



MARINE MAMMAL COMMISSION

7 December 2009

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: Request for Amendment of Permit No. 87-1851-02
(Daniel P. Costa, Ph.D.)

Dear Mr. Payne:

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

RECOMMENDATIONS

The Marine Mammal Commission recommends that the National Marine Fisheries Service, in consultation with the National Science Foundation—

- ensure that the proposed activities, if approved, are carefully coordinated with those of other researchers currently working on Weddell seals in McMurdo Sound;
- assess the possible cumulative effects of multiple research activities involving Weddell seals in eastern McMurdo Sound;
- direct research on Weddell seals that does not require the use of marked animals from the eastern McMurdo Sound population to animals inhabiting the western portions of the sound;
- require researchers studying Weddell seals in eastern McMurdo Sound to find and use animals that have not previously been marked to avoid interfering with ongoing research projects; and
- work with the applicant to identify seals or populations other than those at White Island to be used for the proposed research.

RATIONALE

The applicant is seeking authorization to conduct research on Weddell seals in the Ross Sea including McMurdo Sound and several Antarctic Special Protected Area locations, including Northwest White Island (ASPA 137). Thus, in addition to seeking authorization to take marine mammals under the Marine Mammal Protection Act, the applicant also requires authorization from the National Science Foundation to conduct the proposed research under the Antarctic Conservation Act of 1978. The Commission reviewed and provided comments on that application by letter of 30 October 2009 (copy enclosed). In its letter, the Commission recommended that the

National Science Foundation defer issuing the authorization pending confirmation from the National Marine Fisheries Service that the permit holder has obtained the necessary authorization for the planned activities under the Marine Mammal Protection Act.

Coordination of research activities and assessment of cumulative effects

As discussed in its 30 October 2009 letter, the Marine Mammal Commission continues to be concerned about the potential for cumulative impacts from multiple research activities involving Weddell seals in eastern McMurdo Sound. This general concern is not specific to Weddell seals but includes other intensively studied marine mammal species and populations such as the North Atlantic right whale, the western population of Steller sea lions, the Hawaiian monk seal, the North Pacific southern resident killer whale population, and the western population of North Pacific gray whales. Environmental analyses required under the National Environmental Policy Act and, for endangered and threatened species, consultations under section 7 of the Endangered Species Act also recognize the need to consider the impact of multiple activities that may be negligible when considered individually but significant when considered collectively. The Commission does not wish to limit research unnecessarily but, being mindful of the difficulty in evaluating cumulative effects, believes that caution is warranted where such effects are possible. Such caution seems prudent, not only to protect the animals involved but also to ensure that research results are not inadvertently confounded.

The Weddell seals in Erebus Bay have been studied intensively for several decades. Literally millions of dollars and many person-years have been invested in this research. Scientists can now describe the reproductive history of the majority of individuals because they generally exhibit site fidelity for purposes of breeding. The resulting long-term database—one of the best available for any marine mammal species or population—is unique in Antarctica and facilitates the testing of important hypotheses on population ecology and natural selection processes, subjects that currently cannot be tested anywhere else on the continent. The Commission believes that precautionary management is required to ensure the continuing value of this population to researchers as the accidental death of even a small number of these animals of known age and history could undermine the testing of certain important hypotheses.

The first step toward minimizing the potential for adverse cumulative effects is to ensure that researchers coordinate their activities whenever possible to prevent unwarranted duplication of effort that results in unnecessary disturbance or other effects on the seals. To address that concern, the Marine Mammal Commission recommends that the National Marine Fisheries Service, in consultation with the National Science Foundation, ensure that the proposed activities, if approved, are carefully coordinated with those of other researchers currently working on these seals. However, even well-coordinated research programs may have undesirable cumulative effects that should be identified and avoided. This is particularly the case where the species or population being studied is depleted, threatened, or endangered but is also the case where populations or environmental circumstances offer unique opportunities for certain types of research. With that in mind, the Marine Mammal Commission further recommends that the National Marine Fisheries Service work with the National Science Foundation to assess the possible cumulative effects of multiple research activities involving Weddell seals in eastern McMurdo Sound.

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Until cumulative effects have been investigated and described adequately, a precautionary approach would be to distribute research efforts among multiple populations. Other Weddell seal populations inhabit the western coast of McMurdo Sound from the Stranded Moraines and Marble Point north to the Italian station at Terra Nova Bay. These seals have little exchange with those in eastern McMurdo Sound. Thus, the Marine Mammal Commission recommends that, to the extent possible, the National Marine Fisheries Service and the National Science Foundation direct research on Weddell seals that does not require the use of marked animals from the eastern McMurdo Sound population to animals inhabiting the western portions of the sound. If research must be done in eastern McMurdo Sound, the Marine Mammal Commission also recommends that, to the extent possible, the Service and the Foundation require researchers studying Weddell seals in eastern McMurdo Sound to find and use animals that have not previously been marked to avoid interfering with ongoing research projects. In the long term, the best solution would be to conduct the studies needed to determine if multiple research projects are having unanticipated or unacceptable effects. However, such research will take some time to complete.

The White Island Weddell seal population

Finally, the White Island Weddell seal population has been given extra protection, both because it is small, and therefore more vulnerable to research effects, and because it provides a unique control population for demographic and other studies on other Weddell seal populations in the region. In particular, this population is supplying unique data on the effects of inbreeding on a small, isolated population of seals. To maintain the White Island population as a control for some aspects of the research in McMurdo, and a unique study population in its own right, the Commission and others have recommended that studies not be conducted on these seals if those studies can be conducted just as effectively on seals from other populations. If Dr. Costa's proposed studies do not specifically require the use of animals in the White Island population, moving that research to other sites would help ensure the population's value for other purposes. Assuming that is the case, the Marine Mammal Commission recommends that the National Marine Fisheries Service and the National Science Foundation work with the applicant to identify seals or populations other than those at White Island to be used for the proposed research.

Please contact me if you or your staff has any questions about our recommendations and comments.

Sincerely,



Timothy J. Ragen, Ph.D.
Executive Director

Enclosure

cc: Ms. Nadene G. Kennedy