



INCIDENTAL HARASSMENT AUTHORIZATION

The U.S. Coast Guard (USCG), Station Monterey and/or its designees (holders of the Authorization) are hereby authorized under section 101(a)(5)(D) of the Marine Mammal Protection Act (16 U.S.C. 1371(a)(5)(D)) to harass small numbers of marine mammals incidental to pile driving and removal activities as part of USCG's Station Monterey Waterfront Restoration Project.

1. This Authorization is valid from December 20, 2017, through October 16, 2018.
2. This Authorization is valid only for activities associated with in-water construction work for the USCG Station Monterey Waterfront Restoration Project in Monterey, California.
3. General Conditions
 - (a) The species authorized for taking, by Level B harassment, and in the numbers shown in Table 1 are: California sea lion (*Zalophus californianus*), Pacific harbor seal (*Phoca vitulina*), harbor porpoise (*Phocoena phocoena*), Risso's dolphin (*Grampus griseus*), bottlenose dolphin (*Tursiops truncatus*), killer whale (*Orcinus orca*), gray whale (*Megaptera novaengliae*), and humpback whale (*Eschrichtius robustus*).

Table 1. Summary of Authorized Take by Level B Harassment

Species	Authorized Level B Take
Pacific harbor seal	57
California sea lion	504 (Animals already in the water)
California sea lion	2,000 (Animals that enter the water from the breakwater)
Transient killer whale	8
Offshore killer whale	25 (single occurrence of a small pod)
Bottlenose dolphin	10 (single occurrence of a small pod)
Risso's dolphin	10 (single occurrence of a small pod)

Species	Authorized Level B Take
Harbor porpoise	136
Gray whale	4

(b) The authorization for taking by harassment is limited to the following acoustic sources and from the following activities:

- Impact pile driving;
- Vibratory pile driving; and
- Vibratory pile removal

4. Prohibitions

- (a) The taking, by incidental harassment only, is limited to the species listed under condition 3(a) above and by the numbers listed in Table 1 of this Authorization. The taking by serious injury or death of these species or the taking by harassment, injury or death of any other species of marine mammal is prohibited unless separately authorized or exempted under the MMPA and may result in the modification, suspension, or revocation of this Authorization.
- (b) The taking of any marine mammal is prohibited whenever the required protected species observers (PSOs), required by condition 6(b), are not present in conformance with condition 6(b) of this Authorization.

5. Mitigation Measures

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

(a) In-situ Monitoring

USCG shall conduct in-situ monitoring during the installation of five piles and removal of five piles. USCG shall establish (and revise as needed) Level B harassment zones of influence (ZOIs) where received underwater sound pressure levels (SPLs) are higher than 160 dB (rms) and 120 dB (rms) re 1 μ Pa for impulse noise sources (impact pile driving) and non-impulses noise sources (vibratory pile driving), respectively. USCG shall establish (and revise, as needed) Level A harassment zones based on measured SELs.

(b) Time Restriction

In-water construction work shall occur only during daylight hours.

(c) Noise Attenuation

A bubble curtain and cushion pads shall be used during pile driving activities with an impact hammer. Pre-drilling shall be performed and would be discontinued when the pile tip is approximately five feet (ft) above the required pile tip elevation.

(d) Level B Harassment Zones

USCG shall monitor the Level B harassment zones as described in Table 2 below. Once the underwater acoustic measurements are conducted during initial test pile driving, USCG shall adjust the size of the ZOIs as necessary, and monitor these zones as described under the Monitoring section below.

Table 2. Level B Harassment Zone Descriptions and Duration of Activity

Activity	Construction Method	Level B Threshold (m)	Level B ZOI (km ²)
Removal of timber piles and Installation of 14-in Steel Piles (N through the breakwater)	Vibratory	2,000	7.3 km ²
Removal of timber piles and Installation of 14-in Steel Piles (in all other directions hitting the shoreline)	Vibratory	2,400 (NE) 1,800 (E) 550 (S)	
Installation of 14-in Steel Piles (N and NE through the breakwater)	Impact	76	0.27 km ²
Installation of 14-in Steel Piles (in all other directions hitting the shorelines)	Impact	293	

Notes:

Assumes 5 dB of underwater noise attenuation by using a bubble curtain during impact pile driving. Distances and method of calculation are presented in Appendix A of the application.

dB = decibel

rms = root mean square (dB re: 1 μPa)

N = north, NE = northeast, E = east, S = south

(e) Exclusion Zones

USCG shall implement shutdown measures if a marine mammal is detected within or approaching the Exclusion Zones as outlined in Table 3. Once the underwater acoustic measurements are conducted during initial test pile driving, USCG shall adjust the size of

the Exclusion Zones as necessary, and monitor these zones as described under the Monitoring section below.

Table 3. Exclusion zones for various pile driving activities for marine mammal hearing groups.

Sound Source Type	Exclusion Zone				
	Low-Frequency Cetaceans	Mid-Frequency Cetaceans	High-Frequency Cetaceans	Phocid Pinnipeds	Otariid Pinnipeds
Vibratory (removal and installation)	21	10	30	13	10
Impact (installation)	53	10	63	28	10

- (i) USCG shall implement a minimum shutdown zone of a 10 m radius around each pile for all construction methods for all marine mammals.
- (ii) If a marine mammal is observed at or within the Exclusion Zone, work shall stop until the individual has been observed outside of the zone, or has not been observed for at least 15 minutes for pinnipeds and small cetaceans and 30 minutes for large whales.

(f) Additional Shutdown Measures

- (i) If a humpback whale is observed within the Level B and Exclusion zones, the USCG shall implement shutdown measures. Work shall not commence until 30-minutes after the last sighting of a humpback within these zones.
- (ii) USCG shall implement shutdown measures if the cumulative total of individuals observed within the ZOI for any particular species exceeds the number authorized under the IHA 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 activities.
- (iii) USCG shall implement shutdown measures if a marine mammal species under NMFS' jurisdiction is observed within the Level B or the Exclusion zones that has not been authorized for take.

(g) Soft-Start for Impact Pile Driving

Each day at the beginning of impact pile driving or any time there has been cessation or downtime of 30 minutes or more without pile driving, contractors shall initiate soft-start for impact hammers by providing an initial set of three strikes from the impact hammer at 40 percent energy, followed by a one-minute waiting period, then two subsequent three-strike sets.

6. Monitoring:

The holder of this Authorization is required to conduct marine mammal monitoring during pile driving and removal activities and to conduct acoustic monitoring of background sound and project activities. Monitoring and reporting shall be conducted in accordance with the Monitoring Plan as described below.

(a) Protected Species Observers (PSOs)

USCG shall employ at least three NMFS-approved PSOs to conduct marine mammal monitoring for its construction project. NMFS-approved PSOs shall meet the following 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 (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 shall be designated as lead observer or monitoring coordinator. The lead observer must have prior experience working as an observer.
- (v) NMFS shall require submission and approval of observer CVs.

(b) Monitoring Protocols: PSOs shall be present on site at all times during pile removal and driving. Marine mammal visual monitoring shall be conducted for the Level B Harassment Zones as outlined in Table 2.

- (i) PSOs shall conduct baseline monitoring for two days during the week prior to pile removal and driving. PSOs shall collect and report the same information on marine mammals as described below in 6(b)(ix).
- (ii) A 30-minute pre-construction marine mammal monitoring shall be required before the first pile driving or pile removal of the day. A 30-minute post-construction marine mammal monitoring shall be required after the last pile driving or pile removal of the day. If the constructors take a break between subsequent pile driving or pile removal for more than 30 minutes, then additional 30-minute pre-construction marine mammal monitoring shall be required before the next start-up of pile driving or pile removal.
- (iii) During pile removal or installation, at least three monitors shall be used, and positioned such that each monitor has the best vantage point available, including the USCG pier, jetty, adjacent docks within the harbor, to maintain an excellent view of the exclusion zone and adjacent areas during the survey

period. Monitors would be equipped with radios or cell phones for maintaining contact with work crews.

- (iv) During pile driving activities with an impact hammer, one monitor, based at or near the construction site, shall conduct the monitoring.
- (v) Vessel-based visual marine mammal monitoring within the 120 dB and 160 dB ZOIs shall be conducted during 10% of the vibratory pile driving and removal and impact pile driving activities, respectively.
- (vi) Monitors shall record take when marine mammals enter their relevant Level B Harassment Zones based on type of construction activity as outlined in Table 2.
- (vii) If a marine mammal approaches an Exclusion Zone as outlined in Table 3, the observation shall be reported to the Construction Manager and the individual shall be watched closely. If the marine mammal crosses into an Exclusion Zone, a stop-work order shall be issued. In the event that a stop-work order is triggered, the observed marine mammal(s) shall be closely monitored while it remains in or near the Exclusion Zone, and only when it moves well outside of the Exclusion Zone or has not been observed for at least 15 minutes for pinnipeds and small cetaceans and 30 minutes for large whales shall the lead monitor allow work to recommence.
- (viii) PSOs shall monitor marine mammals around the construction site using high-quality binoculars (*e.g.*, Zeiss, 10 x 42 power) and/or spotting scopes.
- (ix) If marine mammals are observed, the following information shall be documented:
 - (A) Date and time that monitored activity begins or ends;
 - (B) Construction activities occurring during each observation period;
 - (C) Weather parameters (*e.g.*, percent cover, visibility);
 - (D) Water conditions (*e.g.*, sea state, tide state);
 - (E) Species, numbers, and, if possible, sex and age class of marine mammals;
 - (F) Description of any observable marine mammal behavior patterns, including bearing and direction of travel and distance from pile driving activity;
 - (G) Distance from pile driving activities to marine mammals and distance from the marine mammals to the observation point;

- (H) Locations of all marine mammal observations; and
- (I) Other human activity in the area.
- (x) Acoustic Monitoring - USCG shall conduct acoustic to evaluate, in real time, sound production from construction activities and shall capture all hammering scenarios that may occur under the planned project. Background noise recordings (in the absence of pile-related work) shall also be made during the study to provide a baseline background noise profile. Acoustic monitoring shall follow NMFS's 2012 Guidance Documents: *Sound Propagation Modeling to Characterize Pile Driving Sounds Relevant to Marine Mammals and Data Collection Methods to Characterize Underwater Background Sound Relevant to Marine Mammals in Coastal Nearshore Waters and Rivers of Washington and Oregon*.

7. Reporting:

The holder of this Authorization is required to:

(a) Marine Mammal Monitoring

- (i) USCG shall submit a draft marine mammal monitoring report within 90 days after completion of the in-water construction work or the expiration of the IHA, whichever comes earlier. The report shall include data from marine mammal sightings as described in 6(b)(ix). The marine mammal monitoring report shall also include total takes, takes by day, and stop-work orders for each species.
- (ii) If no comments are received from NMFS within 30 days, the draft report shall be considered final. Any comments received during that time shall be addressed in full prior to finalization of the report.
- (iii) In the unanticipated event that the specified activity clearly causes the take of a marine mammal in a manner prohibited by the IHA, such as an injury (Level A harassment) of unauthorized species, or serious injury or mortality of any species, USCG shall immediately cease the specified activities and immediately report the incident to the Permits and Conservation Division, Office of Protected Resources, NMFS at (301) 427-8401 and the NMFS' West Coast Stranding Coordinator at (562) 980-3230 or (562) 980-3264. The report must include the following information:
 - Time, date, and location (latitude/longitude) of the incident;
 - Name and type of vessel involved;
 - Vessel's speed during and leading up to the incident;
 - Description of the incident;
 - Status of all sound source use in the 24 hrs. preceding the incident;

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

Activities shall not resume until NMFS is able to review the circumstances of the prohibited take. NMFS shall work with USCG to determine what is necessary to minimize the likelihood of further prohibited take and ensure MMPA compliance. USCG shall not resume their activities until notified by NMFS via letter, email, or telephone.

(b) Reporting of Injured or Dead Marine Mammals

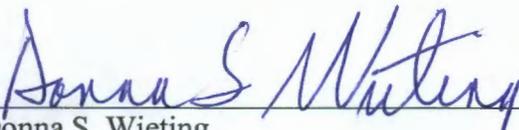
- (i) In the event that USCG discovers an injured or dead marine mammal, and the lead PSO determines that the cause of the injury or death is unknown and the death is relatively recent (*i.e.*, in less than a moderate state of decomposition as described in the next paragraph), USCG shall immediately report the incident to the Permits and Conservation Division, Office of Protected Resources, NMFS at (301) 427-8401 and the NMFS' West Coast Stranding Coordinator at (562) 980-3230 or (562) 980-3264. The report must include the same information identified in 7(a)(iii). Activities may continue while NMFS reviews the circumstances of the incident. NMFS shall work with USCG to determine whether modifications in the activities are appropriate.
- (ii) In the event that USCG discovers an injured or dead marine mammal, and the lead PSO determines that the injury or death is not associated with or related to the activities authorized in the IHA (*e.g.*, previously wounded animal, carcass with moderate to advanced decomposition, or scavenger damage), USCG shall report the incident to the Permits and Conservation Division, Office of Protected Resources, NMFS at (301) 427-8401 and the NMFS Stranding Hotline and/or by email to the NMFS' West Coast Stranding Coordinator (562) 980-3230 or (562) 980-3264 within 24 hrs. of the discovery. USCG shall provide photographs or video footage (if available) or other documentation of the stranded animal sighting to NMFS. Activities may continue while NMFS reviews the circumstances of the incident.

- (c) Acoustic Monitoring Report – USCG will submit an Acoustic Monitoring Report within 90 days after completion of the in-water construction work or the expiration of the IHA (if issued), whichever comes earlier. The report will provide details on the monitored piles, method of installation, monitoring equipment, and sound levels documented during both the sound source measurements and the background monitoring. NMFS will have an opportunity to provide comments on the report or

changes in monitoring for the second season, and if NMFS has comments, USCG will address the comments and submit a final report to NMFS within 30 days. If no comments are received from NMFS within 30 days, the draft report shall be considered final. Any comments received during that time will be addressed in full prior to finalization of the report.

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

9. A copy of this Authorization must be in the possession of each contractor who performs the construction work for the USCG Station Monterey waterfront restoration project.



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DEC 21 2017

Date