



MARINE MAMMAL COMMISSION

2 January 2018

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 U.S. Navy's application seeking authorization under section 101(a)(5)(D) of the Marine Mammal Protection Act to take marine mammals by harassment. The taking would be incidental to construction activities in association with a waterfront restoration project in Kittery, Maine, during a one-year period. The Commission also has reviewed the National Marine Fisheries Service's (NMFS) 30 November 2017 notice (82 Fed. Reg. 56791) announcing receipt of the application and proposing to issue the authorization, subject to certain conditions.

Background

The Navy plans to install and remove piles during demolition and repair of various structures at the Portsmouth Naval Shipyard (the Shipyard). This would be the second authorization for the five-year project—Berths 11, 12, and 13 would be repaired during the second year of activities. The Navy could install up to 293 14-in steel H-piles or steel sheet piles using a vibratory and/or an impact hammer or by drilling rock sockets. The Navy could remove up to 174 15-in timber, 14-in steel H-type piles, or 25-in sheet piles using a vibratory hammer. The *Federal Register* notice indicated that the proposed activities could occur for up to 100 days throughout the year. Activities would be limited to daylight hours only.

NMFS indicated in the *Federal Register* notice that it had preliminarily determined that, at most, the proposed activities could cause Level A and/or B harassment of small numbers of four marine mammal species. It also anticipates that any impact on the affected species and stocks would be negligible. NMFS does not anticipate any take of marine mammals by death or serious injury and believes that the potential for temporary or permanent hearing impairment would be at the least practicable level because of the proposed mitigation measures. The proposed mitigation, monitoring, and reporting measures include—

- conducting empirical sound source and sound propagation measurements during installation activities¹ and adjusting the Level A and B harassment zones, if necessary;
- using soft-start, delay, and shut-down procedures;
- using delay and shut-down procedures if a species for which authorization has not been granted or for which the authorized numbers of takes have been met approaches or is observed within the Level A or B harassment zone;
- using two qualified protected species observers (PSOs; land- and/or pier-based) to monitor the Level A and B harassment zones for 15 minutes before, during, and for 30 minutes after pile driving and removal activities;
- ceasing other heavy machinery work if any marine mammal comes within 10 m of the vessel or equipment;
- reporting injured and dead marine mammals to NMFS and the Northeast/Greater Atlantic Regional Stranding Coordinator using NMFS's phased reporting approach and suspending activities, if appropriate; and
- submitting a draft and final acoustic and marine mammal monitoring report to NMFS.

General concerns and comments

The Commission had extensive questions and comments regarding the proposed incidental harassment authorization and application. Those comments primarily involved incorrect information, contradictory information, and inaccurate assessments of species-specific takes based on biological and ecological considerations. Some of the comments were the same or similar to those from the year-1 authorization² that were either rectified or were to be rectified in that authorization. It is unclear why those revisions were not included in the proposed authorization for activities in 2018.

After multiple communications with the Commission, NMFS indicated that numerous issues would be resolved prior to issuance of the incidental harassment authorization. Those include—

- increasing the estimated Level A harassment takes for harbor porpoises from one to two to account for group size;
- increasing the estimated Level B harassment takes for harp seals from one to five to account for the potential that harp seals³ could be present on multiple days during the five months⁴ when they are most likely to occur in the project area;
- authorizing Level B harassment takes of five hooded seals² to account for the potential that hooded seals could be present on multiple days during the five months³ when they are most likely to occur in the project area; and

¹ The Navy did not specify the number or type of pile that would be measured in its application. The Navy has since specified that measurements would be taken during vibratory installation of 20 sheet piles, impact installation of 4 H-piles, drilling activities on one day, and concurrent vibratory installation and drilling on one day. NMFS indicated this information would be contained in the final authorization.

² See the Commission's [30 September 2016 letter](#).

³ Which have been observed at the Shipyard and/or in the Piscataqua River in previous years. These species also have stranded live in Kittery and the surrounding areas.

⁴ January–May.

- clarifying or specifying various mitigation and monitoring measure requirements⁵.

The Commission agrees that NMFS should include all the aforementioned modifications in the final incidental harassment authorization.

Rounding of take estimates

The method NMFS used to estimate the numbers of takes during the proposed activities, which summed fractions of takes for each species across project days, does not account for and negates the intent of NMFS's 24-hour reset policy. As the Commission has indicated in previous letters regarding this matter⁶, the issue at hand involves policy rather than mathematical accuracy. The Commission notes that NMFS has yet to share the criteria associated with rounding that it developed and planned to share with the Commission some time ago. Therefore, the Commission again recommends that NMFS share the rounding criteria with the Commission in the near term.

Mitigation and monitoring measure implementation

The proposed authorization would require PSOs to implement mitigation measures, validate take estimates, and document marine mammal responses during a portion of the proposed activities. Specifically, the *Federal Register* notice indicated that PSOs would monitor the Level A⁷ and B harassment zones during 67 percent of the proposed activities and project contractors/workers would be responsible for monitoring the shut-down zones and implementing delay and shut-down procedures for the remaining 33 percent of the proposed activities.

The Commission does not believe it is appropriate for project contractors/workers to be responsible for implementing the various mitigation measures, which have become more complex with NMFS's updated Level A thresholds. In this instance, the extent of the Level A harassment zone for harbor porpoises during impact pile driving is much greater than the proposed shut-down zone (140 vs. 75 m). If the project contractors/workers are only monitoring the shut-down zone, the enumeration of possible Level A harassment takes would not be accurate. The Commission also is not convinced that the project contractors/workers could observe cryptic species (e.g., harbor porpoises) at a distance or distinguish among the four seal species to determine which species was taken and whether unauthorized taking⁸ had occurred. These concerns were conveyed to NMFS. NMFS has since clarified that the project contractors/workers would not be monitoring either the Level A harassment or shut-down zones and that those zones would be monitored during 100 percent of the activities by a PSO. Those modifications would be included in the final authorization.

However, monitoring and reporting requirements adopted under section 101(a)(5) of the MMPA need to be sufficient to provide a reasonably accurate assessment of the manner of taking and the numbers of animals taken incidental to the specified activity, which includes Level B harassment as well. Since some of the species only rarely occur in the project area, their presence

⁵ Including the number and type of piles for which measurements would be taken, measures associated with working in fog, the type of monitors (PSOs vs. project contractors/workers), etc.

⁶ See the Commission's [29 November 2016 letter](#) detailing this issue.

⁷ Including the shut-down zones.

⁸ Level A harassment takes were not proposed for either harp or hooded seals.

could be missed if monitoring of the Level B harassment zones was not occurring on that day and any behavioral responses of those species would not be documented. Further, accurate enumeration of takes is especially critical when only a small number of Level B harassment takes are authorized for certain species to ensure those takes are not exceeded.

NMFS has indicated for other similar construction authorizations (78 Fed. Reg. 2371, 79 Fed. Reg. 2422) that the extent of proposed work made it infeasible and costly for action proponents to implement marine mammal monitoring for Level B harassment zones at all times. However, the Commission notes that the maximum extent of the Level B harassment zone for vibratory pile driving and removal is only 1.4 km due to the presence of land—a distance that the Commission notes is far smaller than other similar pile-driving authorizations and over which the Navy has confirmed effective monitoring can be conducted from the central location of Berth 11. The Navy had planned to have two PSOs monitoring the Level A harassment and shut-down zones but has since reduced that number to one. The Commission believes the Navy can re-allocate the PSOs in a manner to allow monitoring of Level B harassment zones at all times with no additional expense. The Commission also notes that the Navy conducted monitoring during 100 percent of the activities during the year-1 authorization⁹.

Monitoring during all pile-driving and -removal activities is necessary for NMFS and the Navy to be confident that mitigation measures are implemented as intended, the numbers of marine mammals taken are within the limits authorized, and the least practicable impact occurs. The Commission therefore recommends that NMFS require the Navy to implement full-time monitoring of the full extents of various Level A and B harassment zones using two PSOs during all pile-driving (including drilling rock sockets) and -removal activities.

Marine mammal and hydroacoustic monitoring plan

The Commission reviewed the marine mammal and hydroacoustic monitoring plan¹⁰ and provided extensive comments to NMFS. The Commission understands that NMFS's technical expert had numerous substantive concerns as well. A summary of all the issues raised is provided in the Addendum. Although those issues should have been addressed prior to publication of the proposed incidental harassment authorization in the *Federal Register*, the monitoring plan was not available for review by NMFS or the Commission until well into the public comment period. The Navy has since indicated that some of the issues would be rectified, but it is unclear whether all will be prior to NMFS issuing the authorization.

The Commission notes that NMFS routinely defers to an applicant's monitoring plan for the specific methodological and reporting requirements associated with both marine mammal and hydroacoustic monitoring activities rather than including those details in the authorization itself. Thus, if the revisions are not incorporated, the Navy technically would be bound to a deficient plan that would not fulfill the objectives as intended. The marine mammal and hydroacoustic monitoring

⁹ When reported by the Navy, that was during 73 days of activities. Additional monitoring could have occurred since that time in October.

¹⁰ Numerous details that were clarified by the Navy or NMFS in recent weeks were not specified in the plan that was submitted thereafter.

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plan is a necessary component of the authorization, if issued, and therefore should have been submitted in July 2017 with the application.

While the Navy has proposed to conduct in-situ measurements, it is imperative that those measurements be conducted appropriately to inform the extents of the Level A and B harassment zones for implementing the various mitigation and monitoring measures in current and future authorizations at the Shipyard. To ensure that the Navy is effecting the least practicable impact on the species or stock and fulfilling the requirements pertaining to monitoring and reporting taking by harassment as prescribed in the authorization under 101(a)(5) of the MMPA, the Commission recommends that NMFS ensure that all issues summarized in the Addendum are addressed and incorporated either into the final marine mammal and hydroacoustic monitoring plan or the incidental harassment authorization itself.

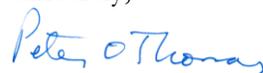
Adequate opportunity to consider public comments

The Commission has repeatedly expressed concern over NMFS's failure to provide an adequate opportunity for public comment. Submittal of the necessary documentation by applicants and processing of applications by NMFS must be timelier, thus avoiding abbreviated timeframes in which NMFS is able to consider the comments received. Although the Navy's application was received on 14 July 2017 and deemed complete on 25 August (82 Fed. Reg. 56791), the proposed incidental harassment authorization was not published until 30 November. The public comment period closes on 2 January 2018, the day after the Navy's activities were originally scheduled to begin. NMFS has informed the Commission that it plans to issue the authorization *immediately* following the close of the comment period. In addition, the Navy did not provide its draft marine mammal and hydroacoustic monitoring plan to NMFS, and thus the Commission, until after business hours on 15 December—more than two weeks after the proposed authorization published in the *Federal Register*.

The opportunity for public comment provided under section 101(a)(5)(D)(iii) of the MMPA should be a meaningful one that allows NMFS sufficient time to not only solicit public comments, but also to analyze, assess, and respond to those comments and revise, as appropriate, its proposed authorization and rationale in light of those comments. Since NMFS intends to issue this authorization immediately after the comment period, the Commission is not convinced that NMFS has sufficient time to review the Commission's or other's comments or to revise the proposed authorization accordingly. Therefore, the Commission recommends that, in the future, NMFS take all steps necessary to ensure that it publishes and finalizes proposed incidental harassment authorizations sufficiently before the planned start date of the proposed activities to ensure full consideration is given to all comments received.

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

Sincerely,



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

Addendum

The issues included—

- numerous source levels and Level A and B harassment zones¹¹ were incorrect and inconsistent with what was in the Navy's application and/or NMFS's *Federal Register* notice— Level A and B harassment zones also were inconsistent between the marine mammal and hydroacoustic portions¹² of the monitoring plan;
- various mitigation and monitoring measures were incorrect (i.e., clearance times¹³) or inconsistent (i.e., Level A harassment zone¹⁴ extends to the shutdown zone) with those in the Navy's application and/or NMFS's *Federal Register* notice;
- specific mitigation and monitoring measures or associated details were absent (i.e., delay procedures, measures specific to fog¹⁵, numbers of observers, type of observers¹⁶);
- hydroacoustic measurement methods were questionable or insufficient—the sampling rate of the digitizer/recorder should have been specified to ensure the necessary frequencies are recorded and the appropriate filter (low- or band-pass) is used (if necessary), data must be collected appropriately over a single pile driving event and down to the relevant frequency (i.e., 7 Hz), *weighted* cumulative sound exposure thresholds must be used to estimate the relevant Level A harassment zones, data should be recorded over an entire sequence of impact driving of a given pile rather than only eight successive strikes as was proposed in 2017, cumulative sound exposure levels (SELs) should be calculated using a linear summation of acoustic intensity, the type of hydrophone proposed for use should be appropriate for collecting ambient measurements and that hydrophone must be placed sufficiently in the far field away from shipping lanes to collect the relevant data, ambient data

¹¹ Including the origin of those data (i.e., in-situ vs. proxy; in the application and *Federal Register* notice proxy source levels were used for three of the four activities (impact driving of H-piles, vibratory driving of sheet piles, and drilling) and practical spreading was assumed for all of the proposed activities). For the in-situ data, the Navy noted that weighting factors were not used in the calculation of the Level A and B harassment zones and thus, its calculations were conservative. The actual weighting functions or weighting factor adjustments must be used to estimate the extent of the Level A harassment zones per NMFS (2016) and are not intended to be used for calculation of the Level B harassment zones.

¹² Which referenced information from the 2017 authorization and data presumably pooled (the type and size of piles for which those data originated were not specified but multiple pile types and sizes were measured) from the 2017 measurements rather than information specific to the proposed 2018 authorization.

¹³ The Navy indicated that the clearance times are based on the type of activity (i.e., 30 minutes for impact driving and apparently 15 minutes for all other activities) rather than the dive time of the specific species (i.e., 15 minutes for pinnipeds and small cetaceans).

¹⁴ As stated previously, the Level A harassment zone for harbor porpoises is much greater than the shut-down zone.

¹⁵ Based on informal correspondence before submittal of the plan, NMFS and the Navy clarified the measure would specify that, in the unlikely event of conditions that prevent the visual detection of marine mammals (such as heavy fog), activities with the potential to result in Level A or Level B harassment will not be initiated. Impact pile driving already underway would be curtailed, but vibratory driving may continue if driving has already been initiated on a given pile. Driving of additional piles by any means will not be allowed until all zones are visible. However, in the event of an unsafe work environment if conditions prevent detection of marine mammals during impact pile driving and the pile currently being driven is not stable enough for activities to cease, impact pile driving would need to continue to get the single pile to stability.

¹⁶ Qualified PSOs vs. project contractors/workers.

- should be collected during both winter and summer¹⁷ based on the Navy conducting year-round activities, as specified in the NMFS (2012) guidance; and
- data to be reported as part of the hydroacoustic monitoring plan were lacking or insufficient—the appropriate metrics (i.e., peak sound pressure levels, single-strike SELs), appropriate statistics (i.e., median, mean, minimum, and maximum), and relevant information (i.e., sediment characteristics/types, number of hammer strikes, pulse duration¹⁸, PSD) that are to be reported must be specified in the plan.

References

- 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.
- NMFS. 2016. Technical guidance for assessing the effects of anthropogenic sound on marine mammal hearing: Underwater acoustic thresholds for onset of permanent and temporary threshold shifts. Office of Protected Resources, NMFS, Silver Spring, Maryland. NOAA Technical Memorandum NMFS-OPR-55. 178 pages.

¹⁷ Or whichever seasons the Navy proposes to conduct construction activities.

¹⁸ Based on the 90 percent energy window used to calculate sound pressure level root-mean-square levels.