



# MARINE MAMMAL COMMISSION

18 November 2010

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 19 October 2010 *Federal Register* notice (75 Fed. Reg. 64508) proposing to issue regulations under section 101(a)(5)(A) of the Marine Mammal Protection Act. The proposed regulations would authorize the taking of small numbers of 20 species of marine mammals (15 cetacean and 5 pinniped species) by Level A and B harassment and by accidental mortality during a five-year period. The taking would be incidental to military training operations to be conducted in the Temporary Maritime Activities Area in the Gulf of Alaska from December 2010 to December 2015. The Commission previously submitted recommendations regarding the Service's 18 March 2009 *Federal Register* notice (74 Fed. Reg. 11530) regarding the promulgation of regulations to authorize the requested taking.

## RECOMMENDATION

The Marine Mammal Commission recommends that, if the National Marine Fisheries Service proceeds with publication of a final rule to authorize the taking of small numbers of marine mammals incidental to the proposed military training operations, the Service—

- advise the Navy to consult with the Fish and Wildlife Service to determine if the Navy also needs authorization to take sea otters;
- require the Navy to conduct an external peer review of its marine mammal density estimates for the Gulf of Alaska, the data upon which those estimates are based, and the manner in which those data are being used;
- require the Navy to conduct seasonal, systematic vessel or aerial line-transect surveys supplemented with passive acoustic monitoring and satellite tracking to provide the data needed to describe marine mammal density, distribution, and habitat use during the seasons and in the regions when and where the Navy plans to conduct its exercises;
- require the Navy to estimate marine mammal takes using season- and location-specific environmental parameters (including sound speed profiles and wind speed) and marine mammal densities before the Service issues the final rule; if the Navy plans to conduct major training exercises in April or May but does not provide more realistic take estimates for those months, the Service should limit the final rule to major training exercises that occur during the period from June to October;
- extend the required monitoring period to at least one hour before the resumption of training exercises when an animal has been sighted within a safety zone and after power-down and shutdown of active sonar sources;

- condition the final rule to require that all members of the Navy's mitigation teams be required to complete the marine mammal training program (i.e., the Service-approved Marine Species Awareness Training) before they participate in any of the proposed activities;
- before issuing the final rule, clarify the meaning of the qualifiers "when operationally feasible," "if operationally feasible," "when feasible," and "if feasible" to indicate how often, under what specific conditions, and for what timeframe the Navy expects to use visual and aural monitoring via aerial- and vessel-based observers and passive acoustic sensors;
- require the Navy to use a sufficient level of monitoring during all training activities to ensure that marine mammals are not being taken in unanticipated ways or numbers;
- condition the final rule, if issued, to require that the Navy suspend any of the training exercises or other activities covered by this authorization if it observes a marine mammal that is seriously injured or dead and the injury or death could have resulted from the Navy's activities. The suspension should continue until the Navy, in consultation with the Service, has investigated the circumstances and determined the cause of the injury or death and the number of animals involved, and has determined that further serious injuries or deaths are unlikely. If the death or serious injury involves a marine mammal not covered in the authorization, the Service should allow the activity to proceed only if it has reviewed the circumstances and determined that additional serious injuries or deaths are unlikely or the Navy has obtained authorization for such taking;
- before issuing the final rule, ensure that it can provide oversight of and response to uncommon stranding events within the Temporary Maritime Activities Area in the Gulf of Alaska sufficient to meet in full the monitoring and reporting requirements of the Marine Mammal Protection Act; and
- ensure that discrepancies within and between the application and *Federal Register* notice are corrected and addressed in the final rule.

## **RATIONALE**

The Navy proposes to conduct up to two major training exercises per year lasting up to 21 days from April through October. The Navy requests authorization to take by Level A harassment or mortality up to 15 individual beaked whales of any of the following species: Baird's beaked whale, Cuvier's beaked whale, and Stejneger's beaked whale. The limit of 15 individual beaked whales applies to the entire five-year period. The Navy also requests authorization to take individuals from 20 marine mammal species by Level B harassment. All takes would occur incidental to the development, testing, and evaluation of weapons systems, underwater detonations, vessels, and aircraft. The activities that would be covered by the authorization include the use of mid- and high-frequency active sonar sources, explosive and non-explosive practice munitions, high-explosive underwater detonations, vessel movements, and aircraft overflights. The Navy does not propose to use low-frequency active sonar as part of these activities. The Service preliminarily has determined that the total taking (1) would have a negligible impact on the affected species and stocks and (2) would not have an unmitigable adverse impact on the availability of the species or stocks for subsistence uses, and (3) would have the least practicable adverse impact on marine mammals and

their habitat because of a proposed set of mitigation and monitoring measures that the Navy plans to implement.

### **Sea Otters**

The proposed rule identifies sea otters among the species that could occur within the Temporary Maritime Activities Area in the Gulf of Alaska but indicates that sea otters are managed by the U.S. Fish and Wildlife Service and not considered in the proposed rule. The Marine Mammal Commission therefore recommends that the National Marine Fisheries Service advise the Navy to consult with the Fish and Wildlife Service to determine if the Navy also needs authorization to take sea otters.

### **Marine Mammal Density Estimates**

In previous letters, the Commission has noted that the Navy, in its applications and related documents, has done a commendable job of reviewing the existing literature on marine mammal density, distribution, behavior, and habitat use for the areas under consideration. However, the Commission has expressed concern that the Navy has not subjected its conclusions derived from that information to peer review. Such review is a normal part of the scientific process and will help the Navy ensure that it is following scientific protocol in generating density estimates. Review also would promote more confidence among those stakeholders who are skeptical that the Navy's estimates are sufficiently accurate and reliable for estimating the number of marine mammal takes that might occur, which is a central part of risk analysis. Therefore, the Marine Mammal Commission recommends that the National Marine Fisheries Service require the Navy to conduct an external peer review of its marine mammal density estimates for the Gulf of Alaska, the data upon which those estimates are based, and the manner in which those data are being used. In addition, the Marine Mammal Commission also recommends that the National Marine Fisheries Service require the Navy to conduct seasonal, systematic vessel or aerial line-transect surveys supplemented with passive acoustic monitoring and satellite tracking to provide the data needed to describe marine mammal density, distribution, and habitat use during the seasons and in the regions when and where the Navy plans to conduct its exercises.

### **Modeling**

The Navy's application indicates that it would conduct the proposed activities from April through October. However, the Navy's modeling to determine potential takes only was completed for summer (defined as June through October). The Navy included sound speed profiles, wind speeds, and densities from winter (defined as November through May) in its application but apparently did not use them to estimate the number of takes that could occur during April and May. The Gulf of Alaska environment, including the diversity and density of marine mammals and environmental parameters (i.e., sound speed profiles and wind speed), varies markedly by season. For that reason, modeling for one season does not provide a reliable basis for estimating takes during another season. To be considered reliable, the time frame for modeling of major training exercises to estimate takes should be consistent with the months when the proposed activities will

occur. Therefore, the Marine Mammal Commission recommends that the National Marine Fisheries Service require the Navy to estimate marine mammal takes using season- and location-specific environmental parameters (including sound speed profiles and wind speed) and marine mammal densities before the Service issues the final rule; if the Navy plans to conduct major training exercises in April or May but does not provide more realistic take estimates for those months, the Service should limit the final rule to major training exercises that occur during the period from June to October.

### **Mitigation and Monitoring**

The Navy's application and the Service's *Federal Register* notice state that when the Navy has detected a marine mammal in an associated safety zone or has powered or shut down its sonar, it will not resume the exercise until observers have sighted the marine mammal outside the safety zone or 30 minutes have passed without subsequent sightings. However, several species of cetaceans for which the Navy is seeking harassment authorization remain submerged on most dives for more than 30 minutes. Sperm whales and beaked whales, in particular, may stay submerged for periods far exceeding 30 minutes. Blainville's beaked whales dive to considerable depths (> 1,400 m [4,592 ft]) and can remain submerged for nearly an hour (Baird et al. 2006, Tyack et al. 2006). In addition, observers may not detect these animals each time they return to the surface. Accordingly, monitoring for 30 minutes prior to resumption of the exercise is not sufficient to allow detection of those species, especially for primarily stationary activities. Therefore, the Marine Mammal Commission recommends that the National Marine Fisheries Service extend the required monitoring period to at least one hour before the resumption of training exercises when an animal has been sighted within a safety zone and after power-down and shutdown of active sonar sources.

The *Federal Register* notice also indicates that "[a]ll Commanding Officers (COs), Executive Officers (XOs), lookouts, OODs, Junior OODs (JOODs), maritime patrol aircraft aircrews, and Antisubmarine Warfare (ASW) helicopter crews would complete the NMFS approved Marine Species Awareness Training (MSAT)...." However, the notice then states that "at least one member of the mitigation team will have completed the Navy's marine mammal training program for lookouts." These two statements are inconsistent and the inconsistency should be resolved. Further, training only one member of a mitigation team would not be sufficient. Indeed, the purpose of having a mitigation "team" is that one person is not able to oversee all mitigation and monitoring efforts. For that reason, the Marine Mammal Commission recommends that the National Marine Fisheries Service condition the final rule to require that all members of the Navy's mitigation teams be required to complete the marine mammal training program (i.e., the Service-approved Marine Species Awareness Training) before they participate in any of the proposed activities.

The application and *Federal Register* notice state that "when operationally feasible," "if operationally feasible," "when feasible," and "if feasible" visual and/or aural monitoring of marine mammals would be conducted by aircrews and vessel-based observers during surface-to-surface and surface-to-air gunnery exercises, sinking exercises, and improved extended echo-ranging system/advanced extended echo-ranging system exercises. The terms "when operationally feasible," "if operationally feasible," "when feasible," and "if feasible" are vague and do not convey how

frequently and for how long these mitigation and monitoring practices will be implemented. The Marine Mammal Commission recommends that, prior to issuing the final rule, the National Marine Fisheries Service clarify the meaning of the qualifiers “when operationally feasible,” “if operationally feasible,” “when feasible,” and “if feasible” to indicate how often, under what specific conditions, and for what time frame the Navy expects to use visual and aural monitoring via aerial- and vessel-based observers and passive acoustic sensors. Further, the Marine Mammal Commission recommends that, in any Letter of Authorization issued under the proposed regulations, the Service require the Navy to use a sufficient level of monitoring during all training activities to ensure that marine mammals are not being taken in unanticipated ways or numbers.

### **Serious Injury and Mortality**

The proposed rule requires the Navy to notify the Service immediately, or as soon as clearance procedures allow, if an injured, stranded, or dead marine mammal is found during or shortly after, and in the vicinity of, any Navy training activity involving the use of mid- and high-frequency active sonar or underwater explosive detonations. It appears from the proposed rule and the draft stranding response plan that the Navy will be required to implement shutdown procedures under the following conditions—

- if an “Uncommon Stranding Event”<sup>1</sup> is reported within the Temporary Maritime Activities Area in the Gulf of Alaska during “a major training exercise”<sup>2</sup> and if live animals have been identified and at least one live animal is located in the water; or
- if the Navy finds an injured or dead marine mammal floating at sea during a major training exercise, in which case it must notify the Service immediately or as soon as operational security considerations allow, and the Service shall advise the Navy whether a modified shutdown is appropriate on a case-by-case basis.

It also appears from the proposed rule that a shutdown will be required if evidence indicates that a marine mammal may have stranded or may have been injured or killed during underwater detonations, whether or not the detonations are part of a major or other training event.

If the Commission’s understanding is correct, it appears that the Service’s proposed shutdown criteria are based on the assumption that, if serious injuries or deaths occur, they only would occur during certain activities (i.e., “major training exercises”) and not during other activities (e.g., helicopter and surface antisubmarine warfare tracking exercises—which involve the use of mid- and high-frequency active sonar sources—sinking exercises, or even simple vessel transits

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<sup>1</sup> Previous Navy Draft Stranding Response Plans define an “Uncommon Stranding Event” as two or more individuals of any cetacean species (not including mother/calf pairs, unless a species of concern) found dead or alive on shore within a two-day period and occurring on the same shoreline or facing shorelines of different islands; a single individual or mother/calf pair of any of the following marine mammals of concern: beaked whale of any species, *Kogia* spp., Risso’s dolphin, melon-headed whale, pilot whale, humpback whale, sperm whale, blue whale, or sei whale; or a group of two or more cetaceans of any species exhibiting indicators of distress.

<sup>2</sup> The *Federal Register* notice defines a Major Training Exercise as a Multi-strike exercise, Joint Expeditionary exercise, or Marine Air Ground Task Force exercise.

between areas). The Commission sees no basis for this assumption and notes that it could exclude the need for mitigation, monitoring, and reporting for the majority of the Navy's activities in this region that otherwise would be covered under the authorization. The Commission therefore questions whether such limits regarding when mitigation, monitoring, and reporting would be required are consistent with the requirements of the Marine Mammal Protection Act. If the Commission's understanding is correct, then the Service should provide its rationale for making such an assumption and describe how it will ascertain the effects of other Navy activities on marine mammals in the action area.

In addition, the Service should require the Navy to suspend a training exercise, whether major or not, if it results in the serious injury or death of any species of marine mammal or if a seriously injured or dead marine mammal of any species is found in the vicinity of any of the Navy's proposed activities and the death or injury might be attributable to those activities. The Marine Mammal Commission therefore recommends that the National Marine Fisheries Service condition the final rule, if issued, to require that the Navy suspend any of the training exercises or other activities covered by this authorization if it observes a marine mammal that is seriously injured or dead and the injury or death could have resulted from the Navy's activities. The suspension should continue until the Navy, in consultation with the Service, has investigated the circumstances and determined the cause of the injury or death and the number of animals involved, and has determined that further serious injuries or deaths are unlikely. If the death or serious injury involves a marine mammal not covered in the authorization, the Service should allow the activity to proceed only if it has reviewed the circumstances and determined that additional serious injuries or deaths are unlikely or the Navy has obtained authorization for such taking.

Neither the Service nor the Navy provided the draft stranding response plan for the Temporary Maritime Activities Area in the Gulf of Alaska. For that reason, the Commission and the public were unable to review the specific plan. However, previous draft stranding response plans for other Navy training ranges indicate that in some areas "available stranding response staff and resources are *'exceedingly limited'*" [emphasis added]. The draft plan states that it "sets forth an ideal NMFS response; however, due to the limited resources, it will not always be possible for NMFS to proceed with all of the indicated objectives." For example, previous plans state that "[t]he NMFS regional stranding network will respond to reports of stranded marine mammals in areas where there is geographic coverage by the stranding network, *when feasible'*" [emphasis added]. Given the stated limitations and uncertainties regarding the regional stranding network's ability to detect stranded marine mammals and to respond to reports of seriously injured or dead marine mammals found in the vicinity of the Navy's operations, the Commission questions whether the proposed stranding response plan for these activities is adequate. Therefore, the Marine Mammal Commission recommends that, before issuing the final rule, the National Marine Fisheries Service ensure that it can provide oversight of and response to uncommon stranding events within the Temporary Maritime Activities Area in the Gulf of Alaska sufficient to meet in full the monitoring and reporting requirements of the Marine Mammal Protection Act.

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### **Discrepancies within the Application and the *Federal Register* Notice**

Discrepancies within and between the application and the Service's *Federal Register* notice were noted in emails exchanged between Commission and Service personnel. In response, the Navy and Service have provided several clarifications, and the Service has agreed to correct other discrepancies in the final rule. As such, the Marine Mammal Commission recommends that the National Marine Fisheries Service ensure that those discrepancies are corrected and addressed in the final rule.

### **Criteria and Thresholds**

In previous letters, the Marine Mammal Commission has provided recommendations regarding the Service's interpretation of what constitutes a temporary threshold shift and the implications of such a shift. As the Commission has noted, a temporary loss of hearing function can have consequences that vary from negligible to biologically significant (e.g., compromised ability to forage, respond to reproductive cues, or detect predators). These consequences depend on a variety of circumstances at the time the loss occurs, including the nature of the structural and functional hearing loss, the animal's behavioral response to the stimulus, its history, and environmental conditions. As such, a temporary threshold shift may constitute Level A harassment under certain circumstances. In addition, the Commission has provided recommendations regarding behavioral responses, indicating that it is important to determine when those responses become significant to the animals involved or the stocks to which they belong. The National Marine Fisheries Service currently is developing a comprehensive acoustic guidance document in which thresholds regarding injury and behavioral disruption will be updated. The Marine Mammal Commission supports the development of updated criteria and thresholds and looks forward to reviewing the guidance document in the near future.

Please contact me if you or your staff has questions about any of the Commission's recommendations or comments.

Sincerely,



Timothy J. Ragen, Ph.D.  
Executive Director

### References

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- Tyack, P.L., M. Johnson, N. Aguilar Soto, A. Sturlese, and P.T. Madsen. 2006. Extreme diving of beaked whales. *Journal of Experimental Biology* 209(21):4238–4253.