

APPENDIX B  
NATURAL RESOURCE COMPLIANCE REQUIREMENTS

**Portsmouth Naval Shipyard**  
**Lifting and Handling Improvements:**  
**Structural Repairs at Berths 11A, 11B & 11C**

**Natural Resource Compliance Requirements**

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**Appendix A: U.S. Navy Beaufort Sea State Codes**

**Appendix B: Marine Mammal Sighting Form**

## **Section 1: General Natural Resource Requirements**

### **1.0 Responsibilities**

- It is the contractor's responsibility to provide and maintain environmental controls as required as required by federal and State regulations and permits. Environmental controls shall include but not be limited to erosion, sediment and dewatering controls, soil disposal requirements, Marine Mammal Protection Act mitigation and monitoring, Endangered Species Act mitigation, Magnuson-Stevens Fishery Conservation Act mitigation, and lobster mitigation requirements.
  - Environmental controls shall conform to all State, local and federal regulations and permits

## **Section 2: Marine Mammal Monitoring Requirements and Procedures–PNSY Lifting and Handling Improvements: Structural Repairs at Berths 11A, 11B and 11C**

### **2.1: Overview**

Construction activities associated with the Project have the potential to disturb or displace small numbers of marine mammals. Specifically, only underwater sounds generated from pile-installation activities (impact/vibratory pile driving, extraction, and drilling) may result in “take” in the form of Level B harassment (behavioral disturbance). Level B harassment is not anticipated from airborne sounds generated during pile installation or during other construction activities. Level A harassment is not anticipated to result from any of the construction activities, and measures designed to minimize the possibility of injury to marine mammals have been developed. Project specific requirements are discussed below.

Under Section 101 (a)(5)(D) of the MMPA, the Navy has applied for an Incidental Harassment Authorization(IHA) for the take of small numbers of marine mammals, by Level B behavioral harassment only, incidental to pile driving and drilling operations associated with the structural repairs at Berths 11A, 11B and 11C at Portsmouth Naval Shipyard, Kittery, Maine. An IHA for incidental take of marine mammals is anticipated to be received with coverage commencing on January 1, 2017 and will last for one full calendar year. No in-water pile installation or removal may occur until the IHA is received. The contractor will be responsible for requesting coverage under a new IHA for in-water construction activities during each subsequent year of the construction. The IHA process can take up to 9 months and will need to be coordinated with and submitted through the NAVFAC PWD-ME Environmental Division.

Current NOAA Fisheries Service practice regarding exposure of marine mammals to high-level sounds is that cetaceans and pinnipeds exposed to impulsive or continuous sounds of 180 and 190 dB rms or above, respectively, are considered to have been taken by Level A (injurious) harassment. Behavioral harassment (Level B) is considered to have occurred when marine mammals are exposed to sounds at or above 160 dB rms for impulse sounds (*e.g.*, impact pile driving) and 120 dB rms for continuous noise (*e.g.*, vibratory pile driving or drilling) but below injurious thresholds. Behavioral harassment may or may not result in a stress response. The criteria for vibratory pile driving would also be applicable to vibratory pile extraction. Zones of Influence (ZOIs) have been calculated for all pile driving/removal activities and are shown on Figure 6-1. The project IHA covers take of marine mammals from within those areas that fall within the Level B harassment zone (Buffer Zone).

Five marine mammal species, including one cetacean and four pinnipeds, may inhabit or transit the waters near the Shipyard in the lower Piscataqua River. These include the harbor porpoise (*Phocoena phocoena*), grey seal (*Halichoerus grypus*), harbor seal (*Phoca vitulina*), hooded seal (*Crystphora cristata*), and harp seal (*Pagophilus groenlandicus*). None of the marine mammals that may be found in the Piscataqua River are listed under the Endangered Species Act (ESA). All marine mammal species are protected under the Marine Mammal Protection Act (MMPA). The following sections discuss projected related Marine Mammal Protection Act requirements.

## **2.2: Mitigation Measures**

The modeling results for ZOIs discussed above were used to develop mitigation measures for pile driving, drilling, and extraction at Berth 11. The ZOIs effectively represent the mitigation zone that would be established to prevent Level A harassment to marine mammals.

### **2.2.1 Shutdown and Buffer Zone during Pile Driving and Removal**

- During pile driving and removal, the shutdown zone shall include all areas where the underwater SPLs are anticipated to equal or exceed the Level A (injury) harassment criteria for marine mammals (180 dB rms isopleth for cetaceans; 190 dB rms isopleth for pinnipeds). During all pile-driving and removal activities, regardless of predicted SPLs, the entire Level A zone, or shutdown zone, will be monitored to prevent injury to marine mammals from their physical interaction with construction equipment during in-water activities. Pile-driving or removal operations will cease if a marine mammal approaches the zone. Pile-driving/removal operations will restart once the marine mammal is visibly seen leaving the Level A zone, or after 15 minutes have passed with no sightings.
- During pile-driving and removal, the buffer zone shall include areas where the underwater SPLs are anticipated to equal or exceed the Level B (disturbance) harassment criteria for marine mammals (underwater: 160 dB rms isopleths for impact pile driving, 120 dB rms isopleth for vibratory pile-driving). The distance encompassing these zones will be adjusted to accommodate any difference between predicted and measured sound levels.
- All buffer and shutdown zones will initially be based on the distances from the source that were predicted for each threshold level.

### **2.2.2 Shutdown Zone during Other In-water Construction or Demolition Activities**

- During all in-water construction or demolition activities having the potential to affect marine mammals, in order to prevent injury from physical interaction with construction equipment, a shutdown zone of 33 feet will be implemented to ensure marine mammals are not present within this zone. These activities could include, but are not limited to: 1) the movement of a barge to the construction site, or 2) the removal of a pile from the water column/substrate via a crane (i.e., a “dead pull”).

### **2.2.3 Visual Monitoring**

- Impact Installation: Monitoring will be conducted within the Level A harassment shutdown zone during all pile-driving operations and the Level B harassment buffer zone during two-thirds of pile-driving days. Monitoring will take place from 15 minutes prior to initiation through 30 minutes post-completion of pile-driving/removal activities.
- A minimum of two marine species observers will be in place during all pile-driving/removal operations. Marine species observers ("observer(s)") designated by the contractor will be placed at the best vantage point(s) practicable to monitor for marine mammals and implement shutdown/delay procedures when applicable by calling for the shutdown to equipment operators. The observer(s) shall have no other construction-related tasks while conducting monitoring and will be trained on the observation zones, potential species, how to observe, and how to fill out the data sheets by the Navy Natural Resources Manager prior to any pile-driving activities.

- The Navy shall conduct a pre-construction briefing with the contractor. During the briefing, all contractor personnel working in the Project area will watch the Navy's Marine Species Awareness Training video. An informal guide will be included with the monitoring plan to aid in identifying species if they are observed in the vicinity of the Project area.
- Prior to the start of pile-driving/removal activity, the shutdown and safety zones will be monitored for 15 minutes to ensure that they are clear of marine mammals. Pile-driving will only commence once observers have declared the shutdown zone clear of marine mammals; animals will be allowed to remain in the buffer zone and their behavior will be monitored and documented.
- If a marine mammal approaches/enters the shutdown zone during the course of pile-driving/removal operations, pile-driving will be halted and delayed until either the animal has voluntarily left and been visually confirmed beyond the shutdown zone or 15 minutes have passed without re-detection of the animal.
- In the unlikely event of conditions that prevent the visual detection of marine mammals, such as heavy fog, activities with the potential to result in Level A or Level B harassment will not be initiated. Impact pile-driving would be curtailed, but vibratory pile driving or extraction would be allowed to continue if such conditions arise after the activity has begun.

**2.2.4 Acoustic Measurements.** Acoustic measurements will be completed during the course of pile-driving/removal operations and will be used to empirically adjust the shutdown and buffer zones. For further detail regarding our acoustic monitoring plan refer to Section 3.

**2.2.5 Soft Start.** The use of a soft-start procedure is believed to provide additional protection to marine mammals by providing a warning and/or giving marine mammals a chance to leave the area prior to the hammer operating at full capacity. The Project will use soft-start techniques (ramp-up/dry fire) recommended by NOAA Fisheries Service for impact and vibratory pile driving/removal. These measures are as follows:

“Soft start must be conducted at beginning of day's activity and at any time pile driving has ceased for more than 30 minutes. If vibratory pile driving has been occurring but impact has not for more than 30 minutes, soft start for the impact hammer must occur. The soft-start requires contractors to initiate noise from vibratory hammers for 15 seconds at reduced energy followed by a 30-second waiting period. This procedure should be repeated two additional times. If an impact hammer is used, contractors are required to provide an initial set of three strikes from the impact hammer at 40 percent energy, followed by a 30-second waiting period, then two subsequent 3-strike sets.” The 30-second waiting period is proposed based on the Navy's recent experience and consultation with NOAA Fisheries Service on a similar project at Naval Base Kitsap at Bangor (Department of the Navy 2010b).

**2.2.6 Daylight Construction.** Pile driving/removal (vibratory as well as impact), drilling, and vibratory extraction will only be conducted during daylight hours.

### **2.3 Monitoring and Reporting Measures**

The following monitoring and reporting measures shall be implemented along with the mitigation measures in order to reduce impacts to marine mammals to the lowest extent practicable during the periods of in-water work covered by the projects Marine Mammal Protection Act, Incidental Harassment Authorization Permit (IHA). A marine mammal monitoring plan has been developed (below) and shall be implemented by the contractor to be in compliance with the Marine Mammal Protection Act requirements. The monitoring plan includes the following components: acoustic measurements and visual observations. The contractor shall conduct marine mammal and acoustic surveys of the Project area in

order to provide a more robust assessment of sound levels from steel pile driving and marine mammal responses, and to refine avoidance and minimization measures as warranted by the results. For all in-water activities, the monitoring described below would be implemented.

#### **2.4 Acoustic Measurements:**

The contractor will implement in situ acoustic monitoring efforts to measure SPL from in-water construction activities. The contractor will collect and evaluate acoustic sound record levels for 10 percent of the pile-driving activities conducted, sufficient to confirm measured contours associated with the acoustic zones of influence (ZOIs). Refer to Figure 6-1 for ZOI map. Acoustic sound recordings will be collected sufficient to document sound source levels for 10 percent of the proposed piles to be driven and extracted.

The contractor will conduct acoustic monitoring at the source (33 feet) and, where the potential for Level A “take” (shutdown zone) exists, at a second representative monitoring location at an intermediate distance between the cetacean and pinniped shutdown zones. In conjunction with measurements of SPLs at the source and shutdown monitoring locations, there will also be intermittent verification for impact driving or pile driving and extraction to determine the actual distance to either the 120 dB re 1 $\mu$ Pa rms isopleth or the point at which the SPL (maximum rms) from the equipment diminishes to the median ambient SPL (rms) and hence becomes indistinguishable. For the 10 percent of pile-driving events acoustically measured, 100 percent of the data will be analyzed.

At a minimum, the acoustic monitoring methodology includes:

- For underwater recordings, a stationary hydrophone system with the ability to measure SPLs will be placed in accordance with NOAA Fisheries Service’s most recent guidance for the collection of source levels.
- Hydroacoustic monitoring will be conducted for 10 percent of each different type of pile and each method of installation and removal. Monitoring will occur at source (33 feet); at a location intermediate of the pinniped and cetacean shutdown ZOIs; and occasionally near the predicted ZOIs for Level B (behavioral) harassment. The resulting data set will be analyzed to examine and confirm sound pressure levels and rates of transmission loss for each separate in-water construction activity. With NOAA Fisheries Service’s concurrence, these metrics will be used to recalculate the limits of injury and disturbance zones, and to make corresponding adjustments in marine mammal monitoring of these zones. Hydrophones will be placed using a static line deployed from a stationary (temporarily moored) vessel. Locations of hydroacoustic recordings will be collected via GPS. A depth sounder and/or weighted tape measure will be used to determine the depth of the water. The hydrophone will be attached to a weighted nylon cord to maintain a constant depth and distance from the pile. The nylon cord or chain will be attached to a float or tied to a static line.
- Each hydrophone (underwater) will be calibrated at the start of each action and will be checked frequently to the applicable standards of the hydrophone manufacturer.
- For each monitored location, a single hydrophone will be suspended midway in the water column in order to evaluate site specific attenuation and propagation characteristics that may be present throughout the water column.
- In addition to determining the area encompassed by the 190, 180, 160, and 120 db rms isopleths for marine mammals, hydrophones would also be placed at other distances as appropriate to accurately capture source levels and spreading loss.
- For each pile monitored, underwater SPLs would be continuously measured for the entire duration of pile driving, including soft starts. Sound pressure levels will be monitored in real time.
- Environmental data would be collected, including but not limited to, the following: wind speed and direction, air temperature, humidity, surface water temperature, water depth, wave height, weather

conditions, and other factors that could contribute to influencing the airborne and underwater sound levels (e.g., aircraft, boats, etc.);

- The chief inspector would supply the acoustics specialist with the substrate composition, hammer model and size, hammer energy settings and any changes to those settings during the piles being monitored, depth of the pile being driven, and blows per foot for the piles monitored.
- For acoustically monitored piles, data from the continuous monitoring locations will be post-processed to obtain the following sound measures:
- Maximum peak pressure level recorded for all the strikes associated with each pile, expressed in dB re 1  $\mu$ Pa. This maximum value will originate from the phase of pile driving during which hammer energy was also at maximum (referred to as Level 4.)
- From all the strikes associated with each pile occurring during the Level 4 phase these additional measures will be made:
  - mean, minimum, and maximum rms pressure level in [dB re 1  $\mu$ Pa]
  - mean duration of a pile strike (based on the 90% energy criterion)
  - number of hammer strikes
  - mean, minimum, and maximum single strike SEL in [dB re  $\mu$ Pa<sup>2</sup> sec]
  - cumulative SEL as defined by the mean single strike SEL + 10\*log (# hammerstrikes) in [dB re  $\mu$ Pa<sup>2</sup> sec]
- A frequency spectrum (pressure spectral density) in [dB re  $\mu$ Pa<sup>2</sup> per Hz] based on the average of up to eight successive strikes with similar sound. Spectral resolution will be 1 Hz, and the spectrum will cover nominal range from 7 Hz to 20 kHz.
- Finally, the cumulative SEL will be computed from all the strikes associated with each pile occurring during all phases, i.e., soft start, Level 1 to Level 4. This measure is defined as the sum of all single-strike SEL values. The sum is taken of the antilog, taken of result to express in [dB re  $\mu$ Pa<sup>2</sup> sec].

## 2.5 Visual Observations

The contractor will collect sighting data and behavioral responses to construction for marine mammal species observed in the Level B zone of activity during the period of construction. All observers will be trained in marine mammal identification and behaviors. NOAA Fisheries Service requires that the observers have no other construction-related tasks while conducting monitoring.

Based on NOAA Fisheries Service requirements, the contractor shall implement the following Marine Mammal Monitoring procedures:

- Marine Mammal Observers (MMOs) will be primarily located on boats, docks, and/or piers at the best vantage point(s) in order to properly see the entire shut down zone(s). Refer to Figure 6-1.
- MMOs will be located at the best vantage point(s) to observe the zone associated with behavioral impact thresholds;
- During all observation periods, observers will use 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 MMO, relative to known distances to objects in the vicinity of the MMO;
- Bearing to animals will be determined using a compass;
- At the beginning of each survey phase (pre-construction, during construction, and post-construction), a census of pinniped species hauled out in the vicinity of pile driving encompassing the Level B harassment ZOIs will be performed;

- In-water activities will be curtailed under conditions of fog or poor visibility that might obscure the presence of a marine mammal within the shutdown zone;

**Pre-Activity Monitoring:** The shutdown and buffer zones will be monitored for 15 minutes prior to in-water construction/demolition activities. If a marine mammal is present within the shutdown zone, the activity will be delayed until the animal(s) leave the shutdown zone. Activity will resume only after the MMO has determined that, through sighting or by waiting approximately 15 minutes, the animal has moved outside the shutdown zone. If a marine mammal is observed approaching the shutdown zone, the MMO who sighted that animal will notify the shutdown MMO of its presence.

**During Activity Monitoring:** If a marine mammal is observed entering the buffer zone, that pile segment 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 shutdown 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 the shutdown and buffer zones will continue for 30 minutes following the completion of the activity.

## 2.6 Data Collection

NOAA Fisheries Service requires that the MMOs use NOAA Fisheries Service-approved sighting forms provided in Appendix B. At a minimum, the contractor shall collect the following information on the sighting forms:

- Date and time that pile driving or removal begins or ends;
- Construction activities occurring during each observation period;
- Weather parameters identified in the acoustic monitoring (e.g., wind, humidity, temperature);
- Tide state and water currents;
- Visibility;
- Species, numbers, and, if possible, sex and age class of marine mammals;
- Marine mammal behavior patterns observed, including bearing and direction of travel, and, if possible, the correlation to SPLs;
- Distance from pile-driving activities to marine mammals and distance from the marine mammal to the observation point;
- Locations of all marine mammal observations;
- Other human activity in the area.

To the extent practicable, the contractor will record behavioral observations that may make it possible to determine whether the same or different individuals are being “taken” as a result of project activities over the course of a day.

## 2.7 Reporting

The contractor shall prepare a draft report to be submitted NAVFAC PWD-ME Environmental within 30 days of completing acoustic measurements and marine mammal monitoring for the initial IHA permitting period. The results would be summarized in graphical form and include summary statistics and time histories of sound values based upon the data from the piles monitored for this IHA period. At a minimum, the report shall include:

- General data:
  - Date and time of activities.
  - Water conditions (e.g., sea state, tidal state). See Appendix A

- Weather conditions (e.g., percent cover, visibility).
- Specific pile data for acoustically monitored piles:
  - Description of the activities being conducted.
  - Size and type of piles.
  - The machinery used for installation or removal.
  - The power settings of the machinery used for installation or removal
- Specific acoustic monitoring information:
  - A description of the monitoring equipment.
  - The distance between hydrophone(s) and pile.
  - The depth of the hydrophone(s).
  - The physical characteristics of the bottom substrate where the piles were driven or extracted (if possible).
  - Acoustic data (per Section 13.1.1 above) for each
  - Pre-activity observational survey-specific data:
    - Dates and time survey is initiated and terminated.
    - Description of any observable marine mammal behavior in the immediate area during monitoring
    - If possible, the correlation to underwater sound levels occurring at the time of the observable behavior.
    - Actions performed to minimize impacts to marine mammals.
- During-activity observational survey-specific data:
  - Description of any observable marine mammal behavior within monitoring zones or in the immediate area surrounding monitoring zones.
  - If possible, the correlation to underwater sound levels occurring at the time of this observable behavior.
  - Actions performed to minimize impacts to marine mammals.
  - Times when pile extraction is stopped due to presence of marine mammals within the shutdown zones and time when pile driving resumes.
- Post-activity observational survey-specific data:
  - Results, which include the detections of marine mammals, species and numbers observed, sighting rates and distances, and behavioral reactions within and outside of safety zones.
  - A refined take estimate based on the number of marine mammals observed during the course of construction

## 2.8 Marine Mammal Observer Qualifications

- Observers will have no other construction related tasks while conducting monitoring and will be dedicated solely to looking for marine mammals within or approaching the action area.
- Observers do not have to be experienced biologist, though a biological background or previous experience in marine mammal observing would be beneficial.
- All observers will complete a short training session with NAVFAC natural resources staff to review marine mammal observing and recording procedures, including a short brief on marine mammal identification and behavior, and pile driving shutdown procedures.
- Observers must be capable of maintaining focus for extended periods of time (several hours) and being subjected to conditions associated with observing, including potentially long hours in adverse weather conditions. It is recommended that observers rotate frequently (every 1-2 hours) to reduce fatigue and boredom.

## 2.9 Equipment

The following equipment will be required to conduct marine mammal monitoring:

- Hearing protection for observers located at the pile driving site
- Portable radios or cell phones to communicate with other observers and the Pile Driving Engineer or Safety Officer to initiate shutdown procedures
- Green Flags (one per land observer) as a back-up for radio/cell phone communication
- Red Flags (one per land observer) as a back-up for radio/cell phone communication
- Watch or chronometer
- Binoculars (quality 7x50 or stronger)
- Monitoring plan in sealed plastic cover
- Copy of Zone of Influence map(s)
- Clipboard for data forms
- Pen/Pencil

### **2.10 Monitoring Area**

The contractor will be responsible for monitoring the shutdown zone(s) and buffer zone(s) associated with installing/removing the different types and sizes of piles as part of the project. Pile driving operations must be stopped if a marine mammal approaches/enters the shutdown zone in order to preclude “injurious take<sup>1</sup>” under the Marine Mammal Protection Act (MMPA). Shut down is not required for marine mammals observed in the buffer zone; however, documentation of behavior, location, etc...., is required in accordance with the data collection requirements above. Refer to Figure 6-1 (enclosed) for map of the project Zone of Influence.

### **2.11 Observer Monitoring Locations**

In order to successfully monitor the shutdown zone(s) and buffer zone(s), a minimum of two observers will be required. The contractor shall be responsible for ensuring that all monitoring zones are adequately covered to preclude take outside of that authorized by the IHA permit.

During pile driving operations observers would be positioned at the pile driving site (shutdown zone), on an elevated platform (if possible), to provide near-field monitoring and ensure that marine mammals are not within the shutdown zone. Observers need to ensure that the appropriate shutdown area is clear of marine mammals for at least 15 minutes prior to pile driving. Once pile removal commences, particular attention should be given to ensuring animals do not enter the monitoring zone. During vibratory pile installation/removal observers should be stationed on an elevated platform to maximize visibility of the shutdown zones.

Buffer zone(s) shall be monitored at frequency and duration dictated by the by the projects IHA permit.

### **2.12 Other Reporting Requirements**

All marine mammal observation forms will be collected at the end of each survey day by the Lead Observer. If there were any sightings for the day, the Lead Observer should contact Ian Trefry the NAVFAC MIDLANT EV POC at [ian.trefry@navy.mil](mailto:ian.trefry@navy.mil) or (207) 438-4362. All observation forms shall be submitted weekly with other reporting requirements and copies of the observation forms should be provided to the NAVFAC MIDLANT EV POC.

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<sup>1</sup> Under the MMPA the term “take” means to harass, hunt, capture, or kill, or attempt to harass, hunt, capture, or kill any marine mammal. Harassment is further defined 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] (50 C.F.R, Part 216, Subpart A, Section 216.3-Definitions)”.

### **2.13 Failure to Comply with the Marine Mammal Protection Act**

Failure to institute the outlined monitoring protocols or to preclude “take” of marine mammals under the jurisdiction of the Marine Mammal Protection Act can result in civil and criminal penalties. These penalties are listed below:

#### **Section 105. Penalties (16 U.S.C. §1375)**

“Sec. 105. (a)(1) Any person who violates any provision of this title or of any permit or regulation issued thereunder, except as provided in section 118, may be assessed a civil penalty by the Secretary of not more than \$10,000 for each such violation. No penalty shall be assessed unless such person is given notice and opportunity for a hearing with respect to such violation. Each unlawful taking or importation shall be a separate offense. Any such civil penalty may be remitted or mitigated by the Secretary for good cause shown. Upon any failure to pay a penalty assessed under this subsection, the Secretary may request the Attorney General to institute a civil action in a district court of the United States for any district in which such person is found, resides, or transacts business to collect the penalty and such court shall have jurisdiction to hear and decide any such action.

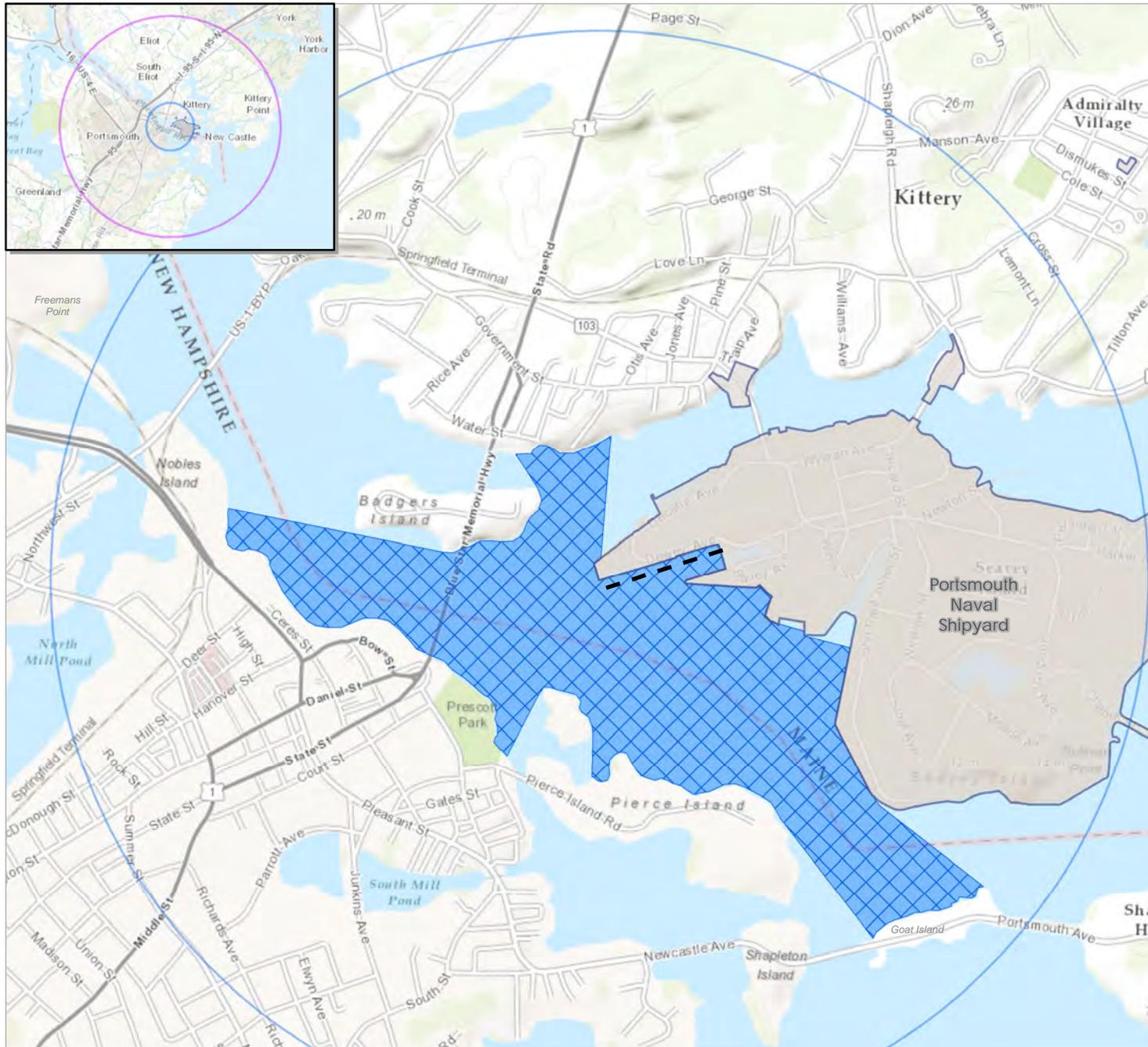
(b) Any person who knowingly violates any provision of this title or of any permit or regulation issued thereunder (except as provided in section 118) shall, upon conviction, be fined not more than \$20,000 for each such violation, or imprisoned for not more than one year, or both.

#### **Section 106. Vessel Fine, Cargo Forfeiture, and Rewards (16 U.S.C. §1376)**

Sec. 106. (a) [APPLICATION OF CONSISTENT PROVISIONS.] — Any vessel or other conveyance subject to the jurisdiction of the United States that is employed in any manner in the unlawful taking of any marine mammal shall have its entire cargo or the monetary value thereof subject to seizure and forfeiture. All provisions of law relating to the seizure, judicial forfeiture, and condemnation of cargo for violation of the customs laws, the disposition of such cargo, and the proceeds from the sale thereof, and the remission or mitigation of any such forfeiture, shall apply with respect to the cargo of any vessel or other conveyance seized in connection with the unlawful taking of a marine mammal insofar as such provisions of law are applicable and not inconsistent with the provisions of this title.

(b) [PENALTIES.] — Any vessel subject to the jurisdiction of the United States that is employed in any manner in the unlawful taking of any marine mammal shall be liable for a civil penalty of not more than \$25,000. Such penalty shall be assessed by the district court of the United States having jurisdiction over the vessel. Clearance of a vessel against which a penalty has been assessed, from a port of the United States, may be withheld until such penalty is paid, or until a bond or otherwise satisfactory surety is posted. Such penalty shall constitute a maritime lien on such vessel which may be recovered by action in rem in the district court of the United States having jurisdiction over the vessel.”

Figure 6-1  
 Zone of Influence  
 for Underwater Vibratory Hammer  
 and Underwater Impact Hammer  
 at Berth 11 (A, B, and C)  
 Portsmouth Naval Shipyard  
 York County, Maine



Legend

-  Berth 11
-  Zone of Influence for Underwater Vibratory Hammer
-  Zone of Influence for Underwater Impact Hammer
-  4.57 mi (7.35 Km) Radius
-  0.98 mi (1.58 Km) Radius
-  Installation Area



Source: ESRI 2013; Department of Defense 2014.

### **Section 3: Endangered Species Act Compliance – PNSY Lifting and Handling Improvements: Structural Repairs at Berths 11A, 11B and 11C**

#### **3.1 Overview**

There are two Endangered Species Act listed species that are known to occasionally occur within the Piscataqua River. They are the shortnose sturgeon (*Acipenser brevirostrum*) and the Atlantic sturgeon (*Acipenser oxyrinchus oxyrinchus*). The Endangered Species Act (ESA) requires all Federal Agencies, in consultation with the Secretary of the Interior, insure that any action undertaken does not likely jeopardize the continued existence of a listed species or result in the destruction or adverse modification of designated critical habitat. For this project the Navy has made the determination that this project may affect but is not likely to adversely affect shortnose or Atlantic sturgeon based on the habitat available and occurrence rate of the species within the project area.

The ESA also prevents any federal agency action from resulting in the unauthorized “take” of listed species. “Take” is defined as; to harass, harm, pursue, hunt, wound, shoot, kill, trap, capture, or collect or attempt to engage in any such conduct. “Harm” is further defined by the US Fish and Wildlife Service to include significant habitat modification or destruction that results in death or injury to listed species by significantly impairing behavioral patterns such as breeding, feeding, or sheltering. And harass is further defined as actions that create the likelihood of injury to listed species to such an extent as to significantly disrupt normal behavior patterns.

#### **3.2 Requirements**

- The contractor is responsible for installing and maintaining environmental controls in accordance with all project plans, details, and specifications as well as all State and Federal permits and regulatory requirements.
- The contractor shall report any direct “takes” of listed species. If direct “takes” occur, all in-water work activity shall stop and the “take” shall be reported immediately to the NAVFAC Construction Manager or Contracting Officer. In-water work can commence once approval to start is received from the proper NAVFAC chain of command.
- The contractor shall not report or discuss endangered species information with any local, State or federal agency, non-governmental agency or private citizens unless proper written approval has been received from the NAVFAC chain of command.

### **Section 4: Magnuson-Stevens Fishery Conservation and Management Act Compliance**

#### **4.1 Overview**

Under this Act, federal agencies are directed to consult with the National Oceanic and Atmospheric Administration (NOAA) Fisheries when any federal action may have an adverse effect of Essential Fish Habitat (EFH). EFH is defined as “waters and substrates necessary to fish for spawning, breeding, feeding, or growth to maturity”. The Berth 11 structural repair project activities have the potential to have temporary adverse impacts to EFH. In order to reduce potential impacts to EFH the following mitigation measures and requirements shall be followed.

#### **4.2 Requirements**

- The contractor is responsible for installing and maintaining environmental controls in accordance with all project plans, details, and specifications as well as all State and Federal permits and regulatory requirements.
- The contractor shall install and maintain silt curtains off of Berth 11 through the duration of in-water work.

- The contractor is responsible for implementing the lobster mitigation requirements discussed in Section 5.

## **Section 5: Lobster Mitigation Requirements**

### **5.1 Overview**

The lobster mitigation efforts below describe the methodology and requirements expected to be included in projects Natural Resource Protection Act permit administered by the Maine Department of Environmental Protection for the Berth 11 project.

### **5.2 Requirements**

- The contractor shall perform lobster mitigation prior to any and all dredging activities associated with the Berth 11 project.
- Prior to implementing lobster mitigation, the contractor shall prepare a plan that describes the means and methods proposed to accomplish lobster mitigation requirements. The plan shall be submitted to NAVFAC PWD-ME EV Division for review and approval prior to implementation.
- Given the extreme currents found in the Piscataqua River, safety and security requirements at the Shipyard, and the restrictions set forth in the ACOE Safety and Health Requirements Manual (EM-385-1-1) followed by the Navy, diving is not deemed an acceptable methodology for lobster mitigation.
- The contractor shall employ trapping as lobster mitigation without pre-determined lobster density. Trapping will target both legal and sub-legal sized lobsters. Legal sized lobsters are typically retained by the fisherman assisting with the mitigation effort. Sub-legal size lobsters will be transferred to the previously approved release site located at in the Shipyard Sound Basin, a cove just north of the causeway linking Clark Island to Seavey Island.
- The contractor and/or any sub-contractor performing lobster mitigation activities shall be properly licensed to trap lobsters and shall be responsible for applying for the appropriate collection permits to trap, possess and transport sub-legal sized lobsters to approved released area.
- Trapping efforts will be determined based on the rate of catch decline from trapping data.
- Catch per unit effort (C/E) will be calculated using the total number of lobsters caught, the number of traps hauled in each area, and the normalized soak time (night-set). Maximum achievable effort will be based on a leveling C/E to the base value between 0.1 and 0.5 based on a three night set.
- No pre-mitigation benthic surveys will be performed.
- Lobster mitigation shall be performed at all dredging locations.
- A final report outlining lobster mitigation activities and results shall be prepared by the contractor and a draft submitted to NAVFAC PWD-ME EV Division for review and approval within 30 days of completing lobster mitigation activities.

**APPENDIX A:  
US Navy and Beaufort Sea State Codes**

## Appendix A: US Navy and Beaufort Sea State Codes

(<http://ioc.unesco.org> and <http://www.wrh.noaa.gov/pqr/info/beaufort.php>)

Beaufort SS	Wind speed (knots)	Wind description	Wave height (ft) Beaufort	Sea State – Beaufort	Notes specific to on-water seabird observations	Photos indicating Beaufort Sea State
0	<1	Calm	0	Calm; like a mirror	Excellent conditions, no wind, small or very smooth swell. You have the impression you could see anything.	 <p>Force 0</p>
1	1-3	Light air	$\frac{1}{4} < \frac{1}{2}$	Ripples with appearance of scales; no foam crests	Very good conditions, surface could be glassy (Beaufort 0), but with some lumpy swell or reflection from forests, glare, etc.	 <p>Force 1</p>

Beaufort SS	Wind speed (knots)	Wind description	Wave height (ft) Beaufort	Sea State – Beaufort	Notes specific to on-water seabird observations	Photos indicating Beaufort Sea State
2	4-6	Light breeze	½ – 1 (max 1)	Small wavelets; crests with glassy appearance, not breaking	Good conditions, no whitecaps; texture/lighting contrast of water make murrelets hard to see. Surface could also be glassy or have small ripples, but with a short, lumpy swell, thick fog, etc.	
3	7-10	Gentle breeze	2 – 3 (max 3)	Large wavelets; crests begin to break; scattered whitecaps	Fair conditions, scattered whitecaps, detection of murrelets definitely compromised; a hit-or-miss chance of seeing them owing to water choppiness and high contrast. This could also occur at lesser wind with a very short wavelength, choppy swell.  <b>Poor conditions, end surveys.</b>	

Beaufort SS	Wind speed (knots)	Wind description	Wave height (ft) Beaufort	Sea State – Beaufort	Notes specific to on-water seabird observations	Photos indicating Beaufort Sea State
4	11-16	Moderate breeze	3 ½ – 5 (max 5)	Small waves becoming longer, numerous whitecaps	Whitecaps abundant, sea chop bouncing the boat around, etc.	
5	17-20*	Fresh breeze	6 – 8 (max 8)	Moderate waves, taking longer form; many whitecaps; some spray		

\* Wind speeds greater than or equal to 18 knots trigger a small craft advisory, where boats are not recommended to be out on the water. Wind speeds of 18 knots corresponds to a Beaufort sea state of 5. Therefore, pile driving cannot proceed unless the Beaufort SS is a 4 or less, when marine mammal monitoring is possible.

**APPENDIX B**  
**Marine Mammal Sighting Form**

Project name: \_\_\_\_\_

Lead observer: \_\_\_\_\_

Page \_\_\_\_\_ of \_\_\_\_\_

Project location : \_\_\_\_\_

Lead observer contact info: \_\_\_\_\_

Date: \_\_\_\_\_

Effort Info				Sighting Info*				
Event	Time of Event (start and end)	Observer*	Visibility Info (e.g. wind, glare, swell)	Species	Distance to Animal (from Observer)	# of Animals Group Size (min/max/best) # of Calves	Animal Movement Relative to Pile Driving Equipment/ Behavior Code	Behavior Change/ Response to Activity/ Other Comments
Start Monitoring – End Monitoring Soft Start – Vibratory – Impact Sighting – Delay – Shutdown	: :				yds	/ / ___ calves	toward or away parallel none Behavior Code: _____	
Start Monitoring – End Monitoring Soft Start – Vibratory – Impact Sighting – Delay – Shutdown	: :				yds	/ / ___ calves	toward or away parallel none Behavior Code: _____	
Start Monitoring – End Monitoring Soft Start – Vibratory – Impact Sighting – Delay – Shutdown	: :				yds	/ / ___ calves	toward or away parallel none Behavior Code: _____	
Start Monitoring – End Monitoring Soft Start – Vibratory – Impact Sighting – Delay – Shutdown	: :				yds	/ / ___ calves	toward or away parallel none Behavior Code: _____	
Start Monitoring – End Monitoring Soft Start – Vibratory – Impact Sighting – Delay – Shutdown	: :				yds	/ / ___ calves	toward or away parallel none Behavior Code: _____	
Start Monitoring – End Monitoring Soft Start – Vibratory – Impact Sighting – Delay – Shutdown	: :				yds	/ / ___ calves	toward or away parallel none Behavior Code: _____	
Start Monitoring – End Monitoring Soft Start – Vibratory – Impact Sighting – Delay – Shutdown	: :				yds	/ / ___ calves	toward or away parallel none Behavior Code: _____	

\*Note location of observer and any marine mammal sightings with date/time on project map

## Sighting Codes (Sighting Cue & Behavior Codes)

### Behavior codes

Code	Behavior	Definition
BR	Breaching	Leaps clear of water
CD	Change Direction	Suddenly changes direction of travel
CH	Chuff	Makes loud, forceful exhalation of air at surface
DI	Dive	Forward dives below surface
DE	Dead	Shows decomposition or is confirmed as dead by investigation
DS	Disorientation	An individual displaying multiple behaviors that have no clear direction or purpose
FI	Fight	Agonistic interactions between two or more individuals
FO	Foraging	Confirmed by food seen in mouth
MI	Milling	Moving slowly at surface, changing direction often, not moving in any particular direction
PL	Play	Behavior that does not seem to be directed towards a particular goal; may involve one, two or more individuals
PO	Porpoising	Moving rapidly with body breaking surface of water
SL	Slap	Vigorously slaps surface of water with body, flippers, tail etc.
SP	Spyhopping	Rises vertically in the water to "look" above the water
SW	Swimming	General progress in a direction. Note general direction of travel when last seen [Example: "SW (N)" for swimming north]
TR	Traveling	Traveling in an obvious direction. Note direction of travel when last seen [Example: "TR (N)" for traveling north]
UN	Unknown	Behavior of animal undetermined, does not fit into another behavior