7 July 2025

Ms. Alice Garrett, Project Leader
U.S. Fish and Wildlife Service
Marine Mammals Management Office
1011 East Tudor Road
Anchorage, Alaska 99503

Dear Ms. Garrett:

The Marine Mammal Commission (the Commission), in consultation with its Committee of Scientific Advisors on Marine Mammals, has reviewed the Fish and Wildlife Service's (FWS) 23 June 2025 notice (90 Fed. Reg. 19858) and the applications submitted by the U.S. Coast Guard (USCG) seeking authorization under section 101(a)(5)(A) and (D) of the Marine Mammal Protection Act (the MMPA) to take small numbers of northern sea otters. The taking would be incidental to USCG conducting construction activities in Seward, Sitka, and Kodiak, Alaska. Rather than process the incidental harassment authorization (IHA) and letter of authorization applications separately, FWS chose to combine the taking requests into a single proposed rulemaking. The Commission appreciates FWS's attempt to make the process more efficient for the agency, the action proponent, and the public in this instance.

Background

The USCG plans to make improvements to support the commissioning, temporary and permanent homeporting, and berthing of cutters at Coast Guard facilities in Alaska. Pile installation and removal activities would occur at the USCG Moorings Seward, USCG Moorings Sitka, and the USCG Base Kodiak. Impact, vibratory, and down-the-hole (DTH) hammers would be used to install up to 42-in diameter piles; while vibratory hammers, pile clippers, and diamond wire saws would be used to remove up to 36-in diameter piles. Activities would occur for up to two years at a given location. FWS would require the USCG to implement standard mitigation, monitoring, and reporting measures. USCG also would be required to consult with Native Alaskan communities that may be affected by the proposed activities and a plan of cooperation would be developed and implemented, as needed.

Level A harassment thresholds

The Level A harassment thresholds for permanent threshold shift (PTS)[1] that FWS used for the proposed rule (Table 4; 90 Fed. Reg. 26494) are outdated and were based on National Marine Fisheries Service (NMFS; 2018) and Southall et al. (2019) rather than NMFS (2024) and Finneran (2024). This is particularly problematic because the PTS thresholds for sea otters[2] that are based on

[1] As well as temporary threshold shift (TTS).
[2] The otariid thresholds are used for otariids, sea otters, polar bears, and walruses.

the cumulative sound exposure level metric decreased by 20 dB for non-impulsive sources and 18 dB for impulsive sources. The Commission understands that USCG submitted its applications in October 2024, which is when NMFS (2024) was finalized. However, FWS has been aware that the PTS and TTS thresholds were being revised for quite some time.

NMFS provided a draft version of NMFS (2024) in May 2023 for interagency review and provided briefings to all relevant federal agencies, including FWS. Another draft version of NMFS (2024) was provided for public comment in May 2024, which did not substantively change prior to its finalization in October. Concurrent with this process, the Navy provided its draft environmental impact statements for Phase IV activities and accompanying tech memos that also include the updated PTS and TTS thresholds (Department of the Navy 2024, Finneran 2024) to FWS, as the documents involve manatees and sea otters.

Since sophisticated acoustic modeling was not conducted for USCG's activities, it is unclear why FWS did not use NMFS's user spreadsheet[3] to revise the various Level A harassment zones and increase the numbers of Level A harassment takes accordingly. For example, the Level A harassment zone for impact pile driving of 24-in piles at Kodiak during Year 1 would increase from approximately 76 m to 641 m (see Table 11 in the preamble to the proposed rule and Table 8 in NMFS's proposed IHA (80 Fed. Reg. 12220)). The Level A harassment zones associated with impulsive thresholds would increase by 88 percent, while the zones would increase by 93 percent for non-impulsive thresholds. The proposed rulemaking would authorize taking for multiple locations through February 2028. As such, it is imperative that FWS use the best available science, which includes the PTS thresholds from NMFS (2024). The Commission recommends that FWS revise the Level A harassment zones and ensonified areas based on the in-water impulsive and non-impulsive thresholds from NMFS (2024) and increase the numbers of Level A harassment takes of sea otters appropriately for the final rule.

FWS also noted in the preamble to the proposed rule that NMFS (2018) did not address in-air thresholds. NMFS (2024) and Finneran (2024) do address in-air thresholds and should be used accordingly. For all future proposed incidental taking authorizations involving sea otters, walruses, polar bears, and manatees, the Commission recommends that FWS ensure that all Level A harassment zones, ensonified areas, and numbers of takes are based on the in-air and in-water thresholds and associated weighting functions from NMFS (2024) rather than NMFS (2018) and Southall et al. (2019).

Level B harassment thresholds

The Commission has commented on FWS's incorrect use of NMFS's Level B harassment thresholds for several years[4]. Rather than use the 160-dB re 1 µPa threshold for impulsive sources and the 120-dB re 1 µPa for continuous sources, FWS used the 160-dB re 1 µPa for all sources. FWS indicated in the preamble to the proposed rule that, given the different range of frequencies to which sea otters and gray whales are sensitive, the NMFS 120-dB re 1 µPa threshold based on gray whale behavior is not appropriate for predicting sea otter behavioral responses, particularly for low-

[3] https://www.fisheries.noaa.gov/national/marine-mammal-protection/marine-mammal-acoustic-technical-guidance-other-acoustic-tools.
[4] See the Commission's 30 March 2021, 24 July 2019, 18 April 2019, and 1 May 2018 letters as some examples.

frequency sound (90 Fed. Reg. 26494). The Commission remains perplexed by FWS's continued acceptance of the 160-dB re 1 µPa threshold—which too is based on gray whale responses to low-frequency sound from Malme et al. (1983, 1984)—while rejecting the same studies on gray whale responses from Malme et al. (1988) that underpin the 120-dB re 1 µPa threshold for non-impulsive, continuous sources. Both thresholds are based on gray whale responses to low-frequency-predominated sound. FWS's choice of the higher threshold for sea otters continues to appear arbitrary.

FWS stated that based on the absence of a clear pattern of disturbance or avoidance behavior attributable to underwater sound levels up to about 160 dB re 1 µPa resulting from broadband noise, it assumes that 120-dB re 1 µPa is not an appropriate threshold for sea otters exposed to continuous sound (90 Fed. Reg. 26494). However, sea otter response data do exist for vibratory pile driving. During vibratory installation of sheet piles, 55 percent of the observed sea otters traveled away from the area or exhibited a startle dive in response to received levels less than 160 dB re 1 µPa (Table 8 in ESNERR 2011). Similarly, 50 percent of the observed sea otters[5] traveled away from the area or exhibited a startle dive in response to received levels ranging from 141–144 dB re 1 µPa during vibratory installation of H-piles, and 33 percent of the observed sea otters traveled away from the area at received levels less than 135 dB re 1 µPa (Table 7 in ESNERR 2011). The Commission further notes that some of these observed responses would equate to a behavioral severity score of 6 or more (based on Southall et al. 2021), which have a greater potential to affect sea otter foraging, reproduction, or survival.

Given the data that now exist, some could argue that neither the 120- nor 160-dB re 1 µPa thresholds are considered best available science. However, it is inappropriate to assume that the 160-dB re 1 µPa threshold is considered best available science for all marine mammals under FWS's jurisdiction that are exposed to all types of sound sources. Until such time that NMFS's 120- and 160-dB re 1 µPa thresholds are updated or FWS develops its own Level B harassment thresholds based on behavioral response data from sea otters, walruses, polar bears, and manatees, NMFS's thresholds are considered best available science. Thus, the Commission recommends that FWS use the 120- rather than 160-dB re 1 µPa threshold to estimate the Level B harassment zones and numbers of sea otter takes during vibratory pile driving and removal, DTH pile driving, and use of the pile clipper and diamond wire saw for the final rule.

In addition, FWS indicated in its impact analysis that Level B harassment was due to behavioral response and/or TTS (90 Fed. Reg. 26507 and 26508). Neither USCG nor FWS estimated the numbers of takes associated with TTS for the proposed rulemaking. As such, references to the Level B harassment takes including or being associated with TTS are not accurate. Until such time that FWS estimates Level B harassment associated with TTS, the Commission recommends that the agency remove any reference to Level B harassment being due to TTS from its impact analysis in the preamble to the final rule and refrain from including TTS in its impact analyses in future incidental take authorizations that do not explicitly involve TTS[6].

[5] At 30–60 m from the source.
[6] Generaly, TTS is only assessed for military training and testing activities (e.g., active sonar, surface and underwater detonations, missile launches, etc.) and construction/demolition activities that involve underwater detonations.

Source level and other discrepancies and shortcomings

The Kodiak application provided scant details on the information used to estimate the Level A harassment zones, including the number of strikes or number of minutes an activity would occur on a given day, the number of piles to be driven/removed on a given day, the weighting factor adjustment, etc. The Seward and Sitka application included some of those details. However, neither application included all of the assumptions used for and the actual results provided by NMFS's user spreadsheet. FWS did not provide that information either. Therefore, it is difficult to determine whether the Level A and B harassment zones were estimated accurately. The Commission recommends that FWS require applicants to specify all of the parameters (source level[7], duration of activity, number of strikes per pile, number of piles to be driven/removed per day, weighting factor adjustments, propagation loss, etc.) used to estimate the Level A harassment zones and the user spreadsheet files[8] and make that information available to the public during the public comment period. If the applicant does not provide the information, then FWS should provide its own versions of the user spreadsheet files for all of the scenarios proposed.

Some source levels specified by USCG in its applications and FWS in its proposed rule were inappropriate. For example, the summary tables in California Department of Transportation (Caltrans; 2020) did not provide the single-strike SEL ($SEL_{s\text{-}s}$) source level for impact driving of 13-in composite/plastic piles. They only provided the peak and root-mean-square sound pressure levels (SPL_{rms}). The Seward and Sitka application indicated that the $SEL_{s\text{-}s}$ source level was 162 dB re 1 μPa^2-s and the SPL_{rms} source level was 153 dB re 1 µPa, which is impossible. The $SEL_{s\text{-}s}$ source level is always less than the SPL_{rms} source level for impulsive sources. Caltrans (2020) provided $SEL_{s\text{-}s}$ data for one of the four piles, pile #10, which was 9 dB less than the average SPL_{rms} source level. The authors further noted that the accuracy of some of the data was compromised due to the strong water current present for two of the piles. The Commission recommends that FWS use 144 rather than 162 dB-re 1 μPa^2-s as the $SEL_{s\text{-}s}$ source level for impact driving of 13-in composite piles and revise the Level A harassment zone as needed for the final rule.

As another example, the source levels used for vibratory installation of 24- and 30-in stell and vibroflot piles in the Kodiak application originated from Caltrans 2020 and were based on pile driving in very shallow water. According to Caltrans (2020), the piles were driven in 1 to 3 m of water and the water in the area was only 3 m in depth. Neither condition would occur at Kodiak, but they do highlight why the source levels were much lower[9] than other locations. The approximate 8-dB reduction in source levels that originated from Caltrans (2020) would lead to underestimation of impacts on sea otters. FWS used data from Naval Facilities Engineering Command Southwest (NAVFAC SW; 2020) and Department of the Navy (2015) for other proxy source levels and should use them for vibratory installation of 24- and 30-in piles as well. The Commission recommends that FWS use 161 dB re 1 µPa from Department of the Navy (2015) rather than 153 dB re 1 µPa for vibratory installation of 24-in steel piles and 167 dB re 1 µPa from NAVFAC SW (2020) rather than 159 dB re 1 µPa for vibratory installation of 30-in steel and vibroflot piles to estimate the Level A and B harassment zones and revise the numbers of takes accordingly for the final rule.

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[7] Including whether the $SEL_{s\text{-}s}$ source level or the SPL_{rms} source level with pulse duration was used.
[8] See Appendix D in NMFS's Seward and Sitka application https://www.fisheries.noaa.gov/s3/2024-07/USCGSitkaSeward-2024IHA-App-508-OPR1.pdf.
[9] 153 and 159 dB re 1 µPa, respectively.

Number of harassment events

For Kodiak, FWS estimated that 433 instances of take by Level A harassment of 423 sea otters could occur in a single year (Table 16 in the preamble to the proposed rule and preamble text on 90 Fed. Reg. 26508). Table 14 in the preamble to the proposed rule specified that the maximum number of Level A harassment events would be 314 in Year 1 and 119 in Year 2. The total instances of Level A harassment takes over the two years would equal 433, but not in a single year. Similarly for Level B harassment, FWS specified in Table 16 that 4,172 harassment events could occur in a single year. Based on Table 15 in the preamble to the proposed rule, 2,927 harassment events could occur in Year 1 and 1,245 harassment events in Year 2, with the total over the two years equaling 4,172 harassment events. The Commission recommends that FWS revise Table 16 and accompanying impact analysis to clarify that the maximum number of Level A and B harassment events would be 314 and 2,927, respectively, in a single year in the preamble to the final rule.

Reporting injured and dead sea otters

USCG would be required to report injured, dead, or distressed sea otters that are *not* associated with project activities (e.g., animals known to be from outside the project area, previously wounded animals, or carcasses with moderate to advanced decomposition or scavenger damage) to FWS or Alaska SeaLife Center within 24 hours (50 C.FR. § 18.109(e)). Photographs, video, location information, or any other available documentation also would be required to be provided to FWS. For unauthorized taking incidental to the proposed activities, including lethal taking and presumably serious and non-serious injuries, USCG would be required to cease activities and report the prohibited take to FWS within 48 hours (50 C.F.R. § 18.105(b)) rather than 24 hours and it would not be required to provide any documentation of the unauthorized taking.

It is nonsensical for FWS to have greater reporting requirements for injured, dead, or distressed sea otters that are not associated with project activities. It also is illogical that injured or distressed sea otters associated with project activities would not be required to be reported immediately to Alaska SeaLife Center for possible response. NMFS requires as a standard reporting measure that action proponents cease activities immediately and report injured and dead marine mammals to both the local stranding network and the agency as soon as feasible[10]. FWS should be requiring the same. The Commission recommends that FWS include an additional reporting measure in section 18.109 of the final rule that requires USCG to immediately cease activities and (1) report injured, dead, and distressed sea otters that are associated with project activities to the Alaska SeaLife Center and FWS as soon as feasible and (2) provide photographs, video, location information, and any other available documentation related to the injured, dead, or distressed sea otter to FWS. The Commission has made similar reporting recommendations to FWS in the past and expects that it will start implementing these basic reporting requirements in all future incidental take authorizations, consistent with its sister regulatory agency.

[10] See the final IHAs NMFS issued to USCG for Seward, Sitka, and Kodiak.

The Commission hopes you find its letter useful. Please contact me if you have questions regarding the Commission's recommendations.

Sincerely,

Peter O. Thomas, Ph.D.,
Executive Director

cc: Anita Harrington, Ecological Services FWS

References

Caltrans. 2020. Technical guidance for the assessment of hydroacoustic effects of pile driving on fish. California Department of Transportation, Sacramento, California. 533 pages. https://dot.ca.gov/-/media/dot-media/programs/environmental-analysis/documents/env/hydroacoustic-manual.pdf.

Department of the Navy. 2015. Proxy source sound levels and potential bubble curtain attenuation for acoustic modeling of nearshore marine pile driving at Navy installations in Puget Sound. Navy Facilities Engineering Command Northwest, Silverdale, Washington. 57 pages.

Department of the Navy. 2024. Criteria and thresholds for U.S. Navy acoustic and explosive effects analysis (Phase 4). Naval Information Warfare Center Pacific, San Diego, California. 236 pages.

ESNERR. 2011. Parsons Slough project: 30 day post construction report. Castroville, California. 60 pages.

Finneran, J.J. 2024. Marine mammal auditory weighting functions and exposure function for US Navy Phase 4 acoustic effects analyses. Naval Information Warfare Center Pacific, San Diego, California. 86 pages.

Malme, C.I., P.R. Miles, C.W. Clark, P. Tyack, and J.E. Bird. 1983. Investigations of the potential effects of underwater noise from petroleum industry activities on migrating gray whale behavior. BBN Report 5366, Bolt Beranek and Newman Inc., Cambridge, Massachusetts. 407 pages.

Malme, C.I., P.R. Miles, C.W. Clark, P. Tyack, and J.E. Bird. 1984. Investigations of the potential effects of underwater noise from petroleum industry activities on migrating gray whale behavior. Phase II: January 1984 migration. BBN Report 5586, Bolt Beranek and Newman Inc., Cambridge, Massachusetts. 357 pages.

Malme, C.I., B. Würsig, J.E. Bird, and P.L. Tyack. 1988. Observations of feeding gray whale responses to controlled industrial noise exposure. Pages 55–73 in W.M. Sackinger, M.O. Jeffries, J.L. Imm, and S.D. Treacy (eds.), Port and ocean engineering under Arctic conditions, Volume II. University of Alaska, Fairbanks, Alaska.

NAVFAC SW. 2020. Compendium of underwater and airborne sound data during pile installation and in-water demolition activities in San Diego Bay, California. San Diego, California. 112 pages.

NMFS. 2018. 2018 revision to: Technical guidance for assessing the effects of anthropogenic sound on marine mammal hearing (Version 2) underwater acoustic thresholds for onset of

permanent and temporary threshold shifts. NOAA Technical Memorandum NMFSOPR-59, National Oceanic and Atmospheric Administration, Silver Spring, Maryland. 178 pages.

NMFS. 2024. 2024 update to: Technical guidance for assessing the effects of anthropogenic sound on marine mammal hearing (Version 3.0): Underwater and in-air criteria for onset of auditory injury and temporary threshold shifts. National Marine Fisheries Service, Silver Spring, Maryland. 193 pages.

Southall, B.L., J.J. Finneran, C. Reichmuth, P.E. Nachtigall, D.R. Ketten, A.E. Bowles, W.T. Ellison, D.P. Nowacek, and P.L. Tyack. 2019. Marine mammal noise exposure criteria: updated scientific recommendations for residual hearing effects. Aquatic Mammals 45:125–232.

Southall, B.L., D.P. Nowacek, A.E. Bowles, V. Senigaglia, L. Bejder, and P.L. Tyack. 2021. Marine mammal noise exposure criteria: Assessing the severity of marine mammal behavioral responses to human noise. Aquatic Mammals 47(5):421–464.