



INCIDENTAL HARASSMENT AUTHORIZATION

Turnagain Marine Construction (TMC) and their designees are hereby authorized under section 101(a)(5)(D) of the Marine Mammal Protection Act (MMPA; 16 U.S.C. 1371(a)(5)(D)) to incidentally harass marine mammals, under the following conditions:

1. This incidental harassment authorization (IHA) is valid from April 1, 2023 through March 31, 2024
2. This IHA authorizes take incidental to down-the-hole drilling, impact, and vibratory pile driving, as specified in TMC's IHA application, associated with Whittier Head of the Bay Cruise Ship Dock Project in Whittier, Alaska. Hereafter (unless otherwise specified) the term "pile driving" is used to refer to both pile installation and pile removal.
3. General Conditions
 - (a) A copy of this IHA must be in the possession of the Holder of the Authorization (Holder), supervisory construction personnel, lead protected species observers (PSOs), and any other relevant designees of the Holder operating under the authority of this IHA at all times that activities subject to this IHA are being conducted.
 - (b) The species and/or stocks authorized for taking are listed in Table 1. Authorized take, by Level A and Level B harassment only, is limited to the species and numbers listed in Table 1.
 - (c) 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 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.
 - (d) The Holder must ensure that construction supervisors and crews, the monitoring team, and relevant TMC staff are trained prior to the start of activities subject to this IHA, so that responsibilities, communication procedures, monitoring protocols, and operational procedures are clearly understood. New personnel joining during the project must be trained prior to commencing work.



4. Mitigation Requirements

- (a) The Holder must employ PSOs and establish monitoring locations as described in section 5 of this IHA and the Marine Mammal Monitoring Plan. The Holder must monitor the project area to the maximum extent possible based on the required number of PSOs, required monitoring locations, and environmental conditions.
- (b) Monitoring must take place from 30 minutes prior to initiation of down-the-hole drilling (DTH) and pile driving activity (i.e., pre-start clearance monitoring) through 30 minutes post-completion of DTH and pile driving activity. If in-water work ceases for more than 30 minutes, TMC must conduct pre-clearance monitoring of both the Level B harassment zone and the shutdown zone (Table 2).
- (c) If a marine mammal is observed entering or within the shutdown zones indicated in Table 2, DTH and pile driving activity must be delayed or halted. Pile driving must be commenced or resumed as described in condition 4(e) of this IHA.
- (d) Pre-start clearance monitoring must be conducted during periods of visibility sufficient for the lead PSO to determine that the shutdown zones indicated in Table 2 are clear of marine mammals. DTH and pile driving may commence following 30 minutes of observation when the determination is made that the shutdown zones are clear of marine mammals.
- (e) If DTH and pile driving is delayed or halted due to the presence of a marine mammal, the activity may not commence or resume until either the animal has voluntarily exited and been visually confirmed beyond the shutdown zone indicated in Table 2 or 15 minutes have passed without re-detection of the animal.
- (f) The Holder must use soft start techniques when impact pile driving. Soft start requires contractors to provide an initial set of three strikes at reduced energy, followed by a 30-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 30 minutes or longer.
- (g) The Holder must use a bubble curtain for all DTH and pile driving activities occurring in water depths of 60 ft or less. The bubble curtain must be operated as necessary to achieve optimal performance. At a minimum, the Holder must adhere to the following performance standards:

- (i) The bubble curtain must distribute air bubbles around 100 percent of the piling circumference for the full depth of the water column.
 - (ii) The lowest bubble ring must be in contact with the substrate for the full circumference of the ring, and the weights attached to the bottom ring shall ensure 100 percent substrate contact. No parts of the ring or other objects shall prevent full substrate contact.
 - (iii) Air flow to the bubblers must be balanced around the circumference of the pile.
- (h) DTH and pile driving activity must be halted (as described in condition 4(c) of this IHA) upon observation of either a species for which incidental take is not authorized or a species for which incidental take has been authorized but the authorized number of takes has been met, entering or within the harassment zone (as shown in Table 2).
 - (i) The Holder, construction supervisors and crews, PSOs, and relevant TMC staff must avoid direct physical interaction with marine mammals during construction activity. If a marine mammal comes within 10 meters of such activity, operations must cease and vessels must reduce speed to the minimum level required to maintain steerage and safe working conditions, as necessary to avoid direct physical interaction.
 - (j) Should environmental conditions deteriorate such that marine mammals within the entire shutdown zone would not be visible (e.g., fog, heavy rain, night), the Holder shall delay construction activities until observers are confident marine mammals within the shutdown zone could be detected.

5. Monitoring Requirements

- (a) Marine mammal monitoring must be conducted in accordance with the conditions in this section, the Monitoring Plan, and this IHA.
- (b) Monitoring must be conducted by qualified, NMFS-approved PSOs, in accordance with the following conditions:
 - (i) PSOs must be independent (i.e., not construction personnel) and have no other assigned tasks during monitoring periods.

- (ii) At least one PSO must have prior experience performing the duties of a PSO during construction activity pursuant to a NMFS-issued incidental take authorization.
 - (iii) Other PSOs may substitute other relevant experience, education (degree in biological science or related field), or training for prior experience performing the duties of a PSO during construction activity pursuant to a NMFS-issued incidental take authorization.
 - (iv) 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 performing the duties of a PSO during construction activity pursuant to a NMFS-issued incidental take authorization.
 - (v) PSOs must be approved by NMFS prior to beginning any activity subject to this IHA.
- (c) The Holder must establish the following monitoring locations with the best views of monitoring zones as described in the Marine Mammal Monitoring Plan. For all construction activities, a minimum of two PSOs must be assigned to each active pile driving/DTH/rotary drilling location to monitor shutdown zones.
 - (d) PSOs must record all observations of marine mammals, regardless of distance from the pile being driven, as well as the additional data indicated in section 6 of this IHA.
 - (e) Acoustic monitoring must be conducted in accordance with a NMFS-approved Acoustic Monitoring Plan. Hydroacoustic data collection will include monitoring at least two (one 36-in and one 48-in) piles each from different locations during DTH drilling.

6. Reporting

- (a) The Holder must submit its draft report(s) on all monitoring conducted under this IHA within 90 calendar days of the completion of monitoring or 60 calendar days prior to the requested issuance of any subsequent IHA for construction activity at the same location, whichever comes first. A final report must be prepared and submitted within 30 calendar days following receipt of any NMFS comments on the draft report. If no comments are received from NMFS within 30 calendar days of receipt of the draft report, the report shall be considered final.

- (b) All draft and final monitoring reports must be submitted to *PR.ITP.MonitoringReports@noaa.gov* and *itp.harlacher@noaa.gov*.
- (c) The marine mammal report must contain the informational elements described in the Monitoring Plan, and, at minimum, the following:
 - (i) Dates and times (begin and end) of all marine mammal monitoring;
 - (ii) Construction activities occurring during each daily observation period, including:
 - A. The number and type of piles that were driven and the method (e.g., impact, vibratory, down-the-hole);
 - B. Total duration of driving time for each pile (vibratory driving) and number of strikes for each pile (impact driving); and
 - C. For down-the-hole drilling, duration of operation for both impulsive and non-impulsive components.
 - (iii) PSO locations during marine mammal monitoring;
 - (iv) Environmental conditions during monitoring periods (at beginning and end of PSO shift and whenever conditions change significantly), including Beaufort sea state and any other relevant weather conditions including cloud cover, fog, sun glare, and overall visibility to the horizon, and estimated observable distance;
 - (v) Upon observation of a marine mammal, the following information:
 - A. Name of PSO who sighted the animal(s) and PSO location and activity at time of sighting;
 - B. Time of sighting;
 - C. Identification of the animal(s) (e.g., genus/species, lowest possible taxonomic level, or unidentified), PSO confidence in identification, and the composition of the group if there is a mix of species;

- D. Distance and location of each observed marine mammal relative to the pile being driven for each sighting;
 - E. Estimated number of animals (min/max/best estimate);
 - F. Estimated number of animals by cohort (adults, juveniles, neonates, group composition, etc.);
 - G. Animal's closest point of approach and estimated time spent within the harassment zone;
 - H. Description of any marine mammal behavioral observations (e.g., observed behaviors such as feeding or traveling), including an assessment of behavioral responses thought to have resulted from the activity (e.g., no response or changes in behavioral state such as ceasing feeding, changing direction, flushing, or breaching);
- (vi) Number of marine mammals detected within the harassment zones, by species; and
 - (vii) Detailed information about implementation of any mitigation (e.g., shutdowns and delays), a description of specific actions that ensued, and resulting changes in behavior of the animal(s), if any.
- (d) The Holder must submit all PSO datasheets and/or raw sighting data with the draft report, as specified in condition 6(a) of this IHA. PSO data must be submitted electronically in a format that can be queried such as a spreadsheet or database (i.e. digital images of data sheets are not sufficient).
- (e) The Acoustic Monitoring Report, at minimum, must include:
- (i) Type and size of pile being driven, substrate type, method of driving during recordings (including hammer model and energy setting(s)), total pile driving duration, and water depth at the pile;
 - (ii) Whether a sound attenuation device is used and, if so, a detailed description of the device and the duration of its use per pile;
 - (iii) Number of strikes and strike rate, depth of substrate to penetrate; pulse duration and mean, median, and maximum sound levels (dB re: 1 μ Pa);

root mean square sound pressure level (SPL_{rms}), peak sound pressure level (SPL_{peak}), cumulative sound exposure level (SEL_{cum}), and single strike exposure sound level (SEL_{s-s});

- (iv) One-third octave band spectrum and power spectral density plot for each pile monitored.
- (v) Environmental data, including but not limited to, the following: wind speed and direction, air temperature, humidity, surface water temperature, water depth, wave height, weather conditions, and other factors that could contribute to influencing the airborne and underwater sound levels (e.g., aircraft, boats, etc.)
- (f) Reporting injured or dead marine mammals:

In the event that personnel involved in the construction activities discover an injured or dead marine mammal, the Holder must report the incident to the Office of Protected Resources (OPR), NMFS (*PR.ITP.MonitoringReports@noaa.gov* and *itp.harlacher@noaa.gov*) and to the Alaska regional stranding network (877 925-7773) as soon as feasible. If the death or injury was clearly caused by the specified activity, the Holder must immediately cease the activities until NMFS OPR is able to review the circumstances of the incident and determine what, if any, additional measures are appropriate to ensure compliance with the terms of this IHA. The Holder must not resume their activities until notified by NMFS.

The report must include the following information:

- (i) Time, date, and location (latitude/longitude) of the first discovery (and updated location information if known and applicable);
- (ii) Species identification (if known) or description of the animal(s) involved;
- (iii) Condition of the animal(s) (including carcass condition if the animal is dead);
- (iv) Observed behaviors of the animal(s), if alive;
- (v) If available, photographs or video footage of the animal(s); and
- (vi) General circumstances under which the animal was discovered.

7. This Authorization may be modified, suspended or revoked if the Holder fails to abide by the conditions prescribed herein (including, but not limited to, failure to comply with monitoring or reporting requirements), or if NMFS determines: (1) the authorized taking is likely to have or is having more than a negligible impact on the species or stocks of affected marine mammals, (2) the authorized taking is likely to have or is having an unmitigable adverse impact on the availability of the affected species or stocks for subsistence uses, or (3) the prescribed measures are likely not or are not effecting the least practicable adverse impact on the affected species or stocks and their habitat.

8. Renewals

On a case-by-case basis, NMFS may issue a one-time, one-year Renewal IHA following notice to the public providing an additional 15 days for public comments when (1) up to another year of identical, or nearly identical, activities (or a subset of those activities) are planned or (2) the specified activities will not be completed by the time the IHA expires and a Renewal would allow for completion of the activities, provided all of the following conditions are met:

- (a) A request for renewal is received no later than 60 days prior to the needed Renewal IHA effective date (note a Renewal IHA expiration date cannot extend beyond one year from expiration of this IHA).
- (b) The request for renewal must include the following:
 - (i) An explanation that the activities to be conducted under the requested Renewal IHA are identical to the activities analyzed for this IHA, are a subset of the activities, or include changes so minor (e.g., reduction in pile size) that the changes do not affect the previous analyses, mitigation and monitoring requirements, or take estimates (with the exception of reducing the type or amount of take).
 - (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 will remain the same and appropriate, and the findings made in support of this IHA remain valid.

For Kimberly Damon-Randall,
Director, Office of Protected Resources
National Marine Fisheries Service

Table 1. Authorized Incidental Take.

Common name	Scientific name	Stock/DPS	Level A harassment	Level B harassment
Humpback Whale	<i>Megaptera novaeangliae</i>	Hawaii DPS	0	22
		Western North Pacific DPS	0	1
		Mexico DPS	0	2
Dall's Porpoise	<i>Phocoenoides dalli</i>	Alaska	9	36
Killer Whale	Orcinus orca	Alaska Resident	0	116
		Gulf of Alaska/Aleutian Islands/Bering Sea Transient	0	29
Harbor Seal	<i>Phoca vitulina</i>	Prince William Sound	40	170
Steller Sea Lion	<i>Eumetopias jubatus</i>	Western US	0	218

Table 2. Shutdown and Harassment Zones.

Activity	Minimum shutdown zone					Harassment Zone
	Low-Frequency (LF) Cetaceans	Mid-Frequency (MF) Cetaceans	High-Frequency (HF) Cetaceans	Phocid	Otariid	
Barge movements, pile positioning, etc.	10	10	10	10	10	--
Bubble Curtain in use (depths of 60 ft or less)						
36-in steel pile, Vibratory Installation (temporary)	10	10	10	10	10	5,415
36-in steel pile, Vibratory Removal (temporary)	10	10	10	10	10	5,415
36-in steel pile, DTH Installation (temporary)	700	35	825	370	35	16,345
36-in steel pile, Vibratory Installation (permanent)	10	10	10	10	10	5,415
36-in steel pile, Impact Installation (permanent)	2,055	80 ¹	2,400	1,100	80	635
36-in steel pile, DTH Installation (permanent)	800	35	1,000	430	35	16,345
No Bubble Curtain (depths greater than 60 ft)						
36-in steel pile, Vibratory Installation (temporary)	35	35	35	15	15	11,660
36-in steel, Vibratory Removal (temporary)	35	35	35	15	15	11,660

Activity	Minimum shutdown zone					Harassment Zone
	Low-Frequency (LF) Cetaceans	Mid-Frequency (MF) Cetaceans	High-Frequency (HF) Cetaceans	Phocid	Otariid	
42-in steel pile, Vibratory Installation	35	35	35	15	15	16,345
48-in steel pile, Vibratory Installation	35	35	35	15	15	16,345
42-in steel pile, Impact Installation	6,575	260 ¹	7,830	1,360*	260	3,745
48-in steel pile, Impact Installation	5,015	200 ¹	5,975	1,360	200	3,745
36-in steel, DTH Installation (temporary)	1,485	70	1,770	795	70	16,345
42-in steel pile, DTH Installation	1,770	70	2,055	925	70	16,345
48-in steel pile, DTH Installation	5,050	200	6,015	1,360	200	16,345

* For phocids (harbor seals) only, the Level A shutdown zone would be reduced to 1,360 m for impact pile driving of 42- and 48-in piles and DTH drilling of 48-in piles to exclude the Whittier Public Boat Harbor.

¹TMC has elected to conservatively apply thresholds for HF cetaceans to killer whales for impact pile driving. This species is an infrequent visitor to Passage Canal and is often highly visible, allowing for easier application of more conservative shutdown zones. This measure will reduce potential impacts to the highly vulnerable AT-1 killer whale stock that is found in this region should they enter Passage Canal during the in-water work period.