



MARINE MAMMAL COMMISSION

17 October 2011

CDR R. Dempsey, USN
Attn: SURTASS LFA Sonar EIS Program Manager
4100 Fairfax Drive, Suite 730
Arlington, VA 22203

Dear CDR Dempsey:

The Marine Mammal Commission, in consultation with its Committee of Scientific Advisors on Marine Mammals, has reviewed the Navy's 2011 Draft Supplemental Environmental Impact Statement/Supplemental Overseas Environmental Impact Statement (DSEIS) for Surveillance Towed Array Sensor System Low Frequency Active (SURTASS LFA) sonar (76 Fed. Reg. 51972). The DSEIS discusses the impacts on marine mammals from training, testing, and routine military operations using SURTASS LFA sonar. Since 1999 the Commission has commented on numerous environmental analyses of the impacts of SURTASS LFA sonar.

RECOMMENDATIONS

The Marine Mammal Commission recommends that the Navy—

- amend its DSEIS and related application for letters of authorization to (1) request authority to take marine mammals by Level A harassment and (2) specify the numbers of marine mammals that could be taken by Level A and B harassment incidental to operating SURTASS LFA sonar, rather than providing only the probabilities of such takes;
- work with the National Marine Fisheries Service to (1) describe fully the process used to select offshore biologically important areas (OBIA)s and provide an explanation for all deviations from it, (2) ensure that the outside expert group used to identify possible OBIA)s is consulted on all the areas proposed for designation, (3) evaluate the potential for geographic bias in the OBIA selection process and develop a plan for addressing the sources of that bias, (4) provide a well-reasoned explanation for any area rejected for designation as an OBIA, and (5) provide support for the Service's claim that marine mammals other than mysticetes are not sensitive to LFA sonar and, therefore, need not be protected within OBIA)s;
- work with the National Marine Fisheries Service to devise a plan for gathering the information needed to conduct a reliable review of candidate OBIA)s rejected because of insufficient information;
- work with the National Marine Fisheries Service to (1) review the strengths and weaknesses of the current geographic mitigation measures involving the stand-off range and OBIA)s and (2) develop a plan for collecting the information needed to refine or revise these mitigation measures to ensure that they are, in fact, providing the necessary level of protection for marine mammals; and
- use a 60-minute clearance time before resuming SURTASS LFA sonar transmissions after a delay or suspension related to the sighting of a marine mammal in the mitigation zone.

RATIONALE

The Navy proposes to use up to four SURTASS LFA sonar systems, including the Compact LFA sonar source, for military readiness activities including training, testing, and routine military operations from August 2012 through August 2017. Operations would occur in the Pacific, Atlantic, and Indian Oceans and in the Mediterranean Sea. At-sea missions for each vessel would not exceed 432 total hours distributed over 240 days of active sonar transmissions.

Level A and B harassment

In its DSEIS and application for letters of authorization for SURTASS LFA sonar, the Navy indicates that it does not expect its use of SURTASS LFA sonar to cause Level A harassment or mortality of any marine mammals. However, the National Marine Fisheries Service's *Federal Register* notice states that the Navy requested authority to take marine mammals by Level A harassment because, although very small (less than 0.001 percent), the probability of doing so is not zero (76 Fed. Reg. 53884). The Service's notice indicates that the Navy's documents may be confusing Level A harassment and mortality. To rectify this confusion, the Service has sought to clarify that the Navy is requesting authority to take marine mammals by Level A harassment but not by mortality. The Service also has stated that, for transparency purposes, it would specify in its proposed rule the anticipated number of takes by both Level A and B harassment, rather than merely providing the probabilities associated with Level A and B harassment, as presented in the Navy documents. To clarify the Navy's request for authorization and ensure consistency between the Navy's documents and the proposed rule, the Marine Mammal Commission recommends that the Navy amend its DSEIS and related application for letters of authorization to (1) request authority to take marine mammals by Level A harassment and (2) specify the numbers of marine mammals that could be taken by Level A and B harassment incidental to operating SURTASS LFA sonar, rather than providing only the probabilities of such takes.

Geographic mitigation measures

The Navy's 2001 Final Overseas Environmental Impact Statement identified three types of geographic areas within which SURTASS LFA sonar would not be used and sound pressure levels within those areas would not exceed 180 dB re 1 μ Pa from SURTASS LFA sonar:

- OBIA, defined as those "areas of the world's oceans outside of 22 km (12 nm) of a coastline where marine animals of concern ... congregate in high densities to carry out biologically important activities";
- a zone within 22 km (12 nm) around all coastlines; and
- in Arctic waters (see boundaries Figure 1-1, 2011 DSEIS) and Antarctic waters south of 60°S.

The Navy identified three OBIAs in its 2001 environmental impact statement. It now proposes to establish 21 OBIAs based, in part, on a process developed by the Navy and the National Marine Fisheries Service. The process consisted of the following steps:

- (1) The Service selected subject matter experts;
- (2) The Service selected potential OBIAs using two screening criteria (see below);
- (3) The subject matter experts reviewed the list of potential sites and suggested modifications to it;
- (4) The Service used the recommended changes (“as appropriate”) from the subject matter experts to revise the list;
- (5) The subject matter experts scored each OBIA from the revised list from 0-4 based on several habitat-related factors;
- (6) The Service used the scores from the subject matter experts to derive a comparative habitat score for each potential OBIA; and
- (7) The Service selected the areas for designation as OBIAs.

The first criterion applied in step (2) was that potential sites not be within the 22-km (12-nm) coastal stand-off range. The second was based on biological importance as indicated by high marine mammal density in the potential area; use of the area for breeding, calving, migration, or foraging; and the presence of distinct, small populations with limited distribution. The Commission commends the Navy and the Service for the development and use of this approach. However, the key issue here is that all potentially important sites be identified and given due consideration. In that regard, the Commission notes the following:

- Seven of the eight identified experts are based in the United States and it is not clear that they have the expertise to give sufficient consideration to all areas of the world’s oceans where the Navy may operate its SURTASS LFA sonar. In fact, the areas finally selected exhibit a bias toward U.S. waters. Although such a bias may reflect the availability of more information on marine mammals in U.S. waters, it also may reflect a bias in the composition of the expert group. Either way, the selection of OBIAs should not rely so heavily on information requirements that infrequently are met outside of U.S. waters.
- Further, the absence of selected experts with primary experience in the Austro-Asian region and responsibility for identifying candidates in that region creates a significant gap in the geographic coverage, creating another factor that could have contributed to bias in selecting OBIAs.
- Given that the subject matter experts were volunteers, the Service should provide a description of how it ensured that a bias was not introduced into the OBIA selection process simply as a result of differences in the effort the various experts contributed to the process.
- The Service selected offshore areas of biological importance based on the presence of mysticetes only, presumably because they were judged to be the only marine mammals that would be affected by LFA sonar. The Commission does not find the Service’s analysis of hearing sensitivities of other marine mammal taxa a sufficient basis for excluding other species from the analyses. Available research suggests the frequency range for hearing

sensitivities of mid-frequency odontocetes and pinnipeds (Southall et al. 2007) overlaps to some extent with the operational frequency range of LFA sonar.

- If mysticetes are, in fact, the only species of concern, then greater emphasis should have been placed on recruiting and selecting experts whose primary experience and expertise is with mysticetes.
- A number of areas that appear to have been designated primarily to protect marine mammals appear to have been rejected for designation as OBIA's (e.g., portions of the Pelagos Sanctuary for Marine Mammals, Falkland Islands Marine Mammal Sanctuary, and the Tristan da Cunha Cetacean Sanctuary) without sufficient explanation in the DSEIS. It seems that even a moderately precautionary approach would include those sites based on the fact that they were designed specifically to protect marine mammals.
- A number of areas previously suggested for consideration as OBIA's do not appear to have been included on the list of possible sites to be considered during this selection process (e.g., the Emperor Seamount Chain, the southern portion of the Oyashio/Kuroshio area, Davidson Seamount, and Papahānaumokuākea Marine National Monument) without sufficient explanation in the DSEIS for excluding these sites from consideration.
- A number of sites that the experts judged to be important for marine mammals (e.g., Challenger Bank off Bermuda, Ombai Strait in the Savu Sea) were rejected and the DSEIS did not provide an explanation for excluding these sites from the list of accepted sites.
- It is not clear whether the expert group was asked to evaluate all the sites that were rejected; if the expert group was not asked, then the sites that were not evaluated should be listed with a description of why they were rejected without expert review.
- The interpretation of the scoring system used by the experts in their evaluation of the final list of potential sites appears to have been inconsistent and the deviations should be identified and explained.

Although the Commission generally supports the use of this type of expert review, it believes that the Navy and Service should improve the process by addressing the above inconsistencies. To that end, the Marine Mammal Commission recommends that the Navy work with the National Marine Fisheries Service to (1) describe fully the process used to select OBIA's and provide an explanation for all deviations from it, (2) ensure that the outside expert group used to identify possible OBIA's is consulted on all the areas proposed for designation, (3) evaluate the potential for geographic bias in the OBIA selection process and develop a plan for addressing the sources of that bias, (4) provide a well-reasoned explanation for any area rejected for designation as an OBIA, and (5) provide support for the Service's claim that marine mammals other than mysticetes are not sensitive to LFA sonar and, therefore, need not be protected within OBIA's. In addition, the general intent of the OBIA selection process was to ensure adequate protection of marine mammals. That is not possible if candidate areas are rejected simply because of insufficient information. To address that shortcoming, the Marine Mammal Commission recommends that the Navy work with the National Marine Fisheries Service to devise a plan for gathering the information needed to conduct a reliable review of candidate OBIA's rejected because of insufficient information.

The OBIA process and coastal stand-off range

The 2011 DSEIS states in several places that it considers the idea of extending the coastal stand-off range beyond 22 km (12 nm), but the Commission could not find that analysis. The DSEIS does refer to a comparison in the 2007 DSEIS between areas within 22 km from shore and areas out to 46 km from shore. The 2011 DSEIS also states that the 2007 analysis “was effectively combined with the OBIA analysis ... because as part of the OBIA analysis the Service and the Navy considered the biological importance of coastal areas outside the current 22 km (12 nm) coastal stand-off range.” However, if this were the case, then it is not clear from the 2011 DSEIS how these analyses were combined and whether or how the subject matter experts were involved in such review.

The value of extending the stand-off range will be determined by the distribution and abundance of marine mammals in the affected areas. Unfortunately, much of the information needed to assess the density of marine mammals in those areas does not exist. This same lack of information is a problem with the development of OBIA's. The Navy and the Service seem to have two main choices. The first would be to extend the stand-off range based on the assumption that the density of marine mammals between 22 and 46 km is sufficient to warrant such a measure. The second would be to continue to focus on the identification of OBIA's. In either case, if the Navy and the Service seek to ensure adequate protection of marine mammals, then they must increase the investment in surveys to assess the distribution and abundance of marine mammals in affected areas.

Experts such as those used in the OBIA process should be able to prioritize and design data collection efforts to provide a basis for determining whether to extend the stand-off range or focus more on OBIA's. With that objective in mind, the Marine Mammal Commission recommends that the Navy work with the National Marine Fisheries Service to (1) review the strengths and weaknesses of the current geographic mitigation measures involving the stand-off range and OBIA's and (2) develop a plan for collecting the information needed to refine or revise these mitigation measures to ensure that they are, in fact, providing the necessary level of protection for marine mammals.

Clearance time

The DSEIS states that the Navy would monitor the area near the vessel for at least 30 minutes prior to deployment of the LFA sonar source. The DSEIS also states that when the sonar transmissions have been delayed or suspended because a marine mammal has been detected within the proposed LFA mitigation zone, active LFA sonar transmissions would resume 15 minutes after the last detection of the animal in the mitigation zone by either visual observation or high-frequency active sonar. However, for other sonar exercises and sound-generating activities the Marine Mammal Commission has recommended a delay of 60 minutes because a number of species that may be affected routinely dive for at least that long. In addition, some marine mammals are difficult to detect at the surface, even in good sea surface conditions, and if they are present in the mitigation zone but not resighted or detected by active sonar, then they are likely to be exposed to high levels of low-frequency sound. Therefore, the Marine Mammal Commission recommends that the Navy

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use a 60-minute clearance time before resuming SURTASS LFA sonar transmissions after a delay or suspension related to the sighting of a marine mammal in the mitigation zone.

Please contact me if you have questions concerning the Commission's recommendations or rationale.

Sincerely,

A handwritten signature in black ink, appearing to read "Timothy J. Ragen" followed by a flourish and the letters "for".

Timothy J. Ragen, Ph.D.
Executive Director

cc: P. Michael Payne

Reference

Southall, B.L., A.E. Bowles, W.T. Ellison, J.J. Finneran, R.L. Gentry, C.R. Greene Jr., D. Kastak, D.R. Ketten, J.H. Miller, P.E. Nachtigall, W.J. Richardson, J.A. Thomas, and P.L. Tyack. 2007. Marine Mammal Noise Exposure Criteria: Initial Scientific Recommendation. *Aquatic Mammals* 33(4):411–521.