determining an ACO's eligibility to receive advance investment payments according to § 425.630.

(5) Calculation or recalculation of the amount of the ACO's repayment mechanism arrangement according to § 425.204(f)(4).

(d) *Period of adjustment.* CMS adjusts the Shared Savings Program calculations specified in paragraph (c) of this section for significant, anomalous, and highly suspect billing activity identified pursuant to paragraph (b) of this section for calendar year 2023, when calendar year 2023 is either a performance year or a benchmark year.

(e) *Adjustments for growth rates used in calculating the ACPT.* In addition to adjustments described in paragraph (c) of this section, CMS makes adjustments for payments associated with a HCPCS code specified in paragraph (b) of this section for BY3 in projecting per capita growth in Parts A and B fee-for-service expenditures, according to § 425.660(b)(1), for purposes of calculating the ACPT for agreement periods beginning on January 1, 2024.

Xavier Becerra,

Secretary, Department of Health and Human Services.

[FR Doc. 2024–14601 Filed 6–28–24; 4:15 pm]

BILLING CODE 4120–01–P

FEDERAL COMMUNICATIONS COMMISSION

47 CFR Part 4

[PS Docket Nos. 21–346, 15–80; ET Docket No. 04–35; FCC 24–5; FR ID 225803]

Petition for Reconsideration of Action in a Rulemaking Proceeding; Correction

AGENCY: Federal Communications Commission.

ACTION: Petition for reconsideration; correction.

SUMMARY: The Federal Communications Commission published a document in the **Federal Register** on June 7, 2024, containing the oppositions and replies to oppositions dates for a petition for reconsideration. While the date for oppositions was correct, the date for replies to oppositions requires a correction.

DATES: July 3, 2024.

FOR FURTHER INFORMATION CONTACT: Logan Bennett, Attorney Advisor, 202–418–7790.

SUPPLEMENTARY INFORMATION:

Federal Register Correction

In proposed rule FR document 2024–12472 beginning on page 48540 in the issue of June 7, 2024, make the following correction in the **DATES** section. On page 48540, in the second column, the second sentence of the **DATES** section is corrected to read as follows:

''Replies to oppositions to the Petition must be filed July 5, 2024.''

Dated: June 11, 2024.

Federal Communications Commission.

Marlene Dortch,

Secretary.

[FR Doc. 2024–13404 Filed 7–2–24; 8:45 am]

BILLING CODE 6712–01–P

DEPARTMENT OF COMMERCE

National Oceanic and Atmospheric Administration

50 CFR Part 217

[Docket No. 240621–0172]

RIN 0648–BM74

Takes of Marine Mammals Incidental to Specified Activities; Taking Marine Mammals Incidental to U.S. Navy Repair and Replacement of the Q8 Bulkhead at Naval Station Norfolk

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

ACTION: Proposed rule, request for comment.

SUMMARY: NMFS has received a request from the U.S. Navy (Navy) for authorization to take marine mammals incidental to the Q8 Bulkhead repair and replacement project at Naval Station (NAVSTA) Norfolk in Norfolk, Virginia over the course of 5-years (*i.e.,* 2025–2029) (the Project). Pursuant to the Marine Mammal Protection Act (MMPA), NMFS is proposing regulations to govern that take, and requests comments on the proposed regulations. Agency responses will be included in the notice of the final decision.

DATES: Comments and information must be received no later than August 2, 2024.

ADDRESSES: A copy of the Navy's application and any supporting documents, as well as a list of the references cited in this document, may be obtained online at: *https://www.fisheries.noaa.gov/action/incidental-take-authorization-us-navys-construction-activities-q8-bulkhead-naval-station.*

In case of problems accessing these documents, please call the contact listed below (see **FOR FURTHER INFORMATION CONTACT**).

Submit all electronic public comments via the Federal e-Rulemaking Portal. Go to *https://www.regulations.gov* and enter NOAA–NMFS–2024–0055 in the Search box. Click on the ''Comment'' icon, complete the required fields, and enter or attach your comments.

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

FOR FURTHER INFORMATION CONTACT: Craig Cockrell, Office of Protected Resources, NMFS, (301) 427–8401 or *craig.cockrell@noaa.gov.*

SUPPLEMENTARY INFORMATION:

Purpose and Need for Regulatory Action

This proposed rule would establish a framework under the authority of the MMPA (16 U.S.C. 1361 *et seq.*) to allow for the authorization of take of marine mammals incidental to the Navy's construction activities including pile driving at NAVSTA Norfolk.

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

Legal Authority for the Proposed Action

Section 101(a)(5)(A) of the MMPA (16 U.S.C. 1371(a)(5)(A)) directs the Secretary of Commerce to allow, upon request, the incidental, but not intentional, taking of small numbers of marine mammals by U.S. citizens who engage in a specified activity (other than commercial fishing) within a specified geographical region for up to 5-years if,

after notice and public comment, the agency makes certain findings and issues regulations that set forth permissible methods of taking pursuant to that activity and other means of effecting the ''least practicable adverse impact'' on the affected species or stocks and their habitat (see the discussion below in the Proposed Mitigation section), as well as monitoring and reporting requirements. Section 101(a)(5)(A) of the MMPA, and the implementing regulations at 50 CFR part 216 subpart I, provide the legal basis for issuing this proposed rule containing 5-year regulations, and for any subsequent letters of authorization (LOAs). As directed by this legal authority, this proposed rule contains mitigation, monitoring, and reporting requirements.

Summary of Major Provisions Within the Proposed Rule

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

- Required monitoring of the construction areas to detect the presence of marine mammals before beginning construction activities;
- Shutdown of construction activities under certain circumstances to avoid injury of marine mammals; and
- Soft start for impact pile driving to allow marine mammals the opportunity to leave the area prior to beginning impact pile driving at full power.

Background

The MMPA prohibits the ''take'' of marine mammals, with certain exceptions Section 101(a). 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 (Section 101 (5)(A)(i)(II)(aa)). 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 regulations) with respect to potential impacts on the human environment.

This action is consistent with categories of activities identified in Categorical Exclusion B4 (*i.e.,* incidental harassment authorizations (IHAs) with no anticipated serious injury or mortality) of the Companion Manual for NAO 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 regulations and LOA 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 final regulations and the final LOA.

Summary of Request

On September 14, 2024, NMFS received a request from the Navy for authorization to take marine mammals incidental to repair and replacement of the Q8 Bulkhead at NAVSTA Norfolk in Norfolk, VA. Following NMFS' review of the application, the Navy submitted a revised version on December 18, 2024 and after review of that application a second revised version was submitted on January 16, 2024. The application was deemed adequate and complete on February 23, 2024. A notice of receipt of the Navy's application was published in the **Federal Register** on March 14, 2024 (89 FR 18605). No comments were received on the application during the 30-day comment period. Navy's request is for the take of four species by Level B harassment only. Neither Navy nor NMFS expect serious injury or mortality to result from this activity. The proposed regulations would be valid for 5 years (2025–2029).

Description of Proposed Activity

Overview

The Navy proposes to repair and replace the Q8 bulkhead at NAVSTA Norfolk, originally constructed in 1957, that has failed in multiple locations, creating sinkholes and unsafe conditions. Work on the bulkhead would be conducted from Piers 12 and 14 to restore function of this Navy dock system. Vibratory and impact hammers would be used for pile removal and installation. Sounds produced from these pile removal and installation activities may result in the incidental take of marine mammals by Level B harassment in the form of behavioral harassment. The Q8 bulkhead consists of an approximately 2,583 feet (ft) (787.30 meters (m) long anchored concrete sheet pile wall, beginning 400-ft (121.92 m) south of Pier 12 and terminating 1,024 ft (312.12 m) north of Pier 14 (the Project Area). The Project would occur at NAVSTA Norfolk in Norfolk, Virginia near the mouth of the James River. Work would be conducted over 212 non-consecutive days to complete the proposed pile removal and installation activities.

Dates and Duration

The proposed regulations would be valid for a period of 5 years (2025–2029). The specified activities may occur at any time during the 5-year period of validity of the proposed regulations. The Navy expects pile removal and driving activities for the entire Project to occur during approximately 212 non-consecutive days over three phases each of which would take a year to complete, with the greatest amount of work occurring during Phase III (year 3) (approximately 204 days). However, in the event of unforeseen delays, the Project may occur over the full 5-year duration of this proposed rule. The Navy plans to conduct all work during daylight hours.

Specific Geographic Region

The Q8 bulkhead at NAVSTA Norfolk is located at the confluence of the Elizabeth River, James River, Nansemond River, LaFeyette River, Willoughby Bay, and Chesapeake Bay (figure 1). The water depth of the proposed action area can vary from six ft (1.83 m) to 50 ft (15.24 m) when measured at mean low water. The station is home to 59 ships (including five aircraft carriers), 187 aircraft, 18

aircraft squadrons, and 326 tenant commands. Waterfront structures include 13 large piers, numerous small piers, and bulkheads.

Anthropogenic sound is a significant contributor to the ambient acoustic environment surrounding NAVSTA Norfolk, as it is located in close proximity to shipping channels as well as several Port of Virginia facilities with frequent vessel traffic that altogether have an annual average of 1,788 vessel calls (Port of Virginia, 2021). Other sources of human-generated underwater sound not specific to naval installations include sounds from commercial and recreational vessel traffic. Additionally, on average, maintenance dredging of the navigation channel occurs every 2-years (USACE and Port of Virginia, 2018).

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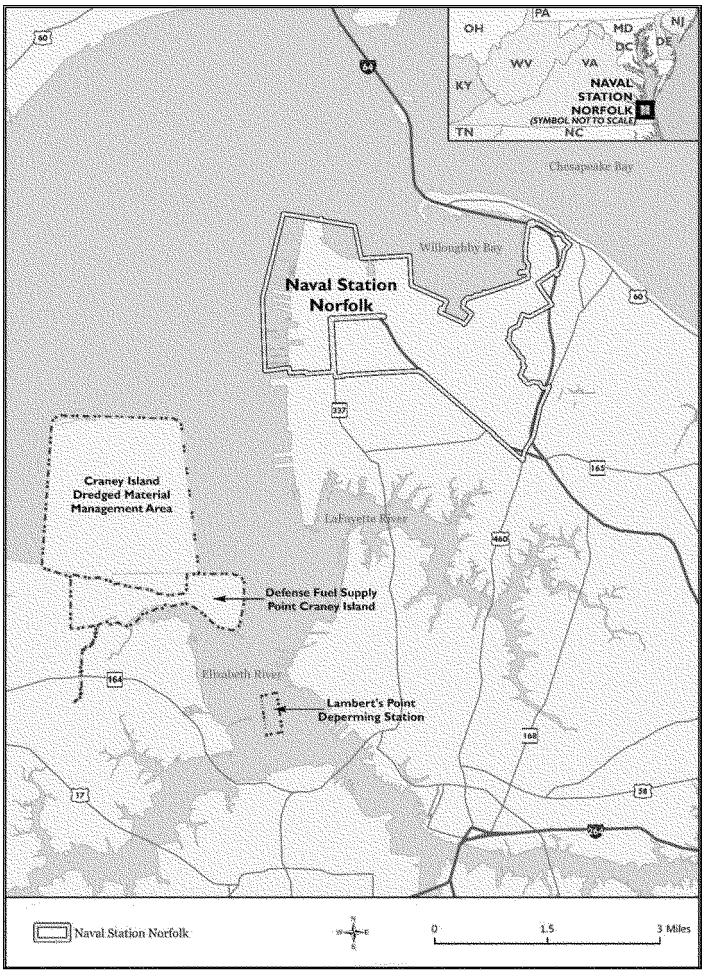

Figure 1. Site Location Map for NAVSTA Norfolk

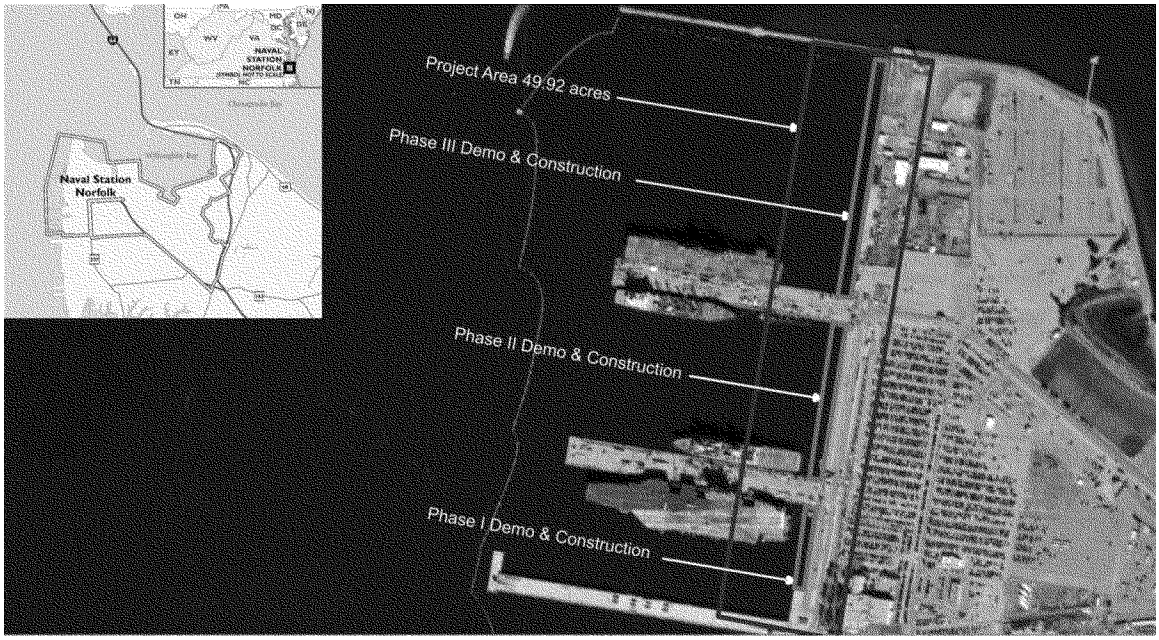

Figure 2. Location of the Q8 Bulkhead at NAVSTA Norfolk

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Detailed Description of the Specified Activity

The proposed Project at NAVSTA Norfolk would involve the repair and replacement of the Q8 bulkhead. Excavation of the shoreside portion existing bulkhead would occur to expose the existing concrete relieving platform for inspection, to facilitate removal and replacement of existing stormwater outfall pipes and catch basins, and to accommodate installation of a new tie-back rod system. Once the replacement of the stormwater outfall pipes and catch basins are completed the pile removal and installation activities would begin in three phases. The new sheet piles would be installed outboard of the existing sheet pile wall and concrete and composite fender piles would be installed incrementally along the span of the bulkhead. Pile removal and installation activities over the three phases are presented below in table 1. Once construction is complete the previously excavated fill material would be placed in a similar location to allow for repaving of the shoreward area of the bulkhead. In-water construction activities, include pile removal and installation and are described in detail below:

Pile Removal—Vibratory hammers are expected to be used to remove piles; however, a direct pull method or clamshell device may be used to remove piles. These three pile removal methods are described below. Take is not expected to occur for direct pull and clamshell removal methods; therefore, they will not be described past what is provided below nor included in the analysis presented in this rulemaking:

- Vibratory Extraction—This method uses a barge-mounted crane with a vibratory driver to remove all pile types. The vibratory driver is a large mechanical device (5–16 tons) suspended from a crane by a cable and positioned on top of a pile. The pile is then loosened from the sediments by activating the driver and slowly lifting up on the driver with the aid of the crane. Once the pile is released from the sediments, the crane continues to raise the driver and pull the pile from the sediment. The driver is typically shut off once the pile is loosened from the sediments. The pile is then pulled from the water and placed on a barge. Vibratory extraction usually takes between less than one minute (for timber piles) to 30 minutes per pile depending on the pile size, type, and substrate conditions;
- Clamshell—In cases where use of a vibratory driver is not possible (*e.g.,* when the pile may break apart from clamp force and vibration), a clamshell apparatus may be lowered from the crane in order to remove pile stubs. A clamshell is a hinged steel apparatus that operates similar to a set of steel jaws. The bucket is lowered from a crane and the jaws grasp the pile stub as the crane pulls upward. The use and size of the clamshell bucket would be minimized to reduce the potential for generating turbidity during removal; and
- Direct Pull—Piles may be removed by wrapping the piles with a cable or chain and pulling them directly from the sediment with a crane. In some cases, depending on access and location, piles may be cut at or below the mudline.

Pile Installation—Pile installation would occur using both vibratory and impact hammers. Vibratory hammers install piles by vibrating them and allowing the weight of the hammer to push them into the sediment. Impact hammers operate by repeatedly dropping a heavy piston onto a pile to drive the pile into the substrate. Concrete piles and composite piles would be installed using an impact or vibratory hammer. Steel sheet piles would be installed only using a vibratory hammer.

Table 1 provides the estimated construction schedule and production rates for the proposed construction activities considered for this proposed rulemaking beginning with Phase I. Each phase of the construction would occur over a 1-year period for a total of 3-years. Some Project elements will use only one method of pile installation while others may use two methods (*e.g.,* impact hammer or vibratory hammer and impact hammer), but all pile driving methods have been analyzed. The method of installation will be determined by the construction crew

once demolition and installation has begun.

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Table 1 -- Preliminary Construction Schedule for In-Water Activities

Phase (Year)	Method of pile driving/removal	Pile size/type	Total number of piles	Daily rate (piles/day)	Total days	Total days in phase
Phase I (Year 1)	Vibratory removal	18-in Pre-stressed concrete piles	139	6	24	74
	Vibratory install	56-in. steel sheet piles	183	6	31	
	Impact install	18-in Pre-stressed concrete piles	109	6	19	
Phase II (Year 2)	Vibratory removal	18-in Pre-stressed concrete piles	61	6	11	37
	Vibratory install	56-in. steel sheet piles	81	6	15	
	Impact install	18-in Pre-stressed concrete piles	49	6	11	
Phase III (Year 3)	Vibratory removal	16-in. Composite piles	178	6	30	101
	Vibratory install	56-in. steel sheet piles	283	6	48	
	Impact install	16-in. Composite piles	105	6	18	
	Impact install	18-in Pre-stressed concrete piles	26	6	5	

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Concurrent Activities—In order to maintain Project schedules, it is likely that multiple pieces of equipment would operate at the same time within the Project Area. Table 2 provides a summary of the possible equipment combinations by phase where a maximum of four pieces of in-water equipment may be occurring simultaneously. As mentioned above, the method of installation, and whether concurrent pile driving scenarios will be implemented, will be determined by the construction crew once the Project has begun. Therefore, the total take estimate reflects the highest amount for a given activity during the proposed Project.

Table 2 -- Summary of Possible Concurrent Pile Driving/Removal Equipment

Project phase	Equipment types	Total equipment operating
Phase I	Vibratory hammer (install and removal) and impact hammer	3
Phase II	Vibratory hammer (install and removal) and impact hammer	3
Phase III	Two Vibratory hammer (install and removal) and two impact hammers	4

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

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, instead of reprinting the information. Additional information regarding population trends and threats may be found in NMFS' Stock Assessment Reports (SARs; *https://www.fisheries.noaa.gov/national/marine-mammal-protection/marine-mammal-stock-assessments*) and more general information about these species (*e.g.,* physical and behavioral descriptions) may be found on NMFS' website at: *https://www.fisheries.noaa.gov/find-species.*

Table 3 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) (Section 3 (19)(A). While no serious injury or mortality is anticipated or proposed to be authorized here, PBR and annual serious injury and mortality from anthropogenic sources are included here as gross indicators of the status of the species or stocks and other threats.

Marine mammal abundance estimates presented in this document represent the total number of individuals that make up a given stock or the total number estimated within a particular study or survey area. NMFS' stock abundance estimates for most species represent the total estimate of individuals within the geographic area, if known, that comprises that stock. For some species, this geographic area may extend beyond U.S. waters. All managed stocks in this region are assessed in NMFS' U.S. Atlantic SARs. All values presented in table 3 are the most recent available at the time of publication (including from the draft 2023 SARs) and are available online at: *https://www.fisheries.noaa.gov/national/marine-mammal-protection/marine-mammal-stock-assessments.*

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Table 3 -- Species Likely Impacted by the Specified Activities[1]

Common name	Scientific name	Stock	ESA/MMPA status; Strategic (Y/N)[2]	Stock abundance (CV, N_{min}, most recent abundance survey)[3]	PBR	Annual M/SI[4]
Order Artiodactyla – Infraorder Cetacea – Mysticeti (baleen whales)						
Family Balaenopteridae (rorquals)						
Humpback whale	*Megaptera novaeangliae*	Gulf of Maine	-,-, N	1,396 (0, 1380, 2016)	22	12.15
Odontoceti (toothed whales, dolphins, and porpoises)						
Family Physeteridae						
Bottlenose dolphin	*Tursiops truncatus*	Northern Migratory Coastal	-, -, Y	6,639 (0.41, 4,759, 2016)	48	12.2-21.5
		Southern Migratory Coastal	-, -, Y	3,751 (0.6, 2,353, 2016)	24	0-18.3
		Northern NC Estuarine	-, -, N	823 (0.06, 782, 2017)	7.8	7.2- 30
Family Phocoenidae (porpoises)						
Harbor porpoise	*Phocoena phocoena*	Gulf of Maine/ Bay of Fundy	-, -, N	85,765 (0.53, 56,420, 2021)	649	145
Order Carnivora – Pinnipedia						
Family Phocidae (earless seals)						
Harbor Seal	*Phoca vitulina*	Western North Atlantic	-, -, N	61,336 (0.08, 57,637, 2018)	1,729	339

*1-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://www.marinemammalscience.org/science-and-publications/list-marine-mammal-species-subspecies/*).*

2 - 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.

3 - NMFS marine mammal stock assessment reports online at: https://www.fisheries.noaa.gov/national/marine-mammal-protection/marine-mammal-stock-assessment-reports/. *CV is coefficient of variation; Nmin is the minimum estimate of stock abundance. In some cases, CV is not applicable.*

4 - 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, vessel strike). Annual M/SI often cannot be determined precisely and is in some cases presented as a minimum value or range.

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As indicated above, all four species (with six managed stocks) in table 3 temporally and spatially co-occur with the activity to the degree that take is reasonably likely to occur. All species that could potentially occur in the proposed action area are included in table 3–1 of the IHA application. While

gray seals (*Halichoerus grypus*) have been documented in the area, the temporal and/or spatial occurrence of the species is such that take is not expected to occur, and it is not discussed further beyond the explanation provided here.

Surveys conducted in the lower Chesapeake Bay have observed gray seals regularly near the mouth of the Bay (Rees *et al.,* 2016; Jones *et al.* 2018; Jones & Rees, 2020, 2021, 2022). Although gray seals are present at the mouth of the Chesapeake Bay NMFS reviewed monitoring reports from the Hampton Roads Bridge-Tunnel Expansion Project IHA (85 FR 48153, August 10, 2020) and the Navy Pier 3 IHA (87 FR 15945, March 21, 2022) and there were no gray seals observed during either of those projects (Hampton Roads Connector Partners 2023; W.F. Magann Corporation 2023). Therefore, take is not expected for these species and they are not discussed further in this document.

Humpback Whale

In the winter months, humpback whales from waters off New England, Canada, Greenland, Iceland, and Norway, migrate to mate and calve primarily in the West Indies, where spatial and genetic mixing among these groups occurs. NMFS defines a humpback whale stock on the basis of feeding location (*i.e.,* Gulf of Maine). However, our reference to humpback whales in this document refers to any individual of the species that are found in the species geographic region. These individuals may be from the same breeding population (*e.g.,* West Indies breeding population of humpback whales) but visit different feeding areas.

Prior to 2016, humpback whales were listed under the ESA as an endangered species worldwide. Following a 2015 global status review (Bettridge *et al.,* 2015), NMFS established 14 Distinct Population Segments (DPSs) with different listing statuses (81 FR 62259, September 8, 2016) pursuant to the ESA. Humpback whales in the Project Area are expected to be from the West Indies DPS, which consists of the whales whose breeding range includes the Atlantic margin of the Antilles from Cuba to northern Venezuela, and whose feeding range primarily includes the Gulf of Maine, eastern Canada, and western Greenland. This DPS is not ESA listed. Bettridge *et al.,* (2003) estimated the size of the West Indies DPS at 12,312 (95 percent confidence interval 8,688–15,954) whales in 2004–05, which is consistent with previous population estimates of approximately 10,000–11,000 whales (Stevick *et al.,* 2003; Smith *et al.,* 1999) and the increasing trend for the West Indies DPS (Bettridge *et al.,* 2015).

Since January 2016, elevated humpback whale mortalities have occurred along the Atlantic coast from Maine through Florida. This event was declared an unusual mortality event (UME) in 2017. A portion of the whales have shown evidence of pre-mortem vessel strike; however, this finding is not consistent across all whales examined, and additional research is needed. Since May 3, 2024, 221 Atlantic humpback whales have been subject to the active UME. Additional information is available at: *https://www.fisheries.noaa.gov/national/marine-life-distress/2016-2024-humpback-whale-unusual-mortality-event-along-atlantic-coast.*

Humpback whales are most likely to occur near the mouth of the Chesapeake Bay and coastal waters of Virginia Beach between January and March; however, they could be found in the area year-round, based on shipboard sighting and stranding data (Barco and Swingle, 2014; Aschettino *et al.,* 2015; 2016; 2017; 2018). Photo-identification data support the repeated use of the mid-Atlantic region by individual humpback whales. Results of the vessel surveys show site fidelity in the survey area for some individuals and a high level of occurrence within shipping channels—an important high-use area by both the Navy and commercial traffic (Aschettino *et al.,* 2015; 2016; 2017; 2018). Nearshore surveys conducted in early 2015 reported 61 individual humpback whale sightings, and 135 individual humpback whale sightings in late 2015 through May 2016 (Aschettino *et al.,* 2016). Subsequent surveys confirmed the occurrence of humpback whales in the nearshore survey area: 248 individuals were detected in 2016–2017 surveys (Aschettino *et al., 2017*), 32 individuals were detected in 2017–2018 surveys (Aschettino *et al.,* 2018), and 80 individuals were detected in 2019 surveys (Aschettino *et al.,* 2019). Sightings in the Hampton Roads area in the vicinity of NAVSTA Norfolk were reported in nearshore surveys and through tracking of satellite-tagged whales in 2016, 2017 and 2019. The numbers of whales detected, most of which were juveniles, reflect the varying level of survey effort and changes in survey objectives from year to year, and do not indicate abundance trends over time. Recent monitoring reports from the Hampton Roads Bridge-Tunnel Expansion Project and the Pier 3 Navy Construction Project did not observe any humpback whales near the project sites. Monitoring for the Hampton Roads Bridge-Tunnel Expansion Project spanned from September 2020 through July 2021 (over a 197-day period) and monitoring for the Pier 3 Navy Construction Project spanned from August 2022 to December 2022 (*i.e.,* over a 45-day period) (Hampton Roads Connector Partners 2023; W.F. Magann Corporation 2023).

Bottlenose Dolphin

Along the U.S. East Coast and northern Gulf of Mexico, the bottlenose dolphin stock structure is well studied. There are currently 54 management stocks identified by NMFS in the western North Atlantic and Gulf of Mexico, including oceanic, coastal, and estuarine stocks (Hayes *et al.,* 2017; Waring *et al.,* 2015, 2016).

Bottlenose dolphins inhabiting nearshore coastal and estuarine waters between New York and Florida may be a separate species from their offshore counterparts (Costa *et al.,* 2022). The offshore form is larger in total length and skull length and has wider nasal bones than the coastal form. Both inhabit waters in the western North Atlantic Ocean and Gulf of Mexico (Curry and Smith, 1997; Hersh and Duffield, 1990; Mead and Potter, 1995) along the U.S. Atlantic coast. The coastal species of bottlenose dolphin is continuously distributed along the Atlantic coast south of Long Island, New York, around the Florida peninsula, and along the Gulf of Mexico coast. This type typically occurs in waters less than 25 meters deep (Waring *et al.,* 2015). The range of the offshore bottlenose dolphin includes waters beyond the continental slope (Kenney, 1990), and offshore bottlenose dolphins may move between the Gulf of Mexico and the Atlantic (Wells *et al.,* 1999).

Two coastal stocks are likely to be present in the Project Area: (1) the Western North Atlantic Northern Migratory Coastal stock; and (2) the Western North Atlantic Southern Migratory Coastal stock. Additionally, the Northern North Carolina Estuarine System stock may occur in the Project Area.

Bottlenose dolphins are the most abundant marine mammal along the Virginia coast and within the Chesapeake Bay, typically traveling in groups of 2–15 individuals, but occasionally in groups of over 100 individuals (Engelhaupt *et al.,* 2014; 2015; 2016). Bottlenose dolphins of the Western North Atlantic Northern Migratory Coastal stock winter along the coast of North Carolina and migrate as far north as Long Island, New York, in the summer. They are rarely found north of North Carolina in the winter (NMFS, 2018). The Western North

Atlantic Southern Migratory Coastal stock occurs in waters of southern North Carolina from October to December, moving south during winter months and north to North Carolina during spring months. During July and August, the Western North Atlantic Southern Migratory Coastal stock is presumed to occupy coastal waters north of Cape Lookout, North Carolina, to the eastern shore of Virginia (NMFS, 2018). It is possible that these animals also occur inside the Chesapeake Bay and in nearshore coastal waters. The North Carolina Estuarine System stock dolphins may also occur in the Chesapeake Bay during July and August (NMFS, 2018).

Vessel surveys conducted along coastal and offshore transects from NAVSTA Norfolk to Virginia Beach in most months from August 2012 to August 2015 reported bottlenose dolphins throughout the survey area, including the vicinity of NAVSTA Norfolk (Engelhaupt *et al.,* 2014; 2015; 2016). The final results from this project confirmed earlier findings that bottlenose dolphins are common in the study area, with highest densities in the coastal waters in summer and fall months. However, bottlenose dolphins do not completely leave this area during colder months, with approximately 200–300 individuals still present in winter and spring months, which is commonly referred to as the Chesapeake Bay resident dolphin population (Engelhaupt *et al.,* 2016). During monitoring of Pier 3 Navy Construction Project, 18 bottlenose dolphins were observed over 45 days of construction (W.F. Magann Corporation 2023). Over the 197 days of construction a total of 94 bottlenose dolphins were observed during the Hampton Roads Bridge-Tunnel Expansion Project (Hampton Roads Connector Partners 2023). For both projects bottlenose dolphins were the only marine mammal observed while conducting monitoring activities.

Harbor Porpoise

Harbor porpoises inhabit cool temperate-to-subpolar waters, often where prey aggregations are concentrated (Watts and Gaskin, 1985). Thus, they are frequently found in shallow waters, most often near shore, but they sometimes move into deeper offshore waters. Harbor porpoises are rarely found in waters warmer than 63 degrees Fahrenheit (17 degrees Celsius) (Read 1999) and closely follow the movements of their primary prey, Atlantic herring (Gaskin 1992).

In the western North Atlantic, harbor porpoise range from Cumberland Sound on the east coast of Baffin Island, southeast along the eastern coast of Labrador to Newfoundland and the Gulf of St. Lawrence, then southwest to about 34 degrees North on the coast of North Carolina (Waring *et al.,* 2016). During winter (January to March), intermediate densities of harbor porpoises can be found in waters off New Jersey to North Carolina, and lower densities are found in waters off New York to New Brunswick, Canada (Waring *et al.,* 2016). Harbor porpoises sighted off the mid-Atlantic during winter include porpoises from other western North Atlantic populations (Rosel *et al.,* 1999). There does not appear to be a temporally coordinated migration or a specific migratory route to and from the Bay of Fundy region (Waring *et al.,* 2016). During the fall (October to December) and the spring (April to June), harbor porpoises are widely dispersed from New Jersey to Maine, with lower densities farther north and south (LaBrecque *et al.,* 2015).

Based on stranding reports, passive acoustic recorders, and shipboard surveys, harbor porpoise occur in coastal waters primarily in winter and spring months, but there is little information on their presence in the Chesapeake Bay. They do not appear to be abundant in the NAVSTA Norfolk area in most years, but this is confounded by wide variations in stranding occurrences over the past decade. There were no harbor porpoise observed during construction activities for the Pier 3 Navy Construction Project or the Hampton Roads Bridge-Tunnel Expansion Project (Hampton Roads Connector Partners 2023; W.F. Magann Corporation 2023).

Harbor Seal

The Western North Atlantic stock of harbor seals occurs in the Project Area. Harbor seal distribution along the U.S. Atlantic coast has shifted in recent years, with an increased number of seals reported from southern New England to the mid-Atlantic region (DiGiovanni *et al.,* 2011; Hayes *et al.,* 2021). Regular sightings of seals in Virginia have become a common occurrence in winter and early spring (Costidis *et al.,* 2019). Winter haulout sites for harbor seals have been documented in the Chesapeake Bay at the Chesapeake Bay Bridge Tunnel (CBBT), on the Virginia Eastern Shore, and near Oregon Inlet, North Carolina (Waring *et al.,* 2016; Rees *et al.,* 2016; Jones *et al.,* 2018).

Harbor seals regularly haul out on rocks around the portal islands of the CBBT and on mud flats on the nearby southern tip of the Eastern Shore from December through April (Rees *et al.,* 2016; Jones *et al.,* 2018). Seals captured in 2018 on the Eastern Shore and tagged with satellite-tracked tags that lasted from 2 to 5 months spent at least 60 days in Virginia waters before departing the area. All tagged seals returned regularly to the capture site while in Virginia waters, but individuals utilized offshore and Chesapeake Bay waters to different extents (Ampela *et al.,* 2019). The area that was utilized most heavily was near the Eastern Shore capture site, but some seals ranged into the Chesapeake Bay. To supplement this information, there were no harbor seals observed during construction activities for the Pier 3 Navy Construction Project or the Hampton Roads Bridge-Tunnel Expansion Project (Hampton Roads Connector Partners 2023; W.F. Magann Corporation 2023).

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 4.

Table 4 -- Marine Mammal Hearing Groups (NMFS, 2018)

Hearing Group	Generalized Hearing Range*
Low-frequency (LF) cetaceans (baleen whales)	7 Hz to 35 kHz
Mid-frequency (MF) cetaceans (dolphins, toothed whales, beaked whales, bottlenose whales)	150 Hz to 160 kHz
High-frequency (HF) cetaceans (true porpoises, *Kogia*, river dolphins, Cephalorhynchid, *Lagenorhynchus cruciger* & *L. australis*)	275 Hz to 160 kHz
Phocid pinnipeds (PW) (underwater) (true seals)	50 Hz to 86 kHz
Otariid pinnipeds (OW) (underwater) (sea lions and fur seals)	60 Hz to 39 kHz
* Represents the generalized hearing range for the entire group as a composite (*i.e.,* all species within the group), where individual species' hearing ranges are typically not as broad. Generalized hearing range chosen based on ~65 dB threshold from normalized composite audiogram, with the exception for lower limits for LF cetaceans (Southall *et al.* 2007) and PW pinniped (approximation).	

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

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

Potential Effects of Specified Activities on Marine Mammals and Their Habitat

This section provides a discussion of the ways in which components of the specified activity may impact marine mammals and their habitat. The Estimated Take of Marine Mammals 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 of Marine Mammals 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.

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. 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 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 activity 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 vibratory pile driving and removal and impact pile driving. The sounds produced by these activities fall into one of two general sound types: (1) impulsive; and (2) non-impulsive. Impulsive sounds (*e.g.,* explosions, gunshots, sonic booms, impact pile driving) are typically transient, brief (*i.e.,* less than 1 second), broadband, and consist of high peak sound pressure with rapid rise time and rapid decay (ANSI 1986; NIOSH 1998; ANSI 2005; NMFS 2018). Non-impulsive sounds (*e.g.,* aircraft, machinery operations such as drilling or dredging, vibratory pile driving, and active sonar systems) can be broadband, narrowband or tonal, brief or prolonged (continuous or intermittent), and typically do not have the high peak sound pressure with raid rise/decay time that impulsive sounds do (ANSI 1995; NIOSH 1998; NMFS 2018). The distinction between these two sound types is important because they have differing potential to cause physical effects, particularly with regard to hearing (*e.g.,* Ward 1997 in Southall *et al.,* 2007).

Impact hammers operate by repeatedly dropping a heavy piston onto

a pile to drive the pile into the substrate. Sound generated by impact hammers is characterized by rapid rise times and high peak levels, a potentially injurious combination (Hastings and Popper 2005). Vibratory hammers install piles by vibrating them and allowing the weight of the hammer to push them into the sediment. The vibrations produced also cause liquefaction of the substrate surrounding the pile, enabling the pile to be extracted or driven into the ground more easily. Vibratory hammers produce significantly less sound than impact hammers. Peak sound pressure levels (SPLs) may be 180 dB or greater but are generally 10 to 20 dB lower than SPLs generated during 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 activity on marine mammals could involve both non-acoustic and acoustic stressors. Potential non-acoustic stressors could result from the physical presence of the equipment and personnel; however, any impacts to marine mammals are expected to be primarily acoustic in nature and no takes specifically attributed to non-acoustic stressors are expected to occur. Acoustic stressors include effects of heavy equipment operation during pile driving and removal.

Acoustic Impacts

The introduction of anthropogenic noise into the aquatic environment from pile driving is the primary means by which marine mammals may be harassed from the Navy's specified activity. 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 and Southall *et al.* 2021). In general, exposure to pile driving 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 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 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. mom with calf), duration of exposure, the distance between the pile and there 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.

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 an 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 (with the exception of a single study unintentionally inducing PTS in a harbor seal (Kastak *et al.,* 2008)), and there are no empirical data measuring PTS in marine mammals 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 six 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 (2015), marine mammal studies have shown the amount of TTS increases with cumulative sound exposure level (SELcum) in an accelerating fashion. At low exposures with lower SELcum, the amount of TTS is typically small and the growth curves have shallow slopes. At exposures with higher SELcum, 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 a 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 (*i.e.,* 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). Additionally, the existing marine mammal TTS data come from a limited number of individuals within these species. No data are available on noise-induced hearing loss for mysticetes. For summaries of data on TTS in marine mammals or for further discussion of TTS onset thresholds, please see Southall *et al.* (2007), Finneran and Jenkins (2012), Finneran (2015), and table 5 in NMFS (2018).

Installing piles for this Project requires a combination of impact pile driving and vibratory pile driving. For this Project, these activities would not occur at the same time and there would be pauses in activities producing the sound during each day. Given these pauses and that many marine mammals are likely moving through the ensonified area and not remaining for extended periods of time, the potential for TS declines.

Behavioral Effects

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; Southall *et al.,* 2021).

Disturbance may result in: (1) changing durations of surfacing and dives, number of blows per surfacing, or moving direction and/or speed; (2) reduced/increased vocal activities; (3) changing/cessation of certain behavioral activities (*e.g.,* socializing or feeding); (4) visible startle response or aggressive behavior (*e.g.,* tail/fluke slapping or jaw clapping); (5) 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 those factors (*e.g.,* Richardson *et al.,* 1995; Wartzok *et al.,* 2003; Southall *et al.,* 2007, Southall *et al.* 2021; Weilgart, 2007; Archer *et al.,* 2010). Behavioral reactions can vary not only among individuals but also within exposures of an individual, depending on previous experience with a sound source, context, and numerous other factors (Ellison *et al.,* 2012; Southall *et al.,* 2021), 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. For a review of studies involving marine mammal behavioral responses to sound, see: Southall *et al.,* 2007; Gomez *et al.,* 2016; and Southall *et al.,* 2021.

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

In 2021, the Navy monitored construction activities at Pier 3 during pile driving activities from August through December. That project was in roughly the same location as the Q8 bulkhead. Four detections of 35 bottlenose dolphins occurred over 45 total days of construction. All 35 of the bottlenose dolphins that were observed were in estimated Level B harassment zones and occurred just in the month of August (W.F. Magann Corporation 2023). The I–64 Hampton Roads Bridge-Tunnel Expansion Project pile driving occurred from January through December of 2023 over 234 days. During that work, 94 bottlenose dolphins were observed entering harassment zones (92 in estimated Level B harassment zones and two in estimated Level A harassment zones) (Hampton Roads Connector Partners 2023). During both of these projects, the only marine mammals observed were bottlenose dolphins and no visible signs of disturbance were noted for any of the dolphins. Given the similarities in activities and habitat and the fact the same species are involved, we expect similar behavioral responses of marine mammals to the specified activity. That is, disturbance, if any, is likely to be temporary and localized (*e.g.,* small area movements).

Airborne Acoustic Effects—Although pinnipeds are known to haul-out regularly on man-made objects (*e.g.,* the CBBT), we believe that incidents of take resulting solely from airborne sound are unlikely due to the sheltered proximity between the proposed Project Area and these haulout sites (*i.e.,* over 16 miles (26 km)). There is a possibility that an animal could surface in-water, but with head out, within the area in which airborne sound exceeds relevant thresholds and thereby be exposed to levels of airborne sound that we associate with harassment, but any such occurrence would likely be accounted for in our estimate of incidental take from underwater sound. Therefore, authorization of incidental take resulting from airborne sound for pinnipeds is not warranted, and airborne sound is not discussed further here. Cetaceans are not expected to be exposed to airborne sounds that would result in harassment as defined under the MMPA.

Marine Mammal Habitat Effects

The Navy's construction activities could have localized, temporary impacts on marine mammal habitat by increasing in-water sound pressure levels and slightly decreasing water quality. However, since the focus of the proposed action is pile driving, no net habitat loss is expected as the new Q8 bulkhead would be immediately seaward of the existing bulkhead or would encapsulate the existing bulkhead. Construction activities are of short duration and would likely have temporary impacts on marine mammal habitat through increases in underwater sounds. Increased noise levels may affect the acoustic habitat and adversely affect marine mammal prey in the vicinity of the Project Area (see discussion below). During pile driving activities, elevated levels of underwater noise would ensonify the Project Area where both fishes and marine mammals may 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. The area likely impacted by the Project is relatively small compared to the available habitat in the surrounding waters of the Chesapeake Bay.

Temporary and localized reduction in water quality will occur because of in-water construction activities as well. Most of this effect will occur during the installation and removal of piles when bottom sediments are disturbed. The installation of piles will disturb bottom sediments and may cause a temporary increase in suspended sediment in the Project Area. In general, turbidity associated with pile installation is localized to an approximately 25-ft (7.6 m) radius around the pile (Everitt *et al.,* 1980). 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. 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 proposed activities would not result in permanent impacts to habitats used directly by marine mammals except for the actual footprint of the new Q8 bulkhead. The total seafloor area affected by pile installation and removal is a very small area that is not known to be of particular importance compared to the vast foraging area available to marine mammals in the Project Area and lower Chesapeake Bay. Pile extraction and installation may have impacts on benthic invertebrate species primarily associated with disturbance of sediments that may cover or displace some invertebrates. The impacts will be temporary and highly localized, and no habitat will be permanently displaced by construction. Therefore, it is expected that impacts on foraging opportunities for marine mammals due to the construction of the Q8 bulkhead would be minimal.

It is possible that avoidance by potential prey (*i.e.,* fish) in the immediate area may occur due to temporary loss of this foraging habitat. The duration of fish avoidance of this area after pile driving stops is unknown, but we anticipate a rapid return to normal recruitment, distribution, and behavior. Any behavioral avoidance by fish of the disturbed area would still leave large areas of fish and marine mammal foraging habitat in the nearby vicinity in the Project Area and lower Chesapeake Bay.

Effects on Potential Prey—Sound may affect marine mammals through impacts on the abundance, behavior, or distribution of prey species (*e.g.,* fish). 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 *et al.,* 1999; Fay, 2009). Depending on their hearing anatomy and peripheral sensory structures, which vary among species, fish 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 depend 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, pressure-related injuries (*i.e.,* barotrauma), 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, although several are based on studies in support of large, multiyear bridge construction projects (*e.g.,* Scholik and Yan, 2001, 2002; Popper and Hastings, 2009). Several studies have demonstrated that impulse sounds might affect the distribution and behavior of some fishes, potentially impacting foraging opportunities or increasing energetic costs (*e.g.,* Fewtrell and McCauley, 2012; Pearson *et al.,* 1992; Skalski *et al.,* 1992; Santulli *et al.,* 1999; Paxton *et al.,* 2017). 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; Cott *et al.,* 2012).

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 fish from pile driving activities in the Project Area would be temporary behavioral avoidance of the area. The duration of fish avoidance of an area after pile driving stops is unknown, but a rapid return to normal recruitment, distribution and behavior is anticipated.

The area impacted by the Project is relatively small compared to the available habitat in the remainder of the Project Area and the lower Chesapeake Bay, and there are no areas of particular importance that would be impacted by this Project. Any behavioral avoidance by fish of the disturbed area would still leave significantly large areas of fish and marine mammal foraging habitat in the nearby vicinity. As described in the preceding, the potential for the Navy's construction to affect the availability of prey to marine mammals or to meaningfully impact the quality of physical or acoustic habitat is considered to be insignificant.

Estimated Take of Marine Mammals

This section provides an estimate of the number of incidental takes proposed for authorization, 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) (16 U.S.C. 1362(18)(A)(i)–(ii)).

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 sounds emitted from pile driving. Based on the nature of the activity and the anticipated effectiveness of the mitigation measures (*i.e.,* shutdown zones) 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 state of the receiving animals (*e.g.,* 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 one micropascal (re one µPa)) for continuous (*e.g.,* vibratory pile driving) and above RMS SPL 160 dB re one 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 (*i.e.,* conspecific communication, predators, and prey) may result in changes in behavior patterns that would not otherwise occur.

The Navy's activity includes the use of continuous (*e.g.,* vibratory pile driving and removal) and impulsive (*e.g.,* impact pile driving) sources, and therefore the RMS SPL thresholds of 120 and 160 dB re one µPa are applicable.

These thresholds are provided in table 5 below. The references, analysis, and methodology used in the development of the thresholds are described in NMFS' 2018 Technical Guidance, which may be accessed at: *https://www.fisheries.noaa.gov/national/marine-mammal-protection/marine-mammal-acoustic-technical-guidance.*

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Table 5 -- Thresholds Identifying the Onset of Permanent Threshold Shift.

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

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

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

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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 via sound generated by the primary components of the Project (*i.e.,* impact pile driving and vibratory pile driving and removal). The maximum underwater area ensonified above the thresholds for individual activities of behavioral harassment referenced above is 93.5 km² (36.1 mi²) and would consist of an area reaching the opposite shoreline of the river (see figures 6.6, 6.8, and 6.10 in the Navy's application for the Incidental Take Authorization for the Q8 bulkhead Project). The maximum (underwater) area ensonified above the thresholds for concurrent activities of behavioral harassment referenced above is 97.9 km² (37.8 mi²) and would consist of a similar area reaching the opposite shoreline of the river as individual activities (see figures 6.11–6.16 in the Navy's application). Additionally, vessel traffic and other commercial and industrial activities in the Project Area may contribute to elevated background noise levels which may mask sounds produced by the Project.

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:

$TL = B * \mathrm{Log}_{10} (R_1/R_2)$,

where

TL = transmission loss in dB
B = transmission loss coefficient
R_1 = the distance of the modeled SPL from the driven pile, and
R_2 = the distance from the driven pile of the initial measurement

This formula neglects loss due to scattering and absorption, which is assumed to be zero here. The degree to which underwater sound propagates away from a sound source is dependent on a variety of factors, most notably the water bathymetry and presence or absence of reflective or absorptive conditions including in-water structures and sediments. Spherical spreading occurs in a perfectly unobstructed (*i.e.,* free-field) environment not limited by depth or water surface, resulting in a 6-dB reduction in sound level for each doubling of distance from the source (20*log[range]). Cylindrical spreading occurs in an environment in which sound propagation is bounded by the water surface and sea bottom, resulting in a reduction of three dB in sound level for each doubling of distance from the source (10*log[range]). A practical spreading value of 15 is often used under conditions, such as the Project site, where water increases with depth as the receiver moves away from the shoreline, resulting in an expected propagation environment that would lie between spherical and cylindrical spreading loss conditions. Practical spreading loss is assumed here.

The intensity of pile driving sounds is greatly influenced by factors such as the type of piles, hammers, and the physical environment in which the activity takes place. In order to calculate the distances to the Level A harassment and the Level B harassment sound thresholds for the methods and piles being used in this Project, the Navy and NMFS used acoustic monitoring data from other locations to develop proxy source levels for the various pile types, sizes, and methods. The Project includes vibratory and impact installation of prestressed concrete and composite piles and vibratory removal of existing concrete piles. Steel sheet piles to make up the wall of the bulkhead would be installed with vibratory hammers. Source levels for each pile size and driving method for individual activities are presented in table 6. For concurrent activities where two noise sources have overlapping sound fields, there is potential for higher sound levels than for non-overlapping sources because the isopleth of one sound source encompasses the sound source of another isopleth. In such instances, the sources are considered additive and combined using the rules of decibel addition. For addition of two simultaneous sources, the difference between the two sound source levels is calculated, and: (1) if that difference is between zero and one dB, three dB are added to the higher sound source level; (2) if the difference is between two or three dB, two dB are added to the highest sound source level; (3) if the difference is between four to nine dB, one dB is added to the highest sound source level; and (4) with differences of 10 dB or more, there is no addition. Source levels for each pile size and vibratory driving for concurrent activities are presented in table 7.

Table 6 -- Proxy Sound Source Levels for Pile Sizes and Driving Methods

Pile Size	Method	Proxy Source Level			Literature source
		dB RMS re 1µPa	dB SEL re 1µPa^{2}sec	dB peak re 1µPa	
56-in sheet pile	Vibratory	168	N/A	N/A	Illingworth and Rodkin, 2017
18-in concrete	Vibratory	162	N/A	N/A	Caltrans, 2020
16-in composite	Vibratory	158	N/A	N/A	Illingworth and Rodkin, 2017
18-in concrete	Impact	170	160	185	e4sciences, 2023
16-in composite	Impact	169	157	177	Illingworth and Rodkin, 2017

Table 7 -- Proxy Sound Source Levels for concurrent activities

Pile Size and Type	Vibratory Installation Source 1 [dB RMS]	Vibratory Extract Source 2 [dB RMS]	Revised SL to be used [dB RMS]
Source 1: Vibratory hammer 56-inch steel sheet pile; Source 2: Vibratory extraction of 18-inch concrete pile	168	162	169
Source 1: Vibratory hammer 18-inch concrete pile; Source 2: Vibratory extraction of 18-inch concrete pile	162	162	165
Source 1: Vibratory hammer 56-inch steel sheet pile; Source 2: 16 in composite pile	168	158	168

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 impact or vibratory pile driving and 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. Inputs used in the optional User Spreadsheet tool, and the resulting estimated isopleths, are reported below. For concurrent activities where combined impact and vibratory hammer scenarios shown in table 10, the estimated Level A isopleth distances reflect the impact driving activity and the estimated Level B isopleth distances reflect the combined vibratory source levels for that activity.

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Table 8 -- User Spreadsheet Input Parameters Used for Calculating Level A Harassment Isopleths

Phase (Year)	Pile size and installation method	Spreadsheet tab used	Weighting factor adjustment (kHz)	Number of strikes per pile	Number of piles per day	Activity duration (minutes)
Phase 1 (Year 1)	18-in concrete impact installation	E.1 Impact pile driving	2	307	6	N/A
	18-in concrete vibratory extraction	A.1 Vibratory pile driving	2.5	N/A	6	14
	56-in sheet pile vibratory installation	A.1 Vibratory pile driving	2.5	N/A	6	24
Phase II (Year 2)	18-in concrete impact installation	E.1 Impact pile driving	2	499	6	N/A
	18-in concrete vibratory extraction	A.1 Vibratory pile driving	2.5	N/A	6	26
	56-in sheet pile vibratory installation	A.1 Vibratory pile driving	2.5	N/A	6	28
Phase III (Year 3)	16-in composite impact installation	E.1 Impact pile driving	2	540	6	N/A

	18-in concrete vibratory installation	E.1 Impact pile driving	2	540	6	N/A
	16-in composite vibratory extraction	A.1 Vibratory pile driving	2.5	N/A	6	20
	56-in sheet pile vibratory installation	A.1 Vibratory pile driving	2.5	N/A	6	38

Table 9 -- Calculated Level A and Level B Harassment Isopleths for Individual Activities

Phase (Year)	Activity	Level A harassment zone (m)				Level B harassment zone (m)
		LF-cetaceans	MF-cetaceans	HF-cetaceans	Phocids	
Phase I (Year 1)	18-in concrete impact installation	43.9	1.6	52.3	23.5	46.4
	18-in concrete vibratory extraction	10.0	0.9	14.7	6.1	6,310
	56-in sheet pile vibratory installation	35.9	3.2	53.0	21.8	15,849
Phase II (Year 2)	18-in concrete impact installation	60.8	2.2	72.4	32.5	46.4
	18-in concrete vibratory extraction	15.1	1.3	22.3	9.2	6,310
	56-in sheet pile vibratory installation	39.7	3.2	58.7	24.2	15,849
Phase III (Year 3)	16-in composite impact installation	40.4	1.4	48.1	21.6	39.8
	18-in concrete impact installation	64.0	2.3	76.3	34.3	46.4
	16-in composite vibratory extraction	6.8	0.6	10.1	4.2	3,415
	56-in sheet pile vibratory installation	48.7	4.3	72.0	29.6	15,849

Table 10 -- Calculated Level A and Level B Harassment Isopleths for Concurrent Activities

Phase (Year)	Activity	Level A harassment zone (m)[1]				Level B harassment zone (m)
		LF-cetaceans	MF-cetaceans	HF-cetaceans	Phocids	
Phase 1 (Year 1)	Vibratory extract 18-in concrete piles and vibratory install 56-in steel sheet piles	41.8	3.7	61.8	25.4	18,478
	Vibratory extract 18-in concrete piles; vibratory install 56-in steel sheet piles; impact install 18-in concrete piles	43.9	1.6	52.3	23.5	18,478
Phase II (Year 2)	Vibratory extract 18-in concrete piles and vibratory install 56-in steel sheet piles	46.3	4.1	68.5	28.2	18,478
	Vibratory install 56-in steel sheet piles and impact install 18-in concrete piles	60.8	2.2	72.4	32.5	15,849
Phase III (Year 3)	Vibratory extract 18-in concrete piles and vibratory install 56-in steel sheet piles	56.8	5.0	84.0	34.5	18,478
	Vibratory install 56-in steel sheet piles and impact install 16-in composite piles	40.4	1.4	48.1	21.6	15,849

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The maximum distance to the Level A harassment threshold during construction would be during the impact driving of 18-inch (in) concrete piles during Phase III of individual activities (*i.e.,* 64.0 m for humpback whale) and during the concurrent vibratory extraction of 18-in concrete piles, vibratory installation of 56-in steel sheet piles, and impact install 18-in concrete piles for concurrent activities of Phase I (*i.e.,* 5.4 m for bottlenose dolphin; 89.8 m for harbor porpoises; and 36.9 m for pinnipeds). Given these relatively small isopleths, if a marine mammal enters the shutdown zone during impact pile driving it is expected that the construction activity would be shut down before any marine mammal would incur PTS. Therefore, no take by Level A harassment is expected during the construction activities associated with the Q8 bulkhead. The largest calculated Level B harassment isopleth extends out to 18,478 m, which would result from concurrent pile driving of the scenarios presented in table 9. The largest Level B harassment zone of 18,478 m is not an attainable observable distance in all directions, but in some areas the distance is smaller due to the zone being cut off by landmasses. The Level B harassment zone will be monitored to the maximum extent possible.

Marine Mammal Occurrence and Take Estimation

In this section we provide information about the occurrence of marine mammals, including density or other relevant information which will inform the take calculations. We describe how the information provided is synthesized

to produce a quantitative estimate of the take that is reasonably likely to occur and proposed for authorization.

Humpback Whale

Humpback whales occur in the mouth of the Chesapeake Bay and nearshore waters of Virginia during winter and spring months. Several satellite tagged humpback whales were detected west of the Chesapeake Bay Bridge Tunnel, including two individuals with locations near NAVSTA Norfolk and Joint Expeditionary Base Little Creek (Aschettino *et al.,* 2017). Group size was not reported in these surveys; however, most whales detected were juveniles. Although two individuals were detected in the vicinity of the proposed Project Area during shipboard surveys conducted in 2020, there is no evidence that they lingered for multiple days (Aschettino, 2020). Because no density estimates are available for the species in this area, the Navy estimated, and NMFS concurs, that one potential sighting of an average size group (*i.e.,* two individuals) could occur every 60 days of pile driving. Therefore, given the number of Project days expected in each year (table 1), NMFS is proposing to authorize a total of 16 takes by Level B harassment of humpback whale over the 5-year authorization, with no more than four takes by Level B harassment in a given year.

The largest Level A harassment zone for low-frequency cetaceans extends approximately 64 m from the source during impact pile driving of the 18-in concrete piles (table 9). The Navy plans to shut down if a humpback whale is sighted within any of the Level A harassment zones for all activities. Therefore, NMFS is not proposing to authorize take by Level A harassment of humpback whales.

Bottlenose Dolphins

The expected number of bottlenose dolphins in the Project Area was estimated using inshore seasonal densities provided in Engelhaupt *et al.* (2016) from vessel line-transect surveys near NAVSTA Norfolk and adjacent areas near Virginia Beach, Virginia, from August 2012 through August 2015. This density includes sightings inshore of the Chesapeake Bay from NAVSTA Norfolk west to the Thimble Shoals Bridge and is the most representative density for the Project Area. To calculate potential Level B harassment takes of bottlenose dolphin, NMFS conservatively multiplied the density of 1.38 dolphin/km^2 (from Engelhaupt *et al.,* 2016) by the largest Level B harassment isopleth for each activity (tables 9 and 10), and then by the number of days associated with that activity (table 1). For example, to calculate Level B harassment takes associated with work at the Q8 bulkhead in Phase I for the vibratory removal of 18-in concrete piles, NMFS multiplied the density (*i.e.,* 1.38 dolphins/km^2) by the Level B harassment zone for that activity (*i.e.,* 43.3 km^2) by the proportional number of pile driving days for that activity (*i.e.,* 24 days) for a total of 1,437 Level B harassment takes for that activity during Phase I. Takes by Level B harassment were calculated for both individual pile driving activities and concurrent pile driving activities, as authorized takes are conservatively based on the scenario that produces more takes by Level B harassment (table 11). Therefore, NMFS proposes to authorize 14,191 takes by Level B harassment of bottlenose dolphin across all 5 years, with no more than 6,168 takes in a given year.

The largest Level A harassment zone for mid-frequency cetaceans extends approximately 5.4 m from the source during concurrent activities during Phase I (table 10). A minimum shutdown zone of 10 m would be established for all construction activities. The Navy plans to shut down all activities if a bottlenose dolphin is sighted within the shutdown zones for mid-frequency cetaceans. Therefore, NMFS is not proposing to authorize take by Level A harassment of bottlenose dolphins.

Harbor Porpoise

Harbor porpoises are known to occur in the coastal waters near Virginia Beach (Hayes *et al.,* 2019). Density data for this species within the Project vicinity do not exist or were not calculated because sample sizes were too small to produce reliable estimates of density. Harbor porpoise sighting data collected by the Navy near NAVSTA Norfolk and Virginia Beach from 2012 to 2015 (Engelhaupt *et al.* 2014; 2015; 2016) did not produce enough sightings to calculate densities. One group of two harbor porpoises was seen during spring 2015 (Engelhaupt *et al.* 2016). Elsewhere in their range, harbor porpoises typically occur in groups of two to three individuals (Carretta *et al.* 2001; Smultea *et al.* 2017).

Due to there being no density estimates for the species in the Project Area, the Navy conservatively estimated one exposure of two porpoises for every 60 days of pile driving. Total pile driving days for Phase I would be 74 days, Phase II would be 37 days, and Phase III would be 101 days. Takes by Level B harassment were calculated for both individual pile driving activities and concurrent pile driving activities, as authorized takes are conservatively based on the scenario that produced the larger exposure estimate (table 11). Using the above methodology, NMFS calculated an exposure estimate of eight incidents of take for harbor porpoises.

NMFS does not expect any Level A harassment of harbor porpoise during this Project. The largest Level A harassment zone for high-frequency cetaceans extends approximately 89.8 m from the source during concurrent activities during Phase I (table 10). The Navy plans to shut down all activities if a harbor porpoise is sighted within the shutdown zones for high-frequency cetaceans. Therefore, NMFS is not proposing to authorize take by Level A harassment of harbor porpoise.

Harbor Seal

The expected number of harbor seals in the Project Area was estimated using systematic land- and vessel-based survey data for in-water and hauled out seals collected by the U.S. Navy at the CBBT rock armor and portal islands from 2014 through 2019 (Jones *et al.,* 2020). The average daily seal count from the field season ranged from eight to 23 seals, with an average of 13.6 harbor seals across all the field seasons.

NMFS expects that harbor seals are likely to be present from November to April and, consistent with other recent projects (88 FR 31633, May 18, 2023; 87 FR 15945, March 31, 2022; 86 FR 24340; May 6, 2021, and 86 FR 17458; April 2, 2021), NMFS calculated take by Level B harassment by multiplying 13.6 seals by the maximum number of pile driving days expected to occur from November through April. Therefore, we expect the total number of takes by Level B harassment for harbor seals to be 2,882.

NMFS does not expect any Level A harassment of harbor seals during this Project. The largest Level A harassment zone for phocids extends approximately 36.9 m from the source during concurrent activities during Phase I (table 10). The Navy plans to shut down all activities if a harbor porpoise is sighted within the shutdown zones for phocids. Therefore, NMFS is not proposing to authorize take by Level A harassment of harbor seals.

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Table 11 -- Proposed Authorized Takes by Level B Harassment by Species and Stock in Comparison to Stock Abundance

LOA Construction Phase (Year)	Species	Level B (Individual activities)	Level B (Concurrent activities)	Total	Stock Abundance	Percentage of Stock
Phase 1	Humpback	2	2	2	1,396	<1
	Bottlenose dolphin – Northern Migratory (NM) [1, 2]	5,414	2,888	2,607	6,639	39.27
	Bottlenose dolphin – Southern Migratory (SM) [1, 2]			2,607	3,751	69.50
	Bottlenose dolphin - NC Estuarine[1, 2]			200	823	24.30
	Harbor porpoise	4	2	4	85,765	<1
	Harbor seal	1,006	408	1,006	61,336	1.64
Phase 2	Humpback	2	2	2	1,396	<1
	Bottlenose dolphin - NM[1, 2]	2,609	2,179	1,205	6,639	18.15
	Bottlenose dolphin - SM[1, 2]			1,205	3,751	32.12
	Bottlenose dolphin - NC Estuarine[1, 2]			200	823	24.30
	Harbor porpoise	2	2	2	85,765	<1

	Harbor seal	503	653	653	61,336	1.06
Phase 3	Humpback	4	2	4	1,396	<1
	Bottlenose dolphin - NM[1, 2]	6,168	6,712	3,256	6,639	49.04
	Bottlenose dolphin - SM[1, 2]			3,256	3,751	85.80
	Bottlenose dolphin - NC Estuarine[1, 2]			200	823	24.30
	Harbor porpoise	4	2	4	85,765	<1
	Harbor seal	1,236	625	1,373	61,336	2.24

[1]*Take estimates are weighted based on the assumed percentages of population for each distinct stock, those percentages were also used to predict the proportion of animals present in the Project Area from each stock. Please see Small Numbers section for additional information.*

[2]*Assumes multiple repeated takes of the same individuals. Please see Small Numbers section for additional information.*

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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. 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 (*e.g.,* likelihood, scope, range). It further considers the likelihood that the measure will be effective if implemented (probability of accomplishing the mitigating result if implemented as planned), the likelihood of effective implementation (probability implemented as planned), and;

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

In addition to the measures described later in this section, the Navy will employ the following mitigation measures:

- The Navy will conduct briefings between construction supervisors and crews, the marine mammal monitoring team, and Navy staff prior to the start of all pile driving activity and when new personnel join the work, to explain responsibilities, communication procedures, marine mammal monitoring protocol, and operational procedures;
- If a marine mammal comes within 10 m of construction activities, including in-water heavy machinery work, operations shall cease and vessels shall reduce speed to the minimum level required to maintain steerage and safe working conditions;
- Pile driving activity must be halted upon observation of either a species for

which incidental take is not authorized or a species for which incidental take has been authorized but the authorized number of takes has been met, entering or is within the harassment zone.

The following mitigation measures apply to the Navy's in-water construction activities.

Establishment of Shutdown Zones—The Navy will establish shutdown zones for all pile driving and removal activities. The purpose of a shutdown zone is generally to define an area within which shutdown of the activity would occur upon sighting of a marine mammal (or in anticipation of an animal entering the defined area). Shutdown zones will vary based on the activity type and marine mammal hearing group (tables 12 and 13).

Protected Species Observers (PSOs)—The placement of PSOs during all pile driving and removal activities (described in the Proposed Monitoring and Reporting section) will ensure that the entire shutdown zone is visible. A minimum of two PSOs would be used during all activities.

Monitoring for Level A and B Harassment—The Navy will monitor the Level B harassment zones (*i.e.,* areas where SPLs are equal to or exceed the 160 dB rms threshold for impact pile driving, and the 120 dB rms threshold during vibratory pile driving and removal) to the extent practicable, and all of the Level A harassment zones and shutdown zones, during all pile driving days. Monitoring zones provide utility for observing by establishing monitoring protocols for areas adjacent to the shutdown zones. Monitoring zones enable observers to be aware of and communicate the presence of marine mammals in the Project Area outside the shutdown zone and thus prepare for a potential cessation of activity should the animal enter the shutdown zone.

Pre-Activity Monitoring—Prior to the start of daily in-water construction activity, or whenever a break in pile driving/removal of 30 minutes or longer occurs, PSOs will observe the shutdown and monitoring zones for a period of 30 minutes. Pile driving may commence following 30 minutes of observation when the determination is made that the shutdown zones are clear of marine mammals. If a marine mammal is observed within the shutdown zones listed in table 12 or table 13, pile driving activity must be delayed or halted. If pile driving is delayed or halted due to the presence of a marine mammal, the activity may not commence or resume until either the animal has voluntarily exited and been visually confirmed beyond the shutdown zones or 15 minutes have passed without re-detection of the animal. If work ceases for more than 30 minutes, the pre-activity monitoring of the shutdown zones will 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—Soft start procedures are used to provide additional protection to marine mammals by providing warning and/or giving marine mammals a chance to leave the area prior to the hammer operating at full capacity. For impact pile driving, contractors will 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 starts will 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.

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Table 12 -- Proposed Shutdown and Monitoring Zones for Individual Activities

Phase (Year)	Activity	Proposed Shutdown Zones (m)			Level B monitoring zones all marine mammals
		LF-cetaceans	HF-cetaceans	All other marine mammals	
Phase 1 (Year 1)	18-in concrete impact installation	50	60	30	50
	18-in concrete vibratory extraction	10	20	10	6,310
	56-in sheet pile vibratory installation	40	60	30	15,850
Phase II (Year 2)	18-in concrete impact installation	70	80	40	50
	18-in concrete vibratory extraction	20	30	10	6,310
	56-in sheet pile vibratory installation	40	60	30	15,850
Phase III (Year 3)	16-in composite impact installation	50	50	30	40
	18-in concrete impact installation	70	80	40	50
	16-in composite vibratory extraction	10	20	10	3,415
	56-in sheet pile vibratory installation	50	80	30	15,850

Table 13 -- Proposed Shutdown and Monitoring Zones for Concurrent Activities

Phase (Year)	Activity	Proposed Shutdown Zones (m)			Level B monitoring zones all marine mammals
		LF-cetaceans	HF-cetaceans	All other marine mammals	
Phase I (Year 1)	Vibratory extract 18-in concrete piles and vibratory install 56-in steel sheet piles	50	70	30	18,480
	Vibratory extract 18-in concrete piles; vibratory install 56-in steel sheet piles; impact install 18-in concrete piles	70	90	40	18,480
Phase II (Year 2)	Vibratory extract 18-in concrete piles and vibratory install 56-in steel sheet piles	50	70	30	18,480
	Vibratory install 56-in steel sheet piles and impact install 18-in concrete piles	50	80	30	15,850
Phase III (Year 3)	Vibratory extract 18-in concrete piles and vibratory install 56-in steel sheet piles	50	70	30	18,480
	Vibratory install 56-in steel sheet piles and impact install 16-in composite piles	50	80	30	15,850

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Based on our evaluation of the applicant's proposed measures, as well as other measures considered by NMFS, 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 and removal must be conducted by qualified, NMFS approved PSOs, in accordance with the following:

- PSOs must be independent of the activity contractor (*e.g.,* employed by a subcontractor) and have no other assigned tasks during monitoring periods;
- At least one PSO must have prior experience performing the duties of a PSO during construction activity pursuant to a NMFS-issued incidental take authorization;
- Other PSOs may substitute other relevant experience, education (*i.e.,* a degree in biological science or related field), or training for prior experience performing the duties of a PSO during construction activity pursuant to a NMFS-issued incidental take authorization;
- PSOs must be approved by NMFS prior to beginning any activity subject to this proposed rulemaking; and
- A lead observer or monitoring coordinator must be designated. The lead observer must have prior experience performing the duties of a PSO during construction activity pursuant to a NMFS-issued incidental take authorization.

PSOs must 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: (1) the number and species of marine mammals observed; (2) dates and times when in-water construction activities were conducted; (3) dates, times, and reason for implementation of mitigation (or why mitigation was not implemented when required); and (4) 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.

Given the configuration of the harassment zones, which vary depending on the pile type/size and the pile driver type (tables 9 and 10), it is assumed that two PSO would be sufficient to monitor the zones for impact drivers, and three to four PSOs would be sufficient to monitor the zones for vibratory drivers given the proposed placement of the observers in the vicinity of the Project Area. However, additional monitors may be added if warranted by the level of marine mammal activity in the area. PSOs will be placed at the best vantage point(s) practicable (figure 3) to monitor for marine mammals and implement shutdown/delay procedures when applicable by calling for the shutdown by the pile driver operator. PSOs would be deployed on the Green Mile Fishing Pier during vibratory driving of piles when monitoring zones are exceptionally large.

Monitoring will be conducted 30 minutes before, during, and after all in water construction activities. In addition, observers shall record all incidents of marine mammal occurrence, regardless of distance from activity, and shall document any behavioral reactions in concert with distance from piles being driven or removed. Pile driving activities include the time to install or remove a single pile or series of piles, as long as the time elapsed between uses of the pile driving equipment is no more than 30 minutes.

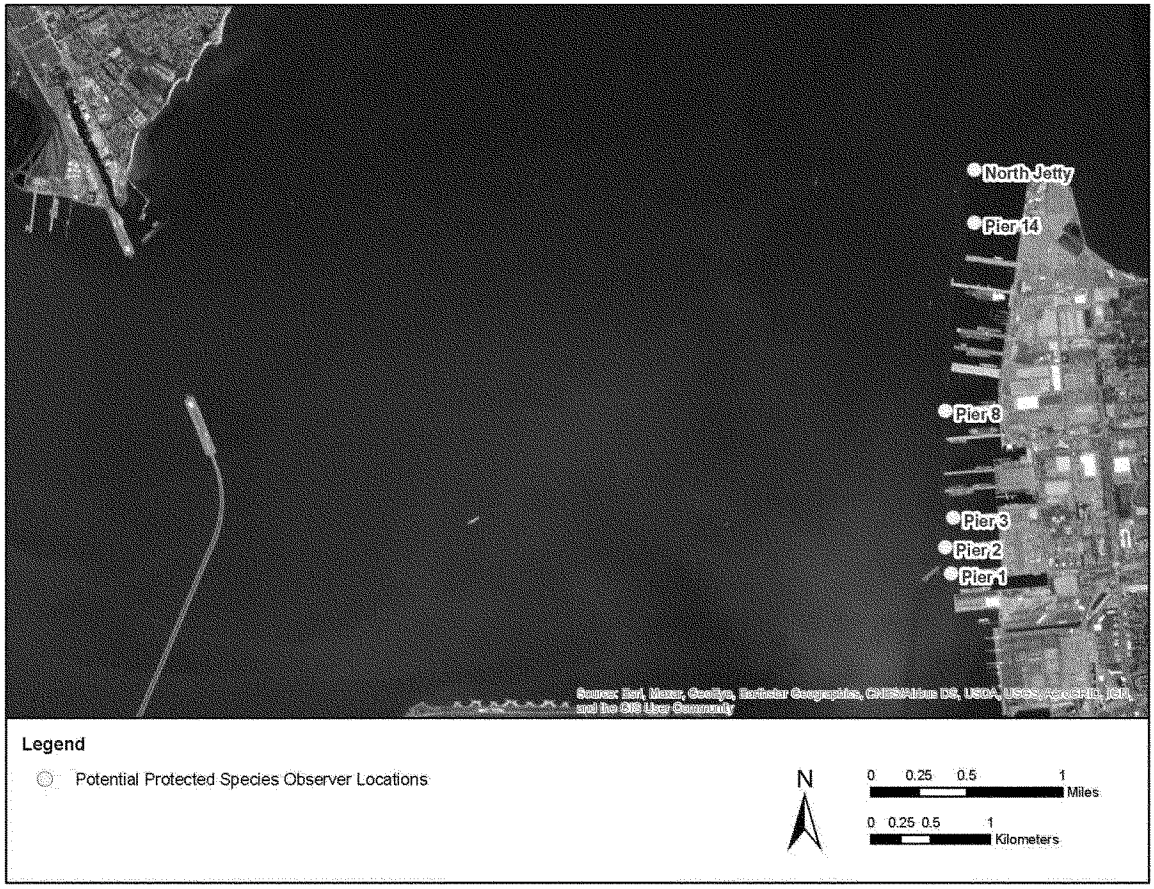

Figure 3. Proposed Protected Species Observer Locations at Naval Station Norfolk at Norfolk, Virginia (Green Mile Fishing Pier location not shown)

Acoustic Monitoring

The Navy will implement *in situ* acoustic monitoring efforts to measure SPLs from in-water construction activities for pile types and methods that have not been previously collected at NAVSTA Norfolk (table 14). The Navy will collect and evaluate acoustic sound recording levels during pile driving activities. The Navy would collect data on 10 percent of the number of total piles driven for each pile type. Hydrophones would be placed at locations 33 ft from the noise source and, where the potential for Level A (PTS onset) harassment exists, at a second representative monitoring location that is a distance of 20 times the depth of water at the pile location, to the maximum extent practicable. For the pile driving events acoustically measured, 100 percent of the data will be analyzed. Please see the Navy's Acoustic Monitoring Plan and section 13.2 in the application for additional detail.

Table 14 – Number of Piles for Hydroacoustic Monitoring

Pile Type	Total Piles	Method of Install of Removal	Number Monitored
18-in concrete	200	Vibratory	20
18-in concrete	184	Impact	18
56-in steel sheet	547	Vibratory	55
16-in composite	178	Vibratory	18
16-in composite	105	Impact	11

Environmental data shall be collected and will include, but will not be limited to, the following: (1) wind speed and direction; (2) air temperature; (3) humidity; (4) surface water temperature; (5) water depth; (6) wave height; (7) weather conditions; and (8) other factors that could contribute to influencing underwater sound levels (*e.g.,* aircrafts, boats, *etc.*).

Reporting

The Navy is required to submit an annual report on all activities and marine mammal monitoring results to NMFS within 90 days following the end of each construction year. Additionally, a draft comprehensive 5-year summary report must be submitted to NMFS within 90 days of the end of the Project. The annual reports will include an overall description of work completed, a narrative regarding marine mammal sightings, and associated PSO data sheets. Specifically, the report must 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) or 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.

Upon observation of a marine mammal the following information must be reported:

- Name of PSO who sighted the animal(s) and PSO location and activity at the time of the sighting;
- Time of the 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 bearing of each observed marine mammal relative to the pile being driven or removed for each sighting;
- Estimated number of animals (min/max/best estimate);
- Estimated number of animals by cohort (*e.g.,* adults, juveniles, neonates, group composition, *etc.*);
- Description of any marine mammal behavioral observations (*e.g.,* observed behaviors such as feeding or traveling), including an assessment of behavioral responses thought to have resulted from the activity (*e.g.,* no response or changes in behavioral state such as ceasing feeding, changing direction, flushing, or breaching);
- Number of marine mammals detected within the harassment zones, by species; and
- Detailed information about implementation of any mitigation (*e.g.,* shutdowns and delays), a description of specified actions that ensured, and resulting changes in behavior of the animal(s), if any.

The acoustic monitoring report must contain the informational elements described in the Acoustic Monitoring Plan and, at minimum, must include:

- Hydrophone equipment and methods: (1) recording device, sampling rate, distance (m) from the pile where recordings were made; and (2) the depth of water and recording device(s);
- Type and size of pile being driven, substrate type, method of driving during recordings (*e.g.,* hammer model and energy), and total pile driving duration;
- Whether a sound attenuation device is used and, if so, a detailed description of the device used and the duration of its use per pile;
- For impact pile driving: (1) number of strikes and strike rate; (2) depth of substrate to penetrate; (3) pulse duration and mean, median, and maximum sound levels (dB re: one μPa): (4) root mean square sound pressure level (SPLrms); and (5) cumulative sound exposure level (SELcum), peak sound pressure level (SPLpeak), and single-strike sound exposure level (SELs-s); and
- For vibratory driving/removal: (1) duration of driving per pile; and (2) mean, median, and maximum sound levels (dB re: one μPa): SPLrms, SELcum (and timeframe over which the sound is averaged).

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

Reporting Injured or Dead Marine Mammals

In the unanticipated event that the specified activity clearly causes the take of a marine mammal in a manner prohibited by the LOA (if issued) and the regulations (*e.g.,* an injury, serious injury, or mortality) the Navy shall report the incident to Office of Protected Resources, NMFS, and the Greater Atlantic Region New England/Mid-

Atlantic Stranding Coordinator. The report must include the following information:

- Description of the incident;
- Environmental conditions (*e.g.,* Beaufort sea state, visibility);
- Description of all marine mammal observations in the 24 hours preceding the incident;
- Species identification or description of the animal(s) involved;
- Fate of the animal(s); and
- Photographs or video footage of the animal(s) (if equipment is available).

Activities would not resume until NMFS is able to review the circumstances of the prohibited take. NMFS would work with the Navy to determine what is necessary to minimize the likelihood of further prohibited take and ensure MMPA compliance. The Navy would not be able to resume their activities until notified by NMFS.

In the event that the Navy discovers an injured or dead marine mammal, and the lead PSO determines that the cause of the injury or death is unknown and the death is relatively recent (*e.g.,* in less than a moderate state of decomposition as described in the next paragraph), the Navy would immediately report the incident to the Office of Protected Resources, NMFS, and the Greater Atlantic Region New England/Mid-Atlantic Stranding Coordinator. The report would include the same information identified in the paragraph above. Activities would be able to continue while NMFS reviews the circumstances of the incident. NMFS would work with the Navy to determine whether modifications in the activities are appropriate.

In the event that the Navy discovers an injured or dead marine mammal and the lead PSO determines that the injury or death is not associated with or related to the activities authorized in the LOA (*e.g.,* previously wounded animal, carcass with moderate to advanced decomposition, or scavenger damage), the Navy would report the incident to the Office of Protected Resources, NMFS, and the NMFS Greater Atlantic Region New England/Mid-Atlantic Stranding Coordinator, within 24 hours of the discovery. The Navy would provide photographs, video footage (if available), or other documentation of the stranded animal sighting to NMFS and the Marine Mammal Stranding Network.

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, this introductory discussion of our analysis applies to all the species listed in table 3, given that many of the anticipated effects of this Project on different marine mammal stocks are expected to be relatively similar in nature. Where there are meaningful differences between species or stocks, or groups of species, in anticipated individual responses to activities, impact of expected take on the population due to differences in population status, or impacts on habitat, they are described independently in the analysis below.

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

Level A harassment is unlikely considering the small Level A harassment zones (tables 9 and 10) and corresponding shutdown zones (tables 12 and 13) where activities would cease if animals were present in those zones. Also, pile driving and removal activities are of relatively short duration and an animal would have to remain within the area estimated to be ensonified above the Level A harassment threshold for multiple hours to incur PTS. This is highly unlikely given marine mammal movement throughout the area, especially for small, fast-moving species such as small cetaceans and pinnipeds. Therefore, NMFS is not proposing to authorize take by Level A harassment during any portion of the Navy's activities.

The nature of activities included in the Navy's pile driving Project precludes the likelihood of serious injury or mortality. For all species and stocks, take will occur within a limited, confined area (*i.e.,* immediately surrounding NAVSTA Norfolk in the Chesapeake Bay area) of the stock's range. Level B harassment will be reduced to the level of least practicable adverse impact through use of mitigation measures described herein. Furthermore, the number of individuals expected to be taken is extremely small relative to the stock abundance for all species.

Effects on individuals that are taken by Level B harassment, on the basis of reports in the literature as well as monitoring from other similar activities, will likely be limited to reactions such as increased swimming speeds, increased surfacing time, decreased foraging (if such activity were occurring), or avoidance (*e.g.,* Thorson and Reyff 2006; Hampton Roads Connector Partners 2023; W.F. Magann Corporation 2023). Individual animals, even if taken multiple times, will most likely move away from the sound source and be temporarily displaced from the areas of pile driving, although even this reaction has been observed primarily only in association with impact pile driving. The pile driving activities analyzed here are similar to, or less impactful than, numerous other construction activities conducted along both Atlantic and Pacific coasts, which have taken place with no known long-term adverse consequences from behavioral harassment. Furthermore, many Projects similar to this one are also believed to result in multiple takes of individual animals without any documented long-term adverse effects. Level B harassment will be minimized through use of mitigation measures described herein and, if take does occur the impacts would be expected to be minimal, particularly as the Project is located on a busy waterfront with high

amounts of vessel traffic and other ambient noise.

A UME has been declared for humpback whales in the U.S. Atlantic. However, we do not expect authorized takes to exacerbate or compound upon these ongoing UMEs. As noted previously, no injury, serious injury, or mortality is expected or authorized, and the impact of Level B harassment takes of humpback whale will be minimized through the incorporation of the mitigation measures. The UME does not yet provide cause for concern regarding population-level impacts. Despite the UME, the relevant population of humpback whales (the West Indies breeding population, or DPS) remains healthy.

The Project is also not expected to have significant adverse effects on affected marine mammals' habitats. The Project activities will not modify existing marine mammal habitat for a significant amount of time. The activities may cause some fish to leave the area of disturbance, thus temporarily impacting marine mammals' foraging opportunities in a limited portion of the foraging range; however, because of the short duration of the activities and the relatively small area of the habitat that may be affected (with no known particular importance to marine mammals), the impacts to marine mammal habitat are not expected to cause significant or long-term negative consequences.

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

- No serious injury or mortality is anticipated or authorized;
- The intensity of anticipated takes by Level B harassment is relatively low for all stocks;
- The specified activity and associated ensonified areas are very small relative to the overall habitat ranges of all species and do not include habitat areas of special significance, including any pinniped haulouts;
- The lack of anticipated significant or long-term negative effects to marine habitat;
- The presumed efficacy of the mitigation measures in reducing the effects of the taking incidental to the specified activity; and
- Monitoring reports from similar work in the Chesapeake Bay have documented little to no effect on individuals of the same species impacted by similar 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 take of small numbers of marine mammals 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 maximum number of individuals taken in any year 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 maximum annual 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 maximum annual take NMFS proposes to authorize for the four marine mammal stocks is below one-third of the estimated stock abundance for all species except for the western north Atlantic (WNA) southern coastal migratory stock and the WNA northern coastal migratory stock of bottlenose dolphins (see table 11).

There are three bottlenose dolphin stocks that could occur in the Project Area. Therefore, the largest estimated annual take by Level B harassment of 6,712 bottlenose dolphin would likely be split among the northern migratory coastal stock, the southern migratory coastal stock, and the northern North Carolina estuarine stock (NNCES). Based on the stocks' respective occurrence in the area, NMFS estimates that there would be no more than 200 takes from the NNCES stock during each phase of construction, representing 24 percent of that population, with the remaining takes split evenly between the northern and southern coastal migratory stocks. Based on the consideration of various factors as described below, we have preliminarily determined that the number of individuals taken will comprise less than one-third of the best available population abundance estimate of either coastal migratory stock. Detailed descriptions of the stocks' ranges have been provided in the Description of Marine Mammals in the Area of Specified Activities section.

Both the WNA northern migratory stock and the WNA southern migratory stock have expansive ranges and they are the only dolphin stocks thought to make broad scale, seasonal migrations in coastal waters of the WNA. Given the large ranges associated with these two stocks, it is unlikely that large segments of either stock would approach the Project Area and enter into the Chesapeake Bay. The majority of both stocks are likely to be found widely dispersed across their respective habitat ranges and unlikely to be concentrated in or near the Chesapeake Bay.

Furthermore, the Chesapeake Bay and nearby offshore waters represent the boundaries of the ranges of each of the two coastal stocks during migration. The WNA northern migratory stock is found during warm water months from coastal Virginia, including the Chesapeake Bay and Long Island, New York. The stock migrates south in the late summer and fall. During cold water months, dolphins may be found in coastal waters from Cape Lookout, North Carolina, to the North Carolina/Virginia border. During January-March, the WNA southern migratory stock appears to move as far south as northern Florida. From April-June, the stock moves back north to North Carolina. During the warm water months of July-August, the stock is presumed to occupy the coastal waters north of Cape Lookout, North Carolina, to Assateague, Virginia, including the Chesapeake Bay. There is likely some overlap between the stocks during spring and fall migrations, but the extent of overlap is unknown.

In summary and as described above, the following factors primarily support our determination regarding the incidental take of small numbers of the affected stocks of a species or stock:

- The maximum annual take of marine mammal stocks proposed for authorization comprises less than three percent of any stock abundance (with the exception of the three bottlenose dolphin stocks);
- Potential bottlenose dolphin takes in the Project Area are likely to be allocated among three distinct stocks;
- Bottlenose dolphin stocks in the Project Area have extensive ranges and it would be unlikely to find a high percentage of the individuals of any one stock concentrated in a relatively small area such as the Project Area or the Chesapeake Bay;

• The Chesapeake Bay represents the migratory boundary for each of the specified dolphin stocks and it would be unlikely to find a high percentage of any stock concentrated at such boundaries; and

• Many of the takes would likely be repeats of the same animals, including from a resident population of the Chesapeake Bay.

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.

Request for Information

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

Classification

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

Pursuant to section 605(b) of the Regulatory Flexibility Act (RFA), the Chief Counsel for Regulation of the Department of Commerce has certified to the Chief Counsel for Advocacy of the Small Business Administration that this proposed rule, if adopted, would not have significant economic impact on a substantial number of small entities. The U.S. Navy is the sole entity that would be subject to the requirements in these proposed regulations, and the Navy is not a small governmental jurisdiction, small organization, or small business, as defined by the RFA. Because of this certification, a regulatory flexibility analysis in not required and none has been prepared.

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

List of Subjects in 50 CFR Part 217

Acoustics, Administrative practice and procedure, Construction, Endangered and threatened species, Marine mammals, Mitigation and monitoring requirements, Reporting requirements, Wildlife.

Dated: June 24, 2024.

Samuel D. Rauch III,

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

For reasons set forth in the preamble, NOAA proposes to amend 50 CFR part 217 as follows:

PART 217—REGULATIONS GOVERNING THE TAKING AND IMPORTING OF MARINE MAMMALS

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

Authority: 16 U.S.C. 1361 *et seq.,* unless otherwise noted.

■ 2. Add subpart X to read as follows

Subpart X—Taking and Importing Marine Mammals Incidental to Navy Construction of the Q8 Bulkhead Repair and Replacement Project at Naval Station Norfolk at Norfolk, Virginia

Sec.

§ 217.230 Specified activity and geographical region.

(a) Regulations in this subpart apply only to the U.S. Navy (Navy) and those persons it authorizes or funds to conduct activities on its behalf for the taking of marine mammals that occurs in the areas outlined in paragraph (b) of this section and that occurs incidental to construction activities related to the repair and replacement of the Q8 bulkhead at Naval Station Norfolk at Norfolk, Virginia.

(b) The taking of marine mammals by the Navy may be authorized in a Letter of Authorization (LOA) only if it occurs at Naval Station Norfolk, Norfolk, Virginia.

§ 217.231 Effective Dates

Regulations under this subpart are effective from January 1, 2025, through December 31, 2029.

§ 217.232 Permissible methods of taking.

Under an LOA issued pursuant to §§ 216.106 and 217.236 of this chapter, the Holder of the LOA (hereinafter ''Navy'') may incidentally, but not intentionally, take marine mammals within the area described in § 217.230(b) by harassment associated with construction activities related to the repair and replacement of the Q8 bulkhead, provided the activity is in compliance with all terms, conditions, and requirements of the regulations in this subpart and the applicable LOA.

§ 217.233 Prohibitions

(a) Except for the takings contemplated in § 217.232 and authorized by a LOA issued under §§ 216.106 and 217.236 of this chapter, it is unlawful for any person to do any of the following in connection with the activities described in § 217.230:

(1) Violate, or fail to comply with, the terms, conditions, and requirements of this subpart or a LOA issued under §§ 216.106 and 217.236 of this chapter;

(2) Take any marine mammal not specified in such LOA;

(3) Take any marine mammal specified in such LOA in any manner other than as specified;

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

(5) Take a marine mammal specified in such LOA after NMFS determined such taking results in an unmitigable adverse impact on the species or stock of such marine mammal for taking for subsistence uses.

§ 217.234 Mitigation requirements.

(a) When conducting the activities identified in § 217.230(a), the mitigation measures contained in this subpart and any LOA issued under §§ 216.106 and 217.236 of this chapter must be implemented by the Navy. These mitigation measures include:

(1) A copy of any issued LOA must be in the possession of the Navy, supervisory construction personnel, lead protected species observers (PSOs), and any other relevant designees of the Navy operating under the authority of the LOA at all times that activities subject to the LOA are being conducted;

(2) The Navy must ensure that construction supervisors and crews, the monitoring team, and relevant Navy staff are trained prior to the start of activities subject to any issued LOA, so that responsibilities, communication procedures, monitoring protocols, and operational procedures are clearly understood. New personnel joining during the Project must be trained prior to commencing work;

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

(4) The Navy must employ PSOs and establish monitoring locations as described in the NMFS-approved Marine Mammal Monitoring Plan. The Navy must monitor the Project Area to the maximum extent possible based on the required number of PSOs, required monitoring locations, and environmental conditions;

(5) For all pile driving activities, the Navy shall implement shutdown zones with radial distances as identified in a LOA issued under § 217.236. If a marine mammal is observed entering or within the shutdown zone, such operations must be delayed or halted.

(6) Monitoring must take place from 30 minutes prior to initiation of a pile driving activity (*i.e.,* pre-start clearance monitoring) through 30 minutes post-completion of a pile driving activity.

(7) Pre-start clearance monitoring must be conducted during periods of visibility sufficient for the lead PSO to determine that the shutdown zones are clear of marine mammals. Pile driving may commence following 30 minutes of observation when the determination is made that the shutdown zones are clear of marine mammals.

(8) If a marine mammal is observed entering or within the shutdown zones, pile driving activity must be delayed or halted.

(9) If pile driving is delayed or halted due to the presence of a marine mammal, the activity may not commence or resume until either the animal has voluntarily exited and been visually confirmed beyond the shutdown zone or 15 minutes have passed without re-detection of the animal.

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

(11) The Navy must use soft start techniques when impact pile driving. Soft start requires contractors to provide an initial set of strikes at reduced energy, followed by a 30-second waiting period, then two subsequent reduced-energy strike sets. A soft start must be implemented at the start of each day's impact pile driving and at any time following cessation of impact pile driving for a period of 30 minutes or longer.

§ 217.235 Requirements for monitoring and reporting.

(a) The Navy shall submit a Marine Mammal Monitoring Plan to NMFS for approval in advance of construction. Marine mammal monitoring must be conducted in accordance with the conditions in this section and the NMFS-approved Marine Mammal Monitoring Plan.

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

(1) PSOs must be independent of the activity contractor (*e.g.,* employed by a subcontractor) and have no other assigned tasks during monitoring periods;

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

(3) Other observers may substitute other relevant experience, education (*i.e.,* degree in biological science or related field), or training for prior experience performing the duties of an observer during construction activity pursuant to a NMFS-issued incidental take authorization;

(4) One observer must be designated as lead observer or monitoring coordinator. The lead observer must have prior experience performing the duties of a PSO during construction activity pursuant to a NMFS-issued incidental take authorization;

(5) Observers must be approved by NMFS prior to beginning any activity subject to any issued LOA;

(6) For all pile driving activities, a minimum of two observers shall be stationed at the best vantage points practicable. One of these observers must be positioned to monitor for marine mammals and implement shutdown/delay procedures.

(7) The Navy shall monitor the harassment zones to the maximum extent practicable and the entire shutdown zones. The Navy shall monitor at least a portion of the Level B harassment zone on all pile driving days.

(8) The Navy shall conduct hydroacoustic data collection in accordance with an Acoustic Monitoring Plan that must be approved by NMFS in advance of construction.

(9) The shutdown/monitoring zones may be modified with NMFS' approval following NMFS' acceptance of an acoustic monitoring report.

(10) The Navy must submit a draft monitoring report to NMFS within 90 calendar days of the completion of each construction year. A draft comprehensive five-year summary report must also be submitted to NMFS within 90 days of the end of the Project. The reports must detail the monitoring protocol and summarize the data recorded during monitoring. Final annual reports and the final comprehensive report must be prepared and submitted within 30 days following resolution of any NMFS comments on the draft report. If no comments are received from NMFS within 30 days of receipt of the draft report, the report must be considered final. If comments are received, a final report addressing NMFS comments must be submitted within 30 days after receipt of comments. The reports must at minimum contain the informational elements described below (as well as any additional information described in the Marine Mammal Monitoring Plan), including:

(i) Dates and times (begin and end) of all marine mammal monitoring;

(ii) Construction activities occurring during each daily observation period, including the number and type of piles

that were driven or removed and by what method (*i.e.,* impact or vibratory), total duration of driving time for each pile (vibratory) and number of strikes for each pile (impact);

(iii) PSO locations during marine mammal monitoring;

(iv) 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;

(v) Upon observation of a marine mammal, the following information:

(A) Name of PSO who sighted the animal(s) and PSO location and activity at time of sighting;

(B) Time of sighting;

(C) 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;

(D) Distance and location of each observed marine mammal relative to the pile being driven for each sighting;

(E) Estimated number of animals (min/max/best estimate);

(F) Estimated number of animals by cohort (adults, juveniles, neonates, group composition, etc.);

(G) Animal's closest point of approach and estimated time spent within the harassment zone;

(H) 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);

(vii) Number of marine mammals detected within the harassment zones, by species; and

(viii) Detailed information about implementation of any mitigation (*e.g.,* shutdown and delays), a description of specific actions that ensued, and resulting changes in behavior of the animal(s), if any.

(11) The Holder must submit all PSO data electronically in a format that can be queried such as a spreadsheet or database (*i.e.,* digital images of data sheets are not sufficient).

(12) The Navy must report hydroacoustic data collected as required by a LOA issued under §§ 216.106 of this chapter and 217.236 and as discussed in the Navy's Acoustic Monitoring Plan approved by NMFS.

(13) In the event that personnel involved in the construction activities discover an injured or dead marine mammal, the Navy shall report the incident to the Office of Protected Resources (OPR), NMFS, and to the Greater Atlantic Region New England/Mid-Atlantic Regional Stranding Coordinator as soon as feasible. If the death or injury was clearly caused by the specified activity, the Navy must immediately cease the specified activities until NMFS is able to review the circumstances of the incident and determine what, if any, additional measures are appropriate to ensure compliance with the terms of the authorization. The Navy must not resume their activities until notified by NMFS. The report must include the following information:

(i) Time, date, and location (latitude/longitude) of the first discovery (and updated location information if known and applicable);

(ii) Species identification (if known) or description of the animal(s) involved;

(iii) Condition of the animal(s) (including carcass condition if the animal is dead);

(iv) Observed behaviors of the animal(s), if alive;

(v) If available, photographs or video footage of the animal(s); and

(vi) General circumstances under which the animal was discovered.

§ 217.236 Letters of Authorization.

(a) To incidentally take marine mammals pursuant to these regulations, the Navy must apply for and obtain an LOA.

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

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

(d) In the event of projected changes to the activity or to mitigation and monitoring measures required by an LOA, the Navy must apply for and obtain a modification of the LOA as described in § 217.236.

(e) The LOA must set forth the following information:

(1) Permissible methods of incidental taking;

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

(3) Requirements for monitoring and reporting.

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

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

§ 217.237 Renewals and modifications of Letters of Authorization.

(a) An LOA issued under §§ 216.106 of this chapter and 217.236 for the activity identified in § 217.230(a) may be renewed or modified upon request by the applicant, provided that:

(1) The proposed specified activity and mitigation, monitoring, and reporting measures, as well as the anticipated impacts, are the same as those described and analyzed for these regulations; and

(2) NMFS determines that the mitigation, monitoring, and reporting measures required by the previous LOA under these regulations were implemented.

(b) For LOA modification or renewal requests by the applicant that include changes to the activity or the mitigation, monitoring, or reporting that do not change the findings made for the regulations or result in no more than a minor change in the total estimated number of takes (or distribution by species or years), NMFS may publish a notice of proposed LOA in the **Federal Register**, including the associated analysis of the change, and solicit public comment before issuing the LOA.

(c) A LOA issued under §§ 216.106 of this chapter and 217.236 for the activity identified in § 217.230(a) may be modified by NMFS under the following circumstances:

(1) NMFS may modify (including augment) the existing mitigation, monitoring, or reporting measures (after consulting with Navy regarding the practicability of the modifications) if doing so creates a reasonable likelihood of more effectively accomplishing the goals of the mitigation and monitoring set forth in the preamble for these regulations;

(i) Possible sources of data that could contribute to the decision to modify the mitigation, monitoring, or reporting measures in a LOA:

(A) Results from Navy's monitoring from previous years;

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

(C) Any information that reveals marine mammals may have been taken in a manner, extent or number not authorized by these regulations or subsequent LOAs; and

(ii) If, through adaptive management, the modifications to the mitigation, monitoring, or reporting measures are substantial, NMFS must publish a

notice of proposed LOA in the **Federal Register** and solicit public comment;

(2) If NMFS determines that an emergency exists that poses a significant risk to the well-being of the species or stocks of marine mammals specified in a LOA issued pursuant to § 216.106 of this chapter and § 217.236, a LOA may be modified without prior notice or opportunity for public comment. Notification would be published in the **Federal Register** within 30 days of the action.

§§ 217.238–217.239 [Reserved]

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