



MARINE MAMMAL COMMISSION

16 April 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

Re: Permit Application No. 14534 (Revised)
(National Marine Fisheries Service, Office of Science
and Technology)

Dear Mr. Payne:

The Marine Mammal Commission, in consultation with its Committee of Scientific Advisors on Marine Mammals, has reviewed the above-referenced permit application with regard to the goals, policies, and requirements of the Marine Mammal Protection Act.

The Service first requested comments on permit application No. 14534 on 11 September 2009 (74 Fed. Reg. 46745). The Commission commented by letter of 20 October 2009 (enclosed and incorporated herein by reference). The applicant subsequently submitted a revised application that would increase the number of marine mammals that may be harassed, tagged, and exposed to sound playbacks; increase the number of requested playbacks directed at untagged animals for some cetacean species; move the proposed action area slightly northward; tag dependent cetacean calves more than one year of age; tag non-endangered/non-threatened cetacean females accompanied by non-neonate calves and endangered/threatened cetacean females accompanied by calves more than six months of age; and play back sounds to focal groups that do not include neonate calves.

RECOMMENDATIONS

The Marine Mammal Commission reiterates its previous recommendation that the National Marine Fisheries Service defer issue of this permit until the applicant has submitted documentation indicating that the proposed research has been reviewed and approved by an Institutional Animal Care and Use Committee and that it is in compliance with section 2.37 of the Animal and Plant Health Inspection Service's Animal Welfare Act regulations. When the applicant has submitted such documentation, the Marine Mammal Commission recommends that the National Marine Fisheries Service issue the requested permit provided that the Service—

- withhold authorization for tagging any female cetacean accompanied by a neonate calf;
- withhold authorization to conduct controlled sound exposure experiments on focal groups that include a neonate calf;
- consult with the applicant to identify steps for monitoring (and, if possible, assisting) any animal that appears to be injured or that appears to become and remain disoriented during the playback experiments;
- require that the investigator suspend an activity if introduced sounds may have led to the serious injury or death of an animal;

- require that any such suspension remain in effect until the applicant has consulted with the Service and been given authorization to proceed;
- consult with the applicant to identify steps to be taken to recover and necropsy any animal that may have died as a result of the activities;
- take steps to ensure that activities to be conducted under this permit and those of other permit holders who might be carrying out research on the same species in the same areas are coordinated to avoid unnecessarily duplicative research and unnecessary disturbance of animals; and
- ensure that the applicant obtains all necessary permits under the Convention on International Trade in Endangered Species of Wild Fauna and Flora before importing samples into or exporting them out of the United States.

RATIONALE

As discussed in its 20 October 2009 letter, the Commission supports research to determine the effects of anthropogenic sound, including but not limited to active sonar signals, on marine mammals. Such research appears to be the best way to resolve a number of key issues with regard to sound effects. However, the Commission has emphasized that the research should be well designed to ensure, insofar as possible, scientific accuracy and animal well-being. The researchers' ability to monitor subject animals during and after exposure to sound is key to providing such assurance. The applicant and research team listed in this permit application possess considerable research experience and appear to be well aware of the need for such careful monitoring. Indeed, they propose multiple systems for tracking animals (i.e., tags, passive acoustics, and visual observations).

The first issue that must be resolved before this permit can be issued involves approval by an Institutional Animal Care and Use Committee. Based on consultations with Service staff, the applicant intends to have its proposed research protocol reviewed by such a committee being convened at the Southwest Fisheries Science Center or, if that cannot be arranged, by the corresponding committee at Woods Hole Oceanographic Institution. Consistent with the Service's new policy regarding review of research conducted by the agency, the Marine Mammal Commission recommends that the National Marine Fisheries Service defer issuance of this permit until the applicant has submitted documentation indicating that the proposed research has been reviewed and approved by an Institutional Animal Care and Use Committee and that it is in compliance with section 2.37 of the Animal and Plant Health Inspection Service's Animal Welfare Act regulations.

Also, as noted in the Commission's 20 October 2009 letter, the original application seemed to imply that Institutional Animal Care and Use Committee approvals will be sent to the Permits Office once the committee's reviews are completed for each specific project (i.e., approvals of some individual projects would not be submitted until after the permit is issued). This proposed approach is not consistent with current policies and procedures, which require that Institutional Animal Care and Use Committee approval be obtained before a permit is issued. A reasonable alternative approach that would be consistent with the applicable policies would be for the Service to issue a permit only for those proposed studies or projects for which an Institutional Animal Care and Use

Committee has completed its review, and that additional studies be permitted through amendments only after they have been reviewed and approved by such a committee. This issue should be resolved prior to issuance of the permit.

The second major issue with regard to this permit pertains to exposure of mother-calf pairs to various research procedures. The original application stated that researchers would avoid tagging calves and females with calves and would avoid groups of cetaceans containing mother-calf pairs. The revised application seeks authorization to tag dependent cetacean calves more than one year of age; tag non-endangered/non-threatened female cetaceans accompanied by non-neonate calves, and endangered/threatened cetacean females accompanied by calves under six months of age; and play back sounds to focal groups that include dependent, but not neonate, calves.

With regard to this issue, it is worth noting that biologists generally cannot determine the precise age of a calf with full confidence, except by the presence of fetal folds. Once those folds are gone, the best indicator of age is a combination of estimated size, time of year (i.e., reproduction occurs seasonally), and behavior (i.e., association with a larger animal—presumably the mother). Judging age based on size is problematic because, for numerous cetacean species, growth in the first year is generally rapid but variable and biologists cannot describe growth curves (and variability about those curves) with reliability. Furthermore, even the estimation of size can be difficult with animals that are submerged most of the time and that generally roll at the surface, briefly exhibiting only a small part of their body at any one time. Estimates of age based on reproductive season also can be confounded by considerable error, particularly when the period during which births occur for a particular species or population is prolonged. Thus, the belief that researchers in the field will be able to make rapid and accurate judgments about whether to include or exclude young animals in their studies based on age determination appears to be questionable, if not unwarranted.

That does not mean that the Commission advises against conducting such research. Rather, the Commission believes this research is needed and should go forward. Every day, as permits like this are being considered, marine mammals are being exposed to potentially significant levels of human-generated noise, and scientists and managers are unable to describe with confidence the effects of those exposures. Such exposures could have conservation significance if they reduce the survival or reproduction of the animals involved. One of the most important concerns (or hypotheses) is that certain exposures may lead to separation of mother-calf pairs, thereby reducing the probability of calf survival. The choice, then, seems to be whether to downplay these potentially significant exposures and proceed cautiously with experiments like those proposed here or to design experiments that would enable us to learn as much as we can, as quickly as possible, to determine whether such exposures present a conservation problem for which mitigation measures are needed.

Expediting such experiments does not mean conducting them carelessly. The Commission has emphasized the importance of research design and, in particular, the importance of being able to detect potentially significant effects if they occur. In this regard, the researchers involved have extensive experience working with marine mammals and are all highly qualified to carry out the proposed studies. In addition, they are proposing a state-of-the-art monitoring program using various tags, passive acoustics, and visual sightings, and should be able to describe marine mammal

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responses to the types of sounds that will be introduced during the experiments. Finally, this permit should be conditioned to require suspension of an activity, pending consultation with the Service and authorization to proceed, if an animal is seriously injured or killed. Such a condition would help ensure that significant effects from the experiments are avoided.

With all this in mind, the Marine Mammal Commission recommends that, for the time being, the National Marine Fisheries Service withhold authorization for tagging any female cetacean accompanied by a neonate calf (as estimated by its size and the presence of fetal folds). Similarly, the Marine Mammal Commission recommends that the National Marine Fisheries Service withhold authorization to conduct controlled sound exposure experiments on focal groups that include neonates. Further experiments involving neonates may well be necessary in the future to assess the potential risks posed by manmade sounds in the marine environment, but excluding this vulnerable segment of the population now seems prudent. This should still provide the researchers with considerable leeway in conducting their experiments on animals that presumably are somewhat less vulnerable. For the reason described earlier in this letter (that is, the fact that animals are being taken regularly), the need to expose mother-calf pairs in which the calf is a neonate should be assessed promptly after the results from the proposed experiments are available.

As also described earlier, managing the risks associated with these experiments will require that a permit, if issued, be subject to a number of conditions. With that in mind, the Marine Mammal Commission reiterates its previous recommendations that the researchers monitor (and, if possible, assist) any animal that appears to be injured or that appears to become and remain disoriented during the playback experiments; the investigator suspend an activity if introduced sounds may have led to serious injury or death of an animal; any such suspension remain in effect until the applicant has consulted with the Service and been given authorization to proceed; researchers make all reasonable efforts to recover and necropsy any animal that may have died as a result of the activities; the investigator take steps necessary to ensure that activities to be conducted under this permit and those of other permit holders who might be carrying out research on the same species in the same areas are coordinated to avoid unnecessarily duplicative research and unnecessary disturbance of animals; and the investigator obtain all necessary permits under the Convention on International Trade in Endangered Species of Wild Fauna and Flora before importing samples into or exporting them out of the United States.

Please contact me if you have any questions concerning these comments and recommendations.

Sincerely,



Timothy J. Ragen, Ph.D.
Executive Director

Enclosure