



Incidental Harassment Authorization

Washington State Department of Transportation (WSDOT) Ferries Division (WSF), is hereby authorized under section 101(a)(5)(D) of the Marine Mammal Protection Act (16 U.S.C. 1371(a)(5)(D)) to harass marine mammals incidental to conducting in-water construction work for the Seattle Multimodal Project at Colman Dock.

1. This Authorization is valid from August 1, 2018, through July 31, 2019.
2. This Authorization is valid only for activities associated with in-water construction work at the Seattle Multimodal Project at Colman Dock in the State of Washington.
3.
 - (a) The species authorized for taking are listed in Table 1. The taking, by Level A and Level B harassment only, is limited to the species and numbers listed in Table 1.
 - (b) The authorization for taking by harassment is limited to the following acoustic sources and from the following activities:
 - Vibratory and impact pile driving; and
 - Vibratory pile removal.
4. Prohibitions.
 - (a) The taking by 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 Incidental Harassment Authorization (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.
5. Mitigation.
 - (a) Time Restriction. In-water construction work shall occur only during daylight hours.
 - (b) Establishing and Monitoring Harassment Zones and Shutdown Zones.
 - (i) Before the commencement of in-water pile driving/removal activities, WSDOT shall establish Level A and Level B harassment zones, as shown in Table 2.



- (ii) Before the commencement of in-water pile driving/removal activities, WSDOT shall establish exclusion zones, as shown in Table 3.
 - (iii) If pile driving of a segment ceases for 30 minutes or more and a marine mammal is sighted within the designated exclusion zone prior to commencement of pile driving, or if a shutdown occurs due to marine mammal sighting, the observer(s) must notify the pile driving operator (or other authorized individual) immediately and continue to monitor the exclusion zone. Operations may not resume until the marine mammal has exited the exclusion zone or 15 minutes have elapsed since the last sighting.
- (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) When there has been downtime of 30 minutes or more without pile driving, the contractor will initiate the driving with soft start 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. Each day, WSDOT shall use the soft-start technique at the beginning of impact pile driving or removal, or if pile driving has ceased for more than 30 minutes.
- (e) Shutdown Measures
- (i) WSDOT shall implement shutdown measures if a marine mammal is detected within or approaching the exclusion zones (Table 3).
 - (ii) WSDOT shall implement shutdown measures if Southern Resident killer whales (SRKW) or humpback whales are sighted within the vicinity of the project area and are approaching the Level B harassment zone (zone of influence, or ZOI; Table 2) 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 a humpback whale enters the ZOI undetected, in-water pile driving or pile removal shall be suspended until the SRKW or humpback whale exits the ZOI.

(v) WSDOT shall implement shutdown measures if the number of any allotted marine mammal takes reaches the limit under the IHA or if a marine mammal observed is not authorized for take under this IHA, if such marine mammals are sighted within the vicinity of the project area and are approaching the Level B harassment zone (Table 2).

(f) Coordination with Local Marine Mammal Research Network and obtaining marine mammal sightings and acoustic detection data. Prior to the start of pile driving, WSDOT must contact the Orca Network and/or Center for Whale Research to get real-time information on the presence or absence of whales.

6. Monitoring.

(a) Protected Species Observers (PSO).

WSDOT shall employ NMFS-approved PSOs to conduct marine mammal monitoring for its construction project. NMFS-approved PSOs must 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 must be designated as lead observer or monitoring coordinator. The lead observer must have prior experience working as an observer.

(v) WSDOT must submit observer CVs for NMFS approval.

(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 is required before the next start-up of pile driving or pile removal.

(ii) Marine mammal visual monitoring will be conducted for different ZOIs based on different sizes of piles being driven or removed.

- (A) For Level B harassment zones with radii less than 1,600 m, 3 PSOs shall monitor from land.
 - (B) For Level B harassment zones with radii larger than 1,600 m but smaller than 2,500 m, 4 PSOs shall monitor from land.
 - (C) For Level B harassment zones with radii larger than 2,500 m, 4 PSOs shall monitor from land with an additional 1 PSO monitoring from a ferry.
- (iii) If marine mammals are observed, the following information must 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.
- (c) Passive Acoustic Monitoring:
- (i) WSDOT shall conduct noise field measurements to determine the actual Level B harassment distance from the source during vibratory pile of the first 36-in pile.
 - (ii) If the actual Level B harassment distance is less than modelled, the number of PSOs shall be adjusted based on the criteria listed above.

7. Reporting.

(a) WSDOT shall provide NMFS 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. In addition, the report shall provide the following information on observed marine mammals within the harassment zones:

- (i) Species of observed marine mammals;
- (ii) Number of observed marine mammal individuals;
- (iii) Behavior of observed marine mammals;
- (iv) Location within the harassment zones; and

- (v) Whether mitigation measures were implemented.
- (b) If WSDOT plans to renew the IHA for an additional year, a monitoring report must be received within 60 days before the expiration of an existing IHA.
- (c) 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.
- (d) In the unanticipated event that the construction activities clearly cause the take of a marine mammal in a manner prohibited by this Authorization (if issued), 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.

- (f) 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 immediately report the incident to the Office of Protected

Resources, NMFS, and the West Coast Regional Stranding Coordinators. 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.

(g) 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 24 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 IHA must be in the possession of each contractor who performs the construction work at the Seattle Multimodal Project at Colman Dock in Washington State.



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

JUL 20 2018

Date

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

Species	Level A take	Level B take	Total take
Harbor seal	187	1,067	1,254
Northern elephant seal	0	15	15
California sea lion	16	1,580	1,596
Steller sea lion	16	215	231
Killer whale, transient	0	30	30
Gray whale	0	30	30
Minke whale	0	8	8
Harbor porpoise	51	3,069	3,120
Dall's porpoise	17	260	277
Long-beaked common dolphin	0	49	49
Bottlenose dolphin	0	49	49

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

Pile driving activity	Level A distance (m)					Level B distance (m)
	LF Cetacean	MF Cetacean	HF Cetacean	Phocid	Otariid	All marine mammals
Vibratory drive / removal, 24" & 30" steel piles, 8 piles/day, 20 min/pile	96.7	8.6	143.0	58.8	4.1	8,690
Vibratory removal 30" steel pile, 1 pile/day, 20 min/pile	24.2	2.1	35.7	14.7	1.0	8,960
Vibratory drive 36" steel pile, 6 piles/day, 20 min/pile	126.4	11.2	186.9	76.8	5.4	8,960
Vibratory drive 36" steel pile, 8 piles/day, 20 min/pile	153.3	13.6	226.6	93.2	6.5	8,960
Impact drive (proof) 36" steel pile, 8 piles/day, 300 strikes/pile	830.9	29.6	989.7	444.7	32.4	1,585
Vibratory drive 108" steel pile, 1 pile/day, 120 min/pile	200.3	17.8	296.2	121.8	8.5	8,690
Vibratory remove 14" timber pile, 20 piles/day, 15 min/pile	8.0	0.7	11.8	4.8	0.3	2,154
Vibratory remove 12" steel pile, 11 piles/day, 20 min/pile	6.5	0.6	9.6	3.9	0.3	2,154
Vibratory remove 14" steel H pile, 10 piles/day, 20 min/pile	6.1	0.5	9.0	3.7	0.3	2,154

Table 3. Shutdown zones for various pile driving activities

Pile type, size & pile driving method	Shutdown distance (m)				
	LF cetacean	MF cetacean	HF cetacean	Phocid	Otariid
Vibratory drive / removal, 24" & 30" steel piles, 8 piles/day, 20 min/pile	97	10	143	59	10
Vibratory removal 30" steel pile, 1 pile/day, 20 min/pile	24	10	36	15	10
Vibratory drive 36" steel pile, 8 piles/day, 20 min/pile	126	11	187	60	10
Vibratory drive 36" steel pile, 8 piles/day, 20 min/pile	153	14	227	60	10

Impact drive (proof) 36" steel pile, 8 piles/day, 300 strikes/pile	831	30	990	60	32
Vibratory drive 108" steel pile, 1 pile/day, 120 min/pile	200	18	296	60	10
Vibratory remove 14" timber pile, 20 piles/day, 15 min/pile	10	10	12	10	10
Vibratory remove 12" steel pile, 11 piles/day, 20 min/pile	10	10	10	10	10
Vibratory remove 14" steel H pile, 10 piles/day, 20 min/pile					