



MARINE MAMMAL COMMISSION

23 February 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, Maryland 20910

Re: Permit Application No. 15453
(Waikiki Aquarium)

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 applicant is requesting authorization to conduct research on captive Hawaiian monk seals and to continue and expand its related enhancement efforts.

RECOMMENDATIONS

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

- issue the permit, but condition it to require that only one seal be tested at first, and the second be included only after sufficient time has passed to rule out an adverse response; and
- condition the permit to require the applicant to consult with the Service and Commission if the first seal tested dies.

RATIONALE

Digestive Physiology

The applicant is requesting authorization to continue maintaining two captive non-releasable male Hawaiian monk seals for research and enhancement purposes during a five-year period. The proposed research would include continuation of a long-term study on the digestive rate and efficiency of seals that have been in captivity since the early 1980s. The applicant contends that investigation of age-related changes in digestive and metabolic efficiency is important because the age class structure of the monk seal population is skewed towards older animals and it is difficult to collect this type of data from monk seals in the wild. The study involves marking the seals' food with chromic oxide and later collecting their feces to determine the rate at which the seals move the food through their digestive tract and their efficiency in digesting it. The applicant would conduct the study up to 72 times per year to determine seasonal changes in digestive rate and efficiency. The applicant also would collect bi-monthly masses and blubber measurements via ultrasound. The seals have been trained to tolerate and participate in such activities without restraint.

Vaccination Trials

The second proposed study is to evaluate responses to two vaccines. The vaccines include a recombinant canary pox and inactivated West Nile virus. They are being tested to determine if they might help protect monk seals from canine distemper and West Nile viruses, both of which are considered potential threats to wild Hawaiian monk seals. The proposed vaccines have been tested without adverse consequence on other pinniped species, but the efficiency of the vaccines has not been determined. In this study, the researcher would vaccinate both seals twice for both viruses. Virus shedding is sometimes used as a measure of effectiveness for vaccines. However, shedding has not been documented with the canine distemper vaccine and the inactivated West Nile virus cannot be shed. Therefore, the applicant would assess the effectiveness of the vaccines by collecting blood and nasal swabs from the seals four times during the year following inoculation and using the blood samples to verify antibody formation. The applicant requests authorization for two unintentional deaths during the five-year period that could occur during sedation, vaccine administration, and serum sampling.

The Commission believes it would be prudent to stagger the seals' involvement in this vaccination trial. Its rationale is that the Waikiki Aquarium has only two seals in captivity, those seals are central to the Aquarium's education program regarding the species, and the effects of the vaccine could be relatively severe. Presumably, any adverse response to the vaccines would be apparent within a matter of weeks. That being the case, the Marine Mammal Commission recommends that the National Marine Fisheries Service issue the permit, but condition it to require that only one seal be tested at first, and the second be included only after sufficient time has passed to rule out an adverse response. To be on the safe side, the Commission believes that the vaccinations should be staggered by at least one month, which should be ample time to determine if the vaccine is likely to cause a serious adverse reaction.

The Marine Mammal Commission also recommends that the National Marine Fisheries Service condition the permit to require the applicant to consult with the Service and Commission if the first seal tested dies. If the first seal does die, the study should be halted long enough to determine if the vaccination trial was the cause of death and, if so, what changes in study design might be necessary. The Commission recognizes that both seals are old and one of them is in poor health, and the applicant, Service, and Commission will have to take those factors into account in the event of a death.

Enhancement

To fulfill its enhancement program, the Waikiki Aquarium proposes to increase public awareness of the status of the Hawaiian monk seal through a variety of educational programs (i.e., Web site information, public classes, and educational exhibit lectures). The monk seals in question have been on public display for more than 25 years and have served as ambassadors for their species. More than 300,000 people visit the aquarium annually, and more than 21 million people access the Web site. The enhancement program also fulfills priorities of the Hawaiian monk seal recovery plan. The Waikiki Aquarium would participate in a captive-breeding program if requested

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by the National Marine Fisheries Service. In addition, the Waikiki Aquarium would house additional non-releasable monk seals in the event that one or both of its currently housed seals die.

The Commission believes that the activities for which it has recommended approval are consistent with the purposes and policies of the Marine Mammal Protection Act.

Please contact me if you have any questions concerning the Commission's recommendation and comments.

Sincerely,

A handwritten signature in blue ink that reads "Timothy J. Ragen". The signature is written in a cursive style with a large, sweeping initial 'T'.

Timothy J. Ragen, Ph.D.
Executive Director