MARINE MAMMAL COMMISSION
4340 East-West Highway, Room 700
Bethesda, MD 20814-4447

23 June 2008

Mr. P. Michael Payne
Chief, Permits Division
National Marine Fisheries Service
Office of Protected Resources
1315 East-West Highway, Room 13635
Silver Spring, MD 20910

Dear Mr. Payne:

The Marine Mammal Commission, in consultation with its Committee of Scientific Advisors on Marine Mammals, has reviewed the application submitted by ConocoPhillips Alaska, Inc., under section 101(a)(5)(D) of the Marine Mammal Protection Act. The applicant is seeking authorization to take by Level B harassment small numbers of bowhead, gray, humpback, minke, beluga, and killer whales; harbor porpoises; and bearded, ringed, spotted, and ribbon seals incidental to shallow hazard and site clearance surveys in the Chukchi Sea. These activities would take place on up to 30 to 45 days between 1 August and 31 October 2008. The Commission also has reviewed the National Marine Fisheries Service's 23 May 2008 *Federal Register* notice announcing receipt of the application and requesting comments on it and on the agency's proposal to issue the authorization, subject to certain conditions.

The principal means of taking would be by sounds from seismic sources, including airgun operations and side-scan sonar. The Service has preliminarily determined that the proposed activities would result, at most, in temporary modification in the behavior of small numbers of the identified species and stocks of marine mammals and therefore would have a negligible impact. The Service anticipates that no takes will occur by death or injury and that temporary or permanent hearing impairment can be avoided through the use of proposed mitigation measures. The Service has based its preliminary determination on (1) the expectation that, given slow ship speeds and ramp-up of the acoustic equipment, marine mammals will move away from an annoying sound source before it becomes potentially injurious, (2) the belief that temporary threshold shifts are unlikely to occur, especially in odontocetes, at levels below 180 dB re 1 μPa (rms SPL), and (3) the fact that potentially injurious sound levels will be restricted to the area very near the survey vessel. The Service's *Federal Register* notice indicates that the applicant is developing a Plan of Cooperation with Alaska Native communities to ensure that there are no unmitigable adverse impacts on the availability of the affected marine mammal species for subsistence use.

RECOMMENDATION

The Marine Mammal Commission recommends that the National Marine Fisheries Service issue the requested authorization, provided that—

- the proposed mitigation and monitoring activities are carried out as described in the Service's 23 May 2008 *Federal Register* notice,
- operations be suspended immediately pending review and authorization to proceed if a dead or seriously injured marine mammal is found in the vicinity of the operations and the death or injury could have occurred incidental to those operations; and

- the list of species authorized to be taken be expanded to include fin whales.

RATIONALE

The application and the Service's *Federal Register* notice indicate that the side-scan sonar equipment to be used for the proposed project generates high sound energy at frequencies beyond the effective hearing range of most of the marine mammal species likely to be encountered. The application and *Federal Register* notice also note that, in addition to spreading loss for acoustic propagation in the water column, high-frequency acoustic energies are more quickly absorbed through the water column than are sounds with lower frequencies. Therefore, the Service considers the potential effects on marine mammals from side-scan sonar to be negligible. The application and the *Federal Register* notice state, however, that the proposed seismic profiling equipment (e.g., Knudsen 310 BG sub-bottom profiler, GeoAcoustics/GeoPulse sub-bottom profiler, GeoAcoustics GeoChirp II sub-bottom profiler) all operate at a frequency range and sound level that could affect marine mammal behavior if the animals are close to the sound source (Richardson et al. 1995). The application states that JASCO Research Ltd. modeled the sound level of different configurations of seismic profilers (10-kj and 16-kj sparkers, 10-in^3 and 20-in^3 two-gun arrays, 40-in^3 single-gun array, and 10-in^3 four-gun array) and found the four-gun array produced the highest sound levels. Therefore, take estimates of marine mammals are calculated for the four-gun array, which reaches the 160-dB sound level at 1,665 m from the source, the 180-dB level (safety criterion for cetaceans) at 115 m, and the 190-dB level (safety criterion for seals) at 20 m. The application states that any one of these profilers could be used during the proposed survey, but none will exceed the sound levels of the four-gun array. To implement the safety zones (i.e., <115 m for cetaceans and <20 m for pinnipeds), the Service is proposing to require vessel-based visual monitoring by qualified Service-approved marine mammal observers. The Service also would require the adoption of other mitigation measures, including—

- vessel speed or course alteration (provided that doing so will not compromise operational safety) if a marine mammal is detected outside the applicable safety zone but appears likely to enter it;
- shutdown of acoustic equipment if a marine mammal is detected within, or appears likely to enter, the applicable safety zone and if vessel course and/or speed changes are impractical or ineffective; and
- acoustic source ramp-up when operations begin after a specified period without operations (i.e., 15 minutes for odontocetes and pinnipeds and 30 minutes for mysticetes).

The Commission concurs with the Service's initial finding that, if the proposed mitigation measures are carried out as described and the proposed monitoring programs are successful in detecting all marine mammals in or about to enter the proposed safety zones, the proposed shallow hazard and site clearance surveys are unlikely to have more than a negligible, short-term impact on the potentially affected marine mammal species and stocks. The Marine Mammal Commission therefore recommends that the National Marine Fisheries Service issue the requested authorization, provided that it require operations to be suspended immediately if a dead or seriously injured marine mammal is found in the vicinity of the operations and the death or injury could have occurred

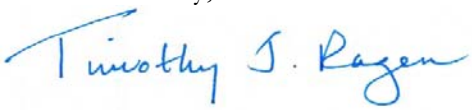
incidental to those operations. Any suspension should remain in place until the Service (1) has reviewed the situation and determined that further deaths or serous injuries are unlikely to occur or (2) has issued regulations authorizing such takes under section 101(a)(5)(A) of the Act.

The Commission understands from the Service that ASRC Energy has applied to conduct similar surveys in the same survey area (see the Commission's 27 May 2008 letter regarding the ASRC Energy application). Two or more companies conducting concurrent surveys in the same area present a potential for duplication of activities and cumulative effects on marine mammals. We suggest that the Service, if it has not already done so, consider this potential and, prior to authorizing the requests, require the applicants to (1) justify the need for duplicative activities and (2) identify measures that will be taken to minimize the potential for unnecessary cumulative impacts on marine mammals in the survey area.

The Commission notes that fin whales are not included in the list of species for which harassment authorization is requested because the Service concluded that the species is rarely observed in the Chukchi and Beaufort Seas. However, many cetacean species are expanding their range northward because of climate change. Therefore, the Commission believes that it would be prudent to afford the applicant legal authority to incidentally harass fin whales. The Marine Mammal Commission recommends that such authorization be provided.

Please contact me if you or your staff has any questions concerning this recommendation.

Sincerely,



Timothy J. Ragen, Ph.D.
Executive Director

References:

Richardson, W.J., C.R. Greene, Jr., C.I. Malme, and D.H. Thomson. 1995. Marine mammals and noise. Academic Press, San Diego. 576 pp.