



## Incidental Harassment Authorization

Washington State Department of Transportation (WSDOT) Ferries Division (WSF), 2901 3<sup>rd</sup> Avenue, Suite 500, Seattle, Washington 98121-3014, 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, by Level A and Level B harassment only, small numbers of marine mammals incidental to conducting in-water construction work for the Mukilteo Multimodal Project in the Washington State, contingent upon the following conditions:

1. This Authorization is valid from August 1, 2017, through July 31, 2018.
2. This Authorization is valid only for activities associated with in-water construction work for the Mukilteo Multimodal Project in the State of Washington.
3. (a) The species authorized taking by, Level A and Level B harassment and in the numbers shown in Table 6 are: Pacific harbor seal (*Phoca vitulina*), northern elephant seal (*Mirounga angustirostris*), California sea lion (*Zalophus californianus*), Steller sea lion (*Eumetopias jubatus*), killer whale (*Orcinus orca*), gray whale (*Eschrichtius robustus*), humpback whale (*Megaptera novaeangliae*), harbor porpoise (*Phocoena phocoena*), and Dall's porpoise (*P. dalli*).
- (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 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 7(a), are not present in conformance with condition 7(a) of this Authorization.

## 5. Mitigation.

- (a) Time Restriction .  
In-water construction work shall occur only during daylight hours.
- (b) Establishment of Level A and Level B Harassment Zones.
  - (i) Before the commencement of in-water pile driving/removal activities, WSDOT shall establish Level A harassment zones. The modeled Level A zones are summarized in Table 2 and must be implemented.
  - (ii) Before the commencement of in-water pile driving/removal activities, WSDOT shall establish Level B harassment zones. The modeled Level B zones are summarized in Table 2 and must be implemented.
  - (iii) Before the commencement of in-water pile driving/removal activities, WSDOT shall establish exclusion zones. The proposed exclusion zones are summarized in Table 3a for all marine mammals Southern Resident killer whale (SRKW) and in Table 3b for SRKW and must be implemented.
- (c) Monitoring of marine mammals shall take place starting 30 minutes before pile driving begins until 30 minutes after pile driving ends.
- (d) Soft Start.
  - (i) 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, the contractor will initiate the driving with ramp-up procedures described below.
  - (ii) Soft start for impact hammers requires contractors to provide 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.
- (e) Shutdown Measures.
  - (i) WSDOT shall implement shutdown measures if a marine mammal is detected within or to be approaching the exclusion zones provided in Tables 3a and 3b of this IHA.

- (ii) WSDOT shall implement shutdown measures if southern resident killer whales (SRKW) are sighted within the vicinity of the project area and are approaching the Level B harassment zone (zone of influence, or ZOI) as established under condition 5(b)(ii) during in-water construction activities.
  - (iii) If a killer whale approaches the ZOI during pile driving or removal, and it is unknown whether it is a SRKW or a transient killer whale, it shall be assumed to be a SRKW and WSDOT shall implement the shutdown measure identified in 5(e)(ii).
  - (iv) If a SRKW or an unidentified killer whale enters the ZOI undetected, in-water pile driving or pile removal shall be suspended until the SRKW or unidentified killer whale exits the ZOI to avoid further level B harassment.
  - (v) WSDOT shall implement shutdown measures if the number of any allotted marine mammal take reaches the limit under the IHA, if such marine mammals are sighted within the vicinity of the project area and are approaching the Level B harassment zone during pile driving and pile removal activities.
- (f) Coordination with Local Marine Mammal Research Network.  
Prior to the start of pile driving for the day, WSDOT will contact the Orca Network and/or Center for Whale Research to get real-time information on the presence or absence of whales before starting any pile driving.

## 6. Monitoring.

- (a) Protected Species Observers.  
WSDOT shall employ NMFS-approved PSOs to conduct marine mammal monitoring for its construction project. NMFS-approved PSOs will 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 will be designated as lead observer or monitoring coordinator. The lead observer must have prior experience working as an observer.
  - (v) NMFS will require submission and approval of observer CVs.

- (b) Monitoring Protocols: PSOs shall be present on site at all times during pile removal and driving.
- (i) A 30-minute pre-construction marine mammal monitoring will be required before the first pile driving or pile removal of the day. A 30-minute post-construction marine mammal monitoring will 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 will be required before the next start-up of pile driving or pile removal.
  - (ii) Monitoring of marine mammals around the construction site shall be conducted using high-quality binoculars (e.g., Zeiss, 10 x 42 power).
  - (iii) Marine mammal visual monitoring will be conducted for different ZOIs as established under condition 5(b) based on different sizes of piles being driven or removed, as shown in maps in WSDOT's Marine Mammal Monitoring Plan.
    - (A) For Level A zones less than 160 m and Level B zones less than 1,000 m (i.e., vibratory 12-in H pile driving, 10 piles/day; impact proofing of 24-in steel piles, 3 piles/day), two land-based PSOs will monitor the exclusion zones and Level B harassment zone.
    - (B) For Level A zones between 160 and 500 m, and Level B zones between 1,000 and 10,000 m (i.e., vibratory pile driving and removal of 24-in steel piles, 3 piles/day; vibratory driving and removal of steel sheet; and impact proofing of 30-in steel piles, 5 piles/day), 5 land-based PSOs and 1 vessel-based PSO on a ferry will monitor the Level A and Level B harassment zones.
    - (C) For the rest of the pile driving and pile removal scenario, 5 land-based PSOs and 2 vessel-based PSOs on ferries will monitor the Level A and Level B harassment zones.
  - (iv) To verify the required monitoring distance, the exclusion zones and ZOIs will be determined by using a range finder or hand-held global positioning system device.
  - (v) If marine mammals are observed, the following information will be documented:
    - (A) Species of observed marine mammals;
    - (B) Number of observed marine mammal individuals;

- (C) Behavior of observed marine mammals; and
- (D) Location within the ZOI.

7. Reporting:

(a) WSDOT shall provide NMFS Office of Protected Resources with a draft monitoring report within 90 days of the conclusion of the construction work or within 90 days of the expiration of the IHA, 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 Office of Protected Resources on the draft report, a final report shall be submitted to NMFS within 30 days thereafter. If no comments are received from NMFS, the draft report will be considered to be the final report.

(c) In the unanticipated event that the construction activities cause the take of a marine mammal in a manner prohibited by this Authorization, such as an injury, serious injury, or mortality, WSDOT shall immediately cease all operations and immediately report the incident to the Office of Protected Resources, NMFS, and the West Coast Regional Stranding Coordinators. The report must include the following information:

- (i) Time, date, and location (latitude/longitude) of the incident;
- (ii) description of the incident;
- (iii) status of all sound source use in the 24 hours preceding the incident;
- (iv) environmental conditions (*e.g.*, wind speed and direction, sea state, cloud cover, visibility, and water depth);
- (v) description of 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 (if equipment is available).

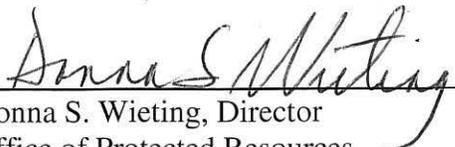
Activities shall not resume until NMFS is able to review the circumstances of the prohibited take. NMFS shall work with WSDOT to determine what is necessary to minimize the likelihood of further prohibited take and ensure MMPA compliance. WSDOT may not resume their activities until notified by NMFS via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

(d) In the event that WSDOT 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), WSDOT will report the incident to the Office of Protected Resources, NMFS, and the West Coast Regional Stranding Coordinators within 48 hours. The report must include the same information identified above. Activities may continue while NMFS reviews the circumstances of the incident. NMFS will work with WSDOT to determine whether modifications in the activities are appropriate.

(e) In the event that WSDOT 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), WSDOT shall report the incident to the Office of Protected Resources, NMFS, and the West Coast Regional Stranding Coordinators, within 48 hours of the discovery. WSDOT shall provide photographs or video footage (if available) or other documentation of the stranded animal sighting to NMFS and the Marine Mammal Stranding Network. WSDOT can continue its operations under such a case.

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 at the Mukilteo Ferry Terminal.

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

NOV 28 2017  
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Date

**Table 1. Species/stocks and numbers of marine mammals allowed under this IHA.**

Species	Estimated Level A take	Estimated Level B take	Estimated total take
Pacific harbor seal	63	1,162	1,225
California sea lion	0	1,225	1,225
Northern elephant seal	0	20	20
Steller sea lion	0	320	320
Killer whale, transient	0	21	21
Killer whale, Southern Resident	0	0	0
Gray whale	0	44	44
Humpback whale	0	6	6
Harbor porpoise	61	6,650	6,711
Dall's porpoise	4	414	418

**Table 2. Modeled maximum Level A and Level B harassment zones for various pile driving activities**

Pile type, size & pile driving method	Injury zone (m)					Behavior zone (m)
	LF cetacean	MF cetacean	HF cetacean	Phocid	Otariid	
Vibratory removal, 24-in steel pile, 3 piles/day	10	10	55	10	10	6,040
Vibratory driving, 24-in steel pile, 3 piles/day	175	45	995	85	10	6,040
Vibratory removal, 30-in steel pile, 2 piles/day	55	10	345	25	10	20,500
Vibratory removal, 30-in steel pile, 7 piles/day	125	35	725	55	10	20,500
Vibratory driving, 30-in steel pile, 3 piles/day	175	45	995	85	10	20,500
Vibratory driving, 36-in steel pile, 3 piles/day	175	45	995	85	10	20,500
Vibratory driving, 78-in steel shaft, 1 pile/day	126	11	186	77	5	20,500
Vibratory driving,	126	11	186	77	5	20,500

120-in steel shaft, 1 pile/day						
Vibratory driving, steel 12-in H-pile, 10 piles/day	4	1	6	2	0	1,000
Vibratory driving, steel sheet, 3 piles/day	14	1	21	9	1	8,577
Vibratory removal, steel sheet, 6 piles/day	23	2	33	14	1	8,577
Impact proofing, 24-in steel pile, 3 piles/day	135	10	75	35	10	875
Impact driving, 30-in steel pile, 3 piles/day	1,065	10	505	225	10	1,585
Impact proofing, 30-in steel pile, 5 piles/day	355	10	175	75	10	1,585

**Table 3a. Exclusion zones for various pile driving activities and marine mammal hearing groups (except Southern Resident killer whales, SRKW)**

Pile type, size & pile driving method	Exclusion zone (m)				
	LF cetacean	MF cetacean (except SRKW)	HF cetacean	Phocid	Otariid
Vibratory removal, 24-in steel pile, 3 piles/day	10	10	55	10	10
Vibratory removal, 30-in steel pile, 2 piles/day	55	10	160	25	10
Vibratory removal, 30-in steel pile, 7 piles/day	125	35	160	50	10
Vibratory driving, 24-, 30- & 36-in steel pile, 3 piles/day	175	45	160	50	10
Vibratory driving, 78-, 120-in steel shaft, 1 pile/day	126	11	160	50	10
Vibratory driving, steel 12-in H-pile, 10 piles/day	10	10	10	10	10
Vibratory driving, steel sheet, 3 piles/day	14	10	21	10	10
Vibratory removal, steel sheet, 6 piles/day	23	10	33	14	10
Impact proofing, 24-in steel pile, 3 piles/day	135	10	75	35	10
Impact driving, 30-in steel pile, 3 piles/day	1,065	10	160	50	10
Impact proofing, 30-in steel pile, 5 piles/day	355	10	160	50	10

**Table 3b. Exclusion Zones for Various Pile Driving Activities and Southern Resident killer whale.**

<b>Pile type, size &amp; pile driving method</b>	<b>Exclusion zone (m)</b>
Vibratory driving or removal, 24-in steel pile	6,040
Vibratory or removal, 30-, 36-, 78-, and 120-in steel pile	20,500
Vibratory driving, steel 12-in H-pile	1,000
Vibratory driving or removal, steel sheet	8,577
Impact proofing, 24-in steel pile	875
Impact driving or proofing, 30-in steel pile	1,585