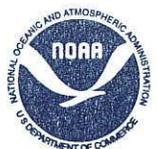




INCIDENTAL HARASSMENT AUTHORIZATION

Harvest Alaska, LLC (Harvest) 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 pipelines installation activities associated with the Cook Inlet Pipeline Cross Inlet Extension Project in Cook Inlet, Alaska, when adhering to the following terms and conditions.

1. This Incidental Harassment Authorization (IHA) is valid for a period of one year from the date of issuance.
2. This IHA is valid only for oil and gas pipeline installation activities associated with the Cook Inlet Pipeline Cross Inlet Extension Project in Cook Inlet, Alaska.
3. General Conditions
 - (a) A copy of this IHA must be in the possession of Harvest its designees, and work crew personnel operating under the authority of this IHA.
 - (b) The species authorized for taking are the Cook Inlet beluga whale (*Delphinapterus leucas*), humpback whale (*Megaptera novaeangliae*), gray whale (*Eschrichtius robustus*), killer whale (*Orcinus orca*), harbor porpoise (*Phocoena phocoena*), Steller sea lion (*Eumetopias jubatus*), harbor seal (*Phoca vitulina*), and California sea lion (*Zalophus californianus*).
 - (c) The taking, by Level B harassment only, is limited to the species listed in condition 3(b). See Table 1 (attached) for numbers of take authorized, by species.
 - (d) The taking by injury (Level A harassment), serious injury, or death of any of the species listed in condition 3(b) of the Authorization or any taking of any other species of marine mammal is prohibited and may result in the modification, suspension, or revocation of this IHA.
 - (e) Harvest shall conduct briefings between construction supervisors and crews, vessel captains and crew, dive team, marine mammal monitoring team, and, if applicable, UAS monitoring team prior to the start of all in-water work, 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) Harvest shall establish a monitoring zone which extend 2.2 km from any working vessel and the pipeline corridor. Working vessels are defined as those conducting operational activities¹.
- (b) Prior to commencing operational activities, a NMFS-approved Protected Species Observers (PSO) shall clear the monitoring area for 30 minutes; if no marine mammals are observed within those 30 minutes, activities may commence.
- (c) If a marine mammal(s) is observed within the safety zone during the clearing, the PSO shall continue to watch until the animal(s) is outside of and on a path away from the safety zone or 15 minutes have elapsed if the species was a pinniped or cetacean other than a humpback whale; for humpback whales the watch shall extend to 30 minutes. Once the PSO has cleared the area, operations may commence.
- (d) Should a marine mammal be observed during pipe-pulling, the PSO shall monitor and carefully record any reactions observed until the pipe is secure. No new operational activities would be started until the animal leaves the monitoring area.
- (e) All vessel engines shall be placed in idle when not working or maintaining steerage.
- (f) All sonar equipment shall operate at or above 200 kHz.
- (g) Harvest shall abide by NMFS marine mammal viewing guidelines while operating vessels or land-based personnel (for hauled-out pinnipeds); including not actively approaching marine mammals within 100 yards (in-water or on land) and slowing vessels to the minimum speed necessary.
- (h) 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, in-water work shall be delayed or shut-down (other than pipe pulling if already initiated). Activities must not resume until the animal has been confirmed to have left the area or the observation time period, as indicated in 4(c) above, has elapsed.
- (i) If unmanned aerial systems (UAS) are used, the UAS shall not fly below 500 ft in the presence of marine mammals.

¹ Operational activities subject to all mitigation measures include obstacle removal, trenching, pipe pulling, and moving the barge (including deploying/retrieving anchors).

5. Monitoring

(a) The holder of this Authorization is required to conduct marine mammal and acoustic monitoring during all in-water work associated with pipeline installation activities in accordance with Harvest's Marine Mammal Monitoring and Mitigation Plan, dated March 15, 2018 (with the exception identified in condition 5(b)).

(b) A PSO shall be stationed at Ladd Landing when activities are occurring 0-2 kms from shore. A PSO shall be stationed at the Tyonek Platform when activities are occurring greater than 6.5 km from shore. When project activities are occurring from 2 to 6.5 kms from shore, a PSO shall be stationed at both Ladd Landing and the Tyonek Platform.

(c) PSOs shall scan the monitoring area systematically with the naked eye, 7x50 reticle binoculars, and 20-25x100 big-eye binoculars.

(d) PSOs shall be in communication with the all vessel captain via VHF radio and/or cell phones at all times and alert vessel captains to all marine mammal sightings relative to the vessel location.

(e) Qualified PSOs shall be trained biologists, with the following minimum qualifications:

(i) Visual acuity in both eyes (correction is permissible) sufficient for discernment of moving targets at the water's surface with ability to estimate target size and distance; use of binoculars may be necessary to correctly identify the target;

(ii) Advanced education in biological science or related field (undergraduate degree or higher required);

(iii) Experience and ability to conduct field observations and collect data according to assigned protocols (this may include academic experience);

(iv) Experience or training in the field identification of marine mammals, including the identification of behaviors;

(v) Sufficient training, orientation, or experience with the construction operation to provide for personal safety during observations;

(vi) 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; and

(vii) 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.

(f) PSOs shall scan the monitoring zone 30 minutes prior to commencing work at the beginning of each day, and prior to re-starting work after any stoppage of 30 minutes or greater.

- (g) PSOs shall scan the waters for at least 30 minutes after activities have been completed each day, and after each stoppage of 30 minutes or greater.
- (h) PSOs shall scan the waters using binoculars, spotting scopes, and unaided visual observation.
- (i) PSOs shall use NMFS-approved construction and sighting forms developed for this project as described in Appendix A of Harvest's IHA application.
- (j) Daily construction forms will filled out by at least one PSO. Information shall, at minimum, include the following:
 - (i) general start and end time each construction day;
 - (ii) start and end time for each operational activity as defined above;
 - (iii) a description of other in-water activities (*e.g.*, tugs idle, divers in water, etc.) and associated time frames;
 - (iv) any other human activity in the project area, and
 - (v) marine mammal detection capability (estimated range of observer coverage); and
 - (vi) number of marine mammals, by species, observed.
- (k) Marine Mammal Sighting forms shall include the following information:
 - (i) Construction activities occurring during each observation period;
 - (ii) weather parameters (*e.g.*, percent cover, visibility);
 - (iii) water conditions (*e.g.*, sea state, tide state);
 - (iv) species, numbers and if possible, sex and age class of marine mammals;
 - (v) description of any marine mammal behavior patterns, including bearing and direction of travel and distance from activity;
 - (vi) distance from activities to marine mammals;
 - (vii) distance from the observation point to marine mammals; and
 - (viii) description of implementation of mitigation measures (*e.g.*, shutdown or delay).
- (l) Harvest shall deploy and recover an acoustic mooring consisting of an acoustic recorder, acoustical release and subsurface float package, and an echolocation logger.

6. Reporting

The holder of this Authorization is required to:

- (a) Submit weekly and monthly marine mammal monitoring and construction reports to NMFS. Harvest shall also submit a draft final report on all monitoring conducted under the IHA within ninety calendar days of the completion of marine mammal 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 in condition 11.), and shall also include:

- (i) Detailed information about any implementation of delays or shutdowns, including the distance of animals to a specified operational activity and description of specific actions that ensued and resulting behavior of the animal, if any (See Condition 5(k)).
 - (ii) 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.
 - (iii) Detailed information on construction activities including date, start/end time for each operational activities as well as barge GPS data (see Condition 5(j)).
- (b) Harvest shall submit a draft acoustic monitoring reporting within 6 months of project completion. The report shall include an analysis of baseline and operational soundscapes, including, broadband sound pressure levels (dB rms), power spectral density, percentile spectra, and 1/3 octave band levels. For each background noise condition, acoustic metrics will be calculated for 24 h periods, peak current time, and slack time based on nearest reference tidal station (*i.e.*, Nikiski). Beluga detections shall also be included in the report.
- (c) Harvest shall notify NMFS Office of Protected Resource should the amount of marine mammals taken, by species, be approaching the authorized take amount.
- (d) 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, Harvest shall immediately cease the specified activities and report the incident to the Office of Protected Resources (301-427-8401), NMFS, and the Alaska Region Marine Mammal Stranding Coordinator (877-925-7773), 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 operational activities 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).

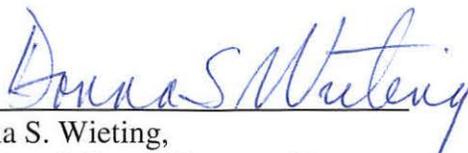
Activities shall not resume until NMFS is able to review the circumstances of the prohibited take. NMFS will work with Harvest to determine what measures are necessary to minimize the likelihood of further prohibited take and ensure MMPA compliance. Harvest may not resume their activities until notified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

- (ii) In the event that Harvest 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), Harvest 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 Harvest to determine whether additional mitigation measures or modifications to the activities are appropriate.

- (iii) In the event that Harvest 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), Harvest shall report the incident to the Office of Protected Resources, NMFS, and the Alaska Region Stranding Coordinator, NMFS, within 24 hours of the discovery. Harvest 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 Harvest 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 25 2018

Date

Table 1. Number of marine mammals, by species, authorized to be taken by Harvest during pipeline installation activities associated with the Cross Inlet Pipeline Extension Project, Cook Inlet, Alaska.

Species	Stock	Level B Take
Cook Inlet beluga whale (<i>Delphinapterus leucas</i>)	Cook Inlet	40
Humpback whale (<i>Megaptera novaeangliae</i>)	Central North Pacific	5
Killer whale (<i>Orcinus orca</i>)	Alaska Resident, Gulf of Alaska, Aleutian, Bering Sea Transient	10
Harbor porpoise (<i>Phocoena phocoena</i>)	Gulf of Alaska	100
Harbor seal (<i>Phoca vitulina</i>)	Cook Inlet/Shelikof Strait	972
Steller sea lion (<i>Eumetopias jubatus</i>)	Western U.S.	6
California sea lion (<i>Zalophus californianus</i>)	U.S.	5
Gray whale (<i>Eschrichtius robustus</i>)	Eastern North Pacific	5