



UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE
Silver Spring, MD 20910

JUL 18 2019

Mr. Karl R. Amylon
City of Ketchikan, Manager
334 Front Street
Ketchikan, AK 99901

Dear Mr. Amylon:

Enclosed is an Incidental Harassment Authorization (IHA) issued to the City of Ketchikan, under the authority of Section 101(a)(5)(D) of the Marine Mammal Protection Act (16 U.S.C. 1361 *et seq.*) to take, by Level A harassment and Level B harassment only, small numbers of marine mammals incidental to underwater rock blasting in Tongass Narrows.

You are required to comply with the conditions contained in the IHA, including all mitigation, monitoring and reporting requirements. Along with mitigation measures, the IHA requires monitoring for the presence and behavior of marine mammals during all activities associated with the project.

If you have any questions concerning the IHA or its requirements, please contact Amy Fowler, Office of Protected Resources, National Marine Fisheries Service, at (301) 427-8401.

Sincerely,

Donna S. Wieting, Director
Office of Protected Resources

Enclosure

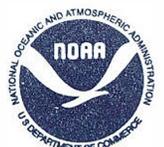




INCIDENTAL HARASSMENT AUTHORIZATION

The City of Ketchikan 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 underwater rock blasting in Ketchikan, Alaska, when adhering to the following terms and conditions.

1. This Incidental Harassment Authorization (IHA) is valid from September 16, 2019 to September 15, 2020.
2. This IHA is valid only for blasting associated with rock pinnacle removal in the Tongass Narrows near Ketchikan, Alaska.
3. General Conditions
 - (a) A copy of this IHA must be in the possession of the City of Ketchikan, its designees, work crew personnel, and Protected Species Observers (PSOs) operating under the authority of this IHA.
 - (b) The species authorized for taking are listed in Table 1.
 - (c) The taking, by Level A and B harassment, is limited to the species and numbers listed in condition 3(b). Table 1 provides the authorized number of takes per species and stock.
 - (d) The taking, by Level A harassment, Level B harassment, serious injury, or death, of marine mammal species not identified in condition 3(b) is prohibited.
 - (e) The City of Ketchikan shall conduct a maximum of 50 days of blasting.
 - (f) The City of Ketchikan must only conduct one (1) blast in a 24 hour period.
 - (g) The City of Ketchikan blasting activities must occur only between September 16, 2019, and April 30, 2020.



- (h) The taking by serious injury or death of any species of marine mammal is prohibited and may result in the modification, suspension, or revocation of this IHA.

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 blasting (e.g., dredging), if a marine mammal comes within 10 meters (m), the City of Ketchikan must safely cease operations and/or reduce vessel speed to the minimum level required to maintain steerage and safe working conditions. If an operation requires completion due to safety reasons, that operation may be completed. The monitoring of this 10-m shutdown zone may be conducted by construction personnel as they perform their other duties.
- (b) The City of Ketchikan must conduct briefings for blasting supervisors and crews, the monitoring team, and the City of Ketchikan staff each day prior to the start of all blasting activity, and when new personnel join the work, in order to explain responsibilities, communication procedures, the marine mammal monitoring protocol, and operational procedures.
- (c) The City of Ketchikan must establish shutdown zones (Table 2).
- (d) The City of Ketchikan must establish Level B harassment monitoring zones (Table 2).
- (e) Marine mammal monitoring must take place from 30 minutes prior to a scheduled blast through 1 hour post-blast. A blast must not occur until observers have declared the shutdown zone clear of marine mammals.
- (f) In the event of a delay or shutdown of activity resulting from marine mammals in the shutdown zone (Table 2), animals must be allowed to remain in the shutdown zone (*i.e.*, must leave of their own volition) and their behavior must be monitored and documented. If a marine mammal is observed within an established shutdown zone (Table 2), blasting must be delayed. Blasting must not occur until the animal has voluntarily left and been visually confirmed beyond the shutdown zone, or 30 minutes have passed without subsequent detection of the marine mammal, or up until 1 hour before sunset (to accommodate post-blast monitoring).
- (g) If blasting is delayed for a reason other than marine mammal presence, and this delay will be greater than 30 minutes, marine mammal monitoring does not need to occur during the delay. However, if monitoring is halted, a new period of the 30-minute pre-blast monitoring must occur before the rescheduled blast.

- (h) Blasting must not occur if the established shutdown zones cannot be entirely monitored and cleared, due to weather conditions or other obstructions.
- (i) 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 (Table 2), a blast must not occur. Activities must not resume until the animal has been confirmed to have left the area or the observation time period has elapsed, as indicated in condition 4(f) above, has elapsed.
- (j) The City of Ketchikan must conduct blasting only during daylight hours, no earlier than 30 minutes after sunrise and no later than 1 hour before sunset. Non-blasting activities may occur outside of these time windows.
- (k) Blasting Measures
 - i. Stemming procedures must be used for blasting.
 - ii. The City of Ketchikan's individual daily blasts must be composed of no more than 60 delayed charges.
 - iii. Charges must be no closer than 4 feet from other charges.
 - iv. The weight of explosive per delayed charge must not exceed 75 pounds.

5. Monitoring Measures

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

- (a) Marine mammal monitoring must be conducted in accordance with the final Marine Mammal Monitoring Plan.
 - i. During blasting, there must be a minimum of two land-based PSOs and one PSO on the barge used for blasting operations, with no duties other than monitoring. These PSOs are not required for monitoring of the 10-meter shutdown zone in place for non-blasting activities.
 - ii. The monitoring position of the observers must identified in consideration of the following characteristics:
 - 1. Unobstructed view of blasting area;
 - 2. Unobstructed view of all water within the shutdown zone;

3. Clear view of operator or construction foreman in the event of radio failure (lead biologist); and
 4. Safe distance from activities in the construction area.
- (b) Marine mammal monitoring during blasting must be conducted by 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. At least one PSO must have prior experience working as a marine mammal observer during construction activities.
 - iii. Other PSOs may substitute education (degree in biological science or related field) or training for experience.
 - iv. 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.
 - v. The City of Ketchikan must submit PSO CVs for approval by NMFS prior to the onset of blasting.
- (c) PSOs must have the following additional qualifications:
- i. Ability to conduct field observations and collect data according to assigned protocols.
 - ii. Experience or training in the field identification of marine mammals, including the identification of behaviors.
 - iii. Sufficient training, orientation, or experience with the construction operation to provide for personal safety during observations.
 - iv. 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, times, and reason for implementation of mitigation (or why mitigation was not implemented when required); and marine mammal behavior.
 - v. 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.

- (d) Acoustic and overpressure monitoring of the test blast and at least one production blast must be conducted. The following data, at minimum, must be collected during acoustic monitoring and reported:
- i. Hydrophone/pressure transducer equipment and methods: model and make of recording device, frequency response and sensitivity of the hydrophone(s), signal gain, sampling rate, distance of the recording devices from the blasts where recordings were made; depth of recording devices.
 - ii. Number of charges and the weight of each charge detonated during the blasts.
 - iii. Representative spectra (in power spectral density format dB re 1 $\mu\text{Pa}^2/\text{Hz}$) and waveform of blasts.
 - iv. For each blast, measures of SPL_{rms} , SEL_{cum} , single-shot SEL, SPL_{peak} , and the maximum SPL_{peak} from an individual charge.

6. Reporting

The holder of this IHA is required to:

- (a) At least 24 hours (+/- 4 hours) prior to blasting, the City of Ketchikan will notify the Office of Protected Resources, NMFS Alaska Regional Office, and the Alaska Regional Stranding Coordinator that blasting is planned to occur, as well as notify these parties within 24 hours (+/- 4 hours) after blasting that blasting actually occurred.
- (b) Submit a draft report on all 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. This report must contain the informational elements described in the final Marine Mammal Monitoring Plan, including, but not limited to:
 - i. Dates and times (begin and end) of all marine mammal monitoring.
 - ii. Blasting activities occurring during each daily observation period, including how many and what type of charges made up a blast.
 - iii. Weather parameters and water conditions during each monitoring period (*e.g.*, wind speed, percent cover, visibility, sea state).

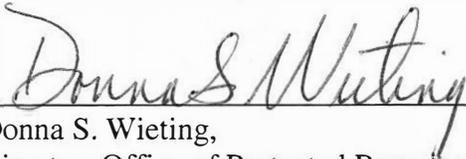
- iv. The number of marine mammals observed, by species, relative to the blast location and charge configuration if blasting was occurring.
 - v. Age and sex class, if possible, of all marine mammals observed.
 - vi. PSO locations during marine mammal monitoring.
 - vii. Distances and bearings of each marine mammal observed to the blast for each sighting (if a blast occurred at time of sighting).
 - viii. Description of any marine mammal behavior patterns during observation, including direction of travel.
 - 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.
- (c) The City of Ketchikan must submit the report and results of their test blast to NMFS prior to beginning production blasting. This report must include the information outlined in 5(c) above.
- (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 serious injury, or mortality, the City of Ketchikan must immediately cease the specified activities and report the incident to the NMFS Office of Protected Resources (301-427-8401) and Alaska Region Stranding Coordinator (877-925-7773). 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 active sound source use 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 must not resume until NMFS is able to review the circumstances of the prohibited take. NMFS will work with the City of Ketchikan to determine what measures are necessary to minimize the likelihood of further prohibited take and ensure MMPA compliance. The City of Ketchikan may not resume their activities until notified by NMFS.

- ii. In the event the City of Ketchikan discovers an injured or dead marine mammal, and the lead observer determines that the cause of the injury or death is unknown or the death is relatively recent (*e.g.*, in less than a moderate state of decomposition), the City of Ketchikan 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(c)(i) of this IHA. Activities may continue while NMFS reviews the circumstances of the incident. NMFS will work with the City of Ketchikan to determine whether additional mitigation measures or modifications to the activities are appropriate.
 - iii. In the event that the City of Ketchikan 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 specified activities (*e.g.*, previously wounded animal, carcass with moderate to advanced decomposition, or scavenger damage), the City of Ketchikan must report the incident to the Office of Protected Resources, NMFS, and the Alaska Region Stranding Coordinator, NMFS, within 24 hours of the discovery.
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 IHA renewal with an expedited public comment period (15 days) when 1) another year of identical or nearly identical activities is planned or 2) the activities would not be completed by the time the IHA expires and a second IHA would allow for completion of the activities beyond that allowed for under this IHA, provided all of the following conditions are met:

- (a) A request for renewal is received no later than 60 days prior to expiration of the current IHA.
- (b) The request for renewal must include the following:
 - i. An explanation that the activities to be conducted beyond the initial dates either are identical to the previously analyzed activities or include changes so minor that the changes do not affect the previous analyses, take estimates, or mitigation and monitoring requirements.
 - 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 remain the same and appropriate, and the original findings remain valid.



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

JUL 18 2019

Date

Table 1. Authorized Take Numbers.

Species	Stock	Level A	Level B
Humpback Whale	Hawaii DPS Mexico DPS	0	31 2
Minke Whale	Alaska	0	20
Gray Whale	Eastern North Pacific	0	10
Killer Whale	Alaska Resident Northern Resident West Coast Transient Gulf of Alaska Transient	0	70
Pacific White-Sided Dolphin	North Pacific	0	150
Dall's Porpoise	Alaska	30	50
Harbor Porpoise	Southeast Alaska	25	50
Harbor Seal	Clarence Strait	100	450
Steller Sea Lion	Eastern U.S	0	500

Table 2. Shutdown and Monitoring Zones

Marine Mammal Hearing Group	Shutdown Zone (m)	Monitoring Zone (m)
<i>Low frequency cetacean</i>	1,000	2,500
<i>Mid frequency cetacean</i>	100	500
<i>High frequency cetacean</i>	1,500	5,000
<i>Otariid</i>	100	500
<i>Phocid</i>	250	1,500

Note: These distances are measured from the outermost points of the grid of charges that make up a blast

Table 3. Level A and Level B Harassment Zones

Marine Mammal Hearing Group	Level A Harassment Zone (m)	Level B Harassment Zone (m)
<i>Low frequency cetacean</i>	430	2,350
<i>Mid frequency cetacean</i>	90	430
<i>High frequency cetacean</i>	1,420	5,000
<i>Otariid</i>	42	150
<i>Phocid</i>	211	1,120