



MARINE MAMMAL COMMISSION

21 September 2015

Ms. Jolie Harrison, Chief
Permits and Conservation Division
Office of Protected Resources
National Marine Fisheries Service
1315 East-West Highway
Silver Spring, MD 20910-3225

Dear Ms. Harrison:

The Marine Mammal Commission (the Commission), in consultation with its Committee of Scientific Advisors on Marine Mammals, has reviewed the application submitted by Alaska Department of Transportation and Public Facilities (AK DOT) seeking authorization under section 101(a)(5)(D) of the Marine Mammal Protection Act to take small numbers of marine mammals by harassment. The taking would be incidental to construction activities at the Kodiak Ferry Terminal in Kodiak, Alaska. The incidental harassment authorization would be valid for one year. The Commission also has reviewed the National Marine Fisheries Service's (NMFS) 24 August 2015 notice (80 Fed. Reg. 51211) announcing receipt of the application and proposing to issue the authorization, subject to certain conditions.

AK DOT plans to construct a new ferry terminal at Pier 1 in Kodiak. The operators would remove 196 timber piles and 14 steel piles using a vibratory hammer, crane, and/or clamshell bucket. AK DOT also would (1) install and remove 88 temporary steel pipe or H-piles using a vibratory hammer, (2) install 8 16-in timber and 10 18-in steel piles using a vibratory hammer, and (3) install 88 24-in steel piles using a vibratory hammer, down-hole drill/hammer, and impact hammer. AK DOT expects the proposed activities to take 120 days, weather permitting. It would limit pile driving and removal activities to daylight hours only but could conduct some drilling¹ during nighttime hours.

NMFS preliminarily has determined that, at most, the proposed activities would result in the incidental taking of small numbers of Steller sea lions by Level A² and B harassment and harbor seals, harbor porpoises, and killer whales by Level B harassment. NMFS anticipates that any impact on the affected species and stocks would be negligible. NMFS also does not anticipate any take of marine mammals by death or serious injury and believes that the potential for disturbance will be at the least practicable level because of the proposed mitigation measures. The proposed mitigation, monitoring, and reporting measures include—

¹ Operators would work 10-hour days in winter but only 7 hours of daylight would occur. They would be allowed to conduct drilling during those 3 hours due to the Level B harassment zone of 3 m being fully illuminated.

² NMFS proposes to authorize a small number of Level A harassment takes of Steller sea lions due to the sea lions being attracted to the seafood processing plant adjacent to the work site and the possibility that individual sea lions could enter the Level A harassment zone before pile driving can be fully shut down.

- using a sound attenuation device³ (i.e., pile cap or cushion) during impact pile driving;
- using only one vibratory hammer at a given time;
- using two NMFS-approved protected species observers (one in the near-field and one in the far-field) to monitor the Level A and B harassment zones 30 minutes prior to, during, and 30 minutes after pile driving and removal;
- using ramp-up procedures;
- ceasing or delaying in-water activities if any marine mammal comes within 10 m of the equipment;
- using delay and shut-down procedures if a species for which authorization has not been granted approaches or is observed within the Level B harassment zone;
- reporting injured and dead marine mammals to NMFS and the local stranding network using NMFS's phased approach and suspending activities, if appropriate; and
- submitting a final report.

Sound propagation and ambient conditions

For the proposed authorization, NMFS used transmission loss values based on 18 log R for vibratory pile driving⁴ and 17 log R for impact pile driving rather than its standard practical transmission loss factor of 15 log R. The *Federal Register* notice indicated that the transmission loss values originated from Hood Canal (Illingworth and Rodkin 2013). However, the average transmission loss factors stipulated in Illingworth and Rodkin (2013) were 15.2 rather than 18 log R for vibratory pile driving and 18.6 rather than 17 log R for impact pile driving of 24-in piles. NMFS has not incorporated those in-situ transmission loss measurements from Hood Canal in any of its proposed or final incidental harassment authorizations due to the environmental variability inherent in Hood Canal, rather it still assumes a practical transmission loss factor of 15 log R for activities in Hood Canal. In addition, the Commission is unaware of NMFS applying in-situ transmission loss values from one location as a proxy for other locales, which the Commission would adamantly oppose.

Furthermore, NMFS indicated that it has used a Level B harassment threshold of 125 dB re 1 μ Pa based on ambient conditions rather than its standard 120-dB re 1 μ Pa threshold for vibratory pile driving—the source of the ambient data point was not provided in either the application or the *Federal Register* notice. The Commission originally was informed that the ambient level originated from measurements taken at the Port of Anchorage in Cook Inlet⁵, thus applying measurements from one location to another location which the Commission again opposes. The Commission has since been informed that the ambient value was derived during a one-day activity in which five piles were driven at Pier 3 in Kodiak. Ambient measurements were taken for at least 1 minute either before or after each pile was driven. However, those measurements do not conform to the typical method used by NMFS to determine ambient sound levels (NMFS 2012). That method generally

³ If activities are not completed by 30 April 2016, use of a bubble curtain would be required within the 12-hour period beginning at civil dawn each day from 1 May through 30 June to protect pink salmon fry and coho salmon smolt.

⁴ The Commission notes that NMFS incorrectly specified the Level B harassment zone for vibratory pile driving of steel H-piles in Table 4 of the *Federal Register* notice as 167 m rather than 245 m based on the source level of 150 dB re 1 μ Pa at 10 m, 18 log R transmission loss, and 125-dB re 1 μ Pa threshold (discussed herein).

⁵ Consistent with generalities included in the application.

includes taking measurements during multiple recording periods⁶ spaced adequately to capture variation during the notional work window, in this case October–April. Collecting data on the order of a few minutes is inadequate for accurately determining ambient sound levels.

The Commission understands that fixing these issues will not change the numbers of takes that were estimated to occur, since those were based on numbers of animals that could occur in vicinity of Kodiak and the number of days of activities rather than a specific ensonified area and density. However, the zones that were estimated in Table 4 of the *Federal Register* notice have been underestimated for Level A harassment of cetaceans during impact pile driving and for Level B harassment of all species during both vibratory and impact pile driving of the various pile types. Thus, AK DOT would be monitoring smaller zones than should have been estimated. For all these reasons, the Commission recommends that NMFS require AK DOT to (1) re-estimate the Level A and B harassment zones for both vibratory and impact pile driving of the various types of piles based on a 15 log R transmission loss value and/or a Level B harassment threshold of 120-dB re 1 μ Pa threshold for vibratory pile driving and (2) conduct monitoring of those revised zones rather than the zones stipulated in Table 4 of the *Federal Register* notice.

Please contact me if you have questions regarding the Commission's recommendation.

Sincerely,

A handwritten signature in blue ink that reads "Rebecca J. Lent". The signature is written in a cursive style with a large, sweeping initial "R".

Rebecca J. Lent, Ph.D.
Executive Director

References

- Illingworth and Rodkin, Inc. 2013. Naval Base Kitsap at Bangor Trident Support Facilities Explosive Handling Wharf (EHW-2) Project: Acoustic Monitoring Report Bangor, Washington. Prepared for U.S. Navy by Illingworth & Rodkin, Inc., Petaluma, California. 165 pages.
- NMFS. 2012. Guidance document: Data collection methods to characterize underwater background sound relevant to marine mammals in coastal nearshore waters and rivers of Washington and Oregon. NMFS Northwest Region and Northwest Fisheries Science Center, Seattle, Washington. 5 pages.

⁶ Data are collected for three consecutive 8-hour days absent in-water construction during each of the recording periods.