatus*	California Coastal	-, -, N	453 (0.06, 346, 2011)	2.7	≥2.0
Short-beaked common dolphin.	*Delphinus delphis delphis*	California/Oregon/Washington	-, -, N	1,056,308 (0.21, 888,971, 2018).	8889	≥30.5
Long-beaked common dolphin.	*Delphinus delphis capensis*	California	-, -, N	83,379 (0.216, 69,636, 2018).	668	≥29.7
Pacific white-sided dolphin	*Lagenorhynchus obliquidens*	California/Oregon/Washington	-, -, N	34,999 (0.222, 29,090, 2018).	279	7
Order Carnivora—Pinnipedia						
Family Otariidae (eared seals and sea lions):						
California sea lion	*Zalophus californianus*	U.S.	-, -, N	257,606 (N/A,233,515, 2014).	14011	>320
Family Phocidae (earless seals):						
Harbor seal	*Phoca vitulana*	California	-, -, N	30,968 (N/A, 27,348, 2012).	1641	43
Northern elephant seal	*Mirounga angustirostris*	California breeding	-, -, N	187,386 (N/A, 85,369, 2013).	5122	13.7

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

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

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

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

As indicated above, all six species (with seven managed stocks) in Table 2 temporally and spatially co-occur with the activity to the degree that take is reasonably likely to occur. While gray whales, Risso's dolphins, and Steller sea lions have been sighted around California coastal waters in the past, these species' general spatial occurrence is such that take is not expected to occur as they typically occur more offshore, and they are not discussed further beyond the explanation provided here.

Specifically, gray whales may be observed in San Diego Bay sporadically during their January southbound migratory periods (Naval Facilities Engineering Command, Southwest and Port of San Diego Bay, 2013), and have previously been included in take authorizations for past projects and IHAs relating to NBPL (refer back to the Year 1–5 IHAs cited above). However, a recent Monitoring Report from October 8, 2017 to January 25, 2018 (NAVFAC SW, 2018b) at NBPL, indicated no sightings occurred for gray whales. Only two gray whales were spotted in the October 8, 2016 to April 30, 2017 (NAVFAC SW, 2017) Monitoring Report by the Navy. During another recent pier replacement project at Naval Base San Diego, south of the proposed project area, gray whales also were not sighted during monitoring (NAVFAC SW, 2022).

Risso's dolphins have not been seen in San Diego Bay but are known to be common in southern California coastal waters (Campbell *et al.,* 2010). While take of Risso's dolphins have been authorized in three of the past IHAs for NBPL (see Year 3 IHA at 80 FR 62032, October 15, 2015; Year 4 IHA at 81 FR 66628, September 28, 2016; and Year 5 IHA at 82 FR 45811, October 2, 2017, for examples), no Risso's dolphins were sighted during any of those projects.

Furthermore, 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 the Year 2 project at NBPL (79 FR 65378, November 4, 2014). However, these species are not typically observed near the project area and, we it is unlikely that they will occur during this proposed action. Given the unlikelihood of their exposure to the sounds generated from the project, these species are not considered further.

Bottlenose Dolphin

The California coastal stock of bottlenose dolphin is distinct from the offshore population (Perrin *et al.,* 2011; Lowther-Thielking *et al.,* 2015) and occurs in the immediate (within 1 km of shore) coastal waters, primarily between Point Conception, California, and San Quintin, Mexico (Hansen, 1990; Carretta *et al.,* 1998; Carretta *et al.,* 2022). California coastal bottlenose dolphins show little site fidelity and likely move within their home range in response to patchy concentrations of nearshore prey (Defran and Weller, 1999; Bearzi *et al.,* 2009). After finding concentrations of prey, animals may then forage within a more limited spatial extent to take advantage of this local accumulation until such time that prey abundance is reduced, likely then shifting location once again and possibly covering larger distances. Oceanographic events may influence the distribution and residency patterns of dolphins (Hansen and Defran, 1990; Wells *et al.,* 1990). Along the California coast, bottlenose dolphin distribution and movements may be linked to prey distribution (Defran and

Weller, 1999; Bearzi *et al.,* 2009). In San Diego Bay, bottlenose dolphins may be observed foraging on a variety of fish species, including croaker, mackerel, grunts, and mullet (Defran *et al.,* 1986).

In southern California, coastal bottlenose dolphins are typically found within 250 m of the shoreline (Hansen and Defran, 1993). Coastal bottlenose dolphins occur sporadically and in highly variable numbers and locations in San Diego Bay. Navy surveys indicated that bottlenose dolphins were most commonly sighted in April, and more dolphins were observed during El Niño years. Navy surveys frequently result in no observations of bottlenose dolphins, and sightings have ranged from 0–8 groups observed (0–40 individuals). Approximately 67 individual bottlenose dolphins were observed during the fourth year of the NBPL Fuel Pier Replacement project over 152 days of monitoring. Approximately 13 individual bottlenose dolphins were observed over 49 days of monitoring during Year 5 of the NBPL fuel pier replacement project in San Diego Bay (NAVFAC SW, 2017b; 2018b).

Common Dolphin (Short-Beaked and Long-Beaked)

Short-beaked common dolphins are the most abundant cetacean off California and are widely distributed between the coast and approximately 300 nautical miles (nmi; 555.6 km) offshore. In contrast, long-beaked common dolphins generally occur within 50 nmi (92.6 km) offshore. Both stocks may shift their distributions seasonally and annually in response to oceanographic conditions and prey availability (Carretta *et al.,* 2022). Long-beaked common dolphins tend to prefer shallower, warmer waters as compared to the short-beaked common dolphin (Perrin, 2009), yet both stocks appear to be more abundant in coastal waters during warm-water months (Bearzi, 2005). Within San Diego Bay, these two stocks' share overlapping distributions, although they are likely long-beaked (as described by the stranding of this species from San Diego Bay to the U.S.-Mexico border (Danil and St. Leger, 2011). However, it is unlikely that observers would be able to differentiate the specific species in the field.

Common dolphins are often found in large groups of hundreds or even thousands. Within San Diego Bay, sightings of common dolphins are intermittent and most likely during the late spring and early summer when bait fish arrive in the bay. Common dolphins have primarily been observed in the north and north central Bay in groups of 6 to less than 100 animals. The groups typically move rather quickly through the area in tight alignment and have been occasionally observed riding the bow wave of large ships.

Several sightings of common dolphins occurred in the bay during the previous fuel pier demolition and construction project in 2014 and the second period of the previous fuel pier replacement project in 2015. Of the course of 100 days of monitoring, 850 common dolphins were observed in San Diego Bay in 2015 (NAVFAC SW, 2015). Since it is unlikely for the two species to be distinguished in the field, the same estimate of individuals is used as a combined estimate for both species.

Pacific White-Sided Dolphin

Pacific white-sided dolphins are endemic to temperate waters of the North Pacific Ocean, and are common both on the high seas and along the continental margins (Brownell *et al.,* 1999; Carretta *et al.,* 2022). Off the U.S. west coast, Pacific white-sided dolphins occur primarily in shelf and slope waters. Sighting patterns from aerial and shipboard surveys conducted in California, Oregon and Washington suggest seasonal north-south movements, with animals found primarily off California during the colder water months and shifting northward into Oregon and Washington as water temperatures increase in late spring and summer (Green *et al.,* 1992; 1993; Forney and Barlow, 1998; Barlow, 2016; Carretta *et al.,* 2022). Pacific white-sided dolphins are highly social and commonly occur in groups of less than a hundred, although groups of several thousands of individuals have been observed. They often associate with Risso's dolphins and short-beaked common dolphins, and occasionally feed in association with California sea lions and mixed species aggregations of seabirds.

Pacific white-sided dolphins are uncommon in San Diego Bay, but observations of this species has increased during El Niño years. Given the lack of observations during the fourth year of the NBPL Fuel Pier Replacement project, the Navy believes the monitoring data from the second year of this project represent the most conservative numbers of Pacific white-sided dolphins that are likely to occur (NAVFAC SW, 2015).

California Sea Lion

The California sea lion is the most common pinniped species in the vicinity of NBPL and northern San Diego Bay. California sea lions regularly occur on piers and buoys within and leading into San Diego Bay (Merkel & Associates, Inc., 2008). In San Diego Bay, California sea lions may also occur on rocks and bait barges.

Habitat use and distribution varies with sex and reproductive stage. Adult males may haul out on land to breed and defend territory from mid-May through late July. During August and September, adult males migrate to feeding areas as far north as Puget Sound, WA and British Columbia (Lowry *et al.,* 1991). Females and immature California sea lions remain near the rookeries for most of the year. Most births occur from mid-June to mid-July. Different age classes of California sea lions are found in the San Diego region throughout the year (Lowry *et al.,* 1992). Navy surveys indicate that the local population in San Diego Bay comprises mainly adult females and sub-adult males and females. Based upon Navy marine mammal surveys conducted throughout the north San Diego Bay project area (Merkel & Associates, Inc., 2008; Johnson, 2010; Lerma, 2012, 2014), many animals are typically hauled out within the vicinity of the proposed action area. Adult males and females are known to haul out more often during warm-water months.

The closest potential haul-out locations to Pier 302 are docks associated with Pier 160, approximately 100 m (333 ft) to the north, and docks at the end of Pier 99, approximately 550 m (1,804 ft) to the south. However, these docks are in constant use for Navy operations and training activities. California sea lions may haul-out at those locations but are unlikely to remain for very long due to the high levels of activity. California sea lions also haul-out at barges associated with the Everingham Brothers Bait Barge Company that are from 700 to 1,000 m (0.4 to 0.5 nmi) southeast of the proposed action area. Beyond these man-made structures, there are no known natural haul-out locations in the vicinity of the proposed action area.

Harbor Seal

Pacific harbor seals range from Baja California to the eastern Aleutian Islands. Harbor seals do not make extensive pelagic migrations, but may travel hundreds of kilometers to find food or suitable breeding areas (Herder, 1986; Harvey and Goley, 2011; Carretta *et al.,* 2022). Grigg *et al.* (2009) reported seasonal shifts in harbor seal movements based on prey availability.

Harbor seals may haul out on rocks, buoys, or other structures and are relatively uncommon in San Diego Bay, although harbor seals have been observed during several past Navy projects near Ballast Point (Tierra Data Inc., 2012; Jenkins, 2012), Pier 122 (Jenkins, 2012; Bowman, 2014), along the NBPL shoreline (Lerma, 2014) and near the Naval Mine and Anti-Submarine Warfare Comman (NMAWC) (McConchie, 2014). During the fourth year of the NBPL fuel pier replacement project, 88 individual harbor seals were observed over a 152 day monitoring period (NAVFAC SW, 2017; 2018a).

Elephant Seal

Northern elephant seals breed and give birth in California and Baja California, mainly on offshore islands during the months of December to March (Stewart and Huber, 1993; Stewart *et al.,* 1994; Carretta *et al.,* 2022). Molting season takes place from March to August. In between the spring/summer molting season and winter breeding season, northern elephant seals migrate to feeding grounds (Carretta *et al.,* 2022). Males and females exhibit spatial segregation in foraging areas with males feeding on benthic prey along the continental shelf near the Gulf of Alaska and western Aleutian Islands, and females feeding on pelagic prey in pelagic areas near the Gulf of Alaska and central North Pacific (Le Boeuf *et al.,* 2000).

Northern elephant seal populations in the U.S. and Mexico have recovered after being reduced to near extinction by hunting (Stewart *et al.,* 1994) and undergoing a severe population bottleneck and loss of genetic diversity that resulted in the population being reduced to only an estimated 10–30 individuals (Hoelzel *et al.,* 2002; Carretta *et al.,* 2022). The northern elephant seal population is estimated to have grown at 3.8 percent annually since 1988 (Lowry *et al.,* 2014). There are two distinct populations of northern elephant seals, including a breeding population in Baja California, Mexico and a breeding population on U.S. islands off California. Northern elephant seals in the San Diego region could be from either population (Carretta *et al.,* 2021).

Northern elephant seals occur in the southern California bight, and have the potential to occur in San Diego Bay (NAVFAC SW and POSD, 2013). The most recent documented occurrences of northern elephant seals near the proposed project area was in 2015. A single distressed juvenile was observed hauled out on the beach to the west of Pier 99 and approximately 0.6 km south of the proposed project area during the second year of work on the Fuel Pier Replacement project at NBPL (NAVFAC SW, 2015). In addition, a second juvenile was observed near the NBPL Harbor Drive Annex, approximately 3 km north of the proposed project area (McConchie, personal communication). Given the continuing, long-term increase in the population of northern elephant seals (Lowry *et al.,* 2014), there is an increasing possibility of occurrence in the project area.

Marine Mammal Hearing

Hearing is the most important sensory modality for marine mammals underwater, and exposure to anthropogenic sound can have deleterious effects. To appropriately assess the potential effects of exposure to sound, it is necessary to understand the frequency ranges marine mammals are able to hear. Not all marine mammal species have equal hearing capabilities (*e.g.,* Richardson *et al.,* 1995; Wartzok and Ketten, 1999; Au and Hastings, 2008). To reflect this, Southall *et al.* (2007, 2019) recommended that marine mammals be divided into hearing groups based on directly measured (behavioral or auditory evoked potential techniques) or estimated hearing ranges (behavioral response data, anatomical modeling, *etc.*). Note that no direct measurements of hearing ability have been successfully completed for mysticetes (*i.e.,* low-frequency cetaceans). Subsequently, NMFS (2018) described generalized hearing ranges for these marine mammal hearing groups. Generalized hearing ranges were chosen based on the approximately 65 decibel (dB) threshold from the normalized composite audiograms, with the exception for lower limits for low-frequency cetaceans where the lower bound was deemed to be biologically implausible and the lower bound from Southall *et al.* (2007) retained. Marine mammal hearing groups and their associated hearing ranges are provided in Table 3.

TABLE 3—MARINE MAMMAL HEARING GROUPS

[NMFS, 2018]

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

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

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

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

Potential Effects of Specified Activities on Marine Mammals and Their Habitat

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

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

Description of Sound Sources

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

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

In-water construction activities associated with the project would include impact and vibratory pile driving and removal. The sounds produced by these activities fall into one of two general sound types: impulsive and non-impulsive. Impulsive sounds (*e.g.,* explosions, sonic booms, impact pile driving) are typically transient, brief (less than 1 second), broadband, and consist of high peak sound pressure with rapid rise time and rapid decay (ANSI, 1986; NIOSH, 1998; NMFS, 2018). Non-impulsive sounds (*e.g.,* machinery operations such as drilling or dredging, vibratory pile driving, underwater chainsaws, and active sonar systems) can be broadband, narrowband or tonal, brief or prolonged (continuous or intermittent), and typically do not have the high peak sound pressure with raid rise/decay time that impulsive sounds do (ANSI, 1995; NIOSH, 1998; NMFS, 2018). The distinction between these two sound types is important because they have differing potential to cause physical effects, particularly with regard to hearing (*e.g.,* Ward, 1997).

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

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

Acoustic Impacts

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

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

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

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

Depending on the degree (elevation of threshold in dB), duration (*i.e.,* recovery time), and frequency range of TTS, and the context in which it is experienced, TTS can have effects on marine mammals ranging from discountable to serious (similar to those discussed in auditory masking, below). For example, a marine mammal may be able to readily compensate for a brief, relatively small amount of TTS in a non-critical frequency range that takes place during a time when the animal is traveling through the open ocean, where ambient noise is lower and there are not as many competing sounds present. Alternatively, a larger amount and longer duration of TTS sustained during time when communication is critical for successful mother/calf interactions could have more serious impacts. We note that reduced hearing sensitivity as a simple function of aging has been observed in marine mammals, as well as humans and other taxa (Southall *et al.,* 2007), so we can infer that strategies exist for coping with this condition to some degree, though likely not without cost.

Currently, TTS data only exist for four species of cetaceans (bottlenose dolphin, beluga whale (*Delphinapterus leucas*), harbor porpoise, and Yangtze finless porpoise (*Neophocoena asiaeorientalis*), and five species of pinnipeds exposed to a limited number of sound sources (*i.e.,* mostly tones and octave-band noise) in laboratory settings (Finneran, 2015). TTS was not observed in trained spotted (*Phoca largha*) and ringed (*Pusa hispida*) seals exposed to impulsive noise at levels matching previous predictions of TTS onset (Reichmuth *et al.,* 2016). In general, harbor seals and harbor porpoises have a lower TTS onset than other measured pinniped or cetacean species (Finneran, 2015). At low frequencies, onset-TTS exposure levels are higher compared to those in the region of best sensitivity (*i.e.,* a low frequency noise would need to be louder to cause TTS onset when TTS exposure level is higher), as shown for harbor porpoises and harbor seals (Kastelein *et al.,* 2019a, 2019b, 2020a, 2020b). In addition, TTS can accumulate across multiple exposures, but the resulting TTS will be less than the TTS from a single, continuous exposure with the same SEL (Finneran *et al.,* 2010; Kastelein *et al.,* 2014; Kastelein *et al.,* 2015a; Mooney *et al.,* 2009). This means that TTS predictions based on the total, cumulative SEL will overestimate the amount of TTS from intermittent exposures such as sonars and impulsive sources.

The potential for TTS from impact pile driving exists. After exposure to playbacks of impact pile driving sounds (rate 2,760 strikes/hour) in captivity, mean TTS increased from 0 dB after 15 minute exposure to 5 dB after 360 minute exposure; recovery occurred within 60 minutes (Kastelein *et al.,* 2016). Additionally, the existing marine mammal TTS data come from a limited number of individuals within these species. No data are available on noise-induced hearing loss for mysticetes. Nonetheless, what we considered is the best available science. For summaries of data on TTS in marine mammals or for further discussion of TTS onset thresholds, please see Southall *et al.* (2007, 2019), Finneran and Jenkins (2012), Finneran (2015), and Table 5 in NMFS (2018).

Installing piles for this project requires impact pile driving. There would likely be pauses in activities producing the sound during each day. Given these pauses and the fact that many marine mammals are likely moving through the project areas and not remaining for extended periods of time, the potential for TS declines.

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

Disturbance may result in changing durations of surfacing and dives, number of blows per surfacing, or moving direction and/or speed; reduced/increased vocal activities; changing/cessation of certain behavioral activities (such as socializing or feeding); visible startle response or aggressive behavior (such as tail/fluke slapping or jaw clapping); or avoidance of areas where sound sources are located. Pinnipeds may increase their haul-out time, possibly to avoid in-water disturbance (Thorson and Reyff, 2006). Behavioral responses to sound are highly variable and context-specific and any reactions depend on numerous intrinsic and extrinsic factors (*e.g.,* species, state of maturity, experience, current activity, reproductive state, auditory sensitivity, time of day), as well as the interplay between factors (*e.g.,* Richardson *et al.,* 1995; Wartzok *et al.,* 2004; Southall *et al.,* 2007; Weilgart, 2007; Archer *et al.,* 2010; Southall *et al.,* 2021). Behavioral reactions can vary not only among individuals but also within an individual, depending on previous experience with a sound source, context, and numerous other factors (Ellison *et al.,* 2012), and can vary depending on characteristics associated with the sound source (*e.g.,* whether it is moving or stationary, number of sources, distance from the source). In general, pinnipeds seem more tolerant of, or at least habituate more quickly to, potentially disturbing underwater sound than do cetaceans, and generally seem to be less responsive to exposure to industrial sound than most cetaceans.

Please see Appendices B and C of Southall *et al.* (2007) as well as Nowacek *et al.* (2007); Ellison *et al.* (2012), and Gomez *et al.* (2016) for a review of studies involving marine mammal behavioral responses to sound.

Disruption of feeding behavior can be difficult to correlate with anthropogenic sound exposure, so it is usually inferred by observed displacement from known foraging areas, the appearance of secondary indicators (*e.g.,* bubble nets or sediment plumes), or changes in dive behavior. As for other types of behavioral response, the frequency, duration, and temporal pattern of signal presentation, as well as differences in species sensitivity, are likely contributing factors to differences in response in any given circumstance (*e.g.,* Croll *et al.,* 2001; Nowacek *et al.,* 2004; Madsen *et al.,* 2006; Yazvenko *et al.,* 2007; Melcón *et al.,* 2012). In addition, behavioral state of the animal plays a role in the type and severity of a behavioral response, such as disruption to foraging (*e.g.,* Sivle *et al.,* 2016; Wensveen *et al.,* 2017). A determination of whether foraging disruptions incur fitness consequences would require information on or estimates of the energetic requirements of the affected individuals and the relationship between prey availability, foraging effort and success, and the life history stage of the animal (Goldbogen *et al.,* 2013).

Stress responses—An animal's perception of a threat may be sufficient to trigger stress responses consisting of some combination of behavioral responses, autonomic nervous system responses, neuroendocrine responses, or immune responses (*e.g.,* Seyle, 1950; Moberg, 2000). In many cases, an animal's first and sometimes most economical (in terms of energetic costs) response is behavioral avoidance of the potential stressor. Autonomic nervous system responses to stress typically involve changes in heart rate, blood pressure, and gastrointestinal activity. These responses have a relatively short duration and may or may not have a significant long-term effect on an animal's fitness.

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

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

Relationships between these physiological mechanisms, animal behavior, and the costs of stress responses are well-studied through controlled experiments and for both laboratory and free-ranging animals (*e.g.,* Holberton *et al.,* 1996; Hood *et al.,* 1998; Jessop *et al.,* 2003; Krausman *et al.,* 2004; Lankford *et al.,* 2005). Stress responses due to exposure to anthropogenic sounds or other stressors and their effects on marine mammals have also been reviewed (Fair and Becker 2000; Romano *et al.,* 2002b) and, more rarely, studied in wild populations (*e.g.,* Romano *et al.,* 2002a). For example, Rolland *et al.* (2012) found that noise reduction from reduced ship traffic in the Bay of Fundy was associated with decreased stress in North Atlantic right whales. These and other studies lead to a reasonable expectation that some marine mammals will experience physiological stress responses upon exposure to acoustic stressors and that it is possible that some of these would be classified as ''distress.'' In addition, any animal experiencing TTS would likely also experience stress responses (NRC, 2003), however distress is an unlikely result of these projects based on observations of marine mammals during previous, similar projects in the area.

Masking—Sound can disrupt behavior through masking, or interfering with, an animal's ability to detect, recognize, or discriminate between acoustic signals of interest (*e.g.,* those used for intraspecific communication and social interactions, prey detection, predator avoidance, navigation) (Richardson *et al.,* 1995). Masking occurs when the receipt of a sound is interfered with by another coincident sound at similar frequencies and at similar or higher intensity, and may occur whether the sound is natural (*e.g.,* snapping shrimp, wind, waves, precipitation) or anthropogenic (*e.g.,* pile driving, shipping, sonar, seismic exploration) in origin. The ability of a noise source to mask biologically important sounds depends on the characteristics of both the noise source and the signal of interest (*e.g.,* signal-to-noise ratio, temporal variability, direction), in relation to each other and to an animal's hearing abilities (*e.g.,* sensitivity, frequency range, critical ratios, frequency discrimination, directional discrimination, age or TTS hearing loss), and existing ambient noise and propagation conditions. Masking of natural sounds can result when human activities produce high levels of background sound at frequencies important to marine mammals. Conversely, if the background level of underwater sound is high (*e.g.,* on a day with strong wind and high waves), an anthropogenic sound source would not be detectable as far away as would be possible under quieter conditions and would itself be masked. The masking of communication signals by anthropogenic noise may be considered as a reduction in the communication space of animals (*e.g.,* Clark *et al.,* 2009) and may result in energetic or other costs as animals change their vocalization behavior (*e.g.,* Miller *et al.,* 2000; Foote *et al.,* 2004; Parks *et al.,* 2007; Di Iorio and Clark, 2009; Holt *et al.,* 2009). San Diego Bay is heavily used by commercial, recreational, and military vessels, and background sound levels in the area are already elevated. Due to the transient nature of marine mammals to move and avoid disturbance, masking is not likely to have long-term impacts on marine mammal species within the proposed project area.

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

Airborne noise would primarily be an issue for pinnipeds that are swimming or hauled out near the project site within the range of noise levels elevated above the acoustic criteria. We recognize that pinnipeds in the water could be exposed to airborne sound that may result in behavioral harassment when looking with their heads above water. Most likely, airborne sound would cause behavioral responses similar to those discussed above in relation to underwater sound. For instance, anthropogenic sound could cause hauled-out pinnipeds to exhibit changes in their normal behavior, such as reduction in vocalizations, or cause them to temporarily abandon the area and move further from the source. However, these animals would likely previously have been ''taken'' because of exposure to underwater sound above the behavioral harassment thresholds, which are generally larger than those associated with airborne sound. Thus, the behavioral harassment of these animals is already accounted for in these estimates of potential take. Therefore, we do not believe that authorization of incidental take resulting from airborne sound for pinnipeds is warranted, and airborne sound is not discussed further here.

Marine Mammal Habitat Effects

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

A temporary and localized increase in turbidity near the seafloor would occur in the immediate area surrounding the area where piles are installed or removed. In general, turbidity associated with pile installation is localized to about a 25-ft (7.6-m) radius around the pile (Everitt *et al.,* 1980). Turbidity monitoring during high-pressure water jetting to remove caissons for the fourth IHA of the Fuel Pier Replacement Project revealed relatively minor, if any, changes, with only localized decreases in water clarity that dissipated within 3 to 5 minutes (but up to 10) from the start of jetting (NAVFAC SW, 2018a). Cetaceans are not expected to be close enough to the pile driving areas to experience effects of turbidity, and any pinnipeds could avoid localized areas of turbidity. Local currents are anticipated to disburse any additional suspended sediments produced by project activities at moderate to rapid rates depending on tidal stage. Therefore, we expect the impact from increased turbidity levels to be discountable to marine mammals and do not discuss it further.

In-Water Construction Effects on Potential Foraging Habitat—The area likely impacted by the Pier 302 Replacement Project is relatively small compared to the total available habitat in San Diego Bay. The proposed project area is highly influenced by anthropogenic activities, and provides limited foraging habitat for marine mammals. Furthermore, pile driving and removal at the proposed project site would not obstruct long-term movements or migration of marine mammals.

Avoidance by potential prey (*i.e.,* fish) of the immediate area due to the temporary loss of this foraging habitat is also possible. The duration of fish and marine mammal avoidance of this area after pile driving stops is unknown, but a rapid return to normal recruitment, distribution, and behavior is anticipated. Any behavioral avoidance by prey of the disturbed area would still leave significantly large areas of potential foraging habitat in the nearby vicinity.

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

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

Fish react to sounds which are especially strong and/or intermittent low-frequency sounds, and behavioral responses such as flight or avoidance are the most likely effects. Short duration, sharp sounds can cause overt or subtle changes in fish behavior and local distribution. The reaction of fish to noise depends on the physiological state of the fish, past exposures, motivation (*e.g.,* feeding, spawning, migration), and other environmental factors. Hastings and Popper (2005) identified several studies that suggest fish may relocate to avoid certain areas of sound energy. Additional studies have documented effects of pile driving on fish; several are based on studies in support of large, multiyear bridge construction projects (*e.g.,* Scholik and Yan, 2001, 2002; Popper and Hastings, 2009). Many studies have demonstrated that impulse sounds might affect the distribution and behavior of some fishes, potentially impacting foraging opportunities or increasing energetic costs (*e.g.,* Fewtrell and McCauley, 2012; Pearson *et al.,* 1992; Skalski *et al.,* 1992; Santulli *et al.,* 1999; Paxton *et al.,* 2017). In response to pile driving, Pacific sardines and northern anchovies may exhibit an immediate startle response to individual strikes, but return to ''normal'' pre-strike behavior following the conclusion of pile driving with no evidence of injury as a result (Appendix C in NAVFAC SW, 2014). However, some studies have shown no or slight reaction to impulse sounds (*e.g.,* Pena *et al.,* 2013; Wardle *et al.,* 2001; Jorgenson and Gyselman, 2009; Popper *et al.,* 2005).

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

The most likely impact to fishes from pile driving and removal and construction activities at the project area would be temporary behavioral avoidance of the area. The duration of fish avoidance of this area after pile driving stops is unknown, but a rapid return to normal recruitment, distribution, and behavior is anticipated. In general, impacts to marine mammal prey species are expected to be minor and temporary. Further, it is anticipated that preparation activities for pile driving or removal (*i.e.,* positioning of the hammer, clipper or wire saw) and upon initial startup of devices would cause fish to move away from the affected area outside areas where injuries may occur. Therefore, relatively small portions of the proposed project area would be affected for short periods of time, and the potential for effects on fish to occur would be temporary and limited to the duration of sound-generating activities.

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

Estimated Take

This section provides an estimate of the number of incidental takes proposed for authorization through this IHA, which will inform both NMFS' consideration of ''small numbers,'' and the negligible impact determinations.

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

Authorized takes would be by Level B harassment only, in the form of disruption of behavioral patterns for individual marine mammals resulting from exposure to the acoustic sources. Based on the nature of the activity and the anticipated effectiveness of the mitigation measures (*i.e.,* vibratory or impact pile driving and removal) discussed in detail below in the Proposed Mitigation section. Level A harassment is neither anticipated nor proposed to be authorized.

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

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

Acoustic Thresholds

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

Level B Harassment—Though significantly driven by received level, the onset of behavioral disturbance from anthropogenic noise exposure is also informed to varying degrees by other factors related to the source or exposure context (*e.g.,* frequency, predictability, duty cycle, duration of the exposure, signal-to-noise ratio, distance to the source), the environment (*e.g.,* bathymetry, other noises in the area, predators in the area), and the receiving animals (hearing, motivation, experience, demography, life stage, depth) and can be difficult to predict (*e.g.,* Southall *et al.,* 2007, 2021; Ellison *et al.,* 2012). Based on what the available science indicates and the practical need to use a threshold based on a metric that is both predictable and measurable for most activities, NMFS typically uses a generalized acoustic threshold based on received level to estimate the onset of behavioral harassment. NMFS generally predicts that marine mammals are likely to be behaviorally harassed in a manner considered to be Level B harassment when exposed to underwater anthropogenic noise above root-mean-squared pressure received levels (RMS SPL) of 120 dB (referenced to 1 micropascal (re 1 μPa)) for continuous (*e.g.,* vibratory pile-driving, drilling) and above RMS SPL 160 dB re 1 μPa for non-explosive impulsive (*e.g.,* seismic airguns) or intermittent (*e.g.,* scientific sonar) sources. Generally speaking, Level B harassment take estimates based on these behavioral harassment thresholds are expected to include any likely takes by TTS as, in most cases, the likelihood of TTS occurs at distances from the source less than those at which behavioral harassment is likely. TTS of a sufficient degree can manifest as behavioral harassment, as reduced hearing sensitivity and the potential reduced opportunities to detect important signals (conspecific communication, predators, prey) may result in changes in behavior patterns that would not otherwise occur.

The Navy's proposed construction activities include the use of continuous (vibratory pile-driving) and impulsive (impact pile-driving) sources, and therefore the RMS SPL threshold of 160 dB re 1 μPa is applicable for impulsive noise. For continuous noise, the RMS SPL threshold of 129.6 dB re 1 μPa is applicable as a de facto harassment threshold, based upon measured noise data for San Diego Bay as referenced in the Description of Proposed Activity section.

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

These thresholds are provided in the table below. The references, analysis, and methodology used in the development of the thresholds are described in NMFS' 2018 Technical Guidance, which may be accessed at: *www.fisheries.noaa.gov/national/*

marine-mammal-protection/marine-mammal-acoustic-technical-guidance.

TABLE 4—THRESHOLDS IDENTIFYING THE ONSET OF PERMANENT THRESHOLD SHIFT

Hearing group	PTS onset thresholds * (received level)	
	Impulsive	Non-impulsive
Low-Frequency (LF) Cetaceans	*Cell 1:* $L_{p,\text{0-pk,flat}}$: 219 dB; $L_{E,p,\text{ LF,24h}}$: 183 dB	*Cell 2:* $L_{E,p,\text{ LF,24h}}$: 199 dB.
Mid-Frequency (MF) Cetaceans	*Cell 3:* $L_{p,\text{0-pk,flat}}$: 230 dB; $L_{E,p,\text{ MF,24h}}$: 185 dB	*Cell 4:* $L_{E,p,\text{ MF,24h}}$: 198 dB.
High-Frequency (HF) Cetaceans	*Cell 5:* $L_{p,\text{0-pk,flat}}$: 202 dB; $L_{E,p,\text{HF,24h}}$: 155 dB	*Cell 6:* $L_{E,p,\text{ HF,24h}}$: 173 dB.
Phocid Pinnipeds (PW) (Underwater)	*Cell 7:* $L_{p,\text{0-pk,flat}}$: 218 dB; $L_{E,p,\text{PW,24h}}$: 185 dB	*Cell 8:* $L_{E,p,\text{ PW,24h}}$: 201 dB.
Otariid Pinnipeds (OW) (Underwater)	*Cell 9:* $L_{p,\text{0-pk,flat}}$: 232 dB; $L_{E,p,\text{OW,24h}}$: 203 dB	*Cell 10:* $L_{E,p,\text{OW,24h}}$: 219 dB.

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

Note: Peak sound pressure level ($L_{p,\text{0-pk}}$) has a reference value of 1 μPa, and weighted cumulative sound exposure level ($L_{E,p}$) has a reference value of 1μPa^{2}s. In this Table, thresholds are abbreviated to be more reflective of International Organization for Standardization standards (ISO, 2017). The subscript "flat" is being included to indicate peak sound pressure are flat weighted or unweighted within the generalized hearing range of marine mammals (*i.e.,* 7 Hz to 160 kHz). The subscript associated with cumulative sound exposure level thresholds indicates the designated marine mammal auditory weighting function (LF, MF, and HF cetaceans, and PW and OW pinnipeds) and that the recommended accumulation period is 24 hours. The weighted cumulative sound exposure level thresholds could be exceeded in a multitude of ways (*i.e.,* varying exposure levels and durations, duty cycle). When possible, it is valuable for action proponents to indicate the conditions under which these thresholds will be exceeded.

Ensonified Area

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

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

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

TABLE 5—SOURCE LEVELS FOR PROPOSED REMOVAL AND INSTALLATION ACTIVITIES

Method	Pile size/type	Peak sound pressure (dB re 1μPa) [1]	Mean maximum RMS SPL (dB re 1 μPa) [1]	SEL (dB re 1μPa2 sec) [1]	Source
Pile Removal Activities					
Vibratory Extraction	18″ Octagonal Concrete [2]		[3] 162		NAVFAC SW, 2022.
	18″ Steel Pipe		[4] 156		Denes *et al.,* 2016.
Pile Installation Activities					
Impact Pile Driving	24″ Octagonal Concrete	188	176	166	Caltrans, 2020.
	14″ Square Concrete	183	166	154	Caltrans, 2020.
Vibratory Hammer	6″ Round Steel [5]	171	155	155	Illingworth and Rodkin, 2007.

[1] As measured, or calculated, at 10 m (33 ft).
[2] In the absence of information on vibratory extraction of 18-inch octagonal concrete piles, source data from 20-inch concrete square piles NAVFAC SW (2022) was used as a proxy source level.
[3] The maximum mean calculated source value for 20-inch square concrete piles (NAVFAC SW, 2022) was 162 dB RMS based on unpublished data from the Pier 6 Replacement Project.
[4] Table 20 in Denes *et al.* (2016) records a value of 152.4 dB RMS at 17 m (56 ft) for vibratory extraction. This data point, and a transmission loss of 15LogR, was used to back-calculate a value of 155.9 dB RMS at 10 m (33 ft) (rounded to 156 dB RMS).
[5] In the absence of information on vibratory installation of 6-inch round steel piles, source data from 12-inch round steel piles (Illingworth & Rodkin, 2017) was used as a proxy source level. Abbreviations: μPa = microPascal; dB = decibel; RMS = root mean square; SPL = sound pressure level; m = meters.

Level B Harassment Zones

Transmission loss (TL) is the decrease in acoustic intensity as an acoustic pressure wave propagates out from a source. TL parameters vary with frequency, temperature, sea conditions, current, source and receiver depth, water depth, water chemistry, and bottom composition and topography.

The general formula for underwater TL is:

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

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

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

TABLE 6—DISTANCE TO LEVEL B HARASSMENT THRESHOLDS AND ZOI AREAS

Method	Pile size/type	Maximum RMS SPL (dB re 1 µPa) [1]	Projected radial distance to Level B harassment thresholds and ensonified area [1 2]	
			Distance m	Area km²
Pile Removal Activities				
Vibratory Extraction	18″ Octagonal Concrete	162	1,445	3.13
	18″ Steel Pipe	156	575	0.68
Pile Installation Activities				
Impact Pile Driving [3]	24″ Octagonal Concrete	176	117	0.041
Impact Pile Driving	14″ Square Concrete	166	25	<0.01
Vibratory Hammer	6″ Round Steel	155	494	0.45

[1] The Level B ZOIs for continuous pile removal and installation activities are based on the distance for noise to decay to ambient levels (129.6 dB re 1µPa), while 160 dB was used for impulsive sound.
[2] Assumes Practical Spreading Loss.
[3] With or without High-pressure Water Jetting.
Abbreviations: dB re 1 µPa = decibels referenced to a pressure of 1 microPascal, km² = square kilometers, m = meters, ft = feet, RMS = root mean square, ZOI = Zone of Influence.

Level A Harassment Zones

The ensonified area associated with Level A harassment is more technically challenging to predict due to the need to account for a duration component. Therefore, NMFS developed an optional User Spreadsheet tool to accompany the Technical Guidance that can be used to relatively simply predict an isopleth distance for use in conjunction with marine mammal density or occurrence to help predict potential takes. We note that because of some of the assumptions included in the methods underlying this optional tool, we anticipate that the resulting isopleth estimates are typically going to be overestimates of some degree, which may result in an overestimate of potential take by Level A harassment. However, this optional tool offers the best way to estimate isopleth distances when more sophisticated modeling methods are not available or practical. For stationary sources, such as pile installation or removal, the optional User Spreadsheet tool predicts the distance at which, if a marine mammal remained at that distance for the duration of the activity, it would be expected to incur PTS. The isopleths generated by the User Spreadsheet used the same TL coefficient as the Level B harassment zone calculations (*i.e.,* the practical spreading value of 15). Inputs used in the User Spreadsheet (*e.g.,* number of piles per day, duration and/or strikes per pile) are presented in Table 1. The maximum RMS SPL/SEL SPL and resulting isopleths are reported below in Table 7. The maximum RMS SPL value was used to calculate Level A harassment isopleths for vibratory pile driving and extraction activities, while the single strike SEL SPL value was used to calculate Level A isopleths for impact pile driving activities.

TABLE 7—DISTANCES TO LEVEL A HARASSMENT THRESHOLDS

Method	Pile size/type	Maximum RMS SPL (dB re 1 µPa) [1]	Single strike SEL (dB re 1 µPa² sec) [1]	Duration (hrs/day)	Project distances to Level A thresholds (m)		
					MF	PW	OW
Pile Removal Activities							
Vibratory Extraction	18″ Octagonal Concrete [2]	162	N/A	1.25	0.8	5.6	0.4
	18″ Steel Pipe	[2] 156	N/A	0.25	0.1	0.8	0.1
Pile Installation Activities							
Impact Pile Driving	24″ Octagonal Concrete	176	166	1.33	4.1	[3] 62.4	4.5
	14″ Square Concrete	166	154	0.25	0.2	2.5	0.2
Vibratory Hammer	6″ Round Steel	155	155	0.07	0.0	0.3	0.0

[1] As measured at 10 m (33 ft.).
[2] Table 20 in Denes *et al.* (2016) records a value of 152.4 dB RMS at 17 m (56 ft.) for vibratory extraction. This data point, and a transmission loss of 15LogR, was used to back-calculate a value of 156 dB RMS at 10 m (33 ft.).
[3] Value is greater than the standard shutdown zone of 20 m (see Proposed Mitigation) and will be monitored as shutdown zone to ensure no Level A takes of harbor seals or northern elephant seals occur during impact pile driving of 24-inch octagonal concrete piles.
Abbreviations: RMS = root mean square, dB re 1 µPa = decibels referenced to a pressure of 1 microPascal, m = meters, ft = feet, MF = mid-frequency cetaceans, PW = phocid pinnipeds, OW = otariid pinnipeds.

Marine Mammal Occurrence

In this section, we provide information about the occurrence of marine mammals, including density or other relevant information that will inform the take calculations. Unless otherwise specified, the term ''pile driving'' in this section, and all following sections, may refer to either pile installation or removal. NMFS has carefully reviewed the Navy's analysis and concludes that it represents an appropriate and accurate method for estimating incidental take that may be caused by the Navy's activities.

Daily occurrence estimates of marine mammals in the proposed project area are based upon the Year 4 IHA monitoring report from the Fuel Pier Replacement Project (NAVFAC SW, 2017b). Year 4 is expected to be most representative of typical species occurrences as this monitoring period had the highest number of activity days and the highest average number of animals observed per day for the three most common species in the area (California sea lion, harbor seal, bottlenose dolphin), with the exception of Year 2. However, Year 2 was an El Niño year and not considered representative of typical species occurrences. The Year 2 monitoring report data was used for any species not observed in Year 4 (common dolphin, Pacific white-sided dolphin, northern elephant seal) (NAVFAC SW, 2015) (Table 8). Years 1, 3, and 5 included significantly less monitoring effort than Years 2 and 4, and may also not be representative of typical species richness and occurrences.

TABLE 8—TOTAL AND DAILY SPECIES OCCURRENCES DURING YEARS 2 AND 4 IHA MONITORING

Species	Year 2 IHA (100 monitoring days; El Nino year)		Year 4 IHA (152 monitoring days)	
	Total observed	Average per day	Total observed	Average per day
California sea lion	7,507	75.1	2,263	* 14.9
Harbor seal	248	2.5	88	* 0.6
Bottlenose dolphin	695	7	67	* 0.4
Common dolphin	850	* 8.5	N/a	N/a
Pacific white-sided dolphin	27	* 0.3	N/a	N/a
Northern elephant seal	[1] 1	[1] 1	N/a	N/a

* Mean estimate used for daily occurrences for current analysis.
[1] Same individual hauled out each day.

Year 4 monitoring consisted of the longest effort of all 5 IHA years for the Navy Fuel Pier Replacement Project, and daily occurrence estimates for California sea lions, harbor seals, and bottlenose dolphins were selected from this year. Common dolphins, Pacific white-sided dolphins, and northern elephant seals were not sighted in Year 4; however, these species were sighted in Year 2 monitoring. Pacific white-sided dolphins were only sighted during this year. Daily occurrence estimates for common dolphins and Pacific white-sided dolphins were selected from Year 2. Only one northern elephant seal was sighted during the Year 2 monitoring, and the same individual was hauled out each day. Using a daily occurrence estimate from past monitoring was, therefore, not an accurate approach for estimating occurrence of northern elephant seals. Past monitoring efforts, including the one northern elephant seal sighted during Year 2 monitoring and a sighting north of the project area, (McConchie, 2015; NAVFAC SW, 2015) documented a total of two juvenile northern elephant seals in the proposed project area, as described earlier in the Description of Marine Mammals in Areas of Specified Activities section. Due to increasing stock numbers, there is a reasonable probability that this species could be sighted in the proposed project area during construction activities. Instead of using past monitoring data to estimate daily occurrence, it is expected that two northern elephant seals may be observed in the proposed project area during construction activities, based upon previous sighting data. The Navy added a buffer of five seals to this estimate for a total of seven expected elephant seals in the area during construction activities, and NMFS agrees with this approach.

Monitoring during Year 4 yielded an observation of 2,263 California sea lions over the course of the 152-day monitoring period. These observations equate to an average of 14.9 California sea lions observed per day, and approximately 15 California sea lions expected to be in the vicinity of Pier 302, when this estimate is rounded.

Based upon monitoring during Year 4, 88 harbor seals were observed over the course of the 152-day monitoring period. These observations equate to an average of 0.6 harbor seals observed per day, and approximately 1 seal per day expected to be in the vicinity of Pier 302 when this estimate is rounded.

Monitoring during Year 4 yielded an observation of 67 bottlenose dolphins in the proposed project area over the course of the 152-day monitoring period. This observation equates to an average of 0.4, or 1 if rounded, bottlenose dolphins expected to be in the vicinity of Pier 302 each day of the proposed construction activities.

During Year 2 monitoring, 850 common dolphins were sighted in the proposed project area over the course of the 152-day monitoring period. This equates to an average of 8.5 common dolphins observed per day. When rounded to the nearest whole number, 9.0 individuals are expected to be sighted per day in the vicinity of Pier 302.

Monitoring during Year 2 documented seven sightings of Pacific white-sided dolphins, comprising 27 individuals, with an average of 0.28 individuals sighted per day of monitoring. Rounding this estimate to the nearest whole number leads to 1.0 individual per day to be expected to be in the vicinity of Pier 302 during the proposed construction activities.

Take Estimation

Here we describe how the information provided above is synthesized to produce a quantitative estimate of the take that is reasonably likely to occur and proposed for authorization.

Daily occurrence estimates were multiplied by the number of days of pile removal and installation (32 days) to calculate estimated take by Level B harassment of California sea lions, harbor seals, bottlenose dolphins, common dolphins, Pacific white-sided dolphins, and northern elephant seals (Table 9).

TABLE 9—PROPOSED TAKES BY LEVEL B HARASSMENT AND PERCENT OF STOCK PROPOSED TO BE AUTHORIZED FOR TAKE

Species	Expected daily average individuals	Proposed take by Level B harassment	Percentage of population proposed to be authorized for take
California sea lion [1]	15	480	0.19
Harbor seal [1]	1	32	0.10
Bottlenose dolphin [1]	1	32	7.1
Common dolphin (long and short beaked) [2]	9	288	* 0.35
Pacific white-sided dolphin [2]	1	32	0.09
Northern elephant seal	([3])	7	0.004

[1] Average daily counts based on observations during Year 4 Fuel Pier Replacement Project Monitoring (NAVFAC SW, 2017b).
[2] Average daily counts based on observations during Year 2 Fuel Pier Replacement Project Monitoring (NAVFAC SW, 2015).
[3] Expected potential of two northern elephant seals over the duration of project activity with a +5 buffer for Level B Take.
* Percent population calculated for each stock of common dolphins. Percentage in the table represents the percent of take of long-beaked common dolphins as this would be a greater percentage than if all take were attributed to short-beaked common dolphins (0.03 percent).

By using the sighting-based approach, take values are not affected by the estimated harassment distances from Tables 6 and 7. Given the very small Level A harassment isopleths for all species and proposed mitigation measures, no take by Level A harassment is anticipated or proposed for this authorization.

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

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

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

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

Shutdown Zones

Before the commencement of in-water construction activities, the Navy would establish shutdown zones for all activities. The purpose of a shutdown zone is to define an area within which shutdown of the activity would occur upon sighting of a marine mammal (or in anticipation of an animal entering the defined area. During all in-water construction activities, the Navy has proposed to implement a standard 20 m (66 ft) shutdown zone, with the exception of a 70 m (230 ft) zone for phocids during the use of impact pile driving for the 24″ octagonal concrete piles. These distances exceed the estimated Level A harassment distances (Table 10). During the impact installation of the 24-inch octagonal concrete piles, the shutdown zone for phocids will be buffered to 70 m (230 ft) to encompass the Level A harassment zone. Adherence to this expanded shutdown zone will avoid the potential for the take of phocids by Level A harassment during impact pile driving. If a marine mammal enters a buffered shutdown zone, in-water activities would be stopped until visual confirmation that the animal has left the zone or the animal is not sighted for 15 minutes.

All marine mammals will be monitored in the Level B harassment zones and throughout the area as far as visual monitoring can take place. If a marine mammal enters the Level B harassment zone, in-water activities will continue and the animal's presence within the estimated harassment zone will be documented.

The Navy would also establish shutdown zones for all marine mammals for which take has not been authorized or for which incidental take has been authorized but the authorized number of takes has been met. These zones are equivalent to the Level B harassment zones for each activity. If a marine mammal species not covered under this IHA enters the shutdown zone, all in-water activities will cease until the animal leaves the zone or has not been observed for at least 1 hour, and NMFS will be notified about species and precautions taken. Pile removal will proceed if the non-IHA species is observed to leave the Level B harassment zone or if 1 hour has passed since the last observation.

If shutdown and/or clearance procedures would result in an imminent safety concern, as determined by the Navy, the in-water activity will be allowed to continue until the safety concern has been addressed, and the animal will be continuously monitored. The Navy Point of Contact (POC) will be consulted before re-commencing activities.

TABLE 10—SHUTDOWN ZONES AND LEVEL B HARASSMENT ZONES

Method	Pile size/type	Shutdown zones m (ft)			Level B harassment zones m (ft)
		MF	PW	OW	
Pile Removal Activities					
Vibratory Extraction	18″ Octagonal Concrete	20 (66)	20 (66)	20 (66)	1,445 (4,742)
	18″Steel Pipe	20 (66)	20 (66)	20 (66)	575 (1,888)
Pile Installation Activities					
Impact Pile Driving	24″ Octagonal Concrete	20 (66)	[1] 70 (230)	20 (66)	117 (383)
	14″ Square Concrete	20 (66)	20 (66)	20 (66)	25 (82)
Vibratory Hammer	6″ Round Steel	20 (66)	20 (66)	20 (66)	494 (1,619)

[1] Level A ZOI buffered from 62.5 m up to 70 m.

Protected Species Observers

The placement of protected species observers (PSOs) during all pile driving activities (described in the Proposed Monitoring and Reporting section) would ensure that the entire shutdown zone is visible. Should environmental conditions deteriorate such that the entire shutdown zone would not be visible (*e.g.,* fog, heavy rain), pile driving would be delayed until the PSO is confident marine mammals within the shutdown zone could be detected.

Pre-Activity Monitoring

Prior to the start of daily in-water construction activity, or whenever a break in pile driving of 30 minutes or longer occurs, PSOs would observe the shutdown and monitoring zones for a period of 30 minutes. The shutdown zone would be considered cleared when a marine mammal has not been observed within the zone for that 30-minute period. If a marine mammal is observed within the shutdown zones listed in Table 10, pile driving activity would be delayed or halted. If work ceases for more than 30 minutes, the pre-activity monitoring of the shutdown zones would commence. A determination that the shutdown zone is clear must be made during a period of good visibility (*i.e.,* the entire shutdown zone and surrounding waters must be visible to the naked eye).

Soft-Start Procedures

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

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

Proposed Monitoring and Reporting

In order to issue an 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 authorizations must include the suggested means of accomplishing the necessary monitoring and reporting that will result in increased knowledge of the species and of the level of taking or impacts on populations of marine mammals that are expected to be present while conducting the activities. Effective reporting is critical both to compliance as well as ensuring that the most value is obtained from the required monitoring.

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

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

Visual Monitoring

Marine mammal monitoring during pile driving activities would be conducted by PSOs meeting NMFS' the following requirements:

- Independent PSOs (*i.e.,* not construction personnel) who have no other assigned tasks during monitoring periods would be used;
- At least one PSO would have prior experience performing the duties of a PSO during construction activity pursuant to a NMFS-issued incidental take authorization;
- Other PSOs may substitute education (degree in biological science or related field) or training for experience; and
- Where a team of three or more PSOs is required, a lead observer or monitoring coordinator would be designated. The lead observer would be required to have prior experience

working as a marine mammal observer during construction.

PSOs would have the following additional qualifications:

- Ability to conduct field observations and collect data according to assigned protocols;
- Experience or training in the field identification of marine mammals, including the identification of behaviors;
- Sufficient training, orientation, or experience with the construction operation to provide for personal safety during observations;
- Writing skills sufficient to prepare a report of observations including but not limited to the number and species of marine mammals observed; dates and times when in-water construction activities were conducted; dates, times, and reason for implementation of mitigation (or why mitigation was not implemented when required); 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.

The Navy would have at least two PSOs stationed at the best possible vantage points in the project area to monitor during all pile driving activities. If a PSO sights a marine mammal in the shutdown zone, the PSO should alert the ''command'' PSO to notify the equipment operator to shut down. If the ''command PSO'' does not respond, any PSO has the authority to notify the need for a shutdown. If the ''command'' PSO calls for a shutdown, the ''command'' PSO will let the contractor know when activities can re-commence. Additional PSOs may be employed during periods of low or obstructed visibility to ensure the entirety of the shutdown zones are monitored. A marine mammal monitoring plan will be developed and submitted to NMFS for approval prior to commencing in-water construction activities.

Reporting

A draft marine mammal monitoring report would be submitted to NMFS within 90 days after the completion of pile driving activities, or 60 days prior to a requested date of issuance of any future IHAs for the project, or other projects at the same location, whichever comes first. The marine mammal report would include an overall description of work completed, a narrative regarding marine mammal sightings, and associated PSO data sheets. Specifically, the report would include:

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

PSOs would record all incidents of marine mammal occurrence, regardless of distance from activity, and would document any behavioral reactions in concert with distance from piles being driven or removed. Specifically, PSOs will record the following:

- Name of PSO who sighted the animal(s) and PSO location and activity at time of sighting;
- Time of sighting;
- Identification of the animal(s) (*e.g.,* genus/species, lowest possible taxonomic level, or unidentified), PSO confidence in identification, and the composition of the group if there is a mix of species;
- Distance and location of each observed marine mammal relative to the pile being driven or hole being drilled for each sighting;
- Estimated number of animals (min/max/best estimate);
- Estimated number of animals by cohort (adults, juveniles, neonates, group composition, *etc.*);
- Description of any marine mammal behavioral observations (*e.g.,* observed behaviors such as feeding or traveling), including an assessment of behavioral responses thought to have resulted from the activity (*e.g.,* no response or changes in behavioral state such as ceasing feeding, changing direction, flushing, or breaching);

Negligible Impact Analysis and Determination

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

To avoid repetition, the discussion of our analysis applies to all the species listed in Table 2, given that the anticipated effects of this activity on these different marine mammal stocks are expected to be similar. There is little information about the nature or severity of the impacts, or the size, status, or structure of any of these species or stocks that would lead to a different analysis for this activity.

Level A harassment is extremely unlikely given the small size of the Level A harassment isopleths and the required mitigation measures designed to minimize the possibility of injury to marine mammals. No mortality is anticipated given the nature of the activity.

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

The takes from Level B harassment would be due to potential behavioral disturbance. No serious injury or mortality is anticipated for any stocks presented in this analysis given the nature of the activity and mitigation measures designed to minimize the possibility of injury. The potential for harassment is minimized through construction methods and the implementation of planned mitigation strategies (see Proposed Mitigation section).

Take would occur within a limited, confined area of each stock's range. Level B harassment would be reduced to the level of least practicable adverse impact through use of mitigation measures described herein. Further, the amount of take authorized is extremely small when compared to stock abundance.

No marine mammal stocks for which incidental take authorization is proposed are listed as threatened or endangered under the ESA or determined to be strategic or depleted under the MMPA. The relatively low marine mammal occurrences in the area, small shutdown zones, and proposed monitoring make injury takes of marine mammals unlikely. The shutdown zones would be thoroughly monitored before the proposed vibratory pile installation and removal begins, and construction activities would be postponed if a marine mammal is sighted within the shutdown zone. There is a high likelihood that marine mammals would be detected by trained observers under environmental conditions described for the proposed project. Limiting construction activities to daylight hours will also increase detectability of marine mammals in the area. Therefore, the proposed mitigation and monitoring measures are expected to eliminate the potential for injury and Level A harassment as well as reduce the amount and intensity for Level B behavioral harassment. Furthermore, the pile installation and removal activities analyzed here are similar to, or less impactful than, numerous construction activities conducted in other similar locations which have occurred with no reported injuries or mortality to marine mammals, and no known long-term adverse consequences from behavioral harassment.

Anticipated and authorized takes are expected to be limited to short-term Level B harassment (behavioral disturbance) as construction activities will occur over the course of 32 weeks. Effects on individuals taken by Level B harassment, based upon reports in the literature as well as monitoring from other similar activities, may include increased swimming speeds, increased surfacing time, or decreased foraging (*e.g.,* Thorson and Reyff, 2006; NAVFAC SW, 2018b). Individual animals, even if taken multiple times, will likely move away from the sound source and be temporarily displaced from the area due to elevated noise level during pile removal. Marine mammals could also experience TTS if they move into the Level B monitoring zone. TTS is a temporary loss of hearing sensitivity when exposed to loud sound, and the hearing threshold is expected to recover completely within minutes to hours. Thus, it is not considered an injury. While TTS could occur, it is not considered a likely outcome of this activity. Repeated exposures of individuals to levels of sounds that could cause Level B harassment are unlikely to considerably significantly disrupt foraging behavior or result in significant decrease in fitness, reproduction, or survival for the affected individuals. In all, there would be no adverse impacts to the stock as a whole.

The proposed project is not expected to have significant adverse effects on marine mammal habitat. There are no Biologically Important Areas or ESA-designated critical habitat within the project area, and the proposed activities would not permanently modify existing marine mammal habitat. The activities may cause fish to leave the area temporarily. This could impact marine mammals' foraging opportunities in a limited portion of the foraging range, however, due to the short duration of activities and the relatively small area of affected habitat, the impacts to marine mammal habitat are not expected to cause significant or long-term negative consequences.

In combination, we believe that these factors, as well as the available body of evidence from other similar activities, demonstrate that the potential effects of the specified activities would have only minor, short-term effects on individuals. The specified activities are not expected to impact reproduction or survival of any individual marine mammals, much less affect rates of recruitment or survival and would therefore not result in population-level impacts.

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

- No serious injury or mortality or Level A harassment is anticipated or authorized;
- The specified activity and associated ensonified areas are very small relative to the overall habitat ranges of all species;
- Biologically important areas or critical habitat have not been identified within the project area;
- The lack of anticipated significant or long-term effects to marine mammal habitat;
- The Navy is required to implement mitigation measures to minimize impacts, such as PSO observation and shutdown zones of 20 m (66 ft); and,
- Monitoring reports from similar work in San Diego Bay have documented little to no effect on individuals of the same species impacted by the specified activities.

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

Small Numbers

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

The amount of take NMFS proposes to authorize is below one-third of the estimated stock abundances for all seven species (refer back to Table 9). For most requested species, the proposed take of individuals is less than 1 percent of the abundance of the affected stock (with exception for bottlenose dolphins at 7.1 percent). This is likely a conservative estimate because it assumes all takes are of different individual animals, which is likely not the case. Some individuals may return multiple times in a day, but PSOs would count them as separate takes if they cannot be individually identified.

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

Unmitigable Adverse Impact Analysis and Determination

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

Endangered Species Act

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 whenever we propose to authorize take for endangered or threatened species.

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

Proposed Authorization

As a result of these preliminary determinations, NMFS proposes to issue an IHA to the U.S. Navy for conducting the NBPL Pier 302 Replacement Project in San Diego Bay from October 1, 2023 through September 30, 2024, provided the previously mentioned mitigation, monitoring, and reporting requirements are incorporated. A draft of the proposed IHA can be found at: *https://www.fisheries.noaa.gov/national/marine-mammal-protection/incidental-take-authorizations-construction-activities.*

Request for Public Comments

We request comment on our analyses, the proposed authorization, and any other aspect of this notice of proposed IHA for the proposed construction activities. We also request comment on the potential renewal of this proposed IHA as described in the paragraph below. Please include with your comments any supporting data or literature citations to help inform decisions on the request for this IHA or a subsequent renewal IHA.

On a case-by-case basis, NMFS may issue a one-time, 1-year renewal IHA following notice to the public providing an additional 15 days for public comments when (1) up to another year of identical or nearly identical activities as described in the Description of Proposed Activities section of this notice is planned or (2) the activities as described in the Description of Proposed Activities section of this notice would not be completed by the time the IHA expires and a renewal would allow for completion of the activities beyond that described in the *Dates and Duration* section of this notice, provided all of the following conditions are met:

- A request for renewal is received no later than 60 days prior to the needed renewal IHA effective date (recognizing that the renewal IHA expiration date cannot extend beyond one year from expiration of the initial IHA).
- The request for renewal must include the following:

(1) An explanation that the activities to be conducted under the requested renewal IHA are identical to the activities analyzed under the initial IHA, are a subset of the activities, or include changes so minor (*e.g.,* reduction in pile size) that the changes do not affect the previous analyses, mitigation and monitoring requirements, or take estimates (with the exception of reducing the type or amount of take); and

(2) A preliminary monitoring report showing the results of the required monitoring to date and an explanation showing that the monitoring results do not indicate impacts of a scale or nature not previously analyzed or authorized.

Upon review of the request for renewal, the status of the affected species or stocks, and any other pertinent information, NMFS determines that there are no more than minor changes in the activities, the mitigation and monitoring measures will remain the same and appropriate, and the findings in the initial IHA remain valid.

Dated: November 9, 2022.

Catherine Marzin,

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

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DEPARTMENT OF COMMERCE

National Oceanic and Atmospheric Administration

[RTID 0648–XC542]

Gulf of Mexico Fishery Management Council; Public Meeting

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

ACTION: Notice of a public meeting.

SUMMARY: The Gulf of Mexico Fishery Management Council will hold a meeting of its Individual Fishing Quota (IFQ) Focus Group. The meeting is open to the public. There will be a virtual option for the public to listen to the plenary sessions and provide public comments at the end of day 2.

DATES: The meeting will convene on November 30, 2022, from 9 a.m. to 5 p.m. and December 1, 2022, from 9 a.m. to 4 p.m., EST.

ADDRESSES: The meeting will take place at the Gulf Council office. Please visit the Gulf Council website at *www.gulfcouncil.org* for meeting materials.

Council address: Gulf of Mexico Fishery Management Council, 4107 W. Spruce Street, Suite 200, Tampa, FL 33607; telephone: (813) 348–1630.

FOR FURTHER INFORMATION CONTACT: Dr. Ava Lasseter, Anthropologist, Gulf of Mexico Fishery Management Council; *ava.lasseter@gulfcouncil.org,* telephone: (813) 348–1630.

SUPPLEMENTARY INFORMATION:

Charge: To provide a detailed plan for the following:

- Review the current IFQ programs' goals and objectives and recommend their replacement/retention. These revised goals and objectives shall serve as the basis for the Focus Group recommendations.
- Define the changes needed for an improved Red Snapper and Grouper-Tilefish IFQ Program to specifically address minimizing discards, fairness and equity, and new entrants' issues.
- The Council is considering changes to assist new entrants (*i.e.,* replacement fishermen) to the IFQ programs.
  - What could such program changes look like and what would be the implications of those changes?
  - Evaluate the benefits and drawbacks to get to active fishermen who own no shares:

1. Increases in annual allocation (not shares), and
2. Allocation held by the agency in non-active accounts.