



MARINE MAMMAL COMMISSION

14 December 2011

Mr. P. Michael Payne, Chief
Permits, Conservation, and Education Division
Office of Protected Resources
National Marine Fisheries Service
1315 East-West Highway
Silver Spring, MD 20910-3226

Dear Mr. Payne:

The Marine Mammal Commission, in consultation with its Committee of Scientific Advisors on Marine Mammals, has reviewed the National Marine Fisheries Service's 17 November 2011 *Federal Register* notice (76 Fed. Reg. 71322) proposing modifications to a letter of authorization issued to the Navy under section 101(a)(5)(A) of the Marine Mammal Protection Act. The letter of authorization governs the taking of marine mammals incidental to military training operations conducted in the Hawaii Range Complex. It was issued on 7 February 2011 and will expire in February 2012. The incidental take regulations under which the letter was issued allow the taking of marine mammals by Level A and Level B harassment and by accidental mortality during the five-year period from January 2009 to January 2014.

RECOMMENDATIONS

The Marine Mammal Commission recommends that the National Marine Fisheries Service—

- ensure the regulations that govern the taking of marine mammals in the Hawaii Range Complex are amended to allow for multi-year letters of authorization prior to renewing the letter of authorization in question for a two-year period;
- work with the Navy to investigate the underlying cause of the high rate of non-compliance with the respective letters of authorization and determine why it was not detected earlier;
- work with the Navy to review the full scope of the applicable regulations and letters of authorization to ensure that the responsible Navy officials are aware of, understand, and are in compliance with all mitigation, monitoring, and reporting requirements;
- require the Navy to conduct empirical sound propagation measurements to verify the adequacy of the sizes of the exclusion zones for 5-, 10-, and 20-lb charges and to expand those zones and the buffer zones derived from those zones as necessary, if the National Marine Fisheries Service amends the letter of authorization as proposed;
- require the Navy to re-estimate the sizes of the buffer zones using the mean average swim speeds plus at least one standard deviation for marine mammals that inhabit the shallow-water areas where time-delay firing devices would be used, prior to amending the letter of authorization;
- consider whether modifications to the letter of authorization alone are sufficient to satisfy the requirements of the Marine Mammal Protection Act and provide a thorough explanation

- of its rationale in the *Federal Register* notice taking final action on the proposed modifications, if it believes that regulatory modifications are not needed; and
- with respect to false killer whales, ask the Navy to enter into a conference pursuant to 50 C.F.R. § 402.10 and to consider requesting that the conference follow formal consultation procedures so that that opinion can be adopted as the biological opinion if the species is listed.

RATIONALE

Regulations issued by the National Marine Fisheries Service authorize the Navy to take marine mammals incidental to certain training operations off the coast of Hawaii. The operations involve the use of mid- and high-frequency sonar, weapons systems, explosive and non-explosive practice munitions, high-explosive underwater detonations, vessels, and aircraft. The Navy is requesting that the Service renew this letter of authorization for a two-year period as contemplated under a proposed rule that would modify the applicable incidental take regulations to allow the issuance of multi-year letters of authorization, which would not exceed the time remaining on the respective five-year regulations (76 Fed. Reg. 70695). Given the need to coordinate these two actions, the Marine Mammal Commission recommends that the National Marine Fisheries Service ensure the regulations that govern the taking of marine mammals in the Hawaii Range Complex are amended to allow for multi-year letters of authorization prior to renewing the letter of authorization in question for a two-year period.

The Navy also is requesting additional changes to the letter of authorization. Those changes would allow the use of time-delay firing devices to detonate underwater explosives. The delay allows divers to set the charges and vacate the area before detonation. At present, those devices cannot be paused or cancelled once they have been activated.

The Navy is seeking this amendment because it believes that it must use time-delay firing devices to provide training opportunities using real-world mission scenarios and to ensure human safety. The Navy considers alternatives to time-delay firing devices to be unrealistic because such devices would not be used in combat situations. The Navy also considers the current alternatives to be inadequate because they increase risks to the dive teams through unintentional triggering and from hazards associated with electromagnetic radiation. Until reliable alternative technology can be developed, the Navy intends to use the existing time-delay firing devices.

Although incidental take regulations are subject to the public notice and comment requirements of the Administrative Procedure Act, the Service generally does not publish proposed letters of authorization or proposed modifications to letters of authorization and provide an opportunity for public review and comment. The Service decided to do so in this case because the restrictions on using time-delay firing devices are set forth in the applicable letter of authorization rather than the regulations and, therefore, have not been subject to public comment. The Commission agrees that a 30-day public comment period is warranted because, in March 2011, the Navy's use of a time-delay detonation device resulted in the unintentional deaths of several dolphins during a training exercise off San Diego. Although the dolphins were outside the specified exclusion

zone at the time the detonation device was set, the pre-detonation delay allowed time for the dolphins to move into the zone, where they were killed by the blast.

In addition, while the existing letter of authorization specifies that time-delay firing devices cannot be used, the Navy recently determined that more than 97 percent of its mine neutralization events do involve the use of time-delay firing devices. Based on that finding, the Navy has suspended all underwater detonation events that use those devices until a more robust mitigation and monitoring plan is developed. The Commission agrees that suspension of those activities was the appropriate response. However, it is troubled that, up until that time, time-delay firing devices were being used at numerous range complexes despite a clear prohibition on their use in the applicable letters of authorization. The Marine Mammal Commission therefore recommends that the National Marine Fisheries Service work with the Navy to investigate the underlying cause of the high rate of non-compliance with the respective letters of authorization and determine why it was not detected earlier. Non-compliance with this provision also calls into question whether the Navy is fully complying with the other terms and conditions of the applicable letters of authorization. As such, the Marine Mammal Commission further recommends that the Service work with the Navy to review the full scope of the applicable regulations and letters of authorization to ensure that the responsible Navy officials are aware of, understand, and are in compliance with all mitigation, monitoring, and reporting requirements.

Mitigation and monitoring measures

To minimize impacts to marine mammals if use of time-delay firing devices is authorized, the Navy worked with the Service to develop additional mitigation and monitoring measures for mine neutralization events. The Navy proposes to require more observation platforms during each event, amend the manner in which the buffer zones (i.e., for the Level B harassment threshold) are monitored, and increase the radius of those zones. The Navy proposes to use two or three observation platforms, depending on the size of the buffer zone, instead of one observation platform. Observations would be made from two vessels, three vessels, or two vessels and a helicopter, depending on the size of the charge being detonated and the duration of the delay. The current mitigation measures specify that parallel tracklines are to be surveyed to cover the buffer zone. To ensure that the larger buffer zones would be monitored effectively, the Navy is proposing to position the vessels at mid-points of buffer zone radii, equidistant from one another, and travel in a circular pattern around the detonation location surveying both the inner (toward the detonation site) and outer (away from the detonation site) areas of the buffer zone. The Commission agrees that implementation of the proposed mitigation measures would be helpful.

The Navy also is proposing to increase the radius of the single buffer zone from 700 yards to 1,000, 1,400, or 1,450 yards depending on the charge weight (i.e., 5, 10, and 20 lbs) and duration of the time delay (i.e., 5–10 minutes). Those increases are based on (1) the size of the modeled exclusion zones (i.e., for the Level A harassment threshold) for the three detonation weights, (2) the time-delay increments, and (3) an average dolphin swim speed of 3 knots, with an added 200-yard buffer to account for animals that may be transiting at speeds greater than the average speed. As long as animals are not observed within the revised buffer zones before the device is set, then the

Navy and Service believe that the animals would not likely swim into the exclusion zone by the time the explosives detonate.

The Commission questions the optimism of the agencies regarding the effectiveness of the exclusion and proposed buffer zones on two grounds—the methods used to calculate the size of the exclusion zones and the assumed swim speeds of marine mammals. The exclusion zones were estimated using a model rather than empirical measurements. Models are useful when empirical measurements are lacking but are known to be inaccurate in shallow-water environments where these events are conducted.

The Navy also included an additional 200-yard buffer to account for animals swimming faster than 3 knots. However, the Navy and Service are proposing to use a smaller buffer zone (1,000 yards) than was estimated for 3 of 18 scenarios in Table 2 of the *Federal Register* notice (i.e., 1,172, 1,074, and 1,096 yards). In these cases, animals swimming faster than 3 knots may not be adequately protected. In addition, if one assumes that an animal swims at just 4 knots for the duration of the time-delay, the Navy would have underestimated the size of those buffer zones in 8 of the 18 scenarios presented in Table 3 of the *Federal Register* notice. Many marine mammals are capable of swimming faster than 4 knots, especially during short timeframes. The average swim speed for bottlenose dolphins, for example, ranges from 2.6 to 8 knots (Lockyer and Morris 1987, Mate et al. 1995). Thus, the Commission believes that the Service and the Navy should use a more precautionary approach to calculate exclusion and buffer zones. To minimize impacts to marine mammals, the Marine Mammal Commission recommends that, if the National Marine Fisheries Service amends the letter of authorization as proposed, it require the Navy to conduct empirical sound propagation measurements to verify the adequacy of the sizes of the exclusion and buffer zones for 5-, 10-, and 20-lb charges and to expand those zones as necessary. The Commission further recommends that, prior to amending the letter of authorization, the Service require the Navy to re-estimate the sizes of the buffer zones using the mean average swim speeds plus at least one standard deviation for marine mammals that inhabit the shallow-water areas where time-delay firing devices would be used. Assuming swim speeds are distributed normally, this approach should address about 86 percent of those cases when swim speed is a critical factor.

On a related matter, the Commission notes that the existing exclusion zone for mine countermeasure training and requirements for pre-detonation monitoring of that zone are included in the underlying incidental take regulations (e.g., 50 C.F.R. § 216.174(a)(3) for the Hawaii Range Complex). Although the proposed modifications to the letter of authorization would be more restrictive than the regulatory provisions, the regulations also need to meet the requirements of section 101(a)(5). That is, they must ensure that the authorized taking will have only a negligible impact on the affected species and stocks of marine mammals, the activities will have the least practicable adverse impacts on those species and stocks, and the taking limits set forth in section 216.172(c) of the regulations (and parallel provisions of the regulations for the other range complexes) are not exceeded. For those reasons, conforming modifications to the applicable regulatory provisions also may be required. The Marine Mammal Commission therefore recommends that National Marine Fisheries Service consider whether modifications to the letter of authorization alone are sufficient to satisfy the requirements of the Marine Mammal Protection Act

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and, if it believes that regulatory modifications are not needed, provide a thorough explanation of its rationale in the *Federal Register* notice taking final action on the proposed modifications.

False killer whale stocks

Finally, recent recognition of Hawaii insular and pelagic false killer whale stocks and the proposed listing of the insular stock under the Endangered Species Act raise some important questions for the Service regarding the proposed letter of authorization. First, if and when the insular stock is listed as an endangered or threatened species, it will be subject to the requirements of section 7 of that Act. Consultation under section 7 will be required, as will an additional incidental take authorization under section 7(b)(4). In anticipation of possible listing, the Marine Mammal Commission recommends that National Marine Fisheries Service ask the Navy to enter into a conference pursuant to 50 C.F.R. § 402.10 and, as provided for under paragraph (d) of that section, to consider requesting that the conference follow formal consultation procedures so that that opinion can be adopted as the biological opinion if the species is listed. Second, the recognition of separate, but overlapping stocks of false killer whales raises important questions about how the Navy and Service will (1) provide assurance that any takes from either stock, but particularly the less abundant insular stock are having a negligible impact and (2) determine how they will attribute takes of false killer whales near the main Hawaiian Islands to the appropriate stock. Given the recognition of these separate stocks, the Service will need to address these questions before it issues a new letter of authorization.

Please contact me if you or your staff have questions about these recommendations.

Sincerely,



Timothy J. Ragen, Ph.D.
Executive Director

References

Lockyer, C., and R. Morris. 1987. Observations on diving behavior and swimming speeds in a juvenile *Tursiops truncatus*. *Aquatic Mammals* 13:31–35.

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