

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

7 July 2008

Mr. P. Michael Payne
Chief, Permits Division
National Marine Fisheries Service
Office of Protected Resources
1315 East-West Highway
Silver Spring, MD 20910-3226

Dear Mr. Payne:

The Marine Mammal Commission, in consultation with its Committee of Scientific Advisors on Marine Mammals, has reviewed the application from Shell Offshore, Inc., under section 101(a)(5)(D) of the Marine Mammal Protection Act. The applicant is seeking authorization to take small numbers of three cetacean species (bowhead, gray, and beluga whales) and three pinniped species (ringed, spotted, and bearded seals) by harassment incidental to open-water offshore exploratory drilling and open-water geotechnical activities (i.e., shallow sub-sea-bottom sediment sampling) on Outer Continental Shelf oil lease blocks in the Beaufort Sea off Alaska. We also have reviewed the National Marine Fisheries Service's 4 June 2008 *Federal Register* notice announcing receipt of the application and proposing to issue the authorization, subject to certain conditions.

The primary means of taking would be by disturbance from drilling sounds and secondary sources of noise from drilling and support vessels, including ice management vessels, and aircraft. The National Marine Fisheries Service has preliminarily determined that the proposed activities would result, at most, in Level B harassment of small numbers of marine mammals and would have no more than a negligible impact on the affected species and stocks. As for potential impacts on subsistence uses, the Service notes the potential for an adverse impact on the Inupiat subsistence hunt for bowhead whales if migrating whales are deflected seaward by the noise. Although the applicant is meeting with Alaska Native organizations to identify actions to reduce or avoid conflicts with subsistence hunting, the Service has preliminarily determined the proposed drilling and geotechnical activity would not have an unmitigable adverse impact on the availability of marine mammal species or stocks for subsistence uses.

RECOMMENDATIONS

The Marine Mammal Commission recommends that issuance of the requested incidental harassment authorization be contingent on the applicant and the Service agreeing upon specific mitigation measures for bowhead and beluga whales that will ensure that the proposed activities do not affect these species in ways that will make them less available to subsistence hunters.

The Marine Mammal Commission also recommends that, if the National Marine Fisheries Service issues an incidental harassment authorization for this activity, it require that operations 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 the drilling or associated

Mr. P. Michael Payne
7 July 2008
Page 2

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

RATIONALE

The application and the Service's *Federal Register* notice state that the applicant is meeting with Native subsistence users to develop a plan of cooperation and a conflict avoidance agreement to identify those measures that have been or will be taken to minimize adverse effects on the availability of marine mammals for subsistence uses. Whether the applicant will be required by the Service to complete the plan or agreement with the Native communities as a pre-condition to obtaining an incidental harassment authorization is not clear and, if not, whether the Service intends to include any such requirements in the authorization on its own initiative. According to the *Federal Register* notice, the applicant has stated that "the potential impact on subsistence users of marine mammals will be reduced and mitigated by the application of mitigation procedures described in the application and implemented by a conflict avoidance agreement between the applicant, the AEWC and the whaling captains' associations of Kaktovik, Nuiqsut and Barrow." The notice further states that, in the absence of a signed conflict avoidance agreement, the applicant is committed to implementing the mitigation measures described in its application. The Commission notes that section 101(a)(5)(D) of the Marine Mammal Protection Act specifies that an incidental harassment authorization can be issued only if the Service determines that the authorized taking will not have an unmitigable adverse impact on the availability of marine mammals by Alaska Natives for subsistence uses. Such a finding needs to be made at the time of issuance and cannot be made based on a prospective agreement between outside parties unless there is reasonable certainty that an agreement will in fact be concluded and will sufficiently mitigate potential adverse impacts on subsistence users.

The Commission is especially concerned about the potential impact of the proposed activities on the availability of bowhead and beluga whales to subsistence hunters. Beluga whales are particularly important to the villages of Point Lay and Wainwright, where they are hunted each year, primarily in July. The Marine Mammal Commission recommends that issuance of the requested incidental harassment authorization be contingent on the applicant and the Service agreeing upon specific mitigation measures for bowhead and beluga whales that will ensure that the proposed activities do not affect these species in ways that will make them less available to subsistence hunters. Such measures should reflect the provisions of any conflict avoidance agreements between Alaska Native hunters and the applicant and meet the requirements of the Marine Mammal Protection Act.

The *Federal Register* notice states that the Service intends to include additional mitigation measures in any incidental taking authorization it issues to "protect feeding and migrating bowhead whales in the U.S. Beaufort Sea." Such measures could include avoiding drilling operations during the bowhead migration and subsistence hunting periods; vessel and aerial monitoring to look for concentrations of bowhead whales and migrating bowhead whale cow/calf pairs; and suspending drilling operations until the whales have moved past the drilling location if changes in whale

behavior are observed. The Commission strongly supports the inclusion of such measures to protect bowhead whales independent of concerns for impacts on subsistence hunting.

The Marine Mammal Commission further recommends that operations 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 be attributable to the applicant's activities. Any suspension should remain in place until the Service has reviewed the situation and determined that further deaths or serious injuries are unlikely or has issued regulations authorizing such takes under section 101(a)(5)(A) of the Act.

Finally, in a 10 May 2007 letter (copy attached) commenting on Shell Offshore's previous application for an incidental harassment authorization for similar activities, the Commission expressed concern regarding insufficient and somewhat conflicting information on the potential effects of drilling activities and associated vessel traffic (e.g., ice management vessels) on beluga whales. In particular, the Commission was concerned about vessels transiting the Chukchi Sea in July. The current application more thoroughly analyzes the estimated number of beluga whales that may be harassed during the proposed exploratory drilling and geotechnical boring activities and transit of the drilling unit and ice management vessels through the Chukchi Sea in July. However, it does not appear to address the Commission's concern that the zone of potential harassment from ice management vessels is underestimated for beluga whales. In its 10 May 2007 letter, the Commission cited a study by Erbe and Farmer (2000) that modeled the propagation of noise from the bubbler system and propeller cavitation from the Canadian Coast Guard icebreaker *Henry Larsen* and concluded that such noise would be audible to beluga whales over 35 to 78 km, and that masking of beluga whale communication sounds could occur within 14 to 71 km of the source. The current application cites measurements by Greene (1987) that sounds produced by an icebreaker, the *Robert Lemure*, actively managing ice in the project area were estimated to fall below 120 dB at ~8 km from the source. The differences in these estimates are substantial and have direct bearing on the question of whether beluga whales are likely to be disturbed. The *Federal Register* notice states that "[n]oise from ships with ice-breaking capabilities will be measured during periods of ice-breaking activity." The Commission supports the effort to measure that noise, which is necessary to reconcile the large difference in noise estimates between the study by Erbe and Farmer versus that of Greene.

The Commission looks forward to reviewing the comprehensive report that will provide "a broad based assessment of industry activities and their impacts on marine mammals in the Beaufort Sea during 2008." Such a regional synthesis (understood to include studies in the Chukchi Sea) is critically important in view of the potential for cumulative impacts from the wide range and increased intensity of offshore development across the Alaskan Arctic. In the present instance, and in future similar incidental harassment authorization requests, it would be appropriate and helpful for applicants to include in their submissions more information about the context of the proposed activity. In other words, rather than treating the drilling and sediment sampling work proposed in this case as though it were a discrete set of activities being conducted in isolation, and hence concluding that the impacts are likely negligible, setting these activities in the wider context of other offshore activities such as seismic surveys, drilling, shipping, etc., would enable the Service to make a more informed judgment on the net impacts.

Mr. P. Michael Payne
7 July 2008
Page 4

Please contact me if you or your staff has questions regarding the Commission's comments.

Sincerely,



Timothy J. Ragen, Ph.D.
Executive Director

Literature Cited

- Erbe, C., and D.M. Farmer. 2000. Zones of impact around icebreakers affecting beluga whales in the Beaufort Sea. *Journal of the Acoustical Society of America* 108(3):1332–1340.
- Greene, C.R. 1987. Characteristics of oil industry dredge and drilling sounds in the Beaufort Sea. *Journal of the Acoustical Society of America* 82(4):1315–1324.