



Incidental Harassment Authorization

The Port of Kalama (POK), 110 West Marine Drive, Kalama, Washington, 98625, is hereby authorized under section 101(a)(5)(D) of the Marine Mammal Protection Act (16 U.S.C. 1371(a)(5)(D)) and 50 CFR 216.107 to take marine mammals, by harassment, incidental to conducting in-water construction work for the Port of Kalama Expansion Project contingent upon the following conditions:

1. This Authorization is valid from September 1, 2017 through August 31, 2018
2. (a) Timing of Activities Anticipated to Result in Take of Marine Mammals
 - (i) In-water construction/pile installation (including installation and removal of temporary piles for construction) shall be conducted between September 1, 2017 and January 31, 2018.
 - (b) Timing of Activities Not Anticipated to Result in Take of Marine Mammals
 - (i) Dredging would be conducted between September 1, 2017 and December 31, 2017
 - (ii) Construction/installation of engineered log jams (ELJ) may be conducted year-round
 - (iii) Construction that will take place below the Ordinary High Water Mark (OHWM), but outside of the wetted perimeter of the river (in the dry) may be conducted year-round
 - (iii) Removal of wooden piles from former trestle in the freshwater intertidal backwater channel portion of the project site (compensatory mitigation measure of removal of 157 wooden piles) may be conducted year-round.
3. This Authorization is valid only for activities associated with in-water construction work for the Port of Kalama Expansion Project on approximately 100 acres (including uplands) at the northern end of the Port of Kalama's North Port site (Lat. 46.049, Long. -122.874), located at approximately river mile 72 along the lower Columbia River along the east bank in Cowlitz County, Washington.
4. (a) The species authorized for taking are: harbor seal (*Phoca vitulina richardsi*), California sea lion (*Zalophus californianus*), and Steller sea lion (*Eumatopius jubatus*), as indicated in Table 1 (attached).



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

- (i) Impact pile driving; and
- (ii) Vibratory pile driving activities (including vibratory removal of temporary construction piles)

(c) The taking of any marine mammal in a manner prohibited under this Authorization must be reported within 24 hours of the taking to the National Marine Fisheries Service (NMFS) West Coast Regional Administrator at (206) 526-6150 and the NMFS Chief of the Permits and Conservation Division at (301) 427-8401.

5. The taking, by Level B harassment only, is limited to the species listed, and by the numbers listed, under condition 3(a) above in Table 1 (attached). The taking by Level A harassment or death of the species identified 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 Authorization.

6. Mitigation

(a) Activities authorized for take of marine mammals by this Authorization shall occur only during daylight hours.

(b) A bubble curtain will be used for sound attenuation if steel piles require impact installation or proofing

(c) Exclusion Zone and Level B Harassment Zones of Influence

(i) Exclusion zones out to distances shown in Table 2 (attached), encompassing the Level A harassment zones will be implemented to avoid Level A take of marine mammals.

(ii) Disturbance zones shall be established as identified in Table 3 (attached).

(d) Monitoring of marine mammals shall take place starting 30 minutes before pile driving begins and will continue until 30 minutes after pile driving ends.

(e) Soft Start

(i) Soft start procedures 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 30 minutes or longer.

(ii) Soft start procedures require that the contractor provides an initial set of three strikes at reduced energy followed by a 30-second waiting period, then two subsequent reduced energy strike sets.

(f) Shutdown Measures

- (i) POK shall implement shutdown measures if a marine mammal is sighted within, or is perceived to be approaching, the exclusion zones identified in 5(c)(i) above and the associated construction or pile driving activities shall immediately cease. Pile driving or in-water construction work will not be resumed until the exclusion zone has been observed as being clear of marine mammals for at least 15 minutes.
- (ii) If marine mammals are present within the exclusion zones established in 5(c)(i) above prior to the start of in-water construction activities, these activities would be delayed until the animals leave the exclusion zone of their own volition, or until 15 minutes elapse without resighting the animal, at which time it may be assumed that the animal(s) have left the exclusion zone.

7. Monitoring

- i. Marine Mammal Observers – POK shall employ observers to conduct marine mammal monitoring for its construction project. Observers shall have the following minimum qualifications:
 - (i) Visual acuity in both eyes (correction is permissible) sufficient for discernment of moving targets at the water's surface with the ability to estimate target size and distance. Use of binoculars may be necessary to correctly identify the target.
 - (ii) Experience and ability to conduct field observations and collect data according to assigned protocols (this may include academic experience).
 - (iii) Experience or training in the field identification of the marine mammals that could potentially be encountered.
 - (iv) Sufficient training, orientation, or experience with the construction operation to provide for personal safety during observations.
 - (v) Writing skills sufficient to prepare a report of observations that will include such information as the number and types of marine mammals observed; the behavior of marine mammals in the project area during construction; the dates and times when observations were conducted; the dates and times when in-water construction activities were conducted; the dates and times when marine mammals were present at or within the defined disturbance zone; and the dates and times when in-water construction activities were suspended to avoid incidental harassment by disturbance from construction noise.
 - (vi) Ability to communicate orally, by radio or in person, with project personnel to provide real time information on marine mammals observed in the area.

- ii. Individuals meeting the minimum qualifications identified in 7(a), above, shall be present on site (on land or dock) at all times during pile driving activities conducted for the project.
- iii. During all impact pile driving activities, observers will be stationed to allow a clear line of sight of the exclusion zone (10 m [33 ft] except for steel piles, which will be 18 m [59 ft]) and the entire disturbance zone as identified in Table 2 (attached).
- iv. Marine mammal observers will monitor for the first two days of vibratory pile driving, and thereafter on every third day of vibratory pile driving. Monitoring will be conducted by three observers during vibratory pile driving activities. One observer will be stationed in the general vicinity of the pile being driven and will have clear line of sight views of the entire inner harbor. Another observer will be stationed at an accessible location downstream (such as northern tip of Prescott Beach County Park) and would observe the northern (downstream) portion of the disturbance zone. A third observer will be stationed at an accessible location upstream and would observe the southern (upstream) portion of the disturbance zone.
- v. Marine mammal observers will scan the waters within each monitoring zone activity using binoculars (Vector 10 X 42 or equivalent), spotting scopes (Swarovski 20-60 zoom or equivalent; Washington Department of Fish and Wildlife 2000), and visual observation.
- vi. Marine mammal presence within the Level B harassment zones of influence (disturbance zones) will be monitored, but pile driving activity will not be stopped if marine mammals are found present unless they enter or approach the exclusion zone. Any marine mammal observed within the disturbance zone will be documented and counted as a Level B take. Monitoring during vibratory pile driving will occur during the first two days of activity and during every three days thereafter to estimate the number of individuals present within the Level B harassment area.
- vii. If waters exceed a sea-state which restrict the observers' ability to make observations within the Level A injury exclusion zone, relevant activities will cease until conditions allow the resumption of monitoring. Vibratory pile installation would continue under these conditions.
- viii. The waters will be scanned 30 minutes prior to commencing pile driving activities and during all pile driving activities. If marine mammals enter or are observed within the designated exclusion zones during, or 15 minutes prior to, impact pile driving, the

monitors will notify the on-site construction manager to not begin, or cease, work until the animal(s) leave of their own volition, or have not been observed within the zone for 15 minutes.

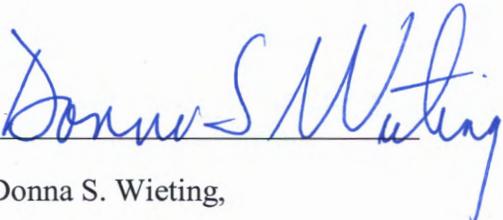
8. Reporting

- (a) POK shall provide NMFS with a draft monitoring report within 90 days of the expiration of this Authorization, or within conclusion of the construction work, whichever comes first. This report shall detail the monitoring protocol, summarize the data recorded during monitoring, and estimate the number of marine mammals that may have been harassed.
- (b) If comments are received from NMFS (West Coast Regional Administrator or NMFS Office of Protected Resources) on the draft report within 30 days, a final report shall be submitted to NMFS within 30 days thereafter. If not comments are received from NMFS within 30 days after receipt of the draft report, the draft report will be considered final.
- (c) In the unanticipated event that the construction activities clearly cause the take of a marine mammal in a manner prohibited by this Authorization, such as an injury, serious injury, or mortality (Level A take), POK shall immediately cease all operations and immediately report the incident to the NMFS Chief of the Permits and Conservation Division, Office of Protected Resources and the NMFS West Coast Regional Stranding Coordinators. The report must include the following information:
 - (i) Time, date, and location (latitude and longitude) of the incident;
 - (ii) Description of the incident;
 - (iii) Status of all sound sources used in the 24 hours preceding the incident;
 - (iv) Environmental conditions (wind speed, wind direction, sea state, cloud cover, visibility, water depth);
 - (v) Description of the marine mammal observations in the 24 hours preceding the incident;
 - (vi) Species identification or description of the animal(s) involved;
 - (vii) The fate of the animal(s); and
 - (viii) 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 POK to determine what is necessary to minimize the likelihood of further prohibited take and ensure MMPA compliance. POK may not resume their activities until notified by NMFS via letter, email, or telephone.

- (d) In the event that POK discovers an injured or dead marine mammal, and the marine mammal observer determines that the cause of injury or death is unknown and the death is relatively recent (less than a moderate state of decomposition), POK will immediately report the incident to the NMFS Chief of Permits and Conservation Division, Office of Protected Resources, and the NMFS West Coast Regional Stranding Coordinator. The report must include the same information identified above. Activities may continue while NMFS reviews the circumstances of the incident. NMFS will work with POK to determine whether modifications in the activities are appropriate
- (e) In the event that POK discovers an injured or dead marine mammal, and the marine mammal observer determines that the injury or death is not associated with or related to the activities authorized in the IHA (previously wounded animal, carcass with moderate to advanced decomposition, or scavenger damage), POK shall report the incident to the NMFS Chief of Permits and Conservation Division, Office of Protected Resources, and the NMFS West Coast Regional Stranding Coordinator within 24 hours of the discovery. POK shall provide photographs or video footage (if available) or other documentation of the stranded animal(s) to NMFS and the Marine Mammal Stranding Network. POK may continue its operations under such a case.

9, 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.



Donna S. Wieting,

Director, Office of Protected Resources,

National Marine Fisheries Service

DEC - 7 2016

Date

Table 1. Species and numbers of takes allowed under this IHA.

Species	Authorized Takes
Harbor seal	1,530
California sea lion	372
Steller sea lion	372

Table 2. Level A harassment zones to be monitored for shutdown.

Activity	Level A (PTS) Threshold	Isopleth (distance)
Impact-driving concrete piles	185 dB SEL _{cum}	40 m (131 ft)
Impact-driving steel piles	185 dB SEL _{cum}	252 m (828 ft)
Vibratory-driving steel piles	201 dB SEL _{cum}	16.5 m (54 ft)

Table 3. Modeled maximum monitoring zones for various pile driving activities.

Pile type	Hammer type	Distance to disturbance monitoring zones (m) ¹	
		160 dB ²	120 dB ²
24in Concrete pile	Impact	117	N/A
18in Steel pipe pile	Vibratory	N/A	Line of Sight, (max 5.7km)
18in Steel pipe pile	Impact	1,848	NA

¹Monitoring zones based on a practical spreading loss model and data from Illingworth and Rodkin (2007).

²All values unweighted and relative to 1 μPa.