



# MARINE MAMMAL COMMISSION

8 February 2013

Mr. Craig Perham  
U.S. Fish and Wildlife Service  
Office of Marine Mammals Management  
1011 East Tudor Road  
Anchorage, Alaska 99503

Dear Mr. Perham:

The Marine Mammal Commission, in consultation with its Committee of Scientific Advisors on Marine Mammals, has reviewed the application from the Alaska Oil and Gas Association seeking issuance of regulations under section 101(a)(5)(A) of the Marine Mammal Protection Act. The applicant is seeking authorization to take small numbers of polar bears and Pacific walrus incidental to year-round oil and gas exploration activities in the Chukchi Sea and the adjacent western coast of Alaska. The Commission also has reviewed the Fish and Wildlife Service's 9 January 2013 notice (78 Fed. Reg. 1942) announcing receipt of the application and proposing to issue regulations, subject to certain conditions. The Marine Mammal Commission previously has commented on similar proposed regulations for oil and gas exploration activities in the Arctic, most recently in 2011.

## RECOMMENDATIONS

The Marine Mammal Commission recommends that the Fish and Wildlife Service—

- facilitate the development of conflict avoidance agreements to ensure consensus-based agreement between potentially affected communities and oil and gas operators regarding measures to avoid unmitigable adverse impacts on polar bears and walrus taken for subsistence purposes;
- change “you” to “oil and gas operators” in Section 18.111 of the proposed regulations;
- include in its final regulations the specific types and numbers of activities that could be authorized in letters of authorization;
- refrain from authorizing taking of marine mammals incidental to in-ice surveys until it has either (1) proposed regulations to authorize such taking, given the public an opportunity to comment on those regulations, and issued final regulations that specifically authorize such taking or (2) issued an alternative authorization for those activities (e.g., an incidental harassment authorization);
- state in 50 C.F.R. § 18.111 and § 18.116 that only takes by Level B harassment would be authorized;
- provide its best estimate of the numbers and types of walrus takes that could result from the proposed exploration activities each year;
- working independently or jointly with the National Marine Fisheries Service and Marine Mammal Commission, develop a policy that sets forth the criteria for determining what

- constitutes “small numbers” and “negligible impact” for the purposes of authorizing incidental takes of marine mammals;
- advise the Alaska Oil and Gas Association of the desirability of initiating a conference for the walrus to help fulfill its obligations under the Endangered Species Act for the five-year period of the final regulations;
  - specify in its regulations mitigation measures that would be required for drilling operations, shallow hazards surveys, other geophysical surveys, and geotechnical surveys;
  - include in its regulations a prohibition on all oil and gas activities in the Hanna Shoal area;
  - include provisions for seasonal restrictions on oil and gas operational and support activities near coastal haul-out areas and in the travel corridor between Hanna Shoal and those areas;
  - provide specific criteria regarding the seasonal ice conditions and distribution information that would allow for the issuance of exemptions to restrictions on (1) activities during the open-water season or (2) transit of operational or support vessels through the Chukchi Sea prior to July 1; those criteria also would be needed to determine when to apply seasonal restrictions on oil and gas operational and support activities near coastal haul-out areas and in the travel corridor between Hanna Shoal and those areas; and
  - specify reduced vessel speeds of 9 knots or less when (1) weather conditions or darkness reduce visibility and (2) within 805 m (0.5 mi) of aggregations of 12 or more walruses.

## **RATIONALE**

The Fish and Wildlife Service proposes to issue regulations authorizing the nonlethal, incidental, unintentional, taking of small numbers of polar bears and walruses by oil and gas exploration activities in the Chukchi Sea and adjacent coastline. Up to three operators would drill a total of three to eight wells per year during the five-year period. They also would conduct 2D and 3D seismic surveys, shallow hazards surveys, marine geophysical surveys, ice gouge surveys, strudel scour surveys, bathymetric surveys, geotechnical surveys, offshore environmental surveys, and onshore activities during that period. The Service does not propose to authorize taking by Level A harassment or mortality, because it does not anticipate that serious injury or death of a marine mammal would result from the proposed activities. The Service preliminarily has determined that the expected taking would impact only small numbers of animals and would have a negligible impact on the affected species and stocks given the proposed mitigation and monitoring measures. Those measures, as applicable, include—

- (1) authorizing no more than two seismic operations and three offshore drilling operations to occur in the Chukchi Sea simultaneously;
- (2) avoiding areas used or expected to be used for subsistence hunting as determined through community consultations;
- (3) restricting offshore exploration activities from occurring within a 64-km radius of the communities of Barrow, Wainwright, Point Lay, or Point Hope, except as provided for in a Service-approved plan of cooperation;
- (4) restricting offshore activities to the open-water season (1 July to 30 November)—with exemptions issued on a case-by-case basis only after review of seasonal ice conditions and information on polar bear and walrus distributions in the area of interest;

- (5) requiring operators to maintain a minimum spacing of 24 km between all active seismic source vessels and/or exploratory drilling operations;
- (6) establishing, verifying, and monitoring in-water exclusion zones (190 and 180 dB re 1  $\mu$ Pa for polar bears and walruses, respectively) and disturbance zones (160 dB re 1  $\mu$ Pa) during offshore seismic surveys;
- (7) using ramp-up, power-down, and shut-down procedures;
- (8) using trained, Service-approved marine mammal observers to monitor exclusion zones and surrounding waters 30 minutes prior to and during ramp-up procedures;
- (9) powering down or shutting down airguns if an aggregation of 12 or more walruses is detected within the disturbance zone and not ramping or powering up until there are no walrus aggregations in the disturbance zone;
- (10) shutting down all airgun activities if an animal is injured, in distress, or dying, pending review by the Service and approval to reinitiate activities;
- (11) using dedicated marine mammal observers on board operational and support vessels to alert the crew of the presence of polar bears and walruses and initiate adaptive mitigation responses;
- (12) restricting the transit of operational and support vessels through the Chukchi Sea prior to 1 July to allow walruses to disperse—with exemptions issued on a case-by-case basis only after review of seasonal ice conditions and information on polar bear and walrus distributions in the area of interest;
- (13) requiring operational or support vessels to remain (1) at least 805 m (0.5 mi) from polar bears or walruses observed on ice, (2) at least 805 m (0.5 mi) from polar bears observed on land, and (3) at least 1,610 m (1 mi) from walruses on land;
- (14) requiring vessels to reduce speed in poor visibility conditions;
- (15) requiring vessels to reduce speed and maintain a minimum 805-m (0.5-mi) operational exclusion zone around groups of 12 or more walruses encountered in the water;
- (16) operating vessels to avoid separating a group of walruses;
- (17) requiring aircraft to remain at least 457 m (1,500 ft) (for fixed-wing aircraft) and 914 m (3,000 ft) (for helicopters) in altitude within (1) 805 m (0.5 mi) of polar bears on ice or land, (2) 805 m (0.5 mi) of walrus groups on ice, and (3) 1,610 m (1 mi) of walrus groups on land, except as necessary in poor visibility conditions;
- (18) restricting helicopters from hovering or circling above areas where polar bears or walruses are observed or within 805 m (0.5 mi) of such areas;
- (19) conducting aerial surveys or equivalent monitoring measures to estimate the numbers of polar bears and walruses in the proposed project area;
- (20) locating bear dens within and near areas of proposed operations using forward-looking infrared imagery and/or polar bear scent-trained dogs from November to April;
- (21) limiting disturbance and establishing a 1,610-m (1-mi) exclusion zone around known polar bear dens and ceasing activities pending guidance from the Service if a previously unknown den is discovered within 1,610 m (1 mi) of the proposed activities;
- (22) requiring marine mammal/human interaction planning and training;
- (23) developing and implementing a Service-approved plan of cooperation with communities engaged in subsistence hunting;
- (24) notifying the Service at least 48 hours before initiating proposed activities and within 48 hours of completing activities;

- (25) reporting to the Service within 24 hours any injured or dead marine mammals and also observations of animals within the prescribed mitigation monitoring zones;
- (26) submitting to the Service weekly progress reports, weekly observations reports for walruses, observations reports within 24 hours of sighting polar bears, and a final comprehensive monitoring report.

The Service would require separate letters of authorization for each operator's proposed activities that would occur under the final regulations. The Service would require each application for a letter of authorization to include the previously stated mitigation and monitoring measures, as applicable, and other conditions, depending on the activity and location. Operators also would include a plan of cooperation in their applications that describes how they would avoid adverse effects on the availability of polar bears and walruses for subsistence use by Alaska Native communities and how those species would be affected by the proposed activity.

The Service has determined, preliminarily, that the expected taking would not have an unmitigable adverse impact on the availability of polar bears or walruses for taking for subsistence use by Alaska Natives. It has based that determination on historical data regarding the location and timing of hunts, requirements for community consultations and plans of cooperation, the effectiveness of the consultation process, operational permits issued by the Bureau of Ocean Energy Management and the Bureau of Safety and Environmental Enforcement, and anticipated effects of proposed oil and gas activities.

A determination of no unmitigable adverse impact on the availability of marine mammals for subsistence uses should be based, in part, on concurrence of those people who are the experts regarding the availability of marine mammals for subsistence hunts—the Alaska Native hunters themselves. The requirement for community consultations and plans of cooperation is not necessarily sufficient to ensure that Alaska Native hunters concur with all proposed measures and their adequacy for avoiding adverse impacts. Conflict avoidance agreements require such consensus and have been used successfully by Alaska Native hunters and oil and gas operators to minimize disturbance of bowhead whale hunts. With that example in mind, the Marine Mammal Commission recommends that the Fish and Wildlife Service facilitate the development of conflict avoidance agreements to ensure consensus-based agreement between potentially affected communities and oil and gas operators regarding measures to avoid unmitigable adverse impacts on polar bears and walrus taken for subsistence purposes.

### **Authorized entities**

Section 18.111 of the proposed regulations state that the regulations apply to “the nonlethal incidental, but not intentional, take of small numbers of Pacific walruses and polar bears by *you* (U.S. citizens as defined in § 18.27(c)) while engaged in oil and gas exploration activities in the Chukchi Sea and adjacent western coast of Alaska” (emphasis added). As written, “you” is too broad of a term and could include the activities of any person or entity engaged in oil and gas exploration activities as long as they were U.S. citizens. The application requested, and the Service analyzed, only those activities to be conducted by the entities referred to in the application. Accordingly, the Service should specify in its final regulations to whom “you” refers. Therefore, the Marine Mammal

Commission recommends that the Fish and Wildlife Service change “you” to “oil and gas operators” in Section 18.111 of the proposed regulations.

**Types and numbers of proposed oil and gas activities**

In the notice, the Service provided a summary of expected oil and gas activities and activity levels during the five-year period of the proposed regulations. The activities include exploratory drilling, seismic surveys, shallow hazards surveys, other geophysical surveys, geotechnical surveys, environmental studies, and other activities. Table 1 lists the proposed activities, the type of equipment used for each activity, and the proposed numbers of activities by oil and gas operators on an annual basis. However, those types and numbers of activities are not specified in the proposed regulatory language.

**Table 1.** Summary of proposed oil and gas exploration activities, based on proposed regulatory text.

| <b>Type of activities</b>   | <b>Type of equipment or study</b>   | <b>Proposed numbers of activities on an annual basis</b>                           |
|---|---|--|
| Offshore exploratory drilling   | Floating drilling units or jack-up drilling platforms   | Up to three simultaneous drilling operations, with a total of three to eight wells |
| Offshore 2D and 3D seismic surveys  | Airgun arrays with volumes of 3,000 to 4,000 in <sup>3</sup>  | Up to two simultaneous seismic surveys (2D or 3D)                                  |
| Shallow hazards surveys   | Sub-bottom profilers, multi-beam bathymetric sonar, side-scan sonar, high-resolution seismic (airgun array or sparker), and magnetometers | Up to two operators would conduct four to seven shallow hazards surveys            |
| Other geophysical surveys (ice gouge surveys, strudel scours surveys, and other bathymetric surveys)                              | Sub-bottom profilers, single beam and multi-beam bathymetric sonar, side-scan sonar, and magnetometers                                    | Up to two operators would conduct up to two geophysical surveys                    |
| Geotechnical surveys (borings, cores, or cone penetrometry)   | Drilling equipment or cone penetrometers  | Up to two operators would conduct up to two geotechnical surveys                   |
| Environmental studies (Ecological surveys, acoustical studies, sediment and water quality, physical oceanographic investigations) | Vessels, aircraft (as part of the marine mammal monitoring program), buoys  | Up to two environmental studies would be conducted                                 |
| Associated onshore support activities   | Road and well maintenance and onshore drilling  | Ongoing maintenance  |

Section 101(a)(5)(A) of the Marine Mammal Protection Act and the Service’s implementing regulations at 50 CFR § 18.27(e) state that incidental take regulations must specify the permissible methods of taking for authorized activities. The Service’s implementing regulations also state that

the issuance of a letter of authorization “will be based on a determination that the level of taking will be consistent with the findings made for the total taking allowable under the specific regulations.” The Service has made its findings based on the activities described by oil and gas operators and also the proposed numbers of activities. Section 118.116 of the proposed regulations does not describe the specific activity types and the number of each type that could be authorized in a letter of authorization. However, it should do so because, as written, the activities the Service has proposed to authorize are not clear. For example, the notice stated that the Service estimated that “in any given year during the specified time period of the proposed regulations (2013 to 2018), one seismic survey program (2D or 3D) could operate in the Chukchi Sea Region during the open water season.” However, the proposed regulatory text stated that no more than two simultaneous seismic operations would be authorized in the Chukchi Sea region at any time. To address this vagueness, the Marine Mammal Commission recommends that the Fish and Wildlife Service include in its final regulations the specific types and numbers of activities that could be authorized in letters of authorization.

The Commission also is concerned that the Service’s proposed exploration activities may not include all planned seismic surveys. The Service based its analysis for the proposed regulations on the assumption that offshore activities would occur only during the open-water season (July–November) and stated that it would authorize offshore exploration activities only during that period. However, the Commission is aware of at least one operator (ION Geophysical) that is planning to conduct an in-ice seismic survey in the Beaufort and Chukchi Seas from October to December 2013. To the Commission’s knowledge, the Alaska Oil and Gas Association did not include in its application, and the Service did not analyze, incidental taking of marine mammals associated with in-ice surveys in the Chukchi Sea. The Service also did not include in-ice surveys in the regulations that authorize taking of marine mammals incidental to oil and gas activities in the Beaufort Sea (76 Fed. Reg. 47010). However, it subsequently issued a letter of authorization for those activities in 2012. To address this inconsistency, the Marine Mammal Commission recommends that the Fish and Wildlife Service refrain from authorizing taking of marine mammals incidental to in-ice surveys until it has either (1) proposed regulations to authorize such taking, given the public an opportunity to comment on those regulations, and issued final regulations that specifically authorize such taking or (2) issued an alternative authorization for those activities (e.g., an incidental harassment authorization).

### **Type of takes to be authorized**

The Service stated that the regulations would be issued for nonlethal take only, based on the operators’ assertion that they would avoid lethal takes by implementing appropriate mitigation measures. The Service also noted that mitigation measures imposed through the Bureau of Ocean Energy Management’s lease stipulations were designed to avoid Level A harassment (injury). However, the proposed sections 18.111 and 18.116 stipulate that the regulations would apply to the nonlethal incidental, but not intentional, taking of small numbers of polar bears and walrus. Those sections are not sufficiently specific to determine if they would include both Level A and B harassment takes or whether takes would be limited to Level B harassment. The negligible impact findings are based on the assumption that taking by Level A harassment would not occur, but that assumption should be clarified in the regulations. Therefore, the Marine Mammal Commission

recommends that the Fish and Wildlife Service state in 50 C.F.R. § 18.111 and § 18.116 that only takes by Level B harassment would be authorized.

### **Walrus take estimates**

The Service found that the proposed activities would take only relatively small numbers of polar bears and walrus and would have a negligible impact on both species given the proposed mitigation and monitoring measures. The polar bear finding was based on an estimated take by Level B harassment of no more than 25 bears per year. That estimate was based on (1) monitoring from 2006 to 2011, (2) the timing of the primary offshore oil and gas activities in the Chukchi Sea region during the open-water season, and (3) the limited use of the pelagic environment by polar bears during the open-water season. However, the basis for the walrus finding is not clear. The notice stated that 11,125 individual walrus were observed during seismic surveys in the Chukchi Sea from 2006 to 2010 and that responses to those encounters ranged from no response to fleeing the area. However, the Service did not estimate the annual or five-year total number of takes caused by the surveys, and it also did not estimate the numbers of takes of walrus incidental to (1) drilling operations and (2) other (non-seismic) geophysical and geotechnical surveys. Without more information on the numbers and types of estimated takes, the Service cannot justify its finding and the Commission and the public cannot evaluate the validity of the Service's small numbers and negligible impact findings for the walrus. Therefore, the Marine Mammal Commission recommends that the Fish and Wildlife Service provide its best estimate of the numbers and types of walrus takes that could result from the proposed exploration activities each year.

Defining what constitutes small numbers is undoubtedly a difficult task, particularly in view of the distinction drawn by the court that "small numbers" and "negligible impact" are not the same thing and the former cannot be defined on the basis of the latter—that is, they are separate standards. The Commission recognizes that defining "small numbers" is difficult and that there may not be a readily available solution that would apply to all marine mammal stocks managed by the Service. Perhaps the best approach to resolve the issue would be for the Service to develop a clear working definition of "small numbers" and "negligible impact," provide that definition to the public for review and comment, and then adopt a final definition (as modified on the basis of public comments) by regulation or in a policy directive. An alternative would be for the Fish and Wildlife Service, National Marine Fisheries Service, and Commission to form a task force to develop appropriate working definitions that could then be submitted for public review and comment. Until such definitions are developed, the Service will need to provide a justification for its judgments regarding "small numbers" of marine mammal species taken by various human activities and "negligible impact" on those species. With that need in mind, the Marine Mammal Commission recommends that the Fish and Wildlife Service, working independently or jointly with the National Marine Fisheries Service and Marine Mammal Commission, develop a policy that sets forth the criteria for determining what constitutes "small numbers" and "negligible impact" for the purposes of authorizing incidental takes of marine mammals.

In addition, the Fish and Wildlife Service has determined that the Pacific walrus warrants protection under the Endangered Species Act, but the need to address other higher priority species precludes action on a proposed listing rule (76 Fed. Reg. 7634). Consequently, the walrus has been added to the Service's list of candidate species and its status will be reviewed annually. Because the

walrus is only a candidate species, formal consultation under section 7 of the Endangered Species Act is not required. However, a conference in accordance with 50 C.F.R. § 402.10 might prove useful. Such a conference can be conducted in accordance with procedures for a formal consultation (§ 402.14), and any resulting opinion can be adopted as the biological opinion under section 7 if and when the species is listed or critical habitat is designated. The Service has initiated section 7 consultations for the polar bear. Thus, it would be prudent to initiate a conference for the walrus as well. Therefore, the Marine Mammal Commission recommends that the Fish and Wildlife Service advise the Alaska Oil and Gas Association of the desirability of initiating a conference for the walrus to help fulfill its obligations under the Endangered Species Act for the five-year period of the final regulations.

### **Mitigation and monitoring measures**

The proposed regulations refer to “mitigation measures for offshore exploration activities” (50 C.F.R. § 18.118(a)(4)) and “additional mitigation measures for offshore seismic surveys (50 C.F.R. § 18.118(a)(5)). However, the Service has not specified what mitigation measures would be required for drilling operations, shallow hazards surveys, other geophysical surveys, or geotechnical surveys. Those activities have the potential to produce underwater sounds with source levels greater than or equal to 160 dB re 1 µPa. As such, the Service should identify what measures would be required for minimizing impacts associated with those activities (i.e., establishing, verifying, and monitoring exclusion and disturbance zones). The Marine Mammal Commission therefore recommends that the Fish and Wildlife Service specify in its regulations mitigation measures that would be required for drilling operations, shallow hazards surveys, other geophysical surveys, and geotechnical surveys.

In the notice the Service referred in several instances to the recurring presence of sea ice on or over Hanna Shoal and the importance of sea ice habitat to walrus for feeding, nursing, and resting. For that reason, the Service stated it does not anticipate issuing any letters of authorization for seismic or drilling activities in the Hanna Shoal region during the five-year period covered by the regulations. The Service also noted that oil and gas activities that occur near coastal haul-out areas or that intersect walrus travel corridors between Hanna Shoal and coastal haul-out areas near Point Lay and farther north would require close monitoring and additional mitigation procedures, such as seasonal exclusions (e.g., July to September) of oil and gas activities and routing vessel traffic and aircraft flights around those areas. The Commission agrees oil and gas activities should be prohibited from occurring in the Hanna Shoal area, and that seasonal exclusions of vessel and aircraft activities near coastal haul-out areas and in travel corridors may be necessary based on seasonal ice conditions and distribution of walrus in those areas. Avoidance of those areas would limit unnecessary disturbance of animals and could prevent a stampede and resulting mortality of animals at haul-out sites ([http://www.huffingtonpost.com/2009/10/01/131-walrus-trampled-to\\_n\\_306663.html](http://www.huffingtonpost.com/2009/10/01/131-walrus-trampled-to_n_306663.html)). However, the proposed regulations did not include any restrictions on the issuance of letters of authorization for activities in those areas. To ensure that important feeding, nursing, and resting habitats for walrus are adequately protected from disturbance by oil and gas activities, the Marine Mammal Commission recommends that the Fish and Wildlife Service include in its regulations a prohibition on all oil and gas activities in the Hanna Shoal area. The Marine Mammal Commission further recommends that the Service include provisions for seasonal restrictions on oil and gas

operational and support activities near coastal haul-out areas and in the travel corridor between Hanna Shoal and those areas.

The notice stated that offshore activities would be restricted to the open-water season and that the transit of operational and support vessels through the Chukchi Sea would be restricted prior to July 1. The Service stated that it could issue exemptions to both of those restrictions on a case-by-case basis, but only after review of seasonal ice conditions and information on polar bear and walrus distributions in the area of interest. However, the Service provided no further details on the criteria it would use to determine whether exemptions would be issued. Those criteria also would be needed to determine when to apply seasonal restrictions on oil and gas operational and support activities near coastal haul-out areas and in the travel corridor between Hanna Shoal and those areas, as noted previously. The Marine Mammal Commission recommends that the Fish and Wildlife Service provide specific criteria regarding the seasonal ice conditions and distribution information that would allow for the issuance of exemptions to restrictions on (1) activities during the open-water season or (2) transit of operational or support vessels through the Chukchi Sea prior to July 1. Those criteria also would be needed to determine when to apply seasonal restrictions on oil and gas operational and support activities near coastal haul-out areas and in the travel corridor between Hanna Shoal and those areas.

Finally, the Service proposed that vessels operating in the survey area would reduce their speed in poor visibility conditions or within 805 m (0.5 mi) of aggregations of 12 or more walruses. However, the Service did not specify the appropriate vessel operating speeds in the proposed regulations. To address any ambiguity regarding safe vessel operating speeds, and for consistency with previous Commission recommendations regarding vessel operations in the Arctic, the Marine Mammal Commission recommends that the Fish and Wildlife Service specify reduced vessel speeds of 9 knots or less when (1) weather conditions or darkness reduce visibility and (2) within 805 m (0.5 mi) of aggregations of 12 or more walruses.

The Commission hopes you find these recommendations and comments helpful. Please contact me if you have questions about them.

Sincerely,

A handwritten signature in blue ink that reads "Timothy J. Ragen". The signature is written in a cursive, flowing style.

Timothy J. Ragen, Ph.D.  
Executive Director