



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 the Gustavus Ferry Terminal Improvements Project in Gustavus, Alaska when adhering to the following terms and conditions.

1. This Incidental Harassment Authorization (IHA) is valid from February 15, 2020 through February 14, 2021.
2. This IHA is valid only for pile driving and extraction associated with the Gustavus Ferry Terminal Improvements Project in Gustavus, Alaska. For the remainder of this Authorization the term "pile driving" shall include pile installation and extraction activities.
3. General Conditions
 - (a) A copy of this IHA must be in the possession of ADOT&PF, its designees, and work crew personnel operating under the authority of this IHA.
 - (b) The species authorized for taking are the harbor seal (*Phoca vitulina*), Steller sea lion (*Eumetopias jubatus*), harbor porpoise (*Phocoena phocoena*), Dall's porpoise (*Phocoenoides dalli*), killer whale (*Orcinus orca*), humpback whale (*Megaptera novaeangliae*), and minke whale (*Balaenoptera acutorostrata*).
 - (c) The taking by Level B harassment is limited to the species listed in condition 3(b). See Table 1 (attached) for numbers of take authorized.
 - (d) The taking by Level A harassment is limited to harbor seal (*Phoca vitulina*), harbor porpoise (*Phocoena phocoena*), and Dall's porpoise (*Phocoenoides dalli*). See Table 1 (attached) for numbers of take authorized.
 - (e) The taking by serious injury or death of any of the species listed in condition 3(b) of the Authorization or taking of any other species of marine mammal is prohibited and may result in the modification, suspension, or revocation of this IHA.
 - (f) ADOT&PF must conduct briefings between construction supervisors and crews, the marine mammal monitoring team, and the acoustical monitoring team 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.



- (g) ADOT&PF may conduct pile driving activities between the dates of February 15, 2020 through May 31, 2020 and September 1, 2020 through November 30, 2020.

4. Mitigation Measures

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

- (a) For all impact pile driving, ADOT&PF must implement a minimum shutdown zone of 550 meters (m) for humpback and minke whale; 100 m for harbor seal, harbor porpoise, and Dall's porpoise; and 25 m for Steller sea lion and killer whale. For all vibratory driving the shutdown zone is 20 m for harbor porpoise, Dall's porpoise, humpback whale and minke whale. For all vibratory driving the shutdown zone is 10 m for killer whale, harbor seal, and Steller sea lion.
- (b) If a marine mammal listed in Table 1 comes within or approaches their relevant shutdown zone, such operations must cease. If shutdown occurs it must be recorded by Protected Species Observers (PSOs). See Table 2 (attached) for minimum radial distances required for shutdown zones.
- (c) For all impact pile driving, ADOT&PF must monitor the Level A harassment zones for species listed in section 3(d) of this Authorization. If specified marine mammals come within these designated zones, they must be recorded as Level A take by PSOs.
- (d) ADOT&PF must monitor the Level B disturbance zones. For impact driving, the Level B harassment isopleth is at a distance of 2,090 m from the source. During vibratory driving, the Level B harassment area extends to a distance of 3,265 m. If an authorized marine mammal comes within these zones, it must be recorded as Level B take by MMOs. Pile driving activity does not need to be stopped if marine mammals are found to be present in these zones.
- (e) For all in-water heavy machinery work other than pile driving (*e.g.*, standard barges, tug boats, barge-mounted excavators, or clamshell equipment used to place or remove material), if a marine mammal comes within 10 m, ADOT&PF must cease operations and vessels must reduce speed to the minimum level required to maintain steerage and safe working conditions.
- (f) For all pile driving operations, a vibratory hammer must be used for initial driving, followed by an impact hammer to proof the pile to required load-bearing capacity.
- (g) For all impact pile driving operations, ADOT&PF must use soft-start procedures. 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.

- (h) Starting February 15, 2020 through May 31, 2020 and September 1, 2020, through September 30, 2020, pile driving must stop when 5 or more Steller sea lions are observed following charter fishing vessels to the Gustavus Ferry dock prior to 4 p.m.
- (i) ADOT&PF must establish monitoring locations as described below. Please also refer to the Acoustic and Marine Species Monitoring Plan (Appendix B in the application).

5. Visual and Acoustic Monitoring

The holder of this Authorization is required to conduct marine mammal monitoring during pile driving activities and to conduct acoustic monitoring of background sound and project activities. Monitoring and reporting must be conducted in accordance with the Monitoring Plan located in Appendix B of the Application. Note that any information listed below subsumes what is written in Appendix B.

- (a) Monitoring must be conducted by qualified PSOs, who are trained biologists, with the following minimum 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) Ability to conduct field observations and collect data according to assigned protocols.
 - (v) Experience or training in the field identification of marine mammals, including the identification of behaviors.
 - (vi) Sufficient training, orientation, or experience with the construction operation to provide for personal safety during observations.
 - (vii) 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 and times when in-water construction activities were suspended to avoid potential incidental injury from construction sound of marine mammals observed within a defined shutdown zone; and marine mammal behavior.
 - (viii) 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.
 - (ix) ADOT&PF must submit observer CVs for NMFS approval.
- (b) ADOT&PF must collect sighting data and behavioral responses to pile driving activities for marine mammal species observed in the region of activity during the period of activity. All observers must have no other pile driving-related tasks while conducting monitoring.

- (c) Two observers must be actively observing the shutdown and disturbance zones during all pile driving and extraction activities. One observer must always be positioned on the dock looking out to monitor the zone in effect at that time. A second observer must be located on either the dock supplementing efforts of the first observer in monitoring from that point, or, when weather and safety conditions permit, on a vessel transiting the observation zones.
- (d) Monitoring must begin 30 minutes prior to pile driving.
- (e) Monitoring locations must be identified with the following characteristics: (1) Unobstructed view of pile being driven; (2) Unobstructed view of all water within a 3,265 m (vibratory driving) and 2,090 m (impact driving) radius of each pile; (3) Clear view of pile-driving operator or construction foreman in the event of radio failure; and; (4) Safe distance from pile driving activities in the construction area.
- (f) If a marine mammal comes within or approaches the shutdown zone, pile driving operations must cease. Pile driving must only commence once observers have declared the shutdown zone clear of the marine mammals or if it has not been seen in the shutdown zone for 15 minutes. Their behavior must be monitored and documented. The shutdown zone may only be declared clear, and pile driving started, when the entire shutdown zone is visible (i.e., when not obscured by dark, rain, fog, etc.);
- (g) When a marine mammal is observed, its location must be determined using a rangefinder to verify distance and a GPS or compass to verify heading;
- (h) At the end of the pile driving day, post-construction monitoring must be conducted for 30 minutes beyond the cessation of pile driving;
- (i) If any marine mammal species are encountered during activities that are not listed in Table 1 for authorized taking and are likely to be exposed to SPLs greater than or equal to 160 dB re 1 μ Pa (rms) for impact driving and 120 dB re 1 μ Pa (rms) for vibratory driving, then the ADOT&PF must stop pile driving activities and report observations to NMFS' Office of Protected Resources;
- (j) If the number of detected takes for any marine mammal species meets or exceeds the number of takes authorized, ADOT&PF must immediately cease pile driving activities and notify NMFS. Resumption of pile driving activities may only occur if and when NMFS confirms that operations may proceed in compliance with both the MMPA and the ESA. Shutdown must occur if a species which has met the maximum number of authorized takes approaches the Level B harassment and/or Level B harassment zones.
- (k) If waters exceed a sea-state which restricts the observers' ability to make observations within the marine mammal shutdown zone (e.g., excessive wind or fog), pile driving must cease. Pile driving must not be initiated until the entire shutdown zone is visible.
- (l) Sound source verification (SSV) testing of impact and vibratory pile driving of three 24-inch and three 36-inch piles must be conducted for this project within 7 days after underwater pile driving work is initiated. An acoustic monitoring plan must be submitted to NMFS for review and approval. The SSV testing must be

conducted by an acoustical firm with prior experience conducting SSV tests in Alaska. Results must be sent to NMFS no later than 14 days after field testing has been completed. If necessary, the shutdown, Level A, and Level B harassment zones will be adjusted to meet MMPA requirements within 7 days of NMFS receiving results.

6. Reporting

The holder of this Authorization is required to:

- (a) Submit a draft report on all monitoring conducted under the IHA within ninety calendar days of the completion of marine mammal monitoring or sixty days prior to the issuance of any subsequent IHA for this project, whichever comes first. A final report must be prepared and submitted within thirty days following resolution of comments on the draft report from NMFS. This report must contain the following:
 - (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) 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 class, 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 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 and estimated time spent within the Level A and Level B harassment zones while the source was active;
 - (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 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) Level B harassment exposures recorded by PSOs must be extrapolated based upon the number of observed takes and the percentage of the Level B harassment zone that is not visible;
 - (xiii) Marine mammal PSO observational datasheets or raw data; and
 - (xiv) Description of other human activity in the area.
- (b) Submit an Acoustic Monitoring report to NMFS no later than 14 days after field testing has been completed. If necessary, the shutdown, Level A, and Level B harassment zones will be adjusted to reflect the new information, as recommended by NMFS, within 7 days of NMFS receiving results. The following data must be collected during acoustic monitoring and reported:
- (i) Hydrophone equipment and methods: recording device, sampling rate, distance from the pile where recordings were made; depth of recording device(s);
 - (ii) Type of pile being driven, method of driving, and use of bubble curtain or other noise abatement device (e.g., driving behind the cofferdam) during recordings;
 - (iii) Mean, medium, and maximum sound levels (dB re: 1 μ Pa): cumulative sound exposure level (SEL_{cum}), peak sound pressure level (SPL_{peak}), root mean square sound pressure level (SPL_{rms}), and single-strike sound exposure level (SEL_s); and
 - (iv) Number of strikes per pile measured, one-third octave band spectrum and/or power spectral density.
- (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 an injury (Level A harassment), serious injury, or mortality, ADOT&PF must immediately cease the specified activities and report the incident to the Office of Protected Resources (301-427-8408), NMFS, and the Alaska Region Stranding Coordinator (907- 271-1332), NMFS. The report must include the following information:
 1. Time, date, and location (latitude/longitude) of the incident;

2. Name and type of vessel involved;
3. Vessel's speed during and leading up to the incident;
4. Description of the incident;
5. Water depth;
6. Environmental conditions (e.g., wind speed and direction, Beaufort sea state, cloud cover, and visibility);
7. Description of all marine mammal observations and active sound source use in the 24 hours preceding the incident;
8. Species identification or description of the animal(s) involved;
9. Fate of the animal(s); and
10. Photographs or video footage of the animal(s).

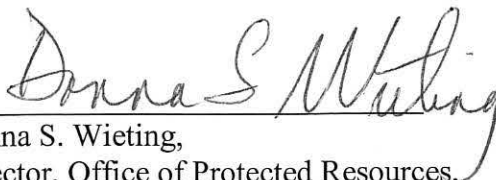
Activities must not resume until NMFS is able to review the circumstances of the prohibited take. NMFS must work with ADOT&PF to determine what measures are necessary to minimize the likelihood of further prohibited take and ensure MMPA compliance. ADOT&PF may not resume their activities until notified by NMFS.

- (ii) In the event that ADOT&PF 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), ADOT&PF must immediately report the incident to the Office of Protected Resources, NMFS, and the Alaska Region Stranding Coordinator, NMFS.

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

- (iii) In the event that ADOT&PF 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), ADOT&PF must report the incident to the Office of Protected Resources, NMFS, and the Alaska Region Stranding Coordinator, NMFS, within 24 hours of the discovery. ADOT&PF 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 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, or nearly identical, activities as described in the Specified Activities section of this notice is planned or (2) the activities as described in the Specified Activities section of this notice would not be completed by the time the IHA expires and a Renewal would allow for completion of the activities beyond that described in the Dates and Duration section of this notice, 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 (recognizing that the Renewal IHA expiration date cannot extend beyond one year from expiration of the initial 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 under the initial 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 in the initial IHA remain valid.


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

FEB 18 2020

Date

Table 1. Authorized Take Numbers by Species

Species	Level A Authorized Takes	Level B Authorized Takes	Total Proposed Authorized Takes
Steller Sea Lion	0	709	709
Humpback whale	0	600	600
Harbor Seal	38	616	654
Harbor Porpoise	26	127	153
Killer whale	0	126	126
Minke whale	0	42	42
Dall's Porpoise	7	35	42

Table 2. Shutdown, Injury and behavioral Harassment Isopleths from Impact and Vibratory Pile Driving

Species	Shutdown Zone – Impact /Vibratory	Level A Harassment Zone – Impact	Level B Harassment Zone - Impact/Vibratory
Steller Sea Lion	25/10 m	n/a	2,090/3,265 m
Humpback whale	550/20 m	n/a	2,090/3,265 m
Harbor Seal	100/10 m	285 m	2,090/3,265 m
Harbor Porpoise	100/20 m	630 m	2,090/3,265 m
Killer whale	25/10 m	n/a	2,090/3,265 m
Minke whale	550/20 m	n/a	2,090/3,265 m
Dall's Porpoise	100/20 m	630 m	2,090/3,265 m