



UNITED STATES DEPARTMENT OF COMMERCE  
National Oceanic and Atmospheric Administration  
NATIONAL MARINE FISHERIES SERVICE  
Silver Spring, MD 20910

## Letter of Authorization

The U.S. Navy (Navy) is hereby authorized under section 101(a)(5)(A) of the Marine Mammal Protection Act (MMPA; 16 U.S.C. 1371(a)(5)(A)) to take marine mammals incidental to the demolition and replacement of Pier 32 and demolition of Pier 10 at Naval Submarine Base New London in Groton, Connecticut, subject to the provisions of the MMPA and the Regulations Governing Taking of Marine Mammals Incidental to U.S. Navy's Submarine Base New London Pier Construction (50 CFR Part 217, Subpart J) (Regulations).

1. This Authorization is valid for the period March 1, 2020, through February 28, 2025.
2. This Authorization is valid only for take incidental to the specified waterfront construction activities at Naval Submarine Base New London and described in the preamble to the Regulations.

### 3. General Conditions

- (a) A copy of this LOA must be in the possession of Navy, its designees, and work crew personnel operating under the authority of this LOA.
- (b) Navy is hereby authorized to incidentally take marine mammals, by Level A and Level B harassment only, as specified in Table 1.
- (c) Taking of this species that exceeds the numbers and/or intensity indicated in 3(b) or any taking of any other species of marine mammal is prohibited and may result in the modification, suspension, or revocation of this LOA.

4. Mitigation – The Holder of this Authorization is required to implement the following mitigation measures:

- (a) Time Restriction: In-water construction and demolition work shall occur only during daylight hours.
- (b) Establishment of monitoring and shutdown zones:
  - (1) For all relevant in-water construction and demolition activity, the Navy must designate Level A harassment zones with radial distances as identified in Table 2.



- (2) For all relevant in-water construction and demolition activity, the Navy must designate Level B harassment zones with radial distances as identified in Table 2.
  - (3) For all in-water construction and demolition activity, the Navy must implement a minimum shutdown zone of a 10-m radius around the pile. If a marine mammal comes within or approaches the shutdown zone, such operations must cease.
  - (4) Pile driving must only take place when the shutdown and Level A 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 must not be initiated. If such conditions arise after the activity has begun, pile driving or pile removal activities must be halted if the 10-m shutdown zone is not visible.
- (c) Shutdown Measures:
- (1) The Navy must deploy three protected species observers (PSOs) shall be posted to monitor marine mammals during in-water pile driving and pile removal. One PSO must be located on land and two must be located in a boat to monitor the farther locations.
  - (2) Monitoring must take place from 15 minutes prior to initiation of pile driving or removal activity through 30 minutes post-completion of pile driving or removal activity. Pre-activity monitoring must be conducted for 15 minutes to ensure that the shutdown zone is clear of marine mammals, and pile driving or removal may commence when observers have declared the shutdown zone clear of marine mammals. In the event of a delay or shutdown of activity resulting from marine mammals in the shutdown zone, animals must be allowed to remain in the shutdown zone (i.e., must leave of their own volition) and their behavior must be monitored and documented. Monitoring must occur throughout the time required to drive or remove a pile. A determination that the shutdown zone is clear must be made during a period of good visibility (i.e., the entire shutdown zone and surrounding waters must be visible to the naked eye).
  - (3) If a marine mammal approaches or enters the shutdown zone, or if a marine mammal not specified in Table 1 enters the Level B harassment zone, or if the take of a marine mammal species or stock has reached the limits specified in Table 1 and enters the Level B harassment zone, all pile driving or removal activities at that location must be halted. If pile driving or removal is halted or delayed due to the presence of a marine mammal, the activity may not commence or resume 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.

- (4) The Navy must implement shutdown measures if the number of authorized takes for any particular species reaches the limits in Table 1 and if such marine mammals are sighted within the vicinity of the project area and are approaching the Level B harassment zone during in-water construction or demolition activities.

(c) Soft Start:

- (1) The Navy must implement soft start techniques for impact pile driving. The Navy must 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.
- (2) Soft start is required for any impact driving, including at the beginning of the day, and at any time following a cessation of impact pile driving of 30 minutes or longer.

5. Monitoring and Reporting – The holder of this Authorization is required to implement the following monitoring and reporting requirements:

(a) Marine Mammal Monitoring:

- (1) The Navy must employ trained protected species observers (PSOs) to conduct marine mammal monitoring. The PSOs must observe and collect data on marine mammals in and around the project area for 15 minutes before, during, and for 30 minutes after all pile removal and pile installation work. PSOs shall have no other assigned tasks during monitoring periods, and must be placed at the best vantage point(s) practicable to monitor for marine mammals and implement shutdown or delay procedures when applicable through communication with the equipment operator.
- (2) Protected Species Observer Qualifications - NMFS-approved PSOs must meet the following requirements:
  - (i) Independent observers (i.e., not construction personnel) are required;
  - (ii) At least one observer must have prior experience working as an observer;

- (iii) Other observers may substitute education (undergraduate degree in biological science or related field) or training for experience;
  - (iv) Where a team of three or more observers are required, one observer must be designated as lead observer or monitoring coordinator. The lead observer must have prior experience working as an observer; and
  - (v) Submission and approval of observer CVs is required.
- (3) Marine Mammal Monitoring Protocols
- (i) The Navy must 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 must watch the Navy's Marine Species Awareness Training video. An informal guide must be included with the monitoring plan to aid in identifying species if they are observed in the vicinity of the project area.
  - (ii) The Navy must monitor the Level A and Level B harassment zones (Table 2) before, during, and after pile driving activities for all in-water constructions. The Marine Mammal Monitoring Plan must include the following procedures:
    - (A) PSOs shall be primarily located on boats, docks, and piers at the best vantage point(s) in order to properly see the entire shutdown zone(s).
    - (B) PSOs shall be located at the best vantage point(s) to observe the zone associated with behavioral impact thresholds.
    - (C) During all observation periods, PSOs shall use high-magnification (25X), as well as standard handheld (7X) binoculars, and the naked eye to search continuously for marine mammals.
    - (D) Monitoring distances shall be measured with range finders. Distances to animals shall be based on the best estimate of the PSO, relative to known distances to objects in the vicinity of the PSO.

- (E) Bearings to animals shall be determined using a compass.
  - (F) Pre-Activity Monitoring:

The shutdown zone must be monitored for 15 minutes prior to in-water construction/demolition activities. If a marine mammal is present within the 10-m shutdown zone, the activity must be delayed until the animal(s) leave the shutdown zone. Activity may 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 must notify all other PSOs of its presence.
  - (G) During Activity Monitoring:

If a marine mammal is observed entering the Level A or Level B harassment zones (Table 2) outside the 10-m shutdown zone, the pile segment being worked on may be completed without cessation, unless the animal enters or approaches the shutdown zone, at which point all pile driving activities must be halted. If an animal is observed within the shutdown zone during pile driving, then pile driving must be stopped as soon as it is safe to do so. Pile driving may 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.
  - (H) Post-Activity Monitoring:

Monitoring of all zones must continue for 30 minutes following the completion of the activity.
- (b) Passive Acoustic Monitoring:
- (1) Sound Source Verification
    - (i) The Navy must conduct pile driving sound source verification for the following types and sizes of piles:
      - (A) Vibratory and impact installation of at least 5 16-in fiberglass reinforced plastic piles, and
      - (B) Rock socket drilling of at least 3 30-in and 3 16-in piles.
    - (ii) Sound source measurements of these piles sound must be conducted at distances approximately 10 m from the source.

- (iii) For vibratory pile driving/removal source level measurements, reports must include 1-s sound exposure level (SEL), source spectrum, duration of recordings used to derive the SEL, and 24-hour cumulative SEL extrapolated from measurements.
- (iv) For impact pile driving source level measurements, reports must include peak sound pressure level (SPLpk), root-mean-square SPL (SPLrms), single strike SEL (SELss), integration time for SPLrms, SELss spectrum, and 24-hour cumulative SEL extrapolated from measurements.

(2) Level B Harassment Distance Verification

- (i) The Navy must empirically determine the Level B harassment distance either by extrapolating from in situ measurements conducted at several points between 10 and 500 m from the source, or by direct measurements to locate the distance where the received levels reach 120 dB or below, or at the ambient noise level.
- (ii) Level B behavioral harassment zones to be empirically verified include:
  - (A) Rock socket drilling of at least 3 30-in and 3 16-in piles,
  - (B) Vibratory installation of at least 3 36-in steel piles, and
  - (C) Vibratory removal of at least 3 24-in concrete and 3 33-in concrete piles.
- (iii) For extent of Level B harassment zone verification, the Navy must report the measured or extrapolated distances where the received levels SPLrms decay to 120-dB or to the ambient noise level, whichever is higher, as well as integration time for such SPLrms.

(3) The sound levels reported must be in median and linear average (i.e., taking averages of sound intensity before converting to dB).

(4) The passive acoustic monitoring reports shall also include sediment type where measurements are made.

(c) Reporting Measures

(1) Annual Reports

- (i) The Navy must submit an annual report within 90 days after each activity year, starting from March 1, 2020 (for the first annual report) or from the date when the previous annual report ended.
- (ii) Annual reports must detail the monitoring protocol, summarize the data recorded during monitoring, and estimate the number of marine mammals that may have been harassed during the period of the report.
- (iii) Annual reports shall also include results from acoustic monitoring detailed in paragraph (b) of this section.
- (iv) NMFS shall provide comments within 30 days after receiving annual reports, and the Navy must address the comments and submit revisions within 30 days after receiving NMFS comments. If no comment is received from the NMFS within 30 days, the annual report is considered completed.

(2) Final Report

- (i) The Navy must submit a comprehensive summary report to NMFS not later than 90 days following the conclusion of marine mammal monitoring efforts.
- (ii) The final report must synthesize all data recorded during marine mammal monitoring, and estimate the number of marine mammals that may have been harassed through the entire project.
- (iii) NMFS shall provide comments within 30 days after receiving this report, and the Navy must address the comments and submit revisions within 30 days after receiving NMFS comments. If no comment is received from NMFS within 30 days, the final report is considered as final.

(3) Reporting of injured or dead marine mammals:

- (i) In the unanticipated event that the construction or demolition activities clearly cause the take of a marine mammal in a prohibited manner, such as an injury, serious injury, or mortality, the Navy must immediately cease all operations and immediately report the incident to the NMFS Office of Protected Resources, NMFS at 301-427-8401, and the Greater Atlantic Region Stranding Coordinators at 866-755-6622. The report must include the following information:

- (A) Time, date, and location (latitude/longitude) of the incident;
  - (B) Description of the incident;
  - (C) Status of all sound source use in the 24 hours preceding the incident;
  - (D) Environmental conditions (e.g., wind speed and direction, sea state, cloud cover, visibility, and water depth);
  - (E) Description of marine mammal observations in the 24 hours preceding the incident;
  - (F) Species identification or description of the animal(s) involved;
  - (G) The fate of the animal(s); and
  - (H) Photographs or video footage of the animal (if equipment is available).
- (ii) Activities shall not resume until NMFS is able to review the circumstances of the prohibited take. NMFS shall work with the Navy to determine what is necessary to minimize the likelihood of further prohibited take and ensure MMPA compliance. The Navy may not resume their activities until notified by NMFS via letter, email, or telephone.
- (iii) In the event that the Navy discovers an injured or dead marine mammal, and the lead PSO determines that the cause of the injury or death is unknown and the death is relatively recent (i.e., in less than a moderate state of decomposition as described in the next paragraph), the Navy must immediately report the incident to the NMFS Office of Protected Resources, NMFS, and the Greater Atlantic Regional Stranding Coordinators. The report must include the same information identified in paragraph (c)(3)(i) of this LOA. Activities may continue while NMFS reviews the circumstances of the incident. NMFS will work with the Navy to determine whether modifications in the activities are appropriate.
- (iv) In the event that the Navy discovers an injured or dead marine mammal, and the lead protected species observer determines that the injury or death is not associated with or related to the activities authorized in the LOA (e.g., previously wounded animal, carcass

with moderate to advanced decomposition, or scavenger damage), the Navy must report the incident to the NMFS Office of Protected Resources, NMFS, and the Greater Atlantic Regional Stranding Coordinators, within 24 hours of the discovery. The Navy must provide photographs or video footage (if available) or other documentation of the stranded animal sighting to NMFS and the Marine Mammal Stranding Network. The Navy can continue its operations under such a case.

6. This Authorization may be modified, suspended, or withdrawn if the Holder fails to abide by the conditions prescribed herein or if NMFS determines that the authorized taking is having more than a negligible impact on the species or stock of affected marine mammals.

via 

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

8/30/18

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Date

**Table 1. Authorized numbers of take by Level A and Level B harassment.**

Year	Species	Level A harassment	Level B harassment	Total authorized take
1	Harbor seal	6	166	172
	Gray seal	2	55	57
2	Harbor seal	6	177	183
	Gray seal	2	59	61
3	Harbor seal	0	51	51
	Gray seal	0	17	17
4	Harbor seal	0	99	99
	Gray seal	0	33	33

**Table 2. Level A and Level B harassment distances.**

Year	Activity Description	Level A distance (m)	Level B distance (m)
1	Impact driving 14" steel H-pile 1,000 strikes per pile, 4 piles/day	536	631
	Vibratory & rock socket drilling installation of 36" concrete-filled steel piles; average 10 minutes/day	<4	4,642
	Impact driving 36" concrete-filled steel piles; 1,000 strikes per pile; average 2.5 piles per day.	984	3,415
2	Vibratory installation of 36" concrete-filled steel piles; average 6 minutes/day.	<4	4,642
	Impact pile driving 36" concrete-filled steel piles; 1,000 strikes per pile; average 2.5 piles per day.	984	3,415
3	Vibratory installation of 16" fiberglass plastic piles; 40 minutes/day.	0.9	1,584
	Impact installation of 16" fiberglass plastic piles; 1,000 strikes per pile; average 2.5 piles per day.	2.5	1
4	Vibratory removal of 14" steel H-piles; average 100 minutes/day.	<4	3,415
	Vibratory removal of 24" concrete-filled steel piles (Pier 32); average 190 minutes/day	2.7	4,642
	Vibratory removal of 30" concrete-filled steel piles (Pier 32); average 40 minutes/day	5.9	4,642
	Vibratory removal of 24" concrete-filled steel piles (Pier 10); average 40 minutes/day	7.7	4,642