



MARINE MAMMAL COMMISSION

7 July 2016

Mr. Christopher Putnam
U.S. Fish and Wildlife Service
Marine Mammals Management Office
1011 East Tudor Road, MS-341
Anchorage, Alaska 99503

Dear Mr. Putnam:

The Marine Mammal Commission (the Commission), in consultation with its Committee of Scientific Advisors on Marine Mammals, has reviewed the Fish and Wildlife Service's (FWS) 7 June 2016 notice (81 Fed. Reg. 36664) and the letter of authorization application submitted by the Alaska Oil and Gas Association (AOGA) seeking issuance of regulations under section 101(a)(5)(A) of the Marine Mammal Protection Act. AOGA is seeking authorization to take small numbers of polar bears and Pacific walrus incidental to year-round oil and gas operations in the Beaufort Sea and along the adjacent northern coast of Alaska¹ during a five-year period². Oil and gas operations would include offshore and onshore exploration, development, and production. The Commission previously commented on similar proposed rules, most recently in 2011.

Background

FWS has proposed to issue regulations authorizing the taking of polar bears and walrus by Level B harassment incidental to oil and gas exploration, development, and production activities during the five-year period. FWS identified various exploration activities expected to be authorized, but did not indicate the exact number of planned exploration activities except to state that the level of proposed activities would be similar to activity levels in previous regulatory periods. FWS identified oil and gas development activities expected to occur at 7 units³ and production activities expected to occur at another 10 units. In addition, FWS anticipates continued activities associated with construction of a natural gas pipeline and increased methane gas hydrate exploration and research activities.

FWS preliminarily has determined that the proposed activities could modify temporarily the behavior of small numbers of polar bears and walrus, but that the total taking would have a negligible impact on the affected species or stocks. FWS does not anticipate any take of marine mammals by death or serious injury. It believes that the potential for temporary or permanent hearing impairment will be at the least practicable level because of the applicant's proposed mitigation measures. The mitigation, monitoring, and reporting measures include—

¹ Including waters east of a north-south line through Point Barrow to the Canadian border, extending offshore north a distance of 322 km and onshore south a distance of 40.2 km, but not including the Arctic National Wildlife Refuge.

² Beginning on 3 August 2016.

³ A unit is comprised of a group of leases covering all or part of an accumulation of oil or gas.

- 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 and reporting the locations of all observed or suspected dens to FWS;
- establishing a 1.6-km exclusion zone around known dens during the November to April denning season and ceasing activities pending guidance from FWS if a previously unknown den is discovered within one mile of the proposed activities;
- using the den habitat map developed by the U.S. Geological Survey⁴;
- restricting the timing of activities to limit disturbance around dens;
- using dedicated marine mammal observers on board operational and support vessels to alert the crew of the presence of polar bears and walruses;
- requiring operational or support vessels to remain at least 805 m from polar bears or walruses observed in the water, on land, or on ice;
- reducing vessel speeds and maintaining a distance of at least 805 m from walrus feeding groups;
- operating vessels so as to avoid separating members of a group of walruses;
- restricting the transit of operational and support vessels through specified areas prior to 1 July to allow walruses to disperse;
- avoiding areas used or expected to be used for subsistence hunting;
- restricting aerial overflights to altitudes greater than 457 m and distances farther than 805 m from observed polar bears and walruses and avoiding known concentration areas or subsistence hunting activities;
- establishing, verifying, and monitoring in-water mitigation zones (based on Level A harassment thresholds of 190 and 180⁵ dB re 1 μ Pa) and a monitoring zone (based on a Level B harassment threshold of 160 dB re 1 μ Pa) for sound-producing offshore activities;
- using ramp-up, power-down, and shut-down procedures;
- monitoring exclusion zones and surrounding waters 30 minutes prior to and during ramp-up procedures;
- shutting down all sound sources if an animal is observed or reported as injured, in distress, or dying within the area of the sound source activity, pending review by FWS and approval to reinitiate activities;
- using trained, FWS-approved marine mammal observers to implement site-specific mitigation and monitoring measures; and
- submitting weekly progress reports, weekly walrus observation reports, observation reports within 48 hours of sighting polar bears or polar bear dens, incident reports within 48 hours, and a final mitigation and monitoring report within 90 days.

Based on aerial surveys, direct observations, community consultations, and personal communication with hunters, FWS has stated that opportunities for subsistence hunting of polar bears and walruses have not been adversely affected by previous oil and gas operations in this area in the past, and it does not anticipate any new impacts from the proposed activities. Therefore, FWS

⁴ Available at http://alaska.usgs.gov/science/biology/polar_bears/denning.html

⁵ FWS uses the 180-dB re 1 μ Pa threshold as a proxy for temporary threshold shift (TTS) for walruses.

preliminarily has determined that the proposed taking would not have an unmitigable adverse impact on the availability of polar bears or walrus for subsistence use by Alaska Natives.

FWS would require a separate letter of authorization (LOA) for each proposed activity that would occur under the final rule. FWS would require each request for an LOA to include (1) a plan of operation, (2) a site-specific marine mammal mitigation and monitoring plan, and (3) a site-specific safety, awareness, and interaction plan. Applicants also would be required to consult with potentially affected communities and appropriate subsistence user organizations and to develop and implement a plan of cooperation (POC) approved by FWS, when appropriate. However, FWS did not indicate the specific circumstances in which a POC would be “appropriate” and therefore required. Therefore, the Commission recommends that FWS clarify when it is appropriate for applicants to submit a POC (e.g., geographic locations, timing of activities, etc.).

Authorized companies/entities and types of activities

In the “Summary of Current Request” section of the preamble, FWS identified several companies that are planning to conduct oil and gas activities in the next five-year period, and whose planned activities have been evaluated in support of FWS’s proposed rule. However, two additional companies/entities⁶ were identified in the “Description of Current Activities” section as planning to conduct oil and gas activities in the Beaufort Sea area that were not identified in the “Summary of Current Request” section. In the Commission’s review of LOAs issued from 2012-2015⁷, it identified several companies⁸ that received LOAs during that time period but which had not been identified as potential applicants in the previous final rule (76 Fed. Reg. 47010). Some of those companies have now been added to the list of companies that AOGA identified as planning to conduct oil and gas activities from 2016-2021; others were not even though they are expected to continue operating in the Beaufort Sea (e.g., SAExploration, Inc.). The proposed regulatory text stipulated only that “an applicant be a U.S. citizen as defined in [50 CFR] § 18.27(c).” This creates considerable ambiguity as to which companies or other entities FWS intends to be covered by its final rule.

In addition, the proposed regulatory language did not indicate which specific oil and gas activities would be covered by the rulemaking. That information was provided in summary form in the “Description of Current Activities” section of the preamble (with greater specificity regarding locations and types of activities and equipment to be used for development and production activities), yet the specific activities FWS intends to be covered by its final rule have not been identified in the proposed regulatory language. This lack of specificity also creates considerable ambiguity regarding which activities FWS evaluated as part of the rulemaking and which activities it intends to be covered by the proposed rule. For example, FWS notes that “drilling operations are expected to involve drill ships attended by icebreaking vessels” (page 36678), yet ice-breaking

⁶ The Alaska Gasline Development Corporation and the North Slope Borough.

⁷ <https://www.fws.gov/alaska/fisheries/mmm/itr.beaufort.htm>

⁸ Including Alaska Frontiers Constructors, Inc.; Alaska Gasline Development Corporation; Alaska Industrial Development and Export Authority; Caelus Natural Resources Alaska, LLC; Geokinetics; Global Geophysical Services, Inc.; Great Bear Petroleum, LLC; Hilcorp Alaska, LLC; Ion Geophysical; NordAq Energy, Inc.; North Slope Borough; Olgoonik Development; Olgoonik Fairweather, LLC; Peak Oilfield Service Company, Inc.; Repsol E&P USA, Inc.; SAExploration, Inc.; and Savant Alaska, LLC.

activities are not included as a potential activity in the “Description of Activities” section of the preamble, nor were they identified as among the activities that would be covered by the proposed rule.

Without identifying the specific companies/entities or types of activities that would be covered by the rule, it is difficult to determine whether an applicant’s proposed activities were fully evaluated and should be authorized as part of FWS’s rulemaking and subsequent negligible impact determination. To address these ambiguities and ensure that the LOA process is not open-ended, the Commission recommends that FWS identify, in section 18.121 of the proposed rule, the specific companies/entities and types of activities that FWS has evaluated as part of its rulemaking and that would be authorized under the final rule.

Proposed oil and gas activities and takes

With respect to exploration activities, no information was provided regarding the expected number, duration, or location of geophysical and geological surveys or exploratory drilling programs to be conducted. FWS stated only that the level of proposed activities would be similar to activity levels in previous regulatory periods. The same statement was made for development and production activities, but at least some indication of planned activity levels were provided in those cases. However, FWS’s claim of comparable activity levels for exploration activities cannot be substantiated without additional information regarding planned activities. Indeed, that claim appears misleading given that the “Description of Activities” section of the preamble references expanded leasing of Outer Continental Shelf waters, construction of new Liquefied Natural Gas facilities, construction of a new gas pipeline, and new exploration activities for methane gas. FWS’s take estimates for polar bears and walrus were based on numbers of observations and reports from the current regulatory period, with no allowance for a potential increase in Level B harassment takes associated with those new activities. Further, the proposed regulatory language does not include the number of takes for either species that would be authorized. Rather, it states that a “take of small numbers” would be covered by the rule.

For these reasons, the Commission recommends that FWS (1) specify, in section 18.121 of the final rule, the number⁹ of the various exploration, development, and production activities that would be authorized, (2) revise its take estimates based on a more quantitative assessment of proposed activities (including geophysical and geological surveys, exploratory drilling, expanded leasing, and new construction activities, in addition to the development and production activities) and ensure that its preliminary determinations regarding small numbers, negligible impact, and adverse impact on the availability of the species for subsistence use are still valid, and (3) specify, in section 18.121 of the final rule, the numbers of takes to be authorized for both polar bears and walrus (total and/or annual).

Appropriate thresholds for various activities

FWS established a mitigation zone during in-water activities based on the Level A harassment threshold of 190 dB re 1 μ Pa for both polar bears and walrus (see section

⁹ For example, see 80 Fed. Reg. 73622.

18.128(e)(1)(iii) of the proposed rule). Conversely, FWS used 160 dB re 1 μ Pa as the threshold for establishing monitoring zones for walruses, but did not specify any monitoring zone for polar bears. As referenced by FWS, polar bears have been observed in open water, often miles from the ice edge or ice floes. Pilfold et al. (2016) documented that adult female polar bears swimming in the Beaufort Sea from 2004–2012 were positively associated with the rate of open-water gain, corroborating the hypothesis that long-distance swimming by polar bears is likely to occur more frequently as sea ice conditions change due to climate warming. Thus, the frequency of polar bear encounters likely will increase in coming years in the Arctic due to the reduced seasonal sea ice environment. In addition, the Commission notes that, since FWS believes that polar bears can be taken by Level A harassment, it would follow that those animals in turn could be taken by Level B harassment. FWS did state that, if bears come in contact with oil and gas operations in open water, the effects of such encounters may include short-term behavioral disturbance. However, FWS did not include any monitoring measures for polar bears, nor did it specify that any polar bears observed within a monitoring zone would assumed to have been taken by Level B harassment, as was stipulated for walruses (see section 18.128(e)(1)(i) of the proposed rule). The Commission believes similar measures should be included for polar bears. As such, the Commission recommends that FWS, under section 18.128(e)(1)(i) of the final rule, (1) include monitoring measures for polar bears as well as walruses and (2) specify that any individual of either species would be considered taken if observed within the monitoring zone.

In addition, proposed drilling and ice-breaking activities are both characterized by the National Marine Fisheries Service (NMFS) as continuous (i.e., not impulsive) sound sources and therefore should be analyzed relative to the Level B harassment threshold of 120 rather than 160 dB re 1 μ Pa. FWS has itself used the 120-dB re 1 μ Pa threshold for continuous sounds emitted during drilling activities in the past (79 Fed. Reg. 51591), and it is unclear why a similar approach was not taken for the proposed rule. Accordingly, the Commission recommends that FWS reassess whether Level B harassment takes of both polar bears and walruses are expected to occur from drilling and ice-breaking activities based on the 120-dB re 1 μ Pa threshold and include the requirement to monitor the 120-dB re 1 μ Pa monitoring zone for continuous sources under section 18.128(e)(1)(i) of the final rule. The Commission has commented on this threshold issue for two other recent FWS proposed incidental harassment authorizations (see the Commission's 13 June and 30 June 2016 letters) and again strongly suggests that FWS coordinate with NMFS on any questions it may have regarding the appropriateness of the Level B harassment thresholds.

Oil spill risk analysis

FWS determined that the probability of an oil spill having significant impacts on polar bears and walruses is extremely low. The probability of a spill affecting walruses in the Beaufort Sea is very low because walruses do not regularly occur in that area. However, polar bears regularly occur in the Beaufort Sea and, thus, FWS quantitatively assessed the risk of an oil spill to polar bears. The assessment was based on oil spill probability estimates, oil spill trajectory models, and a polar bear distribution model. However, that assessment does not appear to have been updated since 2006. The Commission had similar comments on the last rulemaking in 2011. In the 2006 proposed rule, FWS included an oil spill risk assessment for polar bears at the Northstar and Liberty sites and included updated information to analyze spill trajectories of potential spills at Oooguruk, Nikaitchuq, Northstar, and Endicott/Liberty offshore projects in 2011. However, FWS did not

Mr. Christopher Putnam
7 July 2016
Page 6

incorporate that updated information from those four sites into the oil spill risk assessment for either the 2011 or 2016 rulemakings.

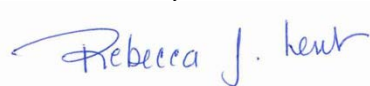
Although the 2006 risk assessment did not specifically model spills from the Oooguruk or Nikaitchuq sites, FWS again stated that “it was reasonable to assume that the analysis for Liberty, and indirectly Northstar, adequately reflected the potential impacts likely to occur from an oil spill at either of these additional locations due to the similarity in the nearshore location.” FWS made the same assertion for the 2011 rulemaking. However, weather conditions, currents, tides, geographic locations, and distances to shore differ at each of the three sites (Oooguruk, Nikaitchuq, and Liberty). Thus, it is unclear whether the environmental conditions at Oooguruk and Nikaitchuq are sufficiently similar to apply the modeled results from Liberty. FWS also has not provided further justification to support its assertion that the oil spill risk at Liberty would be representative of an oil spill at either Oooguruk or Nikaitchuq.

In addition, it appears the polar bear movement and distribution data (derived from radio- and satellite-linked tracking locations of adult females) and density estimates have not been revised since the risk assessment was conducted more than 10 years ago. The Commission notes that the movements and distribution of polar bears have changed in the last decade (see Stirling and Derocher (2012) for a review of climate warming effects on polar bears) and those updated data should be used to assess more accurately the current oil spill risk.

Therefore, the Commission again recommends that, prior to issuing the final rule, FWS incorporate updated spill trajectory data for all sites (Oooguruk, Nikaitchuq, Northstar, and Endicott/Liberty) and updated polar bear movement and distribution data to reassess the risk of oil spills to polar bears.

Please let me know if you have any questions with regard to this letter.

Sincerely,



Rebecca J. Lent, Ph.D.
Executive Director

cc: Jolie Harrison, NMFS Office of Protected Resources

References

- Pilfold, N.W., A. McCall, A.E. Derocher, N.J. Lunn, and E. Richardson. 2016. Migratory response of polar bears to sea ice loss: to swim or not to swim. *Ecography* 39:001–011.
- Stirling, I., and A.E. Derocher. 2012. Effects of climate warming on polar bears: A review of the evidence. *Global Change Biology* doi: 10.1111/j.1365-2486.2012.02753.x.