



MARINE MAMMAL COMMISSION

27 June 2013

Mr. P. Michael Payne, Chief
Permits and Conservation Division
Office of Protected Resources
National Marine Fisheries Service
1315 East-West Highway
Silver Spring, MD 20910-3225

Dear Mr. Payne:

The Marine Mammal Commission, in consultation with its Committee of Scientific Advisors on Marine Mammals, has reviewed the U.S. Air Force's application seeking authorization under section 101(a)(5)(D) of the Marine Mammal Protection Act to take marine mammals by harassment incidental to maritime strike operations at Eglin Air Force Base in Florida. The Commission also has reviewed the National Marine Fisheries Service's 4 June 2013 notice (78 Fed. Reg. 33357) announcing receipt of the application and proposing to issue the authorization, subject to certain conditions.

RECOMMENDATIONS

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

- authorize incidental taking for the proposed activities, and for any other proposed activities with the potential to cause serious injury (including tympanic membrane rupture and/or permanent threshold shift (PTS)), through regulation under section 101(a)(5)(A) of the Marine Mammal Protection Act and a letter of authorization rather than an incidental harassment authorization; and
- withhold publication of the incidental harassment authorization until (1) the Air Force has modeled the various scenarios consistently for all operations that involve more than one bomb, bomblet, missile, or round and (2) it has consulted with the Commission regarding resolution of this issue.

RATIONALE

The Air Force plans to conduct its maritime strike operations for a three-week timeframe in the summer of 2013. The purpose of those operations is to test the effectiveness of live munitions on small boat threats. Those operations involve the use of surface, above surface, and sub-surface bombs, missiles, and gunnery rounds that range from a 429 kg bomb to a 9 g gunnery round. The Air Force would use stationary, towed, and remotely controlled boat targets and would conduct up to two operations per day. The Air Force would conduct all operations during daylight hours in waters approximately 35 m in depth and at a distance of approximately 28 to 45 km from the coast.

The Service preliminarily has determined that, at most, the proposed activities temporarily would modify the behavior of bottlenose, Atlantic spotted, and unidentified bottlenose/Atlantic spotted dolphins. It also anticipates that any impact on the affected species and stocks would be negligible. The Service 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 and monitoring measures. Those measures include—

- using marine scientists (i.e., Navy look-outs) to conduct vessel-based monitoring from two vessels for up to two hours before, during, and for 30 minutes after the proposed operations;
- using delay and shut-down procedures;
- using live video feed from high-definition cameras to supplement its vessel-based monitoring measures;
- reporting injured and dead marine mammals immediately to the Service's local stranding network and regional office; and
- submitting a final report.

Authorization of incidental takes by Level A harassment

The National Marine Fisheries Service is proposing to authorize the incidental taking of two species of marine mammals by Level A harassment using the authority of section 101(a)(5)(D) of the Marine Mammal Protection Act (i.e., under an incidental harassment authorization). Level A harassment is defined in statute and regulation as “any act of pursuit, torment, or annoyance which has the potential to injure a marine mammal or marine mammal stock in the wild” (section 3(18) of the Marine Mammal Protection Act and 50 C.F.R. § 216.3). This will be the second time that the Service specifically has proposed to authorize taking by Level A harassment under the authority of section 101(a)(5)(D) of the Act, rather than through regulations issued in accordance with section 101(a)(5)(A). When the Service proposed to authorize such taking for ION Geophysical's activities in 2012, the Commission advised that authorizing these types of Level A harassment under 101(a)(5)(D) of the Act would set an inappropriate precedent that is inconsistent with the intent of the Act and the Service's implementing regulations. Regulations implementing the incidental harassment authorization provisions of the Act (50 C.F.R. § 216.107) state that authorizations may be issued only for activities that may result in the incidental harassment of a small number of marine mammals, “except for activities that have the potential to result in serious injury or mortality, which must be authorized under § 216.105.” However, contrary to that regulatory limitation, the Service issued an incidental harassment authorization for ION Geophysical's activities that allowed taking in ways that could leave marine mammals with permanent hearing loss, which the Commission believed constituted a serious injury. In doing so, the Service asserted that an animal would need to stay very close to the sound source for an extended period of time to incur a serious degree of permanent threshold shift (PTS), which could increase the probability of mortality (77 Fed. Reg. 65060). Further, it believed that a mobile marine mammal generally is expected to avoid loud sounds when swimming in the vicinity of a moving sound source. Thus, the Service believed there was no potential for serious injury or mortality and that authorization under 101(a)(5)(D) was appropriate.

Although the Service indicated that the proposed maritime strike operations at Eglin Air Force Base could result in Level A harassment (specifically by tympanic membrane rupture) of a few animals, it believed that “the type of effect would not be detrimental to rates of recruitment or survival”, or presumably rise to the level of serious injury. Because marine mammals rely heavily on hearing for communicating, navigating, and foraging (National Research Council 2003), and also for detecting and avoiding predators and conducting other vital life functions, the Commission believes that any significant permanent hearing loss would compromise the survival of the affected animal. Therefore, all permanent hearing loss should be considered a serious injury, and all activities with the potential to cause significant hearing loss should be subject to the authorization process under section 101(a)(5)(A), rather than an incidental harassment authorization.¹

Therefore, to ensure compliance with the Act and the Service’s own regulations, the Marine Mammal Commission recommends that the National Marine Fisheries Service authorize incidental taking for the proposed activities, and for any other proposed activities with the potential to cause serious injury (including tympanic membrane rupture and/or PTS), through regulation under section 101(a)(5)(A) of the Marine Mammal Protection Act and a letter of authorization rather than an incidental harassment authorization.

Zones of exposure and associated marine mammal takes

The Air Force estimated its zones of exposure for explosives based on impulse, peak pressure, and sound exposure level thresholds. Impulse and peak pressure thresholds are instantaneous and do not incorporate a specific time element. In contrast, thresholds for sound exposure levels are intended to account for the total energy expended in a specific area during a specific period of time.

As indicated in previous Commission letters, the methods used by the Air Force to estimate zones of exposure for various thresholds are not consistent. The application indicated that gunnery operations (30 and 20 mm rounds) were treated as a single detonation with either 1,000 or 1,500 rounds detonating as a single burst (i.e., 1,000 rounds detonating simultaneously). The detonations of multiple bombs during a single operation also were modeled as a single burst (e.g., four 945-lb bombs detonating simultaneously). In contrast, the Air Force appears to have treated the detonation of cluster bombs differently, as 202 individual bursts of 0.6-lb bomblets. The Air Force did not explain why it used two different, and seemingly contrary, methods (i.e., total net explosive weight of all ordnance in a single burst versus net explosive weight of a single bomblet as numerous individual bursts) for estimating zones of exposure.

Because it remains concerned about the Air Force’s estimates of harassment zones and subsequent numbers of marine mammal takes, the Marine Mammal Commission recommends that the National Marine Fisheries Service withhold publication of the incidental harassment authorization until (1) the Air Force has modeled the various scenarios consistently for all

¹ As noted previously, activities with the potential to result in serious injury require authorization by regulation in accordance with 50 C.F.R. § 216.105.

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operations that involve more than one bomb, bomblet, missile, or round and (2) it has consulted with the Commission regarding resolution of this issue.

The Commission appreciates the opportunity to provide comments on the Air Force's application. Please contact me if you have questions regarding the Commission's comments and recommendations.

Sincerely,

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

Rebecca J. Lent, Ph.D.
Executive Director

Reference

National Research Council. 2003. Ocean Noise and Marine Mammals. National Academies Press, Washington, D.C. 192 pages.