MARINE MAMMAL COMMISSION

3 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

Re: Permit Application No. 14809
(Douglas Nowacek, Ph.D.,
Duke University)

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. Dr. Nowacek is requesting authorization to conduct research on numerous cetacean species or stocks during a five-year period.

RECOMMENDATION

The Marine Mammal Commission recommends that the National Marine Fisheries Service issue the permit, as requested.

RATIONALE

Dr. Nowacek proposes to conduct research on 34 cetacean species or stocks in the North Atlantic, North Pacific, and Southern Oceans year-round. The activities would occur in waters along the east coast of the United States, California, Alaska, the Hawaiian Archipelago, American Samoa, and Antarctica. The objectives are to (1) document individual and population-level foraging and social behavior of cetacean species under different ecological conditions and (2) determine how those species respond to various natural sounds.

Dr. Nowacek and co-investigators seek authorization to observe, photograph, conduct photogrammetry on, acoustically record, collect sloughed skin from, and biopsy sample numerous cetacean species each year (see Take Tables 1–3 in the application). Individuals at least one year of age and either sex could be harassed. Researchers would use small (5 m) and large (12–100 m) vessels to photograph and conduct photogrammetry on large cetaceans at distances of 15–20 m and small cetaceans at distances of 5–10 m. They also could conduct focal follows at distances of 25 m for up to several hours. Cetaceans would be approached at a consistent speed from behind or at an angle, depending on the species, to avoid blocking the intended path of the animals. Research activities would cease if there is evidence that the activity may be interfering with pair bonding, nursing, reproduction, feeding, or any other vital function. In addition, the researchers would

monitor cetaceans acoustically using a single hydrophone, towed hydrophone array, sonobuoys, ocean gliders, or bottom-mounted autonomous acoustic recorders.

Researchers also would biopsy sample cetaceans using a crossbow, rifle, or pole at distances of 4–30 m. They would approach the animals no more than three times to obtain the sample and would sample them only once during the five-year period. Researchers would not biopsy sample calves less than one year of age but could sample females with those calves. Samples would be analyzed to determine sex, genetic signatures, hormone concentrations, stable isotope signatures, and fatty acid signatures by various laboratories in North Carolina. Researchers would cease activities if they detect an avoidance response (i.e., extremely rapid changes in direction or prolonged avoidance).

Researchers would instrument numerous cetaceans using suction-cup tags (see Take Tables 1–3). Suction-cup tags may include VHF transmitters and data loggers that would record and store time, depth, temperature, GPS locations, vocalizations, ambient and anthropogenic sound, swim speed, heading, pitch, and roll. Tags would be deployed via pole within 6 m or a modified crossbow at a distance up to 20 m. The target animals would be approached no more than three times. Similarly, researchers would not tag calves less than one year of age or females with those calves and known individuals would be tagged only once during the five-year period. Researchers would track the tagged cetaceans until the tags falls off or are released and can be retrieved. They could collect sloughed skin from those tags at that time.

To assess the effects of tagging, researchers would monitor an animal before they attach the tag and would note any effects after tag attachment. They also would cease their activities if a whale reacts negatively (e.g., repeated breaching) to the proposed activities. If a tagged animal reacts negatively, researchers would maintain greater distances (e.g., 800–1,000 m) from the mammal(s) until the tag falls off or is released.

Dr. Nowacek also proposes to conduct acoustic playback experiments on the tagged cetaceans. Researchers would observe the tagged animal for at least 30 minutes prior to conducting a playback that would last less than one minute. They would project only naturally-occurring sounds (i.e., predator calls, social calls from another population of the same species, and positive control calls [calls from a non-predatory species]), rather than anthropogenic sounds. The maximum source level of those calls would be 180 dB re 1 μPa and would range from 500 Hz–10 kHz. They would observe the animals for 30 minutes after any sound exposure, with a single playback session lasting for two hours. Researchers would conduct the experiments only if all animals within the group to be exposed are greater than one year of age, and they would use visual and acoustic observations to document any incidental harassment from the playback experiments. In addition, researchers would cease acoustic transmissions if they cause any aberrant behavior or if any marine mammal approaches within 100 m of the source. Dr. Nowacek could harass incidentally numerous other cetacean species or stocks during the playback experiments (see Take Tables 1–3).

Dr. Nowacek's Institutional Animal Care and Use Committee (IACUC) has not yet reviewed and approved the research protocols. However, his IACUC has approved similar protocols in the past. The Marine Mammal Commission supports research on both the effects of sound and behavioral variation at the individual and population level and therefore recommends that the National Marine Fisheries Service issue the permit, as requested.

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 recommendations.

Sincerely,

Rebecca J. Lent, Ph.D.
Executive Director