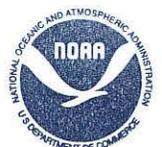




INCIDENTAL HARASSMENT AUTHORIZATION

The U.S. Army Corps of Engineers (Corps) is hereby authorized under section 101(a)(5)(D) of the Marine Mammal Protection Act (MMPA; 16 U.S.C. 1371(a)(5)(D)) to harass marine mammals incidental to the King Pile Marker Project on the Columbia River.

1. This Incidental Harassment Authorization (IHA) is valid from October 1, 2020 to September 30, 2021.
2. This IHA is valid only for pile installation associated with the King Pile Marker Project.
3. General Conditions
 - (a) A copy of this IHA must be in the possession of the Corps, its designees, work crew personnel, and Protected Species Observers (PSOs) operating under the authority of this IHA.
 - (b) The species authorized for taking are Steller sea lion (*Eumetopias jubatus*), California sea lion (*Zalophus californianus*), and harbor seal (*Phoca vitulina*).
 - (c) The taking, by Level A and Level B harassment is limited to the species listed in condition 3(b). Table 1 provides the authorized number of takes per species and stock. The taking by serious injury or death of any of the species listed in condition 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 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 Corps is required to conduct briefings for construction supervisors and crews, the monitoring team, and staff prior to the start of all pile installation activity, and when new personnel join the work, in order to explain responsibilities, communication procedures, the marine mammal monitoring protocol, and operational procedures.
 - (e) Pile installation activities authorized under this IHA may only occur during daylight hours.



4. Mitigation Measures

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

- (a) For in-water construction, heavy machinery activities other than pile installation (e.g., use of barge-mounted excavators, or dredging), if a marine mammal comes within 10 meters, the Corps is required to cease operations and reduce vessel speed to the minimum level required to maintain steerage and safe working conditions.
- (b) The Corps must establish shutdown zones (Table 2).
- (c) The Corps must establish Level A and Level B harassment monitoring zones (Table 2 and Table 3).
- (d) Marine mammal monitoring must take place from 30 minutes prior to initiation of pile installation activity through 30 minutes post-completion. Pile installation may commence when observers have declared the shutdown zone clear of marine mammals for 30 minutes. In the event of a delay or shutdown of activity resulting from marine mammals in the shutdown zone (Table 2), 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.
- (e) If a marine mammal is entering or is observed within an established shutdown zone (Table 2), pile installation must be halted or delayed. Pile installation 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 subsequent detections.
 - i. The Corps must establish and adhere to minimum allowable work distances between adjacent pile installation work platforms, based on monitoring zone isopleths, to ensure that there is no overlap of behavioral harassment zones.
- (f) Bubble curtains must be used during any impact pile driving in water greater than 2 ft in depth. The bubble curtain must be operated in a manner consistent with 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 must 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; and

- iii. Air flow to the bubblers must be balanced around the circumference of the pile.
- (g) The Corps must use soft start techniques when impact pile driving. Soft start requires contractors to provide an initial set of strikes at reduced energy, followed by a thirty-second waiting period, then two subsequent reduced energy strike sets. A soft start must 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.
- (h) 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 Level B harassment monitoring zone (Table 3), pile installation activities must shut down immediately using delay and shut-down procedures. Activities must not resume until the animal has been confirmed to have left the area or the 15 minute observation time period has elapsed.

5. Monitoring Measures

The holder of this IHA is required to abide by the following marine mammal monitoring measures:

- (a) Marine mammal monitoring during pile installation activities must be conducted by qualified NMFS-approved PSOs in a manner consistent with the following:
 - i. Independent PSOs (*i.e.*, not construction personnel) who have no other assigned tasks during monitoring periods must be used.
 - ii. At least one observer must have prior experience working as an observer.
 - iii. Other PSOs may substitute education (degree in biological science or related field) or training for experience.
 - iv. The Corps must submit PSO CVs for approval by NMFS prior to the onset of pile driving.
- (b) PSOs must have the following additional qualifications:

- i. Ability to conduct field observations and collect data according to assigned protocols.
 - ii. Experience or training in the field identification of marine mammals, including the identification of behaviors.
 - iii. Sufficient training, orientation, or experience with the construction operation to provide for personal safety during observations.
 - iv. Writing skills sufficient to prepare a report of observations including but not limited to the number and species of marine mammals observed; dates and times when in-water construction activities were conducted; dates, times, and reason for implementation of mitigation (or why mitigation was not implemented when required); and marine mammal behavior.
 - v. Ability to communicate orally, by radio or in person, with project personnel to provide real-time information on marine mammals observed in the area as necessary.
- (c) At least one PSO must be placed at near each king pile construction location to monitor the Shutdown, Level A and Level B harassment zones.
 - (d) PSOs are required to scan the waters using binoculars, and/or spotting scopes, and must use a handheld GPS or range-finder device to verify the distance to each sighting from the project site.
 - (e) If waters exceed a sea-state which restricts the PSOs ability to make observations within the marine mammal shutdown zone, pile installation shall cease. Pile installation activities shall not be initiated or continue until the entire largest shutdown zone for the activity is visible.
 - (f) If the Level B harassment zone has been observed for 30 minutes and unauthorized species are not present within the zone, pile driving activities (soft start procedures required during impact driving) can commence and work can continue even if visibility becomes impaired within the Level B harassment zone. When a marine mammal authorized for take by Level B harassment is present in the Level B harassment zone, activities may begin and take must be recorded.
 - (g) If work ceases for more than 30 minutes, the pre-activity monitoring of the Level B harassment, Level A harassment and shutdown zones must commence.

- (h) PSOs are required to work in shifts lasting no longer than 4 hours with at least a 1-hour break between shifts, and must not perform duties as a PSO for more than 12 hours in a 24-hr period.

6. Reporting

The holder of this IHA is required to:

- (a) Submit a draft report on all monitoring conducted under the IHA within ninety calendar days of the completion of marine mammal monitoring. A final report shall be prepared and submitted within thirty days following resolution of comments on the draft report from NMFS. This report must contain the informational elements described in the Marine Mammal Monitoring Plan including, but not limited to:
 - i. Dates and times (begin and end) of all marine mammal monitoring.
 - ii. Construction activities occurring during each daily observation period, including how many and what type of piles were driven and by what method (*i.e.*, impact, vibratory).
 - iii. Weather parameters and water conditions during each monitoring period (*e.g.*, wind speed, percent cover, visibility, sea state).
 - iv. The number of marine mammals observed, by species, relative to the pile location and if pile installation was occurring at time of sighting.
 - v. Age and sex class, if possible, of all marine mammals observed.
 - vi. PSO locations during marine mammal monitoring.
 - vii. Distances and bearings of each marine mammal observed to the pile being driven for each sighting (if pile installation was occurring at time of sighting).
 - viii. Description of any marine mammal behavior patterns during observation, including direction of travel.
 - ix. Number of individuals of each species (differentiated by month as appropriate) detected within the monitoring zone, and estimates of number of marine mammals taken, by species.
 - x. Detailed information about any implementation of any mitigation triggered (*e.g.*, shutdowns and delays), a description of specific actions that ensued, and resulting behavior of the animal, if any.

- xi. Description of attempts to distinguish between the number of individual animals taken and the number of incidences of take, such as ability to track groups or individuals.
- xii. Marine mammal PSO observational datasheets or raw data.
- xiii. PSOs must extrapolate observed takes across the entirety of the Level B harassment zones at each king pile replacement location based on the area that is able to be monitored effectively.

(b) Reporting injured or dead marine mammals:

- i. In the unanticipated event that the specified activity clearly causes the take of a marine mammal in a manner prohibited by this IHA, such as serious injury, or mortality, the Corps must immediately cease the specified activities and report the incident to the NMFS Office of Protected Resources (301-427-8401) and the West Coast Regional Stranding Coordinator (206-526-4747). The report must include the following information:
 - 1. Time and date of the incident;
 - 2. Description of the incident;
 - 3. Environmental conditions (e.g., wind speed and direction, Beaufort sea state, cloud cover, and visibility);
 - 4. Description of all marine mammal observations and active sound source use in the 24 hours preceding the incident;
 - 5. Species identification or description of the animal(s) involved;
 - 6. Fate of the animal(s); and
 - 7. Photographs or video footage of the animal(s).

Activities must not resume until NMFS is able to review the circumstances of the prohibited take. NMFS will work with the Corps to determine what measures are necessary to minimize the likelihood of further prohibited take and ensure MMPA compliance. The Corps may not resume their activities until notified by NMFS.

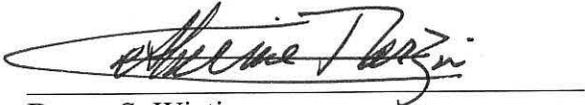
- ii. In the event the Corps discovers an injured or dead marine mammal, and the lead observer determines that the cause of the injury or death is unknown and the death is relatively recent (e.g., in less than a moderate state of decomposition), the Corps must immediately report the incident to

the Office of Protected Resources, NMFS, and the West Coast Regional Stranding Coordinator, NMFS. The report must include the same information identified in 6(b)(i) of this IHA. Activities may continue while NMFS reviews the circumstances of the incident. NMFS will work with the Corps to determine whether additional mitigation measures or modifications to the activities are appropriate.

- iii. In the event that the Corps discovers an injured or dead marine mammal, and the lead observer 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, or scavenger damage), the Corps must report the incident to the Office of Protected Resources, NMFS, and the West Coast Regional Stranding Coordinator, NMFS, within 24 hours of the discovery.
7. 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.
 8. Renewals - On a case-by-case basis, NMFS may issue a one-year IHA renewal with an additional 15 days for public comments when (1) another year of identical or nearly identical activities as described in the Specified Activities section of this notice is planned or (2) the activities as described in the Specified Activities section of this notice would not be completed by the time the IHA expires and a second IHA would allow for completion of the activities beyond that described in the Dates and Duration section of this notice, provided all of the following conditions are met:
 - (a) A request for renewal is received no later than 60 days prior to expiration of the current IHA.
 - (b) The request for renewal must include the following:
 - i. An explanation that the activities to be conducted under the requested Renewal are identical to the activities analyzed under the initial IHA, are a subset of the activities, or include changes so minor (*e.g.*, reduction in pile size) that the changes do not affect the previous analyses, mitigation and monitoring requirements, or take estimates (with the exception of reducing the type or amount of take because only a subset of the initially analyzed activities remain to be completed under the Renewal).
 - ii. A preliminary monitoring report showing the results of the required monitoring to date and an explanation showing that the monitoring results do not indicate impacts of a scale or nature not previously analyzed or authorized.

- (c) Upon review of the request for renewal, the status of the affected species or stocks, and any other pertinent information, NMFS determines that there are no more than minor changes in the activities, the mitigation and monitoring measures will remain the same and appropriate, and the findings in the initial IHA remain valid.

SEP 30 2019



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

Date

Table 1. Authorized Take by Level B Harassment.

Species	Level A Take	Level B Take
California Sea Lion	--	549
Stellar Sea Lion	--	3,416
Harbor Seal	10	610

Table 2. Shutdown and Level A Harassment Zones during Project Activities (meters).

Activity	Phocid Pinniped		Otariid Pinniped
	Level A Harassment	Shutdown	Shutdown
24" Steel Pipe Pile Impact Installation	60	10	10
24" Steel Pipe Vibratory Installation	--	10	10

Table 3. Level B Harassment Monitoring Zones during Project Activities.

Activity	Distance (m)
24" Steel Pipe Pile Impact Installation	635
24" Steel Pipe Vibratory Installation	5,420