



## 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 December 15, 2017 through December 14, 2018.
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 shall 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 a maximum of 50 days of pile driving and removal.

- (h) ADOT&PF may conduct pile driving activities between the dates of March 1, 2018 through May 31, 2018 and between September 1, 2018 through November 30, 2018.

4. Mitigation Measures

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

- (a) For all impact pile driving, ADOT&PF shall 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 shall cease. If shutdown occurs it shall be recorded by marine mammal observers (MMOs). See Table 2 (attached) for minimum radial distances required for shutdown zones.
- (c) For all impact pile driving, ADOT&PF shall implement Level A take zones for the species listed in section 3(d) of this Authorization. The Level A zone extends out to 630 m for harbor porpoise and Dall's porpoise. The Level A zone for harbor seals is set at 285 m. If these specified marine mammals come within these zones, it shall be recorded as Level A take by MMOs.
- (d) ADOT&PF will establish Level B disturbance zones or zones of influence (ZOI). For impact driving, the Level B harassment area is set at 2,090 m. During vibratory driving, the Level B harassment area extends to 3,265 m. If an authorized marine mammal comes within these zones, it shall 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 this zone.
- (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 shall cease operations and vessels shall reduce speed to the minimum level required to maintain steerage and safe working conditions.
- (f) For all pile driving operations, a vibratory hammer shall 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 will be required to use soft-start procedures. This technique requires an initial set of strikes from the hammer at 40 percent energy, each strike followed by no less than a 30-second waiting period. This procedure shall be conducted a total of three times before impact pile

driving begins, and must be repeated following any lapse in impact pile driving of 30 minutes or longer.

- (h) During all impact pile driving operations, ADOT&PF shall be required to use pile caps or cushions.
- (i) All pile driving activities will occur during daylight hours. Starting March 1, 2018 through May 31, 2018 and September 1, 2018, through September 30, 2018, all pile driving operations will end at 4 p.m.
- (j) Starting March 1, 2018 through May 31, 2018 and September 1, 2018, through September 30, 2018, pile driving will stop when 5 or more Steller sea lions are observed following charter fishing vessels to the dock prior to 4 p.m.
- (k) ADOT&PF shall 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 shall 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 shall be conducted by qualified marine mammal observers (MMOs), 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 shall submit observer CVs for NMFS approval.
- (b) ADOT&PF shall 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 shall have no other pile driving-related tasks while conducting monitoring.
- (c) Two observers shall 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 shall begin 30 minutes prior to pile driving.
- (e) Monitoring locations shall 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.
- (g) If a marine mammal comes within or approaches the shutdown zone, pile driving operations shall cease. Pile driving will 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 30 minutes for cetaceans or 15 minutes for pinnipeds. Their behavior will 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.);
- (h) When a marine mammal is observed, its location shall be determined using a rangefinder to verify distance and a GPS or compass to verify heading;
- (i) At the end of the pile driving day, post-construction monitoring shall be conducted for 30 minutes beyond the cessation of pile driving;
- (k) 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  $\mu$ Pa (rms) for impact driving and 120 dB re 1  $\mu$ Pa (rms) for vibratory driving, then the ADOT&PF must stop pile driving activities and report observations to NMFS' Office of Protected Resources;
- (l) 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 shall cease. Pile driving will not be initiated until the entire shutdown zone is visible.
- (m) Sound source verification (SSV) testing of impact and vibratory pile driving will be conducted for this project within 7 days after underwater pile driving work is

initiated. An acoustic monitoring plan shall be submitted to NMFS for review and approval. The SSV will be conducted by an acoustical firm with prior experience conducting SSV tests in Alaska. Results will 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 and acoustic monitoring. A final report shall be prepared and submitted within thirty days following resolution of comments on the draft report from NMFS. This report must contain the informational elements described below, at minimum, and shall include:
  - (i) Date and time that monitored activity begins or ends;
  - (ii) Construction activities occurring during each observation period;
  - (iii) Detailed information about any implementation of shutdowns, including the distance of animals to the pile and description of specific actions that ensued and resulting behavior of the animal, if any;
  - (iv) Weather parameters (*e.g.*, percent cover, visibility);
  - (v) Water conditions (*e.g.*, sea state, tide state);
  - (vi) Species, numbers, and, if possible, sex and age class of marine mammals;
  - (vii) Description of any observable marine mammal behavior patterns, including bearing and direction of travel and distance from pile driving activity;
  - (viii) Distance from pile driving activities to marine mammals and distance from the marine mammals to the observation point;
  - (ix) Locations of all marine mammal observations; and
  - (x) Other human activity in the area.
- (b) 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 shall 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 shall not resume until NMFS is able to review the circumstances of the prohibited take. NMFS will 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.

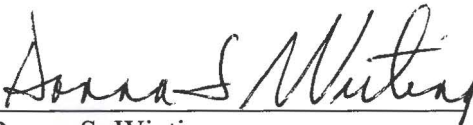
- (ii) In the event that ADOT&PF discovers an injured or dead marine mammal, and the lead observer determines that the cause of the injury or death is unknown and the death is relatively recent (e.g., in less than a moderate state of decomposition), ADOT&PF shall immediately report the incident to the 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 will 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 shall 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 shall 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.

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

APR 04 2017

Date

**Table 1. Authorized Take Numbers By Species**

<b>Species</b>	<b>Level A Authorized Takes</b>	<b>Level B Authorized Takes</b>	<b>Total Proposed Authorized Takes</b>
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**

<b>Species</b>	<b>Shutdown Zone – Impact /Vibratory</b>	<b>Level A Harassment Zone – Impact</b>	<b>Level B Harassment Zone - Impact/Vibratory</b>
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