



INCIDENTAL HARASSMENT AUTHORIZATION

The Alaska Department of Transportation and Public Facilities (ADOT&PF) 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 pile driving, pile removal, and drilling in Tongass Narrows near Ketchikan, Alaska, when adhering to the following terms and conditions.

1. This Incidental Harassment Authorization (IHA) is valid from the date of issuance through February 28, 2022.
2. This IHA is valid only for in-water construction activities associated with Phase 1 of the Tongass Narrows Project as described in the *Federal Register* notice on issuance of the final renewal IHA: ferry berth improvements and construction in Tongass Narrows near Ketchikan, Alaska including Revilla New Ferry Berth and Upland Improvements, Gravina Island Shuttle Ferry Berth/Related Terminal Improvements, Gravina Airport Ferry Layup Facility, and Gravina Freight Facility.
3. General Conditions
 - (a) A copy of this IHA must be in the possession of ADOT&PF, its designees, work crew personnel, and Protected Species Observers (PSOs) operating under the authority of this IHA.
 - (b) The taking, by Level A harassment and Level B harassment, is limited to the species listed in Table 1. Table 1 provides the authorized number of takes per species and stock.
 - (c) The taking, by serious injury or death of any of the species listed in Table 1 of this IHA is prohibited.
 - (d) The taking, by Level A harassment, Level B harassment, serious injury, or death, of marine mammal species not identified in Table 1 is prohibited.
 - (e) Work must 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 driving and removal (e.g., use of barge-mounted excavators, or dredging), if a marine mammal comes within 10 m, ADOT&PF must cease operations and reduce vessel speed to the minimum level required to maintain steerage and safe working conditions.
- (b) ADOT&PF is required to conduct briefings for construction supervisors and crews, the monitoring team (including PSOs), and ADOT&PF staff prior to the start of all pile driving activity, and when new personnel join the work, in order to explain responsibilities, communication procedures, the marine mammal monitoring protocol, and operational procedures.
- (c) ADOT&PF is required to establish and monitor shutdown zones for the presence of marine mammal species (as shown in Table 2).
- (d) ADOT&PF must implement a shutdown zone of 100 meters for each vibratory hammer on days when it is anticipated that multiple vibratory hammers will be used. ADOT&PF must also implement a shutdown zone of at least 100 meters for each down-the-hole (DTH) device on days when it is anticipated that two DTH will be used.
- (e) ADOT&PF must establish and implement Level B harassment monitoring zones as shown in Table 3 during use of a single piece of driving equipment and as shown in Table 4 during the simultaneous use of multiple pieces of driving equipment that are considered to be continuous noise sources (*i.e.*, vibratory pile driving/removal; DTH).
- (f) Marine mammal monitoring must take place from 30 minutes prior to initiation of pile driving, removal, and DTH through 30 minutes post-completion of this activity. Pile driving, removal, and DTH may commence when observers have declared the shutdown zone clear of marine mammals. 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.
- (g) If a marine mammal is entering or is observed within an established shutdown zone (Table 2), pile driving, pile removal and DTH must be halted or delayed. Pile driving, removal and DTH may not commence or resume until the animal has voluntarily left and been visually confirmed beyond the shutdown zone or 15 minutes have passed without subsequent detections of cetaceans or pinnipeds.

- (h) ADOT&PF 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.
 - i. 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.
 - ii. If a marine mammal is present within the Level A harassment zone, soft-start must be delayed until the animal leaves the Level A harassment zone. Soft start must begin only after the PSO has determined, through sighting, that the animal has moved outside the Level A harassment zone.
 - iii. If a marine mammal is present in the Level B harassment zone, soft start may begin and a Level B harassment take will be recorded. Soft start up may occur when these species are in the Level B harassment zone, whether they enter the Level B harassment zone from the Level A harassment zone or from outside the Project area.
- (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 monitoring zone (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 condition 4(g) above, has elapsed.
- (j) If waters exceed a sea state that restricts the PSO's ability to make observations within the Level A harassment zones (e.g., excessive wind or fog), pile installation and removal must cease. Pile driving, removal or DTH must not be re-initiated until the entire relevant Level A harassment zones are visible.

5. Monitoring Measures

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

- (a) Marine mammal monitoring must be conducted in accordance with the following general measures:
 - i. There must be a minimum of two observers at each active driving site to actively observe monitoring and shutdown zones during all pile driving, pile removal, and DTH.

- ii. PSOs must not perform duties for more than 12 hours in a 24-hour period.
 - iii. The monitoring positions of the observers must have the following characteristics:
 1. One PSO must be located at or near each active driving site and must be able to observe the entire shutdown zone under normal conditions.
 2. At least one additional PSO for each active driving site must be stationed on land along the Tongass Narrows at the best practicable vantage points to observe the monitoring zones and assist in observing the shutdown zones.
 3. When combinations of one DTH with a vibratory hammer, two DTHs, or two DTHs with a vibratory hammer are used simultaneously, creating a Level B harassment zone that is greater than 12,023 meters in radius, one additional (two total) PSOs must be stationed at the northernmost land-based location at the entrance to Tongass Narrows. One PSO will focus on Tongass Narrows, specifically watching for marine mammals that could approach or enter Tongass Narrows and the project area. The second PSO will look out into Clarence Strait, watching for marine mammals that could swim through the ensonified area.
- (b) Marine mammal monitoring during pile driving, pile removal, and DTH 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. PSOs other than lead observer may substitute education (degree in biological science or related field) or training for experience.
 - iii. Where a team of three or more PSOs is 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. ADOT&PF must submit PSO CVs for approval by NMFS prior to the onset of pile installation or removal activities.
- (c) 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.

6. Reporting

The holder of this IHA is required to:

- (a) Submit a preliminary Phase 1 report of all marine mammal monitoring conducted under the initial IHA and Renewal IHA at least 4 months prior to beginning the work described in the IHA issued for Phase 2 of ADOT&PF's activity. The preliminary report should contain all items listed under condition 6(b).
- (b) Submit a draft report on all monitoring conducted under the IHA within ninety calendar days of the completion of marine mammal monitoring or 4 months prior to the issuance of any subsequent IHA for this project (not including the IHA issued for Phase 2), whichever comes first. A final report must be prepared and submitted within thirty days following resolution of comments on the draft report from NMFS. If NMFS does not submit comments within 30 days on the draft report, the draft report becomes the final report. This report must contain the informational elements described in the Marine Mammal Monitoring Plan found in Appendix B of the IHA application, 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 or removed and by what method (*i.e.*, impact, vibratory, or drilling).
 - 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 driving or removal was occurring at time of sighting.
 - v. Age and sex, 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 DTH or pile being driven or removed for each sighting (if pile driving or removal 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 (a correction factor may be applied to total take numbers, as appropriate).
 - x. Detailed information about any implementation of any mitigation triggered (e.g., shutdowns and delays), a description of specific actions that ensued, and resulting change of 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. Takes by Level B harassment must be recorded by PSOs and extrapolated based upon the number of observed takes and the percentage of the Level B harassment zone that was not visible.
- (c) Reporting injured or dead marine mammals:
- i. In the unanticipated event personnel involved in construction activities discover an injured or dead marine mammal, ADOT&PF must report the incident to the NMFS Office of Protected Resources (301-427-8401) and Alaska Region Stranding Coordinator (877-925-7773). The report must include the following information:
 - 1. Time, date, and location (latitude/longitude) of the first discovery (and updated location information if known and applicable);
 - 2. Species identification (if known) or description of the animal(s) involved;
 - 3. Condition of the animal(s) (including carcass condition if the animal is dead);

4. Observed behaviors of the animal(s), if alive;
 5. If available, photographs or video footage of the animal(s); and
 6. General circumstances under which the animal was discovered.
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.

Catherine Marzin,
Acting Director, Office of Protected Resources
National Marine Fisheries Service

Date

Table 1. Authorized Take Numbers, by Species/Stock.

Species	Stock	Estimated Number of Exposures to Level B Harassment	Estimated Number of Exposures to Level A Harassment	Total Estimated Exposures (Level A and Level B Harassment)
Steller sea lion	Eastern DPS	1,800	0	1,800
Harbor seal	Clarence Strait	765	18	783
Harbor porpoise	Southeast Alaska	109	15	124
Dall's porpoise	Alaska	317	15	332
Pacific white-sided dolphin	North Pacific	92	0	92
Killer whale	Alaska resident Northern Resident West Coast Transient	144	0	144
Humpback whale ¹	Hawaii DPS	238	0	238
	Mexico DPS	15	0	15
Minke whale	Alaska	7	0	7

Note: DPS = distinct population segment.

¹Assumes that 6.1 percent of humpback whales exposed are members of the Mexico DPS (Wade *et al.* 2016).

Table 2. Shutdown Zones

Activity	Pile or Hole Size (inches)	Minutes per Pile or Strikes per Pile	Piles Installed or Removed per Day	Level B Harassment Isopleth (m)	Shutdown Distances (m)						
					LF	MF	HF	PW	OW		
Vibratory Installation	30	30 min	3	6,310	50						
	24, 18	30 min	3	5,420							
	27.6 sheet pile, 30.3 sheet pile	15 min	10	4,650							
Vibratory Removal	24, 16	30 min	5	5,420							
DTH Rock Sockets and Tension Anchors	30	180 min	3	12,030	70	50	60	50	50		
	24, 8	120 min	3		60	50	50	50	50		
Impact Installation	30	50 strikes	3	2,160	50		250	150	50		
			2							200	100
			1							100	150
		200 strikes	3				550	650		300	
			2				400	500		250	
			1				300	300		150	
	24	50 strikes	3	1,000			150	150		100	
			2				100	150		50	
			1				100	100		50	
		200 strikes	3				300	350		200	
			2				250	300		150	
			1				150	200		100	
	18	50 strikes	3				150	150		100	
			2				100	150		50	

Table 3. Level B Harassment Monitoring Zones.

Method and Pile Type	Distance to Level B Harassment Isopleth (meters)
Vibratory Hammer (Level B Harassment Isopleth = 120 dB)	
30-inch steel piles	6,400
24-inch steel piles	5,500
18-inch steel piles	5,500
16-inch steel piles	5,500
27.6-inch sheet piles	4,700
30.3-inch sheet piles	4,700
DTH (Level B Harassment Isopleth = 120 dB)	
All pile types	12,050
Impact Hammer (Level B Harassment Isopleth = 160 dB)	
30-inch steel piles	2,200
24-inch steel piles	1,000
18-inch steel piles	1,000

Table 4. Level B Harassment Monitoring Zones for Combinations of Two and Three Piles of Similar Driving Based Installation Methods.

Combined SSL (dB)	Distance to Level B Harassment Isopleth (meters)
163	7,356
164	8,577
165	10,000
166	11,659
167	13,594
168	15,849
169	18,478
170	21,544