



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 construction activities at Naval Base Kitsap Bangor, Washington, subject to the provisions of the MMPA and the Regulations Governing Taking of Marine Mammals Incidental to U.S. Navy Marine Structure Maintenance and Pile Replacement in Washington (50 CFR Part 218, Subpart C) (Regulations).

1. This Letter of Authorization (LOA) is valid from July 16, 2021, through January 15, 2022.
2. This LOA is valid only for take incidental to the specified construction activities at Naval Base Kitsap Bangor, Washington, and described in the preamble to the Regulations and in the Explosives Handling Wharf and Service Pier 2021-2022 Pile Replacement Projects Final Marine Mammal Monitoring Plan, dated June 2021.
3. General Conditions
 - (a) A copy of this LOA and the approved Marine Mammal Monitoring Plan, dated June 2021, must be in the possession of Navy, its designees, and work crew personnel operating under the authority of this LOA.
 - (b) The species authorized for taking are listed in Table 1. The taking, by Level B harassment only, is limited to the species and numbers listed in Table 1.
 - (c) The taking by Level A harassment, serious injury, or death of any of the species listed in Table 1 or any taking of any other species of marine mammal is prohibited and may result in the modification, suspension, or revocation of this IHA. Any taking exceeding the authorized amounts listed in Table 1 is prohibited and may result in the modification, suspension, or revocation of this IHA.
 - (d) The Navy shall conduct briefings for construction supervisors and crews, the monitoring team, and Navy staff prior to the start of all pile driving activity, and when new personnel join the work, in order to explain responsibilities, communication procedures, the marine mammal monitoring protocol, and operational procedures.
 - (e) The Navy must adhere to the requirements described in the approved Marine Mammal Monitoring Plan, dated June 2021.
4. Mitigation Measures



The holder of this Authorization is required to implement the following mitigation measures:

- (a) For all pile driving activity, the Navy shall 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 shall cease.
- (b) For all pile driving activity, the Navy shall implement shutdown zones with radial distances as identified in Table 2. If a marine mammal comes within or approaches the shutdown zone, such operations shall cease.
- (c) For all pile driving activity, the Navy shall designate monitoring zones with radial distances as identified in Table 2. If any cetacean is observed outside the shutdown zone, but within the designated monitoring zone, such operations shall cease.
- (d) The Navy shall deploy marine mammal observers as indicated in the NMFS-approved Marine Mammal Monitoring Plan, dated June 2021.
- (e) For all pile driving activities, a minimum of one observer shall be stationed at the active pile driving rig or in reasonable proximity in order to monitor the shutdown zone.
- (f) Prior to the start of pile driving on any day, the Navy shall take measures to ensure that southern resident killer whales are not located within the vicinity of the project area, including, but not limited to, contacting and/or reviewing the latest sightings data from the Orca Network and/or Center for Whale Research, including passive acoustic detections, to determine the location of the nearest marine mammal sightings.
- (g) Monitoring shall take place from fifteen minutes prior to initiation of pile driving activity through thirty minutes post-completion of pile driving activity. Pre-activity monitoring shall be conducted for fifteen minutes to ensure that the shutdown zone is clear of marine mammals, and pile driving may commence only if observers have declared the shutdown zone clear of marine mammals during this period. In the event of a delay or shutdown of activity resulting from marine mammals in the shutdown zone, the marine mammals shall be allowed to remain in the shutdown zone (*i.e.*, must leave of their own volition) and their behavior shall be monitored and documented. Monitoring shall occur throughout the time required to drive a pile. A determination that the shutdown zone is clear cannot be made unless the observer(s) have good visibility of the shutdown zone during the entire fifteen-minute observation period (*i.e.*, the entire shutdown zone must be visible to the naked eye and unobscured by dark, rain, fog, poor lighting conditions, etc.).
- (h) If a marine mammal approaches or enters the shutdown zone, the Navy shall halt

all pile driving activities at that location. If pile driving 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 fifteen minutes have passed without re-detection of the animal.

- (i) If a species for which authorization has not been granted, or a species for which authorization has been granted but the authorized takes are met, is observed approaching or within the monitoring zone, the Navy must halt pile driving activities immediately using delay and shutdown procedures. Activities must not resume until the animal has been confirmed to have left the area or the fifteen-minute observation period has elapsed
- (j) The Navy shall use soft start techniques for impact pile driving. Soft start for impact drivers requires contractors to provide an initial set of three strikes at reduced energy, followed by a thirty-second waiting period, then two subsequent reduced energy three-strike sets. Soft start shall be implemented at the start of each day's impact pile driving and at any time following cessation of impact pile driving for a period of thirty minutes or longer.
- (k) The Navy shall employ a bubble curtain (or other sound attenuation device with proven typical performance of at least 8 decibels effective attenuation) during impact pile driving of steel piles in water depths greater than 2 feet¹. In addition, the Navy shall implement the following performance standards:
 - (i) The bubble curtain must distribute air bubbles around 100 percent of the piling perimeter for the full depth of the water column.
 - (ii) The lowest bubble ring shall be in contact with the mudline for the full circumference of the ring, and the weights attached to the bottom ring shall ensure 100 percent mudline contact. No parts of the ring or other objects shall prevent full mudline contact.
 - (iii) The Navy shall require that construction contractors train personnel in the proper balancing of air flow to the bubblers, and shall require that construction contractors submit an inspection/performance report for approval by the Navy within 72 hours following the performance test. Corrections to the attenuation device to meet the performance standards shall occur prior to impact driving.

5. Monitoring

¹ The Regulations require use of sound attenuation devices during impact pile driving of steel piles greater than 14" diameter. However, the Navy's Monitoring Plan, dated June 2021, includes a commitment to use bubble curtains during impact driving of all steel piles in water depths greater than 2 feet. This commitment is reflected in the distances provided in Table 2.

The holder of this Authorization is required to conduct monitoring and reporting in accordance with the approved Monitoring Plan, dated June 2021.

- (a) Monitoring shall be conducted by trained observers, who shall have no other assigned tasks during monitoring periods. Trained observers shall 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. The Navy shall adhere to the following additional observer qualifications:
 - (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 (degree in biological science or related field) or training for experience.
 - (iv) Where a team of three or more observers are required, one observer shall be designated as lead observer or monitoring coordinator. The lead observer must have prior experience working as an observer.
- (b) Trained observers shall receive a general environmental awareness briefing conducted by Navy staff. At a minimum, training shall include identification of the marine mammals that may occur in the project vicinity and relevant mitigation and monitoring requirements. All observers shall have no other construction-related tasks while conducting monitoring.
- (c) The Navy shall deploy additional observers to monitor disturbance zones according to the minimum requirements defined in the approved Marine Mammal Monitoring Plan, dated June 2021. These observers shall collect sighting data and behavioral responses to pile driving for marine mammal species observed in the region of activity during the period of activity, and shall communicate with the shutdown zone observer as appropriate with regard to the presence of marine mammals. All observers shall be trained in identification and reporting of marine mammal behaviors.
- (d) During each in-water work period, the Navy shall update NMFS every two months on the progress of ongoing projects.
- (e) For shutdown zone monitoring, the Navy shall report on implementation of shutdown or delay procedures, including whether the procedures were not implemented and why (when relevant).

6. Reporting

The holder of this Authorization is required to submit information to NMFS as follows:

- (a) The Navy must submit a summary report to NMFS not later than 90 days following the end of construction activity covered by this LOA. The Navy shall provide a final report within 30 days following resolution of comments on the draft report. The report must contain the following information:
 - (i) Date and time that monitored activity begins or ends;
 - (ii) Construction activities occurring during each observation period;
 - (iii) Weather parameters (*e.g.*, wind speed, percent cloud cover, visibility);
 - (iv) Water conditions (*e.g.*, sea state, tide state);
 - (v) Species, numbers, and, if possible, sex and age class of marine mammals;
 - (vi) Description of any observable marine mammal behavior patterns, including bearing and direction of travel and distance from pile driving activity;
 - (vii) Distance from pile driving activities to marine mammals and distance from the marine mammals to the observation point;
 - (viii) Description of implementation of mitigation measures (*e.g.*, shutdown or delay);
 - (ix) Locations of all marine mammal observations; and
 - (x) Other human activity in the area.
- (b) The Navy must submit a comprehensive summary report addressing activities conducted under all LOAs issued pursuant to the Regulations to NMFS not later than ninety days following the conclusion of marine mammal monitoring efforts conducted pursuant to the Regulations.
- (c) In the event that a live marine mammal is found stranded, whether on shore or in or on any structure or vessel, the following steps shall be taken:
 - (i) Project personnel who discover the marine mammal shall immediately notify the most appropriate onsite personnel with relevant expertise (*e.g.*, marine mammal observers) as well as the Navy (if non-Navy project personnel initially discover the animal).
 - (ii) The Navy shall then immediately notify the West Coast Regional Stranding Coordinator, NMFS, (866-767-6114) and, in consultation with the Stranding Coordinator, shall immediately notify the most appropriate

qualified individual (i.e., biologist or veterinarian) to respond to the event.

- (iii) In the interim, or in the event that no qualified individual other than onsite marine mammal observers is available to respond to the event, the Navy shall manage the event response and shall take action to prevent any further deterioration of the animal's condition, to the extent possible. Appropriate action may be specific to the event. At minimum, the Navy should provide shade for the animal (if possible), shall not move the animal or cause the animal to move, and shall suspend project activity until the situation is resolved.
 - (iv) The Navy shall report the incident to the Office of Protected Resources (OPR), NMFS, (301-427-8401) within 48 hours after discovery.
- (d) In the unanticipated event that the specified activity clearly causes the take of at least one marine mammal in a prohibited manner, the Navy shall immediately cease such activity and report the incident to OPR and the West Coast Regional Stranding Coordinator, NMFS. Activities shall not resume until NMFS is able to review the circumstances of the prohibited take. NMFS will work with the Navy to determine what measures are necessary to minimize the likelihood of further prohibited take and ensure MMPA compliance. The Navy may not resume their activities until notified by NMFS. The report must include the following information:
- (i) Time, date, and location (latitude/longitude) of the incident;
 - (ii) Description of the incident;
 - (iii) Environmental conditions (*e.g.*, wind speed and direction, Beaufort sea state, cloud cover, visibility);
 - (iv) Description of all marine mammal observations in the 24 hours preceding the incident;
 - (v) Species identification or description of the animal(s) involved;
 - (vi) Fate of the animal(s); and
 - (vii) Photographs or video footage of the animal(s). Photographs may be taken once the animal(s) have been moved from the waterfront area.
- (e) In the event that the Navy discovers an injured or dead marine mammal and determines that the cause of the injury or death is unknown and the death is relatively recent (*e.g.*, in less than a moderate state of decomposition), the Navy shall immediately report the incident to OPR and the West Coast Regional Stranding Coordinator, NMFS. The report must include the information identified

in paragraph (6)(c) of this LOA. Activities may continue while NMFS reviews the circumstances of the incident. NMFS will work with the Navy to determine whether additional mitigation measures or modifications to the activities are appropriate.

- (f) In the event that the Navy discovers an injured or dead marine mammal and determines that the injury or death is not associated with or related to the specified activities (*e.g.*, previously wounded animal, carcass with moderate to advanced decomposition, scavenger damage), Navy shall report the incident to OPR and the West Coast Regional Stranding Coordinator, NMFS, within 24 hours of the discovery. The Navy shall provide photographs or video footage or other documentation of the stranded animal sighting to NMFS. Photographs may be taken once the animal has been moved from the waterfront area.
7. This Authorization may be modified, suspended or revoked if the Holder fails to abide by the conditions prescribed herein (including, but not limited to, failure to comply with monitoring or reporting requirements), or if NMFS determines: (1) the authorized taking is likely to have or is having more than a negligible impact on the species or stocks of affected marine mammals or (2) the prescribed measures are likely not or are not effecting the least practicable adverse impact on the affected species or stocks and their habitat.

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Table 1. Authorized Take by Harassment

Species	Level B harassment ¹	Level A harassment ¹
Humpback whale	4 ²	0
Minke whale	4 ²	0
Gray whale	4 ²	0
Killer whale (transient)	12 ²	0
Killer whale (resident)	40 ²	0
Dall's porpoise	146 ²	0
Harbor porpoise	2,142	0
Steller sea lion	357	0
California sea lion	5,831	0
Harbor seal	4,680	119
Elephant seal	2 ²	0

¹Values represent the total amount of take that may be authorized over the five-year period of effectiveness of the Regulations, and the amount of take expected to occur incidental to the activities conducted during the period of validity of this LOA may be less than these totals.

²These values represent the total amount of take that may be authorized over the five-year period of effectiveness of the Regulations at all U.S. Navy facilities covered by the Regulations. During 2021-22, these values represent the combined total of takes authorized through this LOA as well as through the separate LOA issued for construction activities planned to occur at Naval Base Kitsap Manchester.

Table 2. Minimum Shutdown and Monitoring Zones (meters)

Pile size, type, and method	Minimum shutdown zones					Minimum monitoring zone ¹
	Phocid	Otariid	Low-frequency	Mid-frequency	High-frequency	
30-in steel, impact	160	10	740	630	630	630 ²
30-in steel, vibratory	20	10	40	40	40	³
14/18-in steel, impact ⁵	25	10	400/465	400/465	400/465	400/465
14/18-in steel, vibratory	10	10	20	20	20	⁴

¹Observation of any cetacean within these zones requires shutdown of pile driving activity.

²The estimated Level A harassment zone for low-frequency cetaceans exceeds the estimated Level B harassment zone. Therefore, while the shutdown requirement described in 4(c) of this LOA applies to the monitoring zone for mid- and high-frequency cetaceans, the de facto minimum monitoring zone is equivalent to the largest shutdown zone (*i.e.*, the 740-m zone for low-frequency cetaceans).

³The estimated Level B harassment zone is 11,700 meters. Pursuant to Section 2.5 of the Marine Mammal Monitoring Plan, two observers will be positioned on the pier or shore. Observers at these locations will monitor the Level B harassment zone to the maximum extent possible based on daily visibility conditions.

⁴The estimated Level B harassment zone for 14-in steel piles is 2,200 meters and for 18-in steel piles is 5,400 meters. Pursuant to Section 2.5 of the Marine Mammal Monitoring Plan, two observers will be positioned on the pier or shore. Observers at these locations will monitor the Level B harassment zone to the maximum extent possible based on daily visibility conditions.

⁵If 14-in steel piles are used, the cetacean shutdown zones and minimum monitoring zone is 400 m. If 18-in steel piles are used, the zones are 465 m.