



INCIDENTAL HARASSMENT AUTHORIZATION

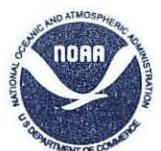
The Washington Department of Transportation (WSDOT) is hereby authorized under section 101(a)(5)(D) of the Marine Mammal Protection Act (MMPA; 16 U.S.C. 1371(a)(5)(D)) to harass marine mammals incidental to the Mukilteo Multimodal Project in Puget Sound, Washington, when adhering to the following terms and conditions.

1. This Incidental Harassment Authorization (IHA) is valid from October 1, 2018, through September 30, 2019.
2. This IHA is valid only for pile driving and removal associated with Phase II of the Mukilteo Multimodal Project, Puget Sound, Washington.
3. General Conditions
 - (a) A copy of this IHA must be in the possession of WSDOT, its designees, and work crew personnel operating under the authority of this IHA.
 - (b) The species authorized for taking, by Level A and B harassment, are provided in Table 1 (attached).
 - (c) 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 not listed in condition 3(b) of the Authorization is prohibited and may result in the modification, suspension, or revocation of this IHA.
 - (d) WSDOT must conduct briefings between construction supervisors and crews, marine mammal monitoring team, and WSDOT staff prior to the start of all pile driving, and when new personnel join the work, in order to explain responsibilities, communication procedures, marine mammal monitoring protocol, and operational procedures.

4. Mitigation Measures

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

- (a) In-water construction work must occur only during daylight hours during the established in-water work window (July 15 through February 15).
- (b) For in-water heavy machinery activities other than pile driving, if a marine mammal comes within 10 meters (m), operations must cease and vessels must reduce speed to the minimum level required to maintain steerage and safe working conditions.



- (c) Pre-activity marine mammal monitoring must take place from 30 minutes prior to initiation of pile driving and removal. Post-activity marine mammal monitoring must continue through 30 minutes post-completion of pile driving and removal. Pile driving and removal may commence at the end of the 30-minute pre-activity monitoring period, provided observers have determined that the relevant shutdown zone (Table 3) is clear of marine mammals.
- (d) If a marine mammal approaches or enters the shutdown zone (Table 3) during activities or pre-activity monitoring, all pile driving activities at that location must be halted or delayed, respectively. If pile driving is halted or delayed due to the presence of a marine mammal, the activity may not resume or commence until either the animal has voluntarily left and been visually confirmed beyond the shutdown zone or 15 minutes have passed without re-detection of the animal. Pile driving activities include the time to install or remove a single pile or series of piles, as long as the time elapsed between uses of the pile driving equipment is no more than thirty minutes.
- (e) WSDOT 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.
- (f) WSDOT must use a bubble curtain during impact driving of 24-inch (in) piles in greater than 2 feet of water.
 - i. WSDOT must implement U.S. Fish and Wildlife Service's unconfined bubble curtain performance standards.
 - ii. Should acoustic measurements identify that average source levels exceed those estimated for this activity (173 dB SEL, 193 dB rms), WSDOT must contact NMFS Office of Protected Resources within 48 hours to determine if adjustments to harassment zones are warranted.
- (g) For all pile activities, WSDOT must employ protected species observers (PSOs). The number and location of PSOs is dependent upon activity and weather conditions and are as follows:
 - i. three land-based PSOs during impact driving of 24-in piles;
 - ii. four land-based and one ferry-based PSOs during 24-, 30-, 36-in steel vibratory driving/removal;
 - iii. five land-based and one ferry-based PSOs during 78- and 120- in steel vibratory driving; and

- iv. two ferry-based PSOs in addition to land-based PSOs identified in 4(g)(i-iii) when sightability conditions are poor.
- (h) Southern Resident Killer Whales (SRKW):
- i. If a killer whale approaches the monitoring zone during pile driving or removal, and it is unknown whether it is a SRKW or a transient killer whale, it must be assumed to be a SRKW and WSDOT must implement the shutdown measure identified in 4(d).
 - ii. If a SRKW enters the monitoring zone undetected, WSDOT must contact the Offices of Protected Resources within 24 hours to determine if additional monitoring is necessary.
 - iii. Coordination with Local Marine Mammal Research Network: Prior to the start of daily pile driving, WSDOT must contact the Orca Network or Center for Whale Research to get real-time information on the presence or absence of whales near the project site. WSDOT will also monitor the Orca Network website for visual and acoustic detections during pile driving activities.
- (i) 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 zone for the pile size and method used (Table 3), pile driving and removal 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 observation time period, as indicated in 4(d) above, has elapsed.

5. Monitoring

The holder of this Authorization is required to conduct marine mammal monitoring during pile driving and removal and to conduct acoustic monitoring of vibratory and impact pile driving. Monitoring and reporting must be conducted in accordance with WSDOT's Marine Mammal Monitoring Plan, dated April 2018, and Acoustic Monitoring Plans (see 5(b)).

- (a) Monitoring during pile driving and removal must be conducted by 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 PSO must have prior experience working as a marine mammal observer during construction activities. Other PSOs may

substitute education (degree in biological science or related field) or training for experience.

- iii. Where a team of three or more PSOs are required, a lead observer or monitoring coordinator must be designated. The lead observer must have prior experience working as a marine mammal observer during construction.
- iv. WSDOT must submit PSO CVs for approval by NMFS prior to the onset of pile driving.
- v. WSDOT must ensure that observers have the following additional qualifications:
 - a. Ability to conduct field observations and collect data according to assigned protocols.
 - b. Experience or training in the field identification of marine mammals, including the identification of behaviors.
 - c. Sufficient training, orientation, or experience with the construction operation to provide for personal safety during observations.
 - d. 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.
 - e. 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.
- (b) Acoustic monitoring during impact and vibratory pile driving must be done so in accordance with WSDOT's Acoustic Monitoring Plans dated June 29, 2016, and June 14, 2018, respectively.

6. Reporting

The holder of this Authorization is required to submit marine mammal monitoring and acoustic reports:

- (a) WSDOT must submit a draft report on all marine mammal monitoring conducted under this Authorization within ninety calendar days following the completion of monitoring. A final report must be submitted within thirty days following

resolution of comments on the draft report from NMFS. The marine mammal monitoring report must contain, at minimum, the informational elements described below:

- 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 or removed and by what method (*i.e.*, impact or vibratory).
 - iii. Weather parameters and water conditions during each monitoring period (*e.g.*, wind speed, percent cover, visibility, sea state).
 - iv. Other human activity in the area during each monitoring period.
 - v. The number of marine mammals observed, by species, relative to the pile location and if pile driving or removal was occurring at time of sighting.
 - vi. Age and sex class, if possible, of all marine mammals observed.
 - vii. PSO locations during marine mammal monitoring.
 - viii. Distances and bearings of all observed marine mammals from the PSO.
 - ix. Distances and bearings of each marine mammal observed to the pile being driven or removed for each sighting (if pile driving or removal was occurring at time of sighting).
 - x. Description of any marine mammal behavior patterns during observation, including direction of travel.
 - xi. 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 (a correction factor may be applied to total take numbers, as appropriate).
 - xii. 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.
 - xiii. 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.
- (b) WSDOT must submit an acoustic report in accordance with the impact and vibratory driving acoustic monitoring plans, including, but not limited to, reporting medians and means for peak and root-mean-square sound pressure levels and single-strike and cumulative sound exposure levels.

(c) 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, WSDOT must immediately cease the specified activities and report the incident to the Office of Protected Resources (301-427-8401), NMFS, and the West Coast Region Stranding Coordinator (1-866-767-6114), NMFS. 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 WSDOT to determine what measures are necessary to minimize the likelihood of further prohibited take and ensure MMPA compliance. WSDOT may not resume their activities until notified by NMFS.

ii. In the event WSDOT 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), WSDOT must immediately report the incident to the Office of Protected Resources, NMFS, and the West Coast Region Stranding Coordinator, NMFS.

The report must include the same information identified in 6(c)(i) of this IHA. Activities may continue while NMFS reviews the circumstances of the incident. NMFS will work with WSDOT to determine whether additional mitigation measures or modifications to the activities are appropriate.

iii. In the event that WSDOT 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 activities authorized in the IHA (*e.g.*, previously wounded animal, carcass with moderate to advanced decomposition, or

scavenger damage), WSDOT must report the incident to the Office of Protected Resources, NMFS, and the West Coast Region Stranding Coordinator, NMFS, within 24 hours of the discovery. WSDOT must provide photographs or video footage or other documentation of the stranded animal sighting to NMFS.

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 second one-year IHA without additional notice when 1) another year of identical or nearly identical activities as described in the Specified Activities section is planned or 2) the activities would not be completed by the time the IHA expires and a second IHA would allow for completion of the activities beyond that allowed for under this IHA, 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 beyond the initial dates either are identical to the previously analyzed activities or include changes so minor (e.g., reduction in pile size) that the changes do not affect the previous analyses, take estimates, or mitigation and monitoring requirements.
 - 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 remain the same and appropriate, and the original findings remain valid.



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



Date

Table 1. Authorized take numbers, by species.

Species	Level A	Level B
Harbor seal	93	1,860
California sea lion	0	868
N. elephant seal	0	7
Killer whale- transient	0	19
SSL	0	154
Gray whale	0	2
Humpback whale	0	6
Dall's porpoise	39	163
Harbor porpoise	39	784
Minke whale	0	7
Bottlenose dolphin	0	49
Long-beaked common dolphin	0	49

Table 2. Minimum radial distance to harassment zones.

Method	Level A (meters)					Level B (m)
	LF	MF	HF	PH	OT	
Vibratory	30.6	2.7	45.3	18.6	1.3	8000
	104.5	9.3	154.5	63.5	4.5	8000
	165.6	14.7	244.9	100.7	7.1	8700
	200.3	17.8	296.2	121.8	8.5	20,000
	126.2	11.2	186.6	76.7	5.4	
Impact	432.1	15.4	514.7	231.2	16.8	1,585

Table 3. Minimum radial distance to shutdown zones.

Method	Pile Size	Level A (meters)					Level B (m) ¹
		LF	MF	HF	PH	OT	
Vibratory	24	35	10	50	20	10	8000
	30	105	10	150	60		8000
	36	170	20	200			8690
	78	205					20,000
	120	130					
Impact	24	435				20	1585

¹ The Level B harassment shutdown zone applies to only those species for which take is not authorized (e.g., southern resident killer whales) or when take for a given species is exceeded.