



INCIDENTAL HARASSMENT AUTHORIZATION

Crowley Fuels, LLC (Crowley) 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 Crowley Kotzebue Dock Upgrade Project in Kotzebue, Alaska, when adhering to the following terms and conditions.

1. This Incidental Harassment Authorization (IHA) is valid from July 6, 2020 to July 5, 2021.
2. This IHA is valid only for construction associated with the Crowley Kotzebue Dock Upgrade Project in Kotzebue, Alaska.
3. General Conditions
 - (a) A copy of this IHA must be in the possession of Crowley, its designees, work crew personnel, and Protected Species Observers (PSOs) operating under the authority of this IHA.
 - (b) The species authorized for taking are gray whale (*Eschrichtius robustus*), minke whale (*Balaenoptera acutorostrata*), killer whale (*Orcinus orca*), beluga whale (*Delphinapterus leucas*), harbor porpoise (*Phocoena phocoena*), bearded seal (*Erignathus barbatus*), ringed seal (*Phoca (pusa) hispida*), spotted seal (*Phoca largha*), and ribbon seal (*Histiophoca fasciata*).
 - (c) The taking, by Level B harassment, is limited to the species listed in condition 3(b). Table 1 provides the authorized number of takes per species and stock.
 - (d) The taking, by injury (Level A harassment), serious injury, or death of any of species listed in condition 3(b) of this IHA is prohibited.
 - (e) Any taking of marine mammal species not identified in condition 3(b) is prohibited.
 - (f) Crowley is required to conduct briefings for construction supervisors and crews, the monitoring team, and Crowley 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.
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 if a marine mammal comes within 10 m, Crowley must cease operations and reduce vessel speed to the minimum level required to maintain steerage and safe working conditions.
- (b) Crowley is required to implement a 10-meter shutdown zone for all construction activities. NMFS may adjust the shutdown zones and revise the Level A and Level B harassment zones (Table 2) as appropriate pending review and approval of the results of acoustic monitoring (see condition 6(c) of this IHA).
- (c) Marine mammal monitoring must take place from 30 minutes prior to initiation of pile driving activity through 30 minutes post-completion of pile driving activity. Pile driving 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, their behavior must be monitored and documented until they leave of their own volition, at which point the activity may begin.
- (d) If a marine mammal is entering or is observed within the 10-meter shutdown zone, pile driving must be halted or delayed. Pile driving may not commence or resume until either the animal has voluntarily left and been visually confirmed beyond the shutdown zone or 15 minutes have passed without subsequent detections.
- (e) Should environmental conditions deteriorate such that marine mammals within the entire shutdown zone would not be visible (e.g., fog, heavy rain), pile driving and removal must be delayed until the PSO is confident marine mammals within the shutdown zone could be detected.
- (f) 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 Level B harassment zone (Table 2), 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(d) above, has elapsed.
- (g) Crowley must coordinate with local subsistence communities to avoid or mitigate impacts to subsistence harvests, as described in Crowley's Plan of Cooperation.

5. Monitoring Measures

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

- (a) One PSO must be on duty at each location below during all pile driving and removal activities. One PSO must be present during all other in-water work (location 1 below). PSOs must be stationed on elevated platforms.
 - (1) At or near the site of pile driving;
 - (2) Goodwin property; and
 - (3) Seawall 'bump-out' in front of the Nullagvik hotel.
- (b) Two PSOs must begin monitoring one week prior to the start of pile driving and continue through one week after the pile driving season is complete.
- (c) Marine mammal monitoring during pile driving and removal 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. Where a team of three or more PSOs are 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.
 - iii. Other PSOs may substitute education (degree in biological science or related field) or training for experience.
 - iv. PSOs may also substitute Alaska native traditional knowledge for experience. PSOs with traditional knowledge may also have prior experience, and therefore be eligible to serve as the lead PSO.
 - v. Crowley must submit PSO CVs for approval by NMFS prior to the onset of pile driving.
- (d) PSOs must record visibility conditions every 30 minutes based on established on-land reference landmarks.
- (e) Acoustic monitoring, to be conducted for purposes of measuring sound source levels, sound propagation, and recording marine mammal vocalizations must be conducted in accordance with accepted methodology as described in the Acoustic Monitoring Plan, dated June 2020. Crowley must conduct acoustic monitoring during driving of at least one sheet pile cell.

6. Reporting

The holder of this IHA is required to:

- (a) Submit a draft report on all marine mammal monitoring conducted under the IHA within ninety calendar days of the completion of marine mammal and acoustic monitoring or sixty days prior to the issuance of any subsequent IHA for this project, whichever comes first. A final report shall be prepared and submitted within thirty days following resolution of comments on the draft report from NMFS. The report shall contain, 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 precise start and stop time of each type of construction operation mode, how many and what type of piles were driven or removed and by what method (*i.e.*, impact or vibratory).
 - iii. Total number of hours during which each construction activity type occurred.
 - iv. Total number of hours that PSOs were on duty during each construction activity, and total number of hours that PSOs were on duty during periods of no construction activity.
 - v. Weather parameters and water conditions during each monitoring period (*e.g.*, wind speed, percent cover, visibility, sea state), and number of hours of observation that occurred during various visibility and sea state conditions.
 - vi. The number of marine mammals observed, by species, relative to the active construction cell location and if pile driving or removal was occurring at time of sighting.
 - vii. Age and sex class, if possible, of all marine mammals observed.
 - viii. PSO locations during marine mammal monitoring, including elevation above sea level.
 - ix. 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).
 - x. 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.
 - xi. Number of animals (differentiated by month as appropriate) detected within the monitoring zone, by species and construction activity (including no activity periods as the “undisturbed” condition).

- xii. Estimates of number of marine mammals taken, by species (a correction factor may be applied to total take numbers, as appropriate).
 - xiii. Histograms of perpendicular distances to PSO sightings, by species (or species group if sample sizes are small).
 - xiv. Sighting rates summarized into daily or weekly periods for the before, during, and after construction periods.
 - xv. 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.
 - xvi. 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.
 - xvii. An extrapolation of the estimated takes by Level B harassment based on the number of observed exposures within the Level B harassment zone and the percentage of the Level B harassment zone that was not visible.
 - xviii. Submit all PSO datasheets and/or raw sighting data (in a separate file from the Final Report referenced immediately above).
- (b) Submit acoustic recordings and necessary metadata (6.c.i and 6.c.ii, below) associated with passive acoustic monitoring for marine mammals within one month of completing monitoring.
- (c) The acoustic monitoring report must, at minimum, include the following:
- i. Hydrophone equipment and methods: recording devices, sampling rate, sensitivity of the PAM equipment, locations of the hydrophones, duty cycle, distance (m) from the pile where recordings were made, depth of recording devices, depth of water in area of recording devices.
 - ii. Type and size of pile being driven, substrate type, method of driving during recordings.
 - iii. Mean, median, and maximum received sound levels: root mean square sound pressure level (SPL_{rms}) in 1-sec segments, peak sound pressure level (SPL_{peak}), cumulative sound exposure level (SEL_{cum}), duration to install each pile.
 - iv. Duration per pile measured, one-third octave band spectrum, power spectral density plot.

- v. Estimated source levels referenced to 10m, transmission loss coefficients, and estimated Level A and Level B harassment isopleths.
- vi. Number of acoustic detections, by species and operation mode (including no activity periods as the “undisturbed” condition).

(d) Reporting Injured or Dead Marine Mammals

In the event that personnel involved in the construction activities discover an injured or dead marine mammal, the IHA-holder shall report the incident to the Office of Protected Resources (OPR) (301-427-8401), NMFS and to the Alaska Statewide 24-Hour Stranding Hotline (877-925-7773) as soon as feasible. If the death or injury was clearly caused by the specified activity, the IHA-holder must immediately cease the specified activities until NMFS 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 the IHA. The IHA-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 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-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, 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.

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

Date

Table 1. Authorized Amount of Taking, by Level B harassment, by species and stock.

Common Name	Stock	Level B Harassment Take
Gray Whale	Eastern North Pacific	15
Minke Whale	Alaska	8
Killer Whale	Gulf of Alaska, Aleutian Islands, and Bering Sea Transient	330
Beluga Whale	Beaufort Sea	4,437
	Eastern Chukchi Sea	
Harbor Porpoise	Bering Sea	120
Bearded Seal	Alaska	1,115
Ringed Seal	Alaska	6,312
Spotted Seal	Alaska	6,917
Ribbon Seal	Alaska	8

Table 2. Level A and Level B harassment isopleths. These isopleths may be modified based on approved hydroacoustic monitoring data.

Activity	Level A Harassment Zone (m)					Level B Harassment Zone (m) ^a
	Low-Frequency Cetaceans	Mid-Frequency Cetaceans	High-Frequency Cetaceans	Phocid Pinnipeds	Otariid Pinnipeds	
Template Piles (18-in Pipe Pile)	6	1	9	4	<1	3415
<i>Alternate Template Piles (14-in H-piles)</i>	7	1	10	4	<1	3861
Anchor Piles (14-in H-piles)	7	1	10	4	<1	3861
Sheet Piles	9	1	13	5	<1	5168

