



**BILLING CODE 3510-22-P**

**DEPARTMENT OF COMMERCE**

**National Oceanic and Atmospheric Administration**

**RIN 0648-XG851**

**Takes of Marine Mammals Incidental to Specified Activities; Taking Marine Mammals Incidental to Portsmouth Naval Shipyard Dry Dock 1 Modification and Expansion**

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

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

**SUMMARY:** NMFS has received a request from the U.S. Navy (Navy) for authorization to take marine mammals incidental to Portsmouth Naval Shipyard Dry Dock 1 modification and expansion in Kittery, Maine. Pursuant to the Marine Mammal Protection Act (MMPA), NMFS is requesting comments on its proposal to issue an incidental harassment authorization (IHA) to incidentally take marine mammals during the specified activities. NMFS is also requesting comments on a possible one-year renewal that could be issued under certain circumstances and if all requirements are met, as described in *Request for Public Comments* at the end of this notice. NMFS will consider public comments prior to making any final decision on the issuance of the requested MMPA authorizations and agency responses will be summarized in the final notice of our decision.

**DATES:** Comments and information must be received no later than [*INSERT DATE 30 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER*].

**ADDRESSES:** Comments should be addressed to Jolie Harrison, Chief, Permits and Conservation Division, Office of Protected Resources, National Marine Fisheries Service. Physical comments should be sent to 1315 East-West Highway, Silver Spring, MD 20910 and electronic comments should be sent to *ITP.guan@noaa.gov*.

*Instructions:* NMFS is not responsible for comments sent by any other method, to any other address or individual, or received after the end of the comment period. Comments received electronically, including all attachments, must not exceed a 25-megabyte file size. Attachments to electronic comments will be accepted in Microsoft Word or Excel or Adobe PDF file formats only. All comments received are a part of the public record and will generally be posted online at <https://www.fisheries.noaa.gov/permit/incidental-take-authorizations-under-marine-mammal-protection-act> without change. All personal identifying information (*e.g.*, name, address) voluntarily submitted by the commenter may be publicly accessible. Do not submit confidential business information or otherwise sensitive or protected information.

**FOR FURTHER INFORMATION CONTACT:** Shane Guan, Office of Protected Resources, NMFS, (301) 427-8401. Electronic copies of the application and supporting documents, as well as a list of the references cited in this document, may be obtained online at:

<https://www.fisheries.noaa.gov/permit/incidental-take-authorizations-under-marine-mammal-protection-act>. In case of problems accessing these documents, please call the contact listed above.

**SUPPLEMENTARY INFORMATION:**

**Background**

The MMPA prohibits the “take” of marine mammals, with certain exceptions. Sections 101(a)(5)(A) and (D) of the MMPA (16 U.S.C. 1361 *et seq.*) direct the Secretary of Commerce

(as delegated to NMFS) to allow, upon request, the incidental, but not intentional, taking of small numbers of marine mammals by U.S. citizens who engage in a specified activity (other than commercial fishing) within a specified geographical region if certain findings are made and either regulations are issued or, if the taking is limited to harassment, a notice of a proposed incidental take authorization may be 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 such 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 such takings are set forth.

The NDAA (Pub. L. 108–136) removed the “small numbers” and “specified geographical region” limitations indicated above and amended the definition of “harassment” as it applies to a “military readiness activity.” The definitions of all applicable MMPA statutory terms cited above are included in the relevant sections below.

### **National Environmental Policy Act**

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

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

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

### **Summary of Request**

On November 1, 2018, NMFS received a request from the Navy for an IHA to take marine mammals incidental to modification and expansion of dry dock 1 at Portsmouth Naval Shipyard in Kittery, Maine. The application was deemed adequate and complete on March 11, 2019. The Navy's request is for take of harbor porpoises, harbor seals, gray seals, harp seals, and hooded seals by Level B harassment and Level A harassment. Neither the Navy nor NMFS expects serious injury or mortality to result from this activity and, therefore, an IHA is appropriate.

NMFS previously issued two IHAs to the Navy for waterfront improvement work in 2017 (81 FR 85525; November 28, 2016) and 2018 (83 FR 3318; January 24, 2018). The Navy complied with all the requirements (*e.g.*, mitigation, monitoring, and reporting) of the previous IHAs and information regarding their monitoring results may be found in the Estimated Take section.

This proposed IHA would cover one year of a larger project for which the Navy intends to request take authorization for subsequent facets of the project. The larger 5-year project after the expiration of this IHA (if issued) involves further dock modification and expansion at the Portsmouth Naval Shipyard.

## **Description of Proposed Activity**

### *Overview*

The purpose of the proposed action is to modernize and maximize dry dock capabilities for performing current and future missions efficiently and with maximum flexibility. The need for the proposed action is to modify and expand Dry Dock 1 at the Portsmouth Naval Shipyard by constructing two new dry docking positions capable of servicing Virginia class submarines within the super flood basin of the dry dock.

The in-water portion of the dock modification and expansion work includes:

- Construction of the temporary structure for south closure wall;
- Construction of the super flood basin of the dry dock; and
- Extension of portal crane rail and utilities.

Construction activities that could affect marine mammals are limited to in-water pile driving and removal activities.

### *Dates and Duration*

Construction activities are expected to begin in July 2019. In-water construction activities are expected to begin in October 2019, with an estimated total of 212 days for pile driving and pile removal. All in-water construction work will be limited to daylight hours.

### *Specific Geographic Region*

The Shipyard is located in the Piscataqua River in Kittery, Maine. The Piscataqua River originates at the boundary of Dover, New Hampshire, and Elliot, Maine. The river flows in a southeasterly direction for 13 miles before entering Portsmouth Harbor and emptying into the Atlantic Ocean. The lower Piscataqua River is part of the Great Bay Estuary system and varies in width and depth. Many large and small islands break up the straight-line flow of the river as it continues toward the Atlantic Ocean. Seavey Island, the location of the proposed action, is located in the lower Piscataqua River approximately 547 yards from its southwest bank, 219 yards from its north bank, and approximately 2.5 miles upstream from the mouth of the river.

A map of the Portsmouth Naval Shipyard dock expansion action area is provided in Figure 1 below, and is also available in Figures 2 to 4 in the IHA application.

Water depths in the proposed project area range from 21 feet to 39 feet at Berths 11, 12, and 13. Water depths in the lower Piscataqua River near the proposed project area range from 15 feet in the shallowest areas to 69 feet in the deepest areas. The river is approximately 3,300 feet wide near the proposed project area, measured from the Kittery shoreline north of Wattlebury Island to the Portsmouth shoreline west of Peirce Island. The furthest direct line of sight from the proposed project area would be 0.8 mile to the southeast and 0.26 mile to the northwest.

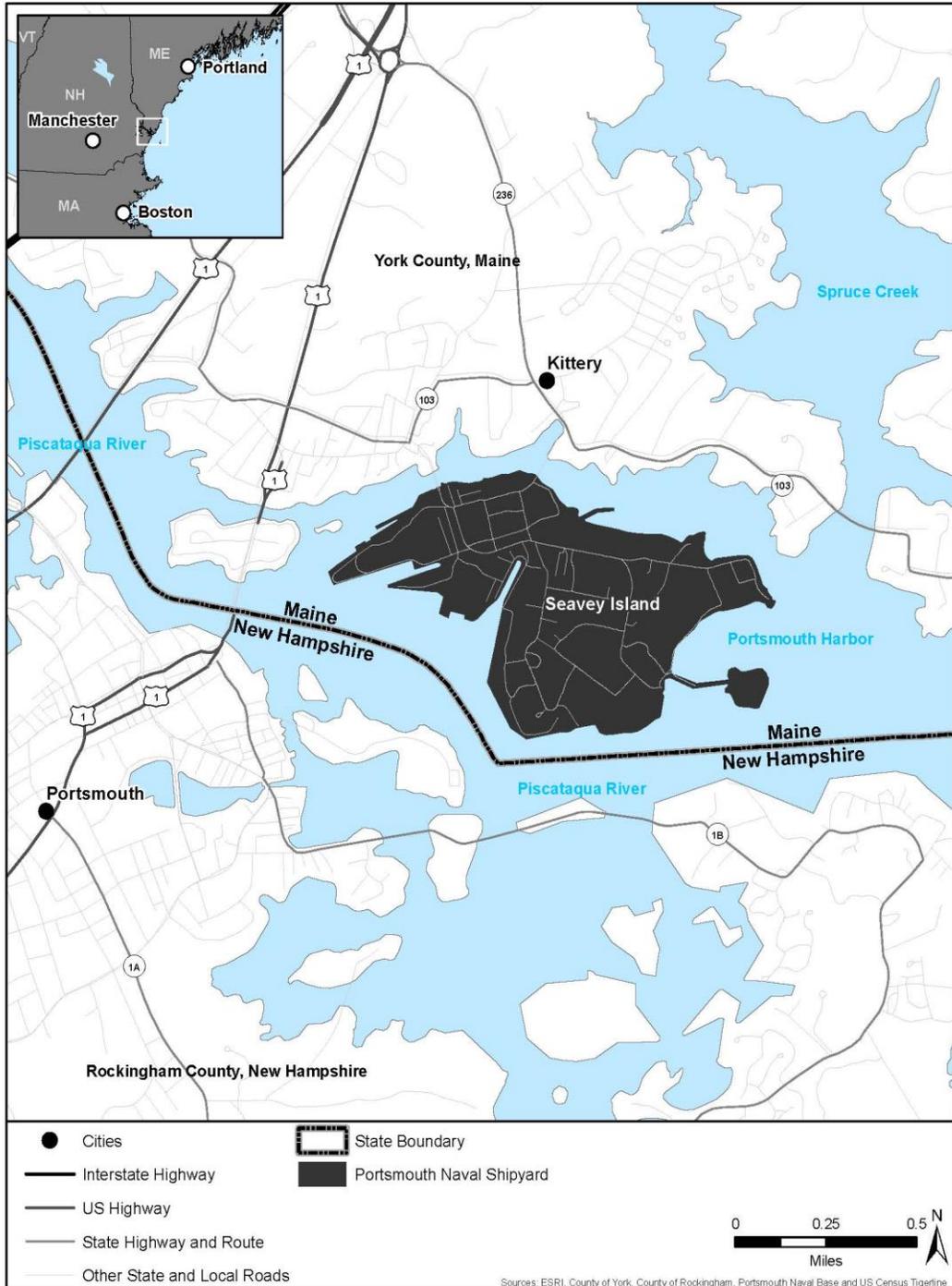


Figure 1. Site Location Map for Portsmouth Naval Ship Yard

### *Detailed Description of Specific Activity*

Under the proposed action, the expansion and modification would occur as multiple construction projects. Prior to the start of construction, the entrance to Dry Dock 1 would be dredged to previously permitted maintenance dredge limits. This dredging effort is required to support the projects and additional project-related dredging would occur intermittently throughout the proposed action. Since dredging and disposal activities would be slow-moving and generate low noise levels, NMFS and the Navy do not consider its effects as likely to rise the level of take of marine mammals. Therefore, these activities are not further discussed in this document.

The proposed 2019 through 2020 activities include pile driving (vibratory and impact) and rock drilling associated with construction of the super flood basin and Berth 2 improvements of the dry dock. The action would take place in and adjacent to Dry Dock 1 in the Controlled Industrial Area (CIA) that occupies the western extent of the Portsmouth Naval Shipyard.

To begin the project, a super flood basin would be created in front of the entrance of Dry Dock 1 by constructing closure walls that span from Berth 1 to Berth 11B. The super flood basin would operate like a navigation lock- type structure: artificially raising the elevation of the water within the basin and dry dock above the tidally controlled river in order to lift the submarines to an elevation where they can be safely transferred into the dry dock without the use of buoyancy assist tanks. The super flood basin would be located between Berths 1 and 11 and extend approximately 580 feet from the existing outer seat of the dry dock (approximately 175 feet beyond the waterside end of Berth 1). The super flood basin would consist of three primary components: south closure wall, entrance structure, and west closure wall. The closure wall would be approximately 320 feet long and have an opening for a caisson gate. The Dry Dock 3

caisson would be repurposed for use in the new closure wall. A weir structure or discharge pipe would be built into the closure wall or incorporated into the modified caisson to control overtopping and ensure the super flood elevation, which is the minimum water elevation required to provide sufficient depths and clearance to safely support transit of Los Angeles class submarines into Dry Dock 1, through the entire super flood evolution. The gross area of the super flood basin would be approximately 152,000 sf (3.5 acres).

Concrete components for the closure walls, caisson seat, and sill would be cast in place or be pre-cast off-site then floated or hauled into place, as appropriate. The closure walls would be equipped with winches and mooring hardware on either side of the basin entrance to assist with vessel docking, and to support berthing of the caisson gate while not in place. Electrical utilities would be provided to support lighting along the closure wall and meet the electrical requirements of the caisson gate. Mooring hardware and electrical utilities would also support the berthing of ships force barges at the south closure wall. Ships force barges are where a group of sailors live and work during the overhaul. The south closure wall would consist of two, 70-foot diameter sheet pile cells that would be connected together and to the point of Berths 1 and 2 by interconnecting arcs. The sheeting for the two cells would be driven to bedrock to make up the shell of the structure south of the caisson and seat. By installing the sheets to bedrock, the cells would provide a barrier to exfiltration. Each of the cells would be filled with mass concrete and topped with a reinforced concrete cap that would act as the deck to the structure. To provide corrosion protection from the marine environment, a concrete facing would extend down the exterior of the sheets to below mudline. A sacrificial (*i.e.*, does not provide structural support) sheet pile wall would be installed outboard of the structural sheets and would remain for the life of the structure.

Before the closure walls are constructed, modifications to Berth 1 and Berth 11 are required. Improvements along Berth 1 would include driving steel sheet piles to create a bulkhead outboard of the existing quay wall, and placing concrete within the void between the sheet piles and the existing quay wall. This sheet pile bulkhead would provide a more impervious façade than the existing granite block quay wall to reduce water exfiltration from within the basin. The sheet pile bulkhead would be equipped with a concrete curb that would increase the height of Berth 1 by approximately 1 ft to an elevation of 15.6 ft above MLLW. To accommodate the super flood elevation improvements along Berth 11, bedrock grouting below the bulkhead from the west closure wall to the northwest corner of the basin would be installed to mitigate exfiltration along the berth. The stormwater drainage system at Berth 1 would be rerouted to a new outfall at the east end of Berth 2. The existing storm drain outfalls at Berth 11 within the limits of the basin have valves to prevent backflow of seawater into the storm drain collection system during super flood operations. The storm drain outlet piping would be modified to ensure landside drainage during super flood is accommodated.

Construction of the basin closure wall would bisect the existing Berth 11B resulting in loss of a fitting-out pier. As such, Berth 2 would replace Berth 11B for submarine outfitting. To accommodate this function, the existing fender system on Berth 2 would be relocated and expanded to accommodate fitting-out activities on the berth. Approximately 4,000 sf (surface area) of additional fender panel would be required, including 3,550 sf (surface area) below MLLW. The new fender panels would be approximately 6 inches (0.5 ft) thick and their installation below MLLW would result in a total fill volume of approximately 65 cy. No in-water pile driving would be required at Berth 2 to support pier outfitting.

Construction phasing would be required to minimize impacts on critical dry dock operations. Five notional construction phases were identified of which the first three would occur during the 2019 to 2020 period. This phasing schedule could change due to fleet mission requirements and boat schedules. The first phase of construction would occur when a boat is present and would be limited to site reconnaissance, field measurements, contractor submittals and general mobilization activities. Phase 2 would include construction of the southern closure wall and caisson seat foundation; Berth 1 and Berth 11 (A and B) improvements; Dry Dock 1 utility improvements; and dredging. Upland construction activities would include work on the Dry Dock 1 gallery improvements and commencement of the portal crane rail extension. Phase 3 would include construction of the west closure wall, caisson seat float-in, and additional Dry Dock 1 utility gallery improvements. Only the caisson seat float-in portion of Phase 3 would occur during year 1. Six temporary dolphins, comprised of eight, 14-inch H-Piles, would be installed to assist with float-in and placement of the caisson seat.

Overall, the construction work is estimated to take approximately 12 months to complete, of which pile driving/extraction/drilling would take 212 days.

A summary of in-water pile driving activity is provided in Table 1.

**Table 1. Summary of in-water pile driving activities.**

Pile purpose	Pile type	Pile size (inch)	Pile drive method	Total piles	Piles /day	Work days
Temporary structure	Steel H	14	Vibratory	32	2	16
			Impact		2	
Sheet pile wall along Berth 1	Steel sheet	24	Vibratory	320	12	27
			Impact		12	
South Closure wall construction	Steel sheet	18	Vibratory	310	12	31
			Impact		12	
	Steel H pile removal	14	Vibratory	32	8	4
	Steel sheet	24	Vibratory	52	12	5
			Impact		12	
Steel H	14	Vibratory	17	1	17	

			Impact		1	
	Steel sheet	24	Vibratory	280	12	24
			Impact		12	
	Steel pipe casing	96	Down hole	10	0.5	32
Caisson seat float-in	Steel pipe	36	Vibratory	48	1	48
			Impact	48	1	
Elevated deck support	Steel pipe	16	Vibratory	8	1	8
			Impact	8		
<b>Total</b>				<b>1,558</b>		<b>212</b>

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

### **Description of Marine Mammals in the Area of Specified Activities**

Sections 3 and 4 of the application summarize available information regarding status and trends, distribution and habitat preferences, and behavior and life history, of the potentially affected species. Additional information regarding population trends and threats may be found in NMFS's 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's website (<https://www.fisheries.noaa.gov/find-species>).

Table 2 lists all species with expected potential for occurrence in the Piscataqua River in Kittery, Maine, and summarizes information related to the population or stock, including regulatory status under the MMPA and ESA and potential biological removal (PBR), where known. For taxonomy, we follow Committee on Taxonomy (2018). 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's SARs). While no mortality is

anticipated or authorized here, PBR and annual serious injury and mortality from anthropogenic sources are included here as gross indicators of the status of the species 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’s 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’s U.S. Atlantic Marine Mammal SARs. All values presented in Table 2 are the most recent available at the time of publication and are available in the 2017 SARs (Hayes *et al.*, 2018) and draft 2018 SARs (available online at:

<https://www.fisheries.noaa.gov/national/marine-mammal-protection/draft-marine-mammal-stock-assessment-reports>).

**Table 2. Marine mammals with potential presence within the proposed project area.**

Common name	Scientific name	Stock	ESA/MMPA status; Strategic (Y/N) <sup>1</sup>	Stock abundance (CV, N <sub>min</sub> , most recent abundance survey) <sup>2</sup>	PBR	Annual M/SI <sup>3</sup>
Order Cetartiodactyla – Cetacea – Superfamily Odontoceti (toothed whales)						
Family Phocoenidae (porpoises)						
Harbor porpoise	<i>Phocoena phocoena</i>	Gulf of Maine/Bay of Fundy	-; N	79,833 (0.32, 61,415)	706	255
Order Carnivora – Superfamily Pinnipedia						
Family Phocidae (earless seals)						
Harbor seal	<i>Phoca vitulina</i>	Western North Atlantic	-; N	75,834 (0.15, 66,884)	2,006	345
Gray seal	<i>Halichoerus grypus</i>	Western North Atlantic	-; N	27,131 (0.19, 23,158)	5,688	1,389
Harp seal	<i>Pagophilus groenlandicus</i>	Western North Atlantic	-; N	7,411,000 <sup>4</sup> (NA, NA)	NA	225,687
Hooded seal	<i>Cystophora cristata</i>	Western North Atlantic	-; N	593,500 <sup>5</sup> (NA, NA)	NA	1,680

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

under the ESA within the foreseeable future. Any species or stock listed under the ESA is automatically designated under the MMPA as depleted and as a strategic stock.

<sup>2</sup>NMFS marine mammal stock assessment reports online at: <https://www.fisheries.noaa.gov/national/marine-mammal-protection/marine-mammal-stock-assessment-reports-region#reports>. CV is coefficient of variation;  $N_{\min}$  is the minimum estimate of stock abundance.

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

<sup>4</sup>Based on the latest estimates made in 2012 in Bay of Fundy (Hayes *et al.* 2018).

<sup>5</sup>Based on the latest estimates made in 2005 (Hammill and Stenson 2006).

All species that could potentially occur in the proposed action area are included in Table

2. More detailed descriptions of marine mammals in the Portsmouth Naval Shipyard project area is provided below.

### *Harbor Porpoise*

Harbor porpoises are found commonly in coastal and offshore waters of both the Atlantic and Pacific Oceans. In the western North Atlantic, the species is found in both U.S. and Canadian waters. More specifically, the species can be found between West Greenland and Cape Hatteras, North Carolina. Of those 10 stocks that occur in U.S. waters, only one, the Gulf of Maine/Bay of Fundy stock, is found along the U.S. East Coast, and thus only individuals from this stock could be found in the proposed project area. The species is primarily found over the continental shelf in waters less than approximately 500 feet deep (Hayes *et al.* 2017). In general, the species is commonly found in bays, estuaries, and harbors.

Marine mammal monitoring was conducted during the Berth 11 Waterfront Improvements project from April 2017 through December 2017 (Cianbro 2018a) and through June 2018 (Cianbro 2018b). Harbor porpoise were observed traveling quickly through the river channel and past the proposed project area. A total of 5 harbor porpoises were sighted between April 2017 and June 2018.

### *Harbor Seal*

Harbor seals can be found in nearshore waters along both the North Atlantic and North Pacific coasts, generally at latitudes above 30°North (Burns 2009). In the western Atlantic Ocean, the harbor seal's range extends from the eastern Canadian Arctic to New York; however, they can be found as far south as the Carolinas (Waring *et al.* 2015). In New England, the species can be found in coastal waters year-round (Waring *et al.* 2015).

Harbor seals are the most abundant pinniped in the Piscataqua River. They were commonly observed within the proposed project area between the months of April 2017 and June 2018 during the Berth 11 Waterfront Improvements project (Cianbro 2018a, 2018b). The primary behaviors observed during monitoring were milling (diving) that occurred almost 60 percent of the time followed by swimming and traveling by the proposed project area at 29 percent and 12 percent, respectively (Cianbro 2018a). Marine mammal surveys were conducted for one day of each month in 2017 (NAVFAC Mid-Atlantic 2018). Harbor seals were observed throughout the year and did not show any seasonality in their presence. A high frequency of seals were documented near the proposed project area and frequent the river in general as the majority of harbor seals occur along the main coast with a large portion of them hauling out at the Isles of Shoals. Pupping season for harbor seals is May to June. No harbor seal pups were observed during the surveys, and known pupping sites are north of the Maine-New Hampshire border (Waring *et al.* 2016).

### *Gray Seal*

Gray seals are a coastal species that generally remains within the continental shelf region. However, they do venture into deeper water, as they have been known to dive up to 1,560 feet to capture prey during feeding.

Gray seals within U.S. waters are considered the western North Atlantic stock and are expected to be part of the eastern Canadian population. In U.S. waters, year-round breeding of approximately 400 animals has been documented on areas of outer Cape Cod and Muskeget Island in Massachusetts. In general, this species can be found year-round in the coastal waters of the Gulf of Maine (Hayes *et al.* 2017).

Gray seals were observed within the proposed project area between the months of April and December 2017 (Cianbro 2018a) and twice during the months of January through June 2018 (Cianbro 2018b). The primary behavior observed during surveys was milling at just over 60 percent of the time followed by swimming within and traveling through the proposed project area. Only approximately 5 percent of the time were gray seals observed foraging (Cianbro 2018a). Monthly marine mammal surveys also took place during 2017 and recorded six sightings of gray seal (NAVFAC Mid-Atlantic 2018). Pupping season for gray seals is December through February. No gray seal pups were observed during the surveys, and known pupping sites for gray seals (like harbor seals) are north of the Maine-New Hampshire border (Waring *et al.* 2016).

### *Hooded Seal*

Hooded seals are generally found in deeper waters or on drifting pack ice. The hooded seal is a highly migratory species, and its range can extend from the Canadian Arctic to Puerto Rico. In U.S. waters, the species has an increasing presence in the coastal waters between Maine and Florida (Waring *et al.* 2007). In the United State, they are considered members of the western North Atlantic stock and generally occur in New England waters from January through May and further south in the summer and fall seasons (Waring *et al.* 2007).

Hooded seals have been observed in the Piscataqua River; however, they are not as abundant as the more commonly observed harbor seal. Anecdotal sighting information indicates

that two hooded seals were observed from the Shipyard in August 2009, but no other observations have been recorded (NAVFAC Mid-Atlantic 2018). Hooded seals were not observed during marine mammal monitoring or survey events that took place in 2017 and 2018 (Cianbro 2018a, b; NAVFAC Mid-Atlantic 2018).

### Harp Seal

The harp seal is a highly migratory species, and its range can extend from the Canadian Arctic to New Jersey. In U.S. waters, the species has an increasing presence in the coastal waters between Maine and New Jersey (Waring *et al.* 2014). In the United States, they are considered members of the western North Atlantic stock and generally occur in New England waters from January through May (Waring *et al.* 2014). The observed influx of harp seals and geographic distribution in New England to mid-Atlantic waters is based primarily on strandings and secondarily on fishery bycatch.

Harp seals have been observed in the Piscataqua River; however, they are not as abundant as the more commonly observed harbor seal and were last documented in the river in 2016 (NAVFAC 2016). Harp seals were not observed during marine mammal monitoring or survey events that took place in 2017 and 2018 (Cianbro 2018a,b; NAVFAC Mid-Atlantic 2018; Lamontagne 2018).

### *Marine Mammal Hearing*

Hearing is the most important sensory modality for marine mammals underwater, and exposure to anthropogenic sound can have deleterious effects. To appropriately assess the potential effects of exposure to sound, it is necessary to understand the frequency ranges marine mammals are able to hear. Current data indicate that not all marine mammal species have equal hearing capabilities (*e.g.*, Richardson *et al.*, 1995; Wartzok and Ketten, 1999; Au and Hastings,

2008). To reflect this, Southall *et al.* (2007) recommended that marine mammals be divided into functional hearing groups based on directly measured or estimated hearing ranges on the basis of available behavioral response data, audiograms derived using auditory evoked potential techniques, anatomical modeling, and other data. Note that no direct measurements of hearing ability have been successfully completed for mysticetes (*i.e.*, low-frequency cetaceans). Subsequently, NMFS (2018) described generalized hearing ranges for these marine mammal hearing groups. Generalized hearing ranges were chosen based on the approximately 65 decibel (dB) threshold from the normalized composite audiograms, with the exception for lower limits for low-frequency cetaceans where the lower bound was deemed to be biologically implausible and the lower bound from Southall *et al.* (2007) retained. Marine mammal hearing groups and their associated hearing ranges are provided in Table 3.

**Table 3. Marine Mammal Hearing Groups (NMFS, 2018).**

Hearing Group	Generalized Hearing Range*
Low-frequency (LF) cetaceans (baleen whales)	7 Hz to 35 kHz
Mid-frequency (MF) cetaceans (dolphins, toothed whales, beaked whales, bottlenose whales)	150 Hz to 160 kHz
High-frequency (HF) cetaceans (true porpoises, <i>Kogia</i> , river dolphins, cephalorhynchid, <i>Lagenorhynchus cruciger</i> & <i>L. australis</i> )	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>i.e.</i> , 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 <i>et al.</i> 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. Five marine mammal species (one cetacean and four pinniped (all phocid) species) have the reasonable potential to co-occur with the proposed survey activities. Please refer to Table 2. Of the cetacean species that may be present, the harbor porpoise is classified as a high-frequency cetacean.

### **Potential Effects of Specified Activities on Marine Mammals and their Habitat**

This section includes a summary and discussion of the ways that components of the specified activity may impact marine mammals and their habitat. The *Estimated Take* section later in this document includes a quantitative analysis of the number of individuals that are expected to be taken by this activity. The *Negligible Impact Analysis and Determination* section considers the content of this section, the *Estimated Take* section, and the *Proposed Mitigation* section, to draw conclusions regarding the likely impacts of these activities on the reproductive success or survivorship of individuals and how those impacts on individuals are likely to impact marine mammal species or stocks.

Potential impacts to marine mammals from the Portsmouth Naval Shipyard modification and expansion project are from noise generated during in-water pile driving activities.

#### *Acoustic Effects*

Acoustic effects to marine mammals from the proposed Portsmouth Naval Shipyard modification and expansion construction mainly include behavioral disturbance and temporary masking for animals in the area. A few individual animals could experience mild levels of temporary and/or permanent hearing threshold shift.

The Portsmouth Naval Shipyard modification and expansion construction project using in-water pile driving could adversely affect marine mammal species and stocks by exposing them to elevated noise levels in the vicinity of the activity area.

*Threshold Shift (noise-induced loss of hearing)* – Exposure to high intensity sound for a sufficient duration may result in auditory effects such as a noise-induced threshold shift (TS) — an increase in the auditory threshold after exposure to noise (Finneran *et al.*, 2005). Factors that influence the amount of threshold shift include the amplitude, duration, frequency content, temporal pattern, and energy distribution of noise exposure. The magnitude of hearing threshold shift normally decreases over time following cessation of the noise exposure. The amount of TS just after exposure is the initial TS. If the TS eventually returns to zero (*i.e.*, the threshold returns to the pre-exposure value), it is a temporary threshold shift (TTS) (Southall *et al.*, 2007). When animals exhibit reduced hearing sensitivity (*i.e.*, sounds must be louder for an animal to detect them) following exposure to an intense sound or sound for long duration, it is referred to as a noise-induced TS. An animal can experience TTS or permanent threshold shift (PTS). TTS can last from minutes or hours to days (*i.e.*, there is complete recovery), can occur in specific frequency ranges (*i.e.*, an animal might only have a temporary loss of hearing sensitivity between the frequencies of 1 and 10 kHz), and can be of varying amounts (for example, an animal's hearing sensitivity might be reduced initially by only 6 dB or reduced by 30 dB). PTS is permanent, but some recovery is possible. PTS can also occur in a specific frequency range and amount as mentioned above for TTS.

For marine mammals, published data are limited to the captive bottlenose dolphin, beluga, harbor porpoise, and Yangtze finless porpoise (Finneran, 2015). For pinnipeds in water,

data are limited to measurements of TTS in harbor seals, an elephant seal, and California sea lions (Kastak *et al.*, 1999, 2005; Kastelein *et al.*, 2012b).

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

Marine mammal hearing plays a critical role in communication with conspecifics, and interpretation of environmental cues for purposes such as predator avoidance and prey capture. Depending on the degree (elevation of threshold in dB), duration (*i.e.*, recovery time), and frequency range of TTS, and the context in which it is experienced, TTS can have effects on marine mammals ranging from discountable to serious (similar to those discussed in auditory masking, below). For example, a marine mammal may be able to readily compensate for a brief, relatively small amount of TTS in a non-critical frequency range that occurs during a time where ambient noise is lower and there are not as many competing sounds present. Alternatively, a larger amount and longer duration of TTS sustained during time when communication is critical

for successful mother/calf interactions could have more serious impacts. Also, depending on the degree and frequency range, the effects of PTS on an animal could range in severity, although it is considered generally more serious because it is a permanent condition. Of note, reduced hearing sensitivity as a simple function of aging has been observed in marine mammals, as well as humans and other taxa (Southall *et al.*, 2007), so one can infer that strategies exist for coping with this condition to some degree, though likely not without cost.

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

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

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

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

The onset of behavioral disturbance from anthropogenic noise depends on both external factors (characteristics of noise sources and their paths) and the receiving animals (hearing, motivation, experience, demography) and is also difficult to predict (Southall *et al.*, 2007). Currently NMFS uses a received level of 160 dB re 1  $\mu$ Pa (rms) to predict the onset of behavioral disturbance from intermittent noises (such as impact pile driving), and 120 dB re 1  $\mu$ Pa (rms) for

continuous noises (such as vibratory pile driving). For the Portsmouth Naval Shipyard modification and expansion construction project, both 160- and 120-dB levels are considered for effects analysis because the Navy plans to conduct both impact and vibratory pile driving.

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

#### *Potential Effects on Marine Mammal Habitat*

Temporary and localized reduction in water quality will occur as a result of in-water construction activities. Most of this effect will occur during the installation of piles when bottom sediments are disturbed. Effects to turbidity and sedimentation are expected to be short-term, minor, and localized. Currents are strong in the area and, therefore, suspended sediments in the water column should dissipate and quickly return to background levels. Following the completion of sediment-disturbing activities, the turbidity levels are expected to return to normal ambient levels following the end of construction. Turbidity within the water column has the potential to reduce the level of oxygen in the water and irritate the gills of prey fish species in the proposed project area. However, turbidity plumes associated with the project would be temporary and localized, and fish in the proposed project area would be able to move away from and avoid the areas where plumes may occur. Therefore, it is expected that the impacts on prey fish species from turbidity, and therefore on marine mammals, would be minimal and temporary. In general, the area likely impacted by the project is relatively small compared to the available habitat in Great Bay Estuary, and there is no biologically important area for marine mammals

that could be affected. As a result, activity at the project site would be inconsequential in terms of its effects on marine mammal foraging.

The greatest potential impact to fish during construction would occur during impact pile driving when pile driving will exceed the established underwater noise injury thresholds for fish. However, the duration of impact pile driving would be limited to the final stage of installation (“proofing”) after the pile has been driven as close as practicable to the design depth with a vibratory driver. Vibratory pile driving would possibly elicit behavioral reactions from fish such as temporary avoidance of the area but is unlikely to cause injuries to fish or have persistent effects on local fish populations. In addition, it should be noted that the area in question is low-quality habitat since it is already highly developed and experiences a high level of anthropogenic noise from normal Shipyard operations and other vessel traffic. In general, impacts on marine mammal prey species are expected to be minor and temporary.

All marine mammal species using habitat near the proposed project area are primarily transiting the area; no known foraging or haulout areas are located within 1.5 miles of the proposed project area. The most likely impacts on marine mammal habitat for the project are from underwater noise, turbidity, and potential effects on the food supply. However, it is not expected that any of these impacts would be significant.

Construction may have temporary impacts on benthic invertebrate species, another marine mammal prey source. Direct benthic habitat loss would result with the permanent loss of approximately 3.5 acres of benthic habitat from construction of the super flood basin. However, the areas to be permanently removed are beneath and adjacent to the existing berths along the Shipyard’s industrial waterfront and are regularly disturbed as part of the construction dredging to maintain safe navigational depths at the berths. Further, vessel activity at the berths creates

minor disturbances of benthic habitats (*e.g.*, vessel propeller wakes) during waterfront operations. Therefore, impacts of the project are not likely to have adverse effects on marine mammal foraging habitat in the proposed project area.

### **Estimated Take**

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

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

Authorized takes would primarily be by Level B harassment, as noise generated from in-water pile driving (vibratory and impact) has the potential to result in disruption of behavioral patterns for individual marine mammals. There is also some potential for auditory injury (Level A harassment) to result for some harbor porpoises and harbor and gray seals. The proposed mitigation and monitoring measures are expected to minimize the severity of such taking to the extent practicable.

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

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 basic factors can contribute to a basic calculation to provide an initial prediction of 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 estimate.

#### *Acoustic Thresholds*

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

Level B Harassment for non-explosive sources – Though significantly driven by received level, the onset of behavioral disturbance from anthropogenic noise exposure is also informed to varying degrees by other factors related to the source (*e.g.*, frequency, predictability, duty cycle), the environment (*e.g.*, bathymetry), and the receiving animals (hearing, motivation, experience, demography, behavioral context) and can be difficult to predict (Southall *et al.*, 2007, Ellison *et al.*, 2012). Based on what the available science indicates and the practical need to use a threshold based on a factor that is both predictable and measurable for most activities, NMFS uses a generalized acoustic threshold based on received level to estimate the onset of behavioral harassment. NMFS predicts that marine mammals are likely to be behaviorally harassed in a

manner we consider Level B harassment when exposed to underwater anthropogenic noise above received levels of 120 dB re 1  $\mu$ Pa (rms) for continuous (*e.g.*, vibratory pile-driving, drilling) and above 160 dB re 1  $\mu$ Pa (rms) for impulsive and/or intermittent (*e.g.*, impact pile driving) sources.

The Navy’s Portsmouth Naval Shipyard modification and expansion project includes the use of continuous (vibratory pile driving and down-the-hole driving by rock drilling) and impulsive (impact pile driving) sources, and therefore the 120 and 160 dB re 1  $\mu$ Pa (rms) are applicable.

Level A harassment for non-explosive sources - NMFS’ Technical Guidance for Assessing the Effects of Anthropogenic Sound on Marine Mammal Hearing (Version 2.0) (Technical Guidance, 2018) identifies dual criteria to assess auditory injury (Level A harassment) to five different marine mammal groups (based on hearing sensitivity) as a result of exposure to noise from two different types of sources (impulsive or non-impulsive). The Navy’s Portsmouth Naval Shipyard modification and expansion includes the use of impulsive (impact pile driving) and non-impulsive (vibratory pile driving and down-the-hole driving) sources.

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

**Table 4. Thresholds identifying the onset of Permanent Threshold Shift.**

Hearing Group	PTS Onset Acoustic Thresholds* (Received Level)	
	Impulsive	Non-impulsive
Low-Frequency (LF) Cetaceans	<i>Cell 1</i> $L_{pk,flat}$ : 219 dB $L_{E,LF,24h}$ : 183 dB	<i>Cell 2</i> $L_{E,LF,24h}$ : 199 dB

<b>Mid-Frequency (MF) Cetaceans</b>	<i>Cell 3</i> $L_{pk,flat}$ : 230 dB $L_{E, MF, 24h}$ : 185 dB	<i>Cell 4</i> $L_{E, MF, 24h}$ : 198 dB
<b>High-Frequency (HF) Cetaceans</b>	<i>Cell 5</i> $L_{pk,flat}$ : 202 dB $L_{E, HF, 24h}$ : 155 dB	<i>Cell 6</i> $L_{E, HF, 24h}$ : 173 dB
<b>Phocid Pinnipeds (PW) (Underwater)</b>	<i>Cell 7</i> $L_{pk,flat}$ : 218 dB $L_{E, PW, 24h}$ : 185 dB	<i>Cell 8</i> $L_{E, PW, 24h}$ : 201 dB
<b>Otariid Pinnipeds (OW) (Underwater)</b>	<i>Cell 9</i> $L_{pk,flat}$ : 232 dB $L_{E, OW, 24h}$ : 203 dB	<i>Cell 10</i> $L_{E, OW, 24h}$ : 219 dB
<p>* 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.</p> <p><u>Note:</u> Peak sound pressure (<math>L_{pk}</math>) has a reference value of 1 <math>\mu</math>Pa, and cumulative sound exposure level (<math>L_E</math>) has a reference value of 1<math>\mu</math>Pa<sup>2</sup>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 being included to indicate peak sound pressure should be flat weighted or unweighted within the generalized hearing range. The subscript associated with cumulative sound exposure level thresholds indicates the designated marine mammal auditory weighting function (LF, MF, and HF cetaceans, and PW and OW pinnipeds) and that the recommended accumulation period is 24 hours. The cumulative sound exposure level thresholds could be exceeded in a multitude of ways (<i>i.e.</i>, 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.</p>		

### *Ensonified Area*

Here, we describe operational and environmental parameters of the activity that will feed into identifying the area ensonified above the acoustic thresholds, which include source levels and transmission loss coefficient.

### Source Levels

The project includes impact pile driving, vibratory pile driving and pile removal, and drilling for down-the-hole piling activities. Source levels of pile driving activities are based on reviews of measurements of the same or similar types and dimensions of piles available in the

literature. Based on this review, the following source levels are assumed for the underwater noise produced by construction activities:

- Vibratory driving of 36-inch steel piles would be assumed to generate a root-mean-squared (rms) sound pressure level (SPL) and sound exposure level (SEL) of 175 dB re 1  $\mu\text{Pa}^2\text{-sec}$  at 10 m, based on the averaged source level of the same type of pile reported by California Department of Transportation (Caltrans) in a pile driving source level compendium document (Caltrans, 2015);
- Impact driving of 36-inch steel piles would be assumed to generate an instantaneous peak SPL ( $\text{SPL}_{\text{pk}}$ ) of 209 dB re 1  $\mu\text{Pa}$ , an rms SPL of 198 dB re 1  $\mu\text{Pa}$ , and single-strike SEL ( $\text{SEL}_{\text{ss}}$ ) of 183 dB re 1  $\mu\text{Pa}^2\text{-sec}$  at the 10 m distance, based on the weighted average of similar pile driving at the Bangor Naval Base, Naval Base Point Loma, CA (NAVFAC 2012), Washington State Department of Transportation (WSDOT) Anacortes Ferry Terminal (Laughlin 2012), and WSDOT Mukilteo Ferry Terminal (Laughlin 2007) that was analyzed in the Navy New London Submarine Base dock construction IHA application (NAVFAC 2016);
- Vibratory removal of 14-inch steel H-piles is conservatively assumed to have rms SPL and SEL values of 158 dB re 1  $\mu\text{Pa}^2\text{-sec}$  at 10 m distance based on a relatively large set of measurements from the vibratory installation of 14-inch H-piles reported by Caltrans (2015);
- Impact driving of 14-inch steel H-piles is assumed to generate a  $\text{SPL}_{\text{pk}}$  of 194 dB re 1  $\mu\text{Pa}$ , rms SPL of 177 dB re 1  $\mu\text{Pa}$ , and  $\text{SEL}_{\text{ss}}$  of 162 dB re 1  $\mu\text{Pa}^2\text{-sec}$  at 10 m distance based on measurements on the same piles conducted during the Portsmouth Naval Shipyard construction in 2018 (NAVFAC Mid-Atlantic, 2018);

- Vibratory driving of 18- and 24-inch sheet pile is assumed to have an rms SPL and SEL of 163 dB re 1  $\mu\text{Pa}^2$ -sec based on measurements conducted at 10 m by the NAVFAC Mid-Atlantic (2018);
- Impact driving of 18- and 24-inch sheet pile is assumed to have a  $\text{SPL}_{\text{pk}}$  of 205 dB re 1  $\mu\text{Pa}$ , an rms SPL of 190 dB re 1  $\mu\text{Pa}$ , and a  $\text{SEL}_{\text{ss}}$  of 180 dB re 1  $\mu\text{Pa}^2$ -sec based on data reported in the Caltrans compendium (Caltrans 2015) for the same piles;
- Down-the-hole drilling of 96-inch steel pile casing is assumed to have an rms SPL and SEL of 166.2 dB re 1  $\mu\text{Pa}^2$ -sec based on measurements conducted at the Kodiak Ferry Terminal, AK (Austin *et al.*, 2016);
- Vibratory pile driving of 16-inch steel pile is assumed to have an rms SPL and SEL of 162 dB re 1  $\mu\text{Pa}^2$ -sec based on measurements for the same piles at Naval Base Kitsap at Bangor, WA (Illingworth and Rodkin 2013); and
- Impact driving of 16-inch steel pile is assumed to have a  $\text{SPL}_{\text{pk}}$  of 182 dB re 1  $\mu\text{Pa}$ , an rms SPL of 163 dB re 1  $\mu\text{Pa}$ , and a  $\text{SEL}_{\text{ss}}$  of 158 dB re 1  $\mu\text{Pa}^2$ -sec based on levels from the same pile reported in the Caltrans compendium (Caltrans 2015).

A summary of source levels from different pile driving activities is provided in Table 5.

**Table 5. Summary of in-water pile driving source levels (at 10 m from source).**

Method	Pile type / size (inch)	SEL, dB re 1 $\mu\text{Pa}^2$ -s	$\text{SPL}_{\text{rms}}$ , dB re 1 $\mu\text{Pa}$	$\text{SPL}_{\text{pk}}$ , dB re 1 $\mu\text{Pa}$	Measured distance	Origin
Vibratory pile driving	Steel, 36-inch	175	175	NA	10 m	Caltrans
Impact pile driving	Steel, 36-inch	183	198	209	10 m	Navy New London
Vibratory pile driving	Steel H, 14-inch	158	158	NA	10 m	Caltrans
Impact pile driving	Steel H, 14-	162	177	194	10 m	Navy

	inch					Portsmouth SSV
Vibratory pile driving	Steel sheet, 24-inch & 18-inch	163	163	NA	10 m	NAVFAC Atlantic Fleet
Impact pile driving	Steel sheet, 24-inch & 18-inch	180	190	205	10 m	Caltrans
Down-the-hole piling	Steel pile casing 96- inch	166.2	166.2	NA	10 m	Kodiak, AK
Vibratory pile driving	Steel, 16-inch	162	162	NA	10 m	Naval Base Kitsap Bangor, WA
Impact pile driving	Steel, 16-inch	158	163	182	10 m	Caltrans

These source levels are used to compute the Level A harassment zones and to estimate the Level B harassment zones. For Level A harassment zones, since the peak source levels for are below the injury thresholds, cumulative SEL were used to do the calculations using the NMFS acoustic guidance (NMFS 2018).

The Level B harassment distances for pile driving are calculated using practical spreading with source levels provided in Table 5. Ensonified areas ( $A$ ) are calculated using the following equation.

$$A = \pi R^2 \quad (1)$$

where  $R$  is the harassment distance.

However, the maximum distance from the source is capped at 10,000 m (6.2 miles) due to landmass interception in the surrounding area. For this reason, the maximum area that could be ensonified by noise from pile driving activities is mapped at 0.8544 km<sup>2</sup> (0.33 square miles)

Therefore, all calculated Level B harassment areas that are larger than 0.8544 km<sup>2</sup> based on Equation (1) are corrected to this maximum value.

When the original NMFS Technical Guidance (2016) was published, in recognition of the fact that ensonified area/volume could be more technically challenging to predict because of the duration component in the new thresholds, NMFS developed a User Spreadsheet that includes tools to help predict a simple isopleth that can be used in conjunction with marine mammal density or occurrence to help predict takes. We note that because of some of the assumptions included in the methods used for these tools, we anticipate that isopleths produced are typically going to be overestimates of some degree, which may result in some degree of overestimate of Level A harassment take. However, these tools offer the best way to predict appropriate isopleths when more sophisticated 3D modeling methods are not available, and NMFS continues to develop ways to quantitatively refine these tools, and will qualitatively address the output where appropriate. For stationary sources such as in-water vibratory and impact pile driving, NMFS User Spreadsheet predicts the closest distance at which, if a marine mammal remained at that distance the whole duration of the activity, it would not incur PTS. Inputs used in the User Spreadsheet (pile driving duration or number of strikes for each pile, and the number of piles installed or removed per day), and the resulting isopleths are reported below in Table 6.

For all calculations, the results based on SEL<sub>ss</sub> are larger than SPL<sub>pk</sub>, therefore, distances calculated using SEL<sub>ss</sub> are used to calculate the areas. The Level A harassment areas are calculated using the same Equation (1), with corrections to reflect the largest possible area of 0.8544 km<sup>2</sup> if the calculation value was larger.

The modeled distances to Level A and Level B harassment zones for various marine mammals are provided in Table 6. As discussed above, the only marine mammals that could

occur in the vicinity of the project area are harbor porpoise (high-frequency cetacean) and four species of true seals (phocid).

**Table 6. Distances and Areas of Harassment Zones.**

Pile type, size & driving method	Duration (sec) or # strikes per pile	Level A harassment				Level B harassment	
		HF cetacean		Phocid		Dist. (m)	Area (km <sup>2</sup> )
		Dist. (m)	Area (km <sup>2</sup> )	Dist. (m)	Area (km <sup>2</sup> )		
Vibratory drive 14-inch H-pile (2 pile/day)	300	1.9	0.000	0.8	0.000	3414.5	0.854*
Impact drive 14-inch H-pile (2 pile/day)	300	33.7	0.036	15.1	0.007	135.9	0.06
Vibratory drive 24-inch sheet pile (12 pile/day)	300	13.7	0.001	5.6	0.001	7356.4	0.854
Impact drive 18-inch & 24-inch sheet pile (12 pile/day)	300	1763	0.854	792	0.854	1000	0.854
Vibratory removal 14-inch H-pile (8 pile/day)	300	4.9	0.001	2	0.000	3414	0.854
Vibratory drive 14-inch H-pile (1 pile/day)	300	1.2	0.000	0.5	0.000	3414	0.854
Impact drive 14-inch H-pile (1 pile/day)	300	21.2	0.001	9.5	0.000	135.9	0.06
Down-hole drive 96-inch steel casing (0.5 pile/day)	28800	56.5	0.010	23.2	0.002	10000	0.854
Vibratory drive 36-inch steel pipe pile (1 pile/day)	300	16.5	0.001	6.8	0.000	10000	0.854
Impact drive 36-inch steel pipe pile (1 pile/day)	300	533.1	0.439	239.5	0.123	3414.5	0.854
Vibratory drive 16-inch steel pipe pile (1 pile/day)	300	2.2	0.000	0.9	0.000	6310	0.854
Impact drive 16-inch steel pipe pile (1 pile/day)	300	11.5	0.000	5.2	0.000	15.8	0.008

\* 0.854 km<sup>2</sup> is the maximum ensonified area in the project area due to landmass that blocks sound propagation.

*Marine Mammal Occurrence*

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

Marine mammal density estimates for harbor porpoise, harbor seal, and gray seal are derived based on marine mammal monitoring during 2017 and 2018 (CIANBRO 2018a, b). Density values were calculated from visual sightings of all marine mammals divided by the monitoring days (a total of 154 days) and the total ensonified area in the 2017 and 2018 activities (0.8401 km<sup>2</sup>). Details used for calculations are provided in Table 7 and described below.

**Table 7. Marine mammal sightings and resulting density in the vicinity of Portsmouth Naval Shipyard project area.**

Species	2017 sighting (96 days)	2018 sighting (58 days)	Total sighting	Density (animal/day/km <sup>2</sup> )
Harbor porpoise	3	2	5	0.04
Harbor seal	199	122	321	2.48
Gray seal	24	2	26	0.20

During construction monitoring in the project area 3 harbor porpoise were sighted between April and December of 2017 and 2 harbor porpoise were sighted in early August of 2018. From this data, density of harbor porpoise for the largest ensonified zone was determined to be 0.04/km<sup>2</sup>. Harbor seals are the most common pinniped in the Piscataqua River near the Shipyard. Sightings of this species were recorded during monthly surveys conducted in 2017 as well as during Berth 11 construction monitoring in 2017 and 2018. Density for harbor seals based on the Berth 11 Waterfront Improvement Construction was determined to be 2.48 /km<sup>2</sup>. Sightings of gray seals were recorded during monthly surveys conducted in 2017 as well as during Berth 11 construction monitoring in 2017 and 2018. Density for harbor seals was based

on the Berth 11 Waterfront Improvement Construction monitoring and was determined to be 0.20/km<sup>2</sup>.

Hooded and harp seals are much rarer than the harbor and gray seals in the Piscataqua River, and no density information for these two species is available. To date, marine mammal monitoring during prior IHAs has not recorded a sighting of a hooded or harp seal in the project area.

#### *Take Calculation and Estimation*

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

For marine mammals with known density information (*i.e.*, harbor porpoise, harbor seal, and gray seal), in general, estimated Level A harassment take numbers are calculated using the following equation:

$$\text{Estimated take} = \text{animal density} \times \text{ensonified area} \times \text{operating days} \quad (2)$$

For Level B harassment takes, the same equation (2) was used but then adjusted by subtracting the estimated Level A harassment takes. However, the estimated takes are calculated assuming the animals are uniformly distributed within the action area without forming groups. In reality, porpoises and seals are often active in small groups of two to three animals. Therefore, to account for potential group encounters during the construction activity, the estimated Level B harassment takes are adjusted upwards to form the basis of the proposed take authorization.

NMFS authorized one Level B harassment take per month each of a hooded seal and a harp seal for the Berth 11 Waterfront Improvements Construction project in 2018. The Navy is requesting authorization of one Level B harassment take each of hooded seal and harp seal per

month of construction from January through May when these species may occur (Total of 5 Level B harassment takes for each species).

A summary of estimated and proposed takes is presented in Table 8.

**Table 8. Estimated and proposed takes of marine mammals.**

<b>Species</b>	<b>Estimated Level A take</b>	<b>Estimated Level B take</b>	<b>Estimated total take</b>	<b>Percent population</b>
Harbor porpoise	5	12	17	0.02%
Harbor seal	287	400	687	0.91%
Gray seal	25	35	60	0.21%
Hooded seal	0	5	5	0.00%
Harp seal	0	5	5	0.00%

### **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 such activity, and other means of effecting the least practicable impact on such species or stock and its habitat, paying particular attention to rookeries, mating grounds, and areas of similar significance, and on the availability of such species or stock for taking for certain subsistence uses. NMFS regulations require applicants for incidental take authorizations to include information about the availability and feasibility (economic and technological) of equipment, methods, and manner of conducting such activity or other means of effecting the least practicable adverse impact upon the affected species or stocks and their habitat (50 CFR 216.104(a)(11)).

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

(1) The manner in which, and the degree to which, the successful implementation of the measure(s) is expected to reduce impacts to marine mammals, marine mammal species or stocks,

and their habitat. This considers the nature of the potential adverse impact being mitigated (likelihood, scope, range). It further considers the likelihood that the measure will be effective if implemented (probability of accomplishing the mitigating result if implemented as planned), the likelihood of effective implementation (probability implemented as planned), and;

(2) The practicability of the measures for applicant implementation, which may consider such things as cost, impact on operations, and, in the case of a military readiness activity, personnel safety, practicality of implementation, and impact on the effectiveness of the military readiness activity.

1. Time Restriction.

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

2. Establishing and Monitoring Level A and Level B Harassment Zones and Shutdown Zones.

Before the commencement of in-water construction activities, which include impact pile driving, vibratory pile driving and pile removal, and down-the-hole drilling, the Navy shall establish Level A harassment zones where received underwater  $SEL_{cum}$  could cause PTS (see Table 6 above).

The Navy shall also establish Level B harassment zones where received underwater SPLs are higher than  $160 \text{ dB}_{rms}$  re  $1 \mu\text{Pa}$  for impulsive noise sources (impact pile driving) and  $120 \text{ dB}_{rms}$  re  $1 \mu\text{Pa}$  for continuous noise sources (vibratory pile driving, pile removal, and down-the-hole drilling) (see Table 6 above).

The Navy shall establish shutdown zones based on Level A harassment distance up to a maximum of 110 m for harbor porpoise and 50 m for seals from the source but no less than 10 m for all in-water construction work. A summary of the shutdown zones is provided in Table 9.

**Table 9. Shutdown distances for various pile driving activities and marine mammal hearing groups.**

Pile type, size & driving method	Shutdown distance (m)	
	HF cetacean	Phocid
Vibratory drive 14-inch H-pile (2 pile/day)	10	10
Impact drive 14-inch H-pile (2 pile/day)	35	20
Vibratory drive 24-inch sheet pile (12 pile/day)	20	10
Impact drive 18-inch & 24-inch sheet pile (12 pile/day)	110	50
Vibratory removal 14-inch H-pile (8 pile/day)	10	10
Vibratory drive 14-inch H-pile (1 pile/day)	10	10
Impact drive 14-inch H-pile (1 pile/day)	25	10
Down-the-hole drilling 96-inch steel casing (0.5 pile/day)	60	25
Vibratory drive 36-inch steel pipe pile (1 pile/day)	20	10
Impact drive 36-inch steel pipe pile (1 pile/day)	110	50
Vibratory drive 16-inch steel pipe pile (1 pile/day)	10	10
Impact drive 16-inch steel pipe pile (1 pile/day)	15	10

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

If pile driving of a segment ceases for 30 minutes or more and a marine mammal is sighted within the designated exclusion zone prior to commencement of pile driving, the observer(s) must notify the pile driving operator (or other authorized individual) immediately

and continue to monitor the exclusion zone. Operations may not resume until the marine mammal has exited the exclusion zone or 15 minutes have elapsed since the last sighting.

### 3. Shutdown Measures

The Navy shall implement shutdown measures if a marine mammal is detected within the shutdown zones listed in Table 9.

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

### 4. Soft Start

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

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

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

## **Proposed Monitoring and Reporting**

In order to issue an 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 in the proposed action area. Effective reporting is critical both to compliance as well as ensuring that the most value is obtained from the required monitoring.

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

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

- Effects on marine mammal habitat (*e.g.*, marine mammal prey species, acoustic habitat, or other important physical components of marine mammal habitat); and
- Mitigation and monitoring effectiveness.

#### *Proposed Monitoring Measures*

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

#### Protected Species Observer Qualifications

NMFS-approved PSOs shall meet the following requirements:

1. Independent observers (*i.e.*, not construction personnel) are required;
2. At least one observer must have prior experience working as an observer;
3. Other observers may substitute education (undergraduate degree in biological science or related field) or training for experience;
4. Where a team of three or more observers are required, one observer should be designated as lead observer or monitoring coordinator. The lead observer must have prior experience working as an observer; and
5. NMFS will require submission and approval of observer CVs.

#### Marine Mammal Monitoring Protocols

The Navy shall conduct briefings between construction supervisors and crews and the PSO team prior to the start of all pile driving activities, and when new personnel join the work,

in order to explain responsibilities, communication procedures, marine mammal monitoring protocol, and operational procedures. All personnel working in the project area shall watch the Navy's Marine Species Awareness Training video. An informal guide shall be included with the monitoring plan to aid in identifying species if they are observed in the vicinity of the project area.

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

- PSOs will be primarily located on docks and piers at the best vantage point(s) in order to properly see the entire shutdown zone(s);
- PSOs will be located at the best vantage point(s) to observe the zone associated with behavioral impact thresholds;
- During all observation periods, PSOs will use high-magnification (25X), as well as standard handheld (7X) binoculars, and the naked eye to search continuously for marine mammals;
- Monitoring distances will be measured with range finders. Distances to animals will be based on the best estimate of the PSO, relative to known distances to objects in the vicinity of the PSO;
- Bearings to animals will be determined using a compass;
- Pile driving shall only take place when the shutdown zones are visible and can be adequately monitored. If conditions (*e.g.*, fog) prevent the visual detection of marine mammals, activities with the potential to result in Level A harassment shall not be initiated. If such

conditions arise after the activity has begun, impact pile driving would be halted but vibratory pile driving or extraction would be allowed to continue;

- At least two (2) PSOs shall be posted to monitor marine mammals during in-water pile driving and pile removal;

- Pre-Activity Monitoring:

The shutdown zones will be monitored for 30 minutes prior to in-water construction/demolition activities. If a marine mammal is present within a shutdown zone, the activity will be delayed until the animal(s) leaves the shutdown zone. Activity will resume only after the PSO has determined that, through sighting or by waiting 15 minutes, the animal(s) has moved outside the shutdown zone. If a marine mammal is observed approaching the shutdown zone, the PSO who sighted that animal will notify all other PSOs of its presence.

- During Activity Monitoring:

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

- Post-Activity Monitoring:

Monitoring of all Level A harassment zones and two-thirds of the Level B harassment zones will continue for 30 minutes following the completion of the activity.

Information Collection:

PSOs shall collect the following information during marine mammal monitoring:

- Date and time that monitored activity begins and ends for each day conducted (monitoring period);
- Construction activities occurring during each daily observation period, including how many and what type of piles driven;
- Deviation from initial proposal in pile numbers, pile types, average driving times, etc.;
- Weather parameters in each monitoring period (*e.g.*, wind speed, percent cloud cover, visibility);
- Water conditions in each monitoring period (*e.g.*, sea state, tide state);
- For each marine mammal sighting:
  - Species, numbers, and, if possible, sex and age class of marine mammals;
  - Description of any observable marine mammal behavior patterns, including bearing and direction of travel and distance from pile driving activity;
  - Location and distance from pile driving activities to marine mammals and distance from the marine mammals to the observation point; and
  - Estimated amount of time that the animals remained in the Level B zone;
- Description of implementation of mitigation measures within each monitoring period (*e.g.*, shutdown or delay);
- Other human activity in the area within each monitoring period

To verify the required monitoring distance, the shutdown zones and harassment zones will be determined by using a range finder or hand-held global positioning system device.

#### *Reporting Measures*

The Navy is required to submit a draft monitoring report within 90 days after completion of the construction work or the expiration of the IHA (if issued), whichever comes earlier. If Navy intends to renew the IHA (if issued) in a subsequent year, a monitoring report should be submitted no less than 60 days before the expiration of the current IHA (if issued). This report would detail the monitoring protocol, summarize the data recorded during monitoring, and estimate the number of marine mammals that may have been harassed. NMFS would have an opportunity to provide comments on the report, and if NMFS has comments, The Navy would address the comments and submit a final report to NMFS within 30 days.

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

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

### **Negligible Impact Analysis and Determination**

NMFS has defined negligible impact as an impact resulting from the specified activity that cannot be reasonably expected to, and is not reasonably likely to, adversely affect the species or stock through effects on annual rates of recruitment or survival (50 CFR 216.103). A negligible impact finding is based on the lack of likely adverse effects on annual rates of recruitment or survival (*i.e.*, population-level effects). An estimate of the number of takes alone

is not enough information on which to base an impact determination. In addition to considering estimates of the number of marine mammals that might be “taken” through harassment, NMFS considers other factors, such as the likely nature of any responses (*e.g.*, intensity, duration), the context of any responses (*e.g.*, critical reproductive time or location, migration), as well as effects on habitat, and the likely effectiveness of the mitigation. We also assess the number, intensity, and context of estimated takes by evaluating this information relative to population status. Consistent with the 1989 preamble for NMFS’s implementing regulations (54 FR 40338; September 29, 1989), the impacts from other past and ongoing anthropogenic activities are incorporated into this analysis via their impacts on the environmental baseline (*e.g.*, as reflected in the regulatory status of the species, population size and growth rate where known, ongoing sources of human-caused mortality, or ambient noise levels).

To avoid repetition, this introductory discussion of our analysis applies to all of the species listed in Table 2, given that the anticipated effects of the Navy’s Portsmouth Naval Shipyard modification and expansion construction project activities involving pile driving and pile removal on marine mammals are expected to be relatively similar in nature. There is no information about the nature or severity of the impacts, or the size, status, or structure of any species or stock that would lead to a different analysis by species for this activity, or else species-specific factors would be identified and analyzed.

Although some individual harbor porpoises and harbor and gray seals are estimated to experience Level A harassment in the form of PTS if they stay within the Level A harassment zone during the entire pile driving for the day, the degree of injury is expected to be mild and is not likely to affect the reproduction or survival of the individual animals. It is expected that, if hearing impairments occurs, most likely the affected animal would lose a few dB in its hearing

sensitivity, which in most cases is not likely to affect its survival and recruitment. Hearing impairment that might occur for these individual animals would be limited to the dominant frequency of the noise sources, *i.e.*, in the low-frequency region below 2 kHz. Nevertheless, as for all marine mammal species, it is known that in general these pinnipeds will avoid areas where sound levels could cause hearing impairment. Therefore it is not likely that an animal would stay in an area with intense noise that could cause severe levels of hearing damage.

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

There are no known important habitats, such as rookeries or haulouts, in the vicinity of the Navy's proposed Portsmouth Naval Shipyard modification and expansion construction project. The project also is not expected to have significant adverse effects on affected marine mammals' habitat, including prey, as analyzed in detail in the "**Anticipated Effects on Marine Mammal Habitat**" section.

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 the species or stock through effects on annual rates of recruitment or survival:

- No mortality is anticipated or authorized;
  - Some individual marine mammals are anticipated to experience a mild level of PTS, but the degree of PTS is not expected to affect their survival;
  - Most adverse effects to marine mammals are temporary behavioral harassment;
- and
- No biologically important area is present in or near the proposed construction area.

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 above, only small numbers of incidental take may be authorized under section 101(a)(5)(A) of the MMPA for specified activities other than military readiness activities. The MMPA does not define small numbers and so, in practice, NMFS compares the number of individuals taken to the most appropriate estimation of abundance of the relevant species or stock in our determination of whether an authorization is limited to small numbers of marine mammals.

The estimated takes are below one percent of the population for all marine mammals (Table 8).

Based on the analysis contained herein of the proposed activity (including the prescribed mitigation and monitoring measures) and the anticipated take of marine mammals, NMFS

preliminarily finds that small numbers of marine mammals will be taken relative to the population size of the affected species or stocks.

### **Unmitigable Adverse Impact 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 (ESA)**

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

### **Proposed Authorization**

As a result of these preliminary determinations, NMFS proposes to issue an IHA to the Navy for conducting Portsmouth Naval Shipyard Dry Dock 1 Modification and Expansion in Kittery, Maine, between October 1, 2019, and September 30, 2010, provided the previously mentioned mitigation, monitoring, and reporting requirements are incorporated. A draft of the proposed IHA can be found at <https://www.fisheries.noaa.gov/permit/incidental-take-authorizations-under-marine-mammal-protection-act>.

### **Request for Public Comments**

We request comment on our analyses, the proposed authorization, and any other aspect of this Notice of Proposed IHA for the proposed issuance of an IHA to the Navy incidence to conduct Portsmouth Naval Shipyard Dry Dock 1 Modification and Expansion in Kittery, Maine, between October 1, 2019, and September 30, 2010. We also request comment on the potential

for renewal of this proposed IHA as described in the paragraph below. Please include with your comments any supporting data or literature citations to help inform our final decision on the request for MMPA authorization.

On a case-by-case basis, NMFS may issue a second one-year IHA without additional notice when (1) another year of identical or nearly identical activities as described in the Specified Activities section is planned or (2) the activities would not be completed by the time the IHA expires and a second IHA would allow for completion of the activities beyond that described in the Dates and Duration section, provided all of the following conditions are met:

- A request for renewal is received no later than 60 days prior to expiration of the current IHA;
- The request for renewal must include the following:
  - (1) An explanation that the activities to be conducted beyond the initial dates either are identical to the previously analyzed activities or include changes so minor (*e.g.*, reduction in pile size) that the changes do not affect the previous analyses, take estimates, or mitigation and monitoring requirements; and
  - (2) A preliminary monitoring report showing the results of the required monitoring to date and an explanation showing that the monitoring results do not indicate impacts of a scale or nature not previously analyzed or authorized; and
- Upon review of the request for renewal, the status of the affected species or stocks, and any other pertinent information, NMFS determines that there are no more than minor changes in the activities, the mitigation and monitoring measures remain the same and appropriate, and the original findings remain valid.

Dated: March 28, 2019.

---

Donna S. Wieting,  
Director, Office of Protected Resources,  
National Marine Fisheries Service.

[FR Doc. 2019-06537 Filed: 4/3/2019 8:45 am; Publication Date: 4/4/2019]