



MARINE MAMMAL COMMISSION

30 June 2021

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

Dear Mr. Lemons:

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) 1 June 2021 notice (86 Fed. Reg. 29364) 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, production, and transport. The Commission previously commented on similar proposed rules, most recently in 2016³.

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 oil and gas exploration, development, and production activities expected to occur at 13 units⁴; other oil and gas-related activities expected to result in taking of polar bears and walrus include maintenance of the Trans-Alaska Pipeline System and the transportation of natural gas from the North Slope via pipeline. In addition, FWS anticipates continued activities associated with increased methane gas hydrate exploration and research activities.

FWS preliminarily has determined that, at most, the proposed activities could cause Level B harassment of small numbers of polar bears and walrus, but that the total taking would have no more than a negligible impact on the affected species or stocks⁵. FWS does not anticipate any take of marine mammals by death or serious injury from the proposed activities or as a result of an oil spill. The agency believes that the potential for disturbance will be at the least practicable level because of

¹ Including waters from Point Barrow to the Canadian border, extending offshore to a distance of 80.5 km and inland to a distance of 40 km from the coast, but not including the Arctic National Wildlife Refuge. The proposed rule text (at § 18.120) incorrectly described the area as extending offshore to a distance of 322 km.

² Beginning on 5 August 2021.

³ See the Commission's [7 July 2016 letter](#).

⁴ A unit is defined in the preamble as consisting of a group of leases covering all or part of an accumulation of oil or gas.

⁵ Takes of polar bears would be from the Southern Beaufort Sea stock.

the proposed mitigation measures. The mitigation, monitoring, and reporting measures for onshore and offshore activities include—

- development and adherence to polar bear and Pacific walrus interaction plans;
- design of facilities to reduce the possibility of polar bears reaching attractants;
- locating polar bear dens within 1.6 km of proposed activities using aerial infrared imagery on up to three separate surveys from November to April and reporting the locations of all observed or suspected dens to FWS prior to initiation of activities;
- establishing a 1.6-km exclusion zone around all putative polar bear 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 Survey⁶;
- 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 and initiating adaptive mitigation responses;
- 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 the Chukchi Sea prior to 1 July to allow walruses to disperse;
- avoiding areas used or expected to be used for subsistence hunting;
- restricting aircraft 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;
- planning all aircraft routes to minimize conflicts with active or anticipated hunting activities;
- using trained, FWS-approved marine mammal observers to implement site-specific mitigation and monitoring measures;
- consulting with potentially affected communities and appropriate subsistence user organizations to discuss possible conflicts with subsistence hunting activities and developing a Plan of Cooperation to ensure adequate safeguards are in place to avoid adverse impacts;
- notifying the FWS 48 hours prior to the onset of activities and after activities end, 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 after the activities end.

⁶ Available at http://alaska.usgs.gov/science/biology/polar_bears/denning.html

Impacts on subsistence communities

Based on communications and consultations with the potentially affected Alaska Native communities of Utqiagvik, Nuiqsut, and Kaktovik, FWS has concluded that opportunities for subsistence hunting of polar bears and walruses were not adversely affected by previous oil and gas operations in this area from 2016 to 2021. Based on this, FWS does not anticipate that the proposed activities would have any unmitigable adverse effects on the availability of polar bears or walruses for subsistence uses by Alaska Natives.

Evidence of communication and coordination with Alaska Native communities about proposed activities under this rulemaking would be required as part of an applicant's Letter of Authorization (LOA). If concerns are raised about proposed activities by communities or the authorized organizations representing subsistence hunters (such as the North Slope Borough, the Eskimo Walrus Commission, and the Alaska Nannut Co-management Council, among others), and those concerns are not resolved during community communications, FWS indicated in the preamble to the proposed rule that a Plan of Cooperation (POC) would be required to be submitted with the applicant's request for a LOA to ensure that industry activities will not have an unmitigable adverse impact on the availability of walruses and polar bears for subsistence uses (86 Fed. Reg. 29366). However, in the proposed rule text (§ 18.126(e)(2)), FWS indicated that applicants would be required to develop and implement a POC approved by FWS, "when appropriate," but without indicating the specific circumstances under which a POC would be "appropriate" and therefore required. Therefore, the Commission recommends that FWS clarify that applicants must submit a POC whenever concerns are expressed by subsistence communities or organizations about the potential impacts of proposed activities on subsistence hunting, and those concerns are not resolved prior to submission of the LOA application.

The proposed activities would involve the movement of operational and transport vessels through the Bering Strait and into the Chukchi Sea at the start of each open-water season. Vessel traffic has the potential to disturb marine mammals and subsistence activities in these areas. Concerns of coastal communities and subsistence/co-management organizations in the Bering Strait region and Chukchi Sea should also be identified and addressed as part of each applicant's communication and coordination activities. The Commission recommends that FWS ensure that applicants include outreach to all coastal communities and subsistence/co-management organizations, including those in the Bering Strait region and Chukchi Sea, to identify and address concerns regarding disturbance of marine mammals and subsistence traffic that may result from project-related vessel traffic.

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. In the Commission's

cursory review of LOAs issued from 2016-2021⁷, 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 (81 Fed. Reg. 52277). 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 2021-2026 (i.e., Oil Search (Alaska), LLC; others were not added even though they are expected to continue operating in the Beaufort Sea (e.g., SAExploration, Inc.). Unlike previous regulations, the proposed regulatory text stipulated that “an applicant must be a U.S. citizen as defined in [50 C.F.R.] § 18.27(c) and among those entities specified in this Request...” The Commission made a similar observation in its [letter of 7 July 2016](#) on FWS’s previously proposed rulemaking regarding incidental taking of marine mammals in the Beaufort Sea associated with oil and gas activities (81 Fed. Reg. 52276), and commends FWS for specifying the entities for which an LOA may be issued under the currently proposed rulemaking. However, the Commission is concerned that FWS will continue to issue LOAs to entities whose activities were not considered under the current rulemaking and/or factored into the proposed negligible impact determination. The Commission therefore recommends that FWS either (1) include all entities expected to conduct oil and gas activities in the Beaufort Sea over the next five years in the subject rulemaking, along with a description and analysis of the expected impacts of their proposed activities, (2) issue a separate notice of proposed regulations or incidental harassment authorization for those other entities, or (3) refrain from issuing LOAs to entities whose activities were not explicitly considered in this rulemaking (i.e., were not factored into the negligible impact determination and were not subject to public review and comment).

In addition, the proposed regulatory language does not indicate which specific oil and gas activities would be covered by the rulemaking. That information was provided by geographic unit in the “Description of Specified Activities” section of the preamble, yet the specific activities FWS intends to cover under the final rule have not been identified in the proposed regulatory language at 50 C.F.R. § 18.119. FWS stated that requests for LOAs for activities and impacts that exceed the scope of analysis and determinations for the proposed rule will not be issued. However, unless the specific types of activities that would be covered by the rule are identified, it will be difficult to determine whether an LOA applicant’s proposed oil and gas activities fall within the range of those analyzed for the current rulemaking. To ensure that the LOA process is not open-ended, the Commission recommends that FWS identify, in section 18.119 of the final rule, the specific types of oil and gas activities that FWS has evaluated as part of its rulemaking and that would be authorized under LOAs issued pursuant to the final rule.

⁷ The Commission reviewed the following notices of issuance of LOAs: 83 Fed. Reg. 18329 and 84 Fed. Reg. 14133; it is not known whether other LOAs were issued. The link on FWS’s [Incidental Take Regulations webpage](#) to Incidental Take Regulations and LOAs issued for oil and gas exploration in the Beaufort and Chukchi Seas was not operable. This proposed rulemaking was also not listed as available for public comment on the aforementioned webpage.

⁸ Including Alaska Frontiers Constructors, Inc.; Armstrong Energy, LLC; BEM Systems Inc.; Fairweather, LLC; Geokinetics, Inc.; Global Geophysical Services, Inc.; Marsh Creek, LLC; North Slope Borough; Oil Search Alaska, Inc.; Olgoonik Construction Services, LLC; Olgoonik Development; Peak Oilfield Service Company, Inc.; Petrotechnical Resources of Alaska; SAExploration, Inc.; and Savant Alaska, LLC. The Commission made a similar observation in its [letter of 7 July 2016](#) with comments on FWS’s proposed rulemaking to authorize incidental taking of marine mammals in the Beaufort Sea during oil and gas activities from 2016-2021 (81 Fed. Reg. 52276).

Proposed oil and gas activities and estimated takes

FWS stated that during the five years that the proposed regulations would be in place, industry activities are expected to be generally similar in type, timing, and effect to activities evaluated under previous rulemakings. However, that claim of comparable effects on marine mammals doesn't appear to account for several new oil and gas activities planned for the next five years, including the drilling of new production wells at the Badami, Bear Tooth (Willow), Milne Point, and Point Thompson units; gravel pad expansions at the Prudhoe Bay and Colville River/Moose's Tooth units; construction of a new drilling and production island at the Liberty reservoir; construction of a Liquefied Natural Gas facility, including dredging, installation of additional moorings at West Dock, and a new gas pipeline; and new drilling for methane gas at the Pikka Unit along with construction of a new bridge. There were also several new ice roads proposed and an increased number of passenger and cargo flights at several units.

FWS provided estimates of anticipated takes, based in part on previous encounters during oil and gas industry activities on the North Slope, as reported by LOA holders. For walrus, FWS estimated that no more than one group of 15 Pacific walrus would be taken by Level B harassment each year. For polar bears, FWS used encounter rate as a proxy for density in the Project Area. FWS's approach also involved a number of other variables⁹ that appear to overcomplicate the various take estimation methods. The annual estimate of takes of polar bears by Level B harassment from all activities (surface interactions, on-land seismic exploration, vessel activity, aircraft overflights, and disturbance of denning bears) was based on takes estimated to occur during both the open-water and ice seasons, as indicated in Table 10 of the *Federal Register* notice.

The Commission notes the following omissions, errors, inconsistencies, and inaccuracies within and among AOGA's application and FWS's preamble and proposed rule with regard to estimating the Level A and B harassment zones and numbers of takes.

- Serious injuries were parsed inconsistently between Level A harassment and mortalities, and mortality takes were not proposed to be authorized.
 - FWS indicated in the preamble that for this proposed rule, it was distinguishing between non-serious and serious Level A harassment, with "serious Level A take"¹⁰ defined as an injury that is likely to result in mortality¹¹ (86 Fed. Reg. 29395). Rather than considering serious Level A take as a lethal or mortality take, as specified by FWS's own definition, FWS considered it Level A harassment in some instances (86 Fed. Reg. 29395 and Table 7 in the *Federal Register* notice) and serious Level A *lethal* take in other instances (see Table 8 in the *Federal Register* notice). Serious injuries, and any permutation thereof, should have been considered as mortalities consistently throughout the preamble to the proposed rule.

⁹ Such as 'the proportion of the season an area of interest is impacted' and 'bear occupancy rate', both of which are already reflected in other variables which account for abundance of bears in the Program Area.

¹⁰ FWS also used the terms serious injury and serious Level A harassment interchangeably throughout the preamble to the proposed rule.

¹¹ The National Marine Fisheries Service (NMFS) similarly defines serious injury as any injury that will likely result in mortality (50 C.F.R. § 216.3), considers serious injuries to be lethal takes, and parses them with mortalities, not Level A harassment.

- FWS also indicated that incidental lethal take of polar bears could result from vehicle collisions or collapse of a den if it was run over by a vehicle, as well as from a female either abandoning a den prematurely with her cubs or abandoning her cubs in the den before the cubs can survive on their own (86 Fed. Reg. 29395). FWS further stated that lethal take of a walrus could occur if it was struck by a vessel or trampled by other walruses during a stampede (86 Fed. Reg. 29395).
- Most importantly, FWS estimated that a mean of 1.2 polar bear mortalities could occur due to den disturbance during each year of activities but then stated that the results were skewed and not representative of the median value of 0 (Table 8 and 86 Fed. Reg. 29412). However, FWS estimated that the probability of disturbance was approximately 90 percent, resulting in a mean of 3.1 Level B harassment takes per year, with a similar trend for serious injuries and mortalities with a probability of 46 percent resulting in a mean of 1.2 mortalities (Table 8). When accounting for serious injuries and mortalities, the agency should always err on the side of caution. FWS should have proposed to authorize lethal takes rather than disregarding or downplaying the potential for such takes.
- Level A and B harassment zones were not estimated, and the numbers of polar bears and walruses that could be taken during in-water activities were underestimated.
 - FWS incorrectly specified in Table 1 that the permanent threshold shift (PTS) and temporary threshold shift (TTS) thresholds are based on simply dB rather than (1) the appropriate reference pressure of 20 μPa for in-air and 1 μPa in water and (2) the appropriate metric of a cumulative *weighted* sound exposure level (SEL_{cum}) in units of dB re 20 $\mu\text{Pa}^2\text{-sec}$ and dB re 1 $\mu\text{Pa}^2\text{-sec}$, respectively. FWS did not mention the weighting functions that are to be used in conjunction with the SEL_{cum} thresholds or the dual criterion of SPL_{peak} ¹² and the relevant unweighted thresholds for impulsive sources¹³.
 - FWS's rationale for concluding that in-water activities¹⁴ would not result in TTS or PTS was based on received levels of SPL_{rms} (86 Fed. Reg. 29413) rather than SPL_{peak} or weighted SEL_{cum} .
 - FWS also indicated that Level A harassment of polar bears for on-land or on-ice activities is extremely rare and has never been reported for walruses. As such, it did not propose to authorize Level A harassment takes (86 Fed. Reg. 29395). It is unclear how one would determine definitively that PTS has not occurred during in-water activities or how FWS can make an assessment that Level A harassment is not expected to occur when it has not estimated what the Level A harassment zones would in fact be.

¹² Southall et al. (2019b) included the revised, correct in-air SPL_{peak} thresholds for otariids.

¹³ Southall et al. (2019a) specified that dual criteria are to be used for both PTS and TTS for impulsive sources and whichever criterion elicits the larger harassment zone is the one that prevails. In most cases, SPL_{peak} thresholds result in the larger harassment zone for polar bears and walruses, which along with sea otters are considered part of the otariid functional hearing group, for seismic surveys. SEL_{cum} thresholds result in the larger harassment zone for impact pile driving and hammering associated with down-the-hole (DTH) pile installation.

¹⁴ FWS made the same comparison for in-air activities (86 Fed. Reg. 29391), which include on-land and on-ice activities as well. FWS also omitted from the *Federal Register* notice that Owen and Bowles (2011) tested in-air polar bear hearing down to 125 Hz—the low-frequency range contains most of the ‘high-energy’ sound associated with AOGA’s proposed activities rather than the mid- and high-frequency range of 1.4–22.5 kHz that FWS specified as presented in Nachtigall et al. (2007; 86 Fed. Reg. 29390).

- Although AOGA denoted the Level B harassment threshold as 160 dB re 1 μ Pa in its application, FWS used an unsubstantiated Level B harassment threshold of 180 dB re 1 μ Pa for polar bears¹⁵.
 - FWS indicated that it applied a 190-dB re 1 μ Pa Level B harassment threshold in the previous AOGA rulemaking in the Beaufort and Chukchi Seas. However, FWS actually used a 180-dB re 1 μ Pa threshold for behavioral disturbance and a 190-dB re 1 μ Pa threshold for TTS for polar bears in the Beaufort Sea¹⁶ (81 Fed. Reg. 52306)¹⁷. Contrary to FWS's assertion that these were based on evidence, neither was substantiated by any data; rather, both were based on FWS's opinion (81 Fed. Reg. 52306).
 - FWS further stipulated that since the TTS threshold is 188 dB, it used a threshold of 180 dB re 1 μ Pa for the proposed rule (86 Fed. Reg. 29413). FWS did not recognize that the TTS threshold is weighted, based on SEL_{cum} not SPL_{rms}, and applies to pile-driving activities or, more importantly, that the TTS threshold that results in the larger harassment zone is very likely based on SPL_{peak} for seismic surveys. As such, the thresholds are not directly comparable. Moreover, FWS provided no data to support the 180-dB re 1 μ Pa threshold for behavioral disturbance for impulsive, non-impulsive, continuous¹⁸, or intermittent sources.
- FWS indicated in the preamble to the proposed rule that AOGA would conduct in-water seismic exploration surveys, vertical seismic profiling, seafloor imagery surveys, and offshore bathymetry surveys in one portion of the *Federal Register* notice (86 Fed. Reg. 29367) but omitted reference to those activities in other portions of the notice, including in its take estimation method for polar bears during in-water activities¹⁹ (86 Fed. Reg. 29412–29413).
- AOGA indicated in its application that it could conduct any of the aforementioned geophysical activities within the petition area but did not specify the number of surveys that could be conducted in a given year, the minimum or maximum number of airguns that would be deployed during a given survey, the maximum number of days that a survey could last, the overall discharge volume of a given array, a range of associated source levels²⁰, shot rate, vessel speed, or line-kilometers to be surveyed in a given day.

¹⁵ FWS did not stipulate any behavior thresholds for walruses.

¹⁶ A 190-dB re 1 μ Pa threshold was used for undefined hearing loss and to inform exclusion zones for polar bears in the Chukchi Sea (78 Fed. Reg. 35424 and 35425). However, FWS did not provide substantiation for this threshold, nor did it use it to estimate the authorized number of Level B harassment takes.

¹⁷ For walruses, FWS used a 160-dB re 1 μ Pa threshold for behavioral disturbance and a 180-dB re 1 μ Pa threshold for TTS in both the Beaufort and Chukchi Seas (see 81 Fed. Reg. 52289–52290 and 78 Fed. Reg. 35381 and 35400, respectively) and a 190-dB re 1 μ Pa threshold for PTS in the Beaufort Sea (81 Fed. Reg. 52289).

¹⁸ The Commission notes that NMFS used a 120-dB re 1 μ Pa threshold for continuous sounds (e.g., vibratory pile driving and drilling) in the final rule for construction and operation of the Liberty Drilling and Production Island (84 Fed. Reg. 70306)—NMFS still uses that threshold for Level B harassment associated with continuous sounds, including the non-impulsive, oscillating sounds emitted during down-the-hole (DTH) pile installation.

¹⁹ FWS did not use a quantitative take estimation method for walruses. Rather, it assumed that 15 walruses could be taken by any of the activities in a given year. FWS also incorrectly stated that the walrus's underwater hearing range was from 1–12 kHz (86 Fed. Reg. 29394). Kastelein et al. (2002) indicated that 1–12 kHz was the range of *best* hearing, with sensitivity at 500 Hz being comparable to that at 1 and 3 kHz (see Table I and Figure 3). In fact, the walrus tested had better hearing sensitivity at 125 and 200 Hz than 14 or 15 kHz (see Table I).

²⁰ In the three relevant metrics of single-strike sound exposure level (SEL_{s-s}), peak sound pressure level (SPL_{peak}), and root-mean-square sound pressure level (SPL_{rms}) for impulsive sources.

- AOGA similarly did not estimate the Level A or B harassment zones or the numbers of either polar bears or walrus that could be taken during geophysical surveys.
- Neither FWS in its preamble to the proposed rule nor AOGA in its application indicated how often or where pile driving would occur, what type of pile driving (e.g., impact, vibratory, and/or DTH pile installation, augering/drilling) would be conducted, whether pile removal would be conducted, what type (e.g., steel, concrete, sheet, timber, polycarbonate, etc.) of piles would be installed and/or removed, how many piles would be installed and/or removed in a given area and on a given day, the number of strikes or time necessary to install or remove a given pile type and size, the number of locations that pile driving and/or removal could occur, whether simultaneous installation or removal methods would be used, how many days of pile driving and/or removal would occur in a given year, or the associated source levels²⁰. FWS and AOGA also did not estimate the Level A or B harassment zones or the numbers of either polar bears or walrus that could be taken during pile driving and/or removal.
 - FWS assumed that its presumed 1.6-km impact area for polar bears during surface interactions²¹ would encompass the area in which polar bears could be taken in water during construction activities (86 Fed. Reg. 29413). The 1.6-km impact area is associated with polar bear responses to in-air (on-land or on-ice) activities that may affect female bears with cubs (86 Fed. Reg. 29392 and 29400) and to aircraft overflights (86 Fed. Reg. 29400), rather than in-water stimuli. Given that sound moves more than four times faster in water than air²² and in-water activities would occur beyond 2 km from shore, any such assumptions are unsubstantiated.
 - FWS similarly assumed a 1.6-km impact area for estimating takes of polar bears by vessel disturbance (86 Fed. Reg. 29412) but provided no justification for selecting the 1.6-km impact area.
 - Level B harassment takes of polar bears during aircraft overflights were underestimated.
 - FWS conducted a very detailed and complicated analysis that, in the end, indicated only one polar bear would be taken annually during aircraft overflights for both passenger and cargo transport and for infrared aerial surveys.
 - Given that (i) major construction activities are planned to occur at various sites, (ii) helicopters could be used more frequently than in previous years, and (iii) helicopter overflights have elicited a 65-percent behavioral response rate²³ (see Figure 19 in AOGA's application), FWS's proposed number of Level B harassment takes during aircraft overflights is not supported by previous monitoring data and should be increased.

Mitigation, monitoring, and reporting measures

The proposed Project Area includes high-density polar bear habitat and maternal denning areas along the shore and inland—areas designated by FWS as polar bear critical habitat. Protecting maternal dens and ensuring cub survival should be of utmost importance given the threatened status

²¹ On land or ice.

²² The speed of sound in water is 1,500 m/s, while it is only 340 m/s in air.

²³ AOGA also acknowledged in its application that few encounters with polar bears were documented. However, those that were documented amounted to more than one polar bear take per year.

and declining trend of the Southern Beaufort Sea (SBS) polar bear population (FWS 2017; Polar Bear Specialist Group 2019), the deteriorating sea ice conditions and associated effects on cub recruitment (Rode 2010), and the increased use of land-based dens by SBS bears (Atwood et al. 2016, Rode et al. 2018). There is also significant potential for additional adverse effects on polar bears, and particularly maternal dens, as a result of proposed increases in construction activities, air traffic, drilling, production, and transport of oil and gas in the Project Area and other areas of the North Slope (i.e., the Arctic National Wildlife Refuge, FWS 2020). As noted herein, the distance established for avoidance of polar bear dens (1.6 km) appears to be somewhat arbitrary and worthy of additional research. Previous comments submitted to FWS on proposed oil and gas activities on the North Slope²⁴ indicated that a comprehensive monitoring program is critical and should be focused, in part, on documenting how, and how many, bears in the Program Area respond to disturbance from the various planned aerial and land-based activities. The Commission recommends that FWS work with the U.S. Geological Survey to (1) support cooperative, timely analysis of all infrared and photographic data and images of suspected or known dens and (2) ensure timely reporting and analysis of all human-bear interactions. Particular attention should be paid to the collection and analysis of data that would enhance understanding of the effectiveness of the proposed mitigation measures for avoiding takes of polar bears in the project area.

The mitigation measures specified in the proposed rule are inadequate for in-water sound-producing activities, including seismic surveys, pile driving, and drilling. Although AOGA included proposed mitigation measures specific to seismic surveys in one portion of its application (see sections 6.1.2 and 6.3.1.2 in the application), it did not include them in the mitigation section (see section 10). In previous rulemakings, for activities in both the Beaufort and Chukchi Seas, FWS has required AOGA to implement various mitigation, monitoring, and reporting measures associated with offshore sound-producing activities (see 50 C.F.R. § 18.128(e) and 50 C.F.R. § 18.118(a), respectively). The Commission recommends that FWS include in the final rule and any LOA issued thereunder the following additional mitigation and monitoring measures for sound-producing activities—

- establishing in-water exclusion zones (based on Level A harassment thresholds identified in Southall et al. 2019 for “other marine carnivores” and summarized in Table 1 of the preamble to the proposed rule; 86 Fed. Reg. 29391) and establishing, verifying, and monitoring in-water monitoring zones (based on a Level B harassment threshold of 160 dB re 1 μ Pa for impulsive sources and 120 dB re 1 μ Pa for continuous sources) for sound-producing activities;
- using ramp-up and shut-down procedures;
- monitoring exclusion zones and surrounding waters 30 minutes prior to and during ramp-up procedures; and
- shutting down all sound sources if a walrus or polar bear 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 reinstate activities.

²⁴ See the Commission’s [7 January 2021 letter](#) regarding a proposed incidental harassment authorization for seismic surveys in the Marsh Creek East Program Area of the Arctic National Wildlife Refuge Coastal Plain.

If an unauthorized take occurs (i.e., an injury or death attributed to an applicant's activities), applicants should notify FWS immediately and cease the associated activities until FWS determines what additional measures may be necessary to minimize additional injuries or deaths. To that end, the authorizations must include clear, concise, and explicit measures to minimize any ambiguity regarding what action proponents should do in those circumstances. The Commission recommends that FWS include in the final rule and any LOA issued thereunder explicit requirements to cease activities if a walrus or polar bear is injured or killed until FWS reviews the circumstances involving any injury or death that is likely attributable to the activities and determines what additional measures may be necessary to minimize additional injuries or deaths.

Additionally, FWS did not specify how many individuals constitute a "concentration" or "group" of walruses or polar bears in any of its proposed mitigation measures in section 18.126 of the proposed rule. The Commission suggests that, for both walruses and polar bears, a group be defined as two or more individuals.

Conclusion

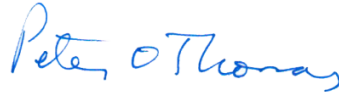
Given (1) the inconsistencies within the preamble to the proposed rule and between this rulemaking and other associated rulemakings on a number of issues, (2) the use of behavior thresholds based not on data but rather conjecture, (3) the application of a presumed 1.6-km impact area to all sources regardless of the source level or whether it is operating in air or in water, (4) the failure to estimate Level A and B harassment zones for sound-producing activities, (5) the unsubstantiated numbers of takes, and (6) the insufficiency of the proposed mitigation measures, it is unclear how FWS can make the necessary findings under section 101(a)(5)(A) of the MMPA, particularly in regard to effecting the least practicable adverse impacts on the affected marine mammals and their habitats and on the availability of walruses and polar bears for subsistence uses. The Commission therefore recommends that FWS suspend the proposed rulemaking, require AOGA to submit a revised application that addresses the shortcomings noted herein, and publish a revised proposed rule in the *Federal Register* that addresses those shortcomings before moving forward on this action.

In short, this proposed rule is not on par with similar rulemakings conducted by FWS's sister agency, NMFS, under section 101(a)(5)(A) of the MMPA (e.g., 86 Fed. Reg. 5322, 85 Fed. Reg. 72312, 83 Fed. Reg. 66846). Furthermore, it does not appear that the agency takes seriously its role in authorizing the incidental taking of marine mammals and ensuring that any applicable threshold is based on the best available science. As such, the Commission again²⁵ recommends that FWS take a more active and responsible role in the development, review, and implementation of any and all acoustic and behavior thresholds for marine mammal species under its jurisdiction and consult with NMFS on whether, when, and how the current thresholds should be implemented. The Commission is concerned that the poor quality of the underlying analyses and lack of scientific substantiation of key conclusions are undermining the integrity of FWS's process for authorizing incidental takes of marine mammals under the MMPA, thereby making the agency more vulnerable to challenge.

²⁵ See, for example, the Commission's [24 July 2019](#) and [18 April 2019](#) letters regarding similar recommendations.

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

Sincerely,



Peter O. Thomas, Ph.D.,
Executive Director

cc: Jolie Harrison, NMFS Office of Protected Resources
Amy Scholik-Schlomer, NMFS Office of Protected Resources

References

- Atwood, T.C., E. Peacock, M.A. McKinney, K. Lillie, R. Wilson, D.C. Douglas, S. Miller, P. Terletzky. 2016. Rapid environmental change drives increased land use by an Arctic marine predator. *PLoS ONE* 11(6):e0155932.
- FWS. 2017. Draft stock assessment report for the polar bear: Southern Beaufort Sea stock. 36 pages. Available at: <https://www.fws.gov/policy/library/2017/2017-13060.pdf>
- FWS. 2020. Biological opinion for Coastal Plain oil and gas leasing program, Arctic National Wildlife Refuge. Consultation with Bureau of Land Management. Prepared by Fairbanks Fish and Wildlife Field Office, Fairbanks, Alaska. 163 pages.
- Nachtigall, P.E., A.Y. Supin, M. Amundin, B. Röken, T. Møller, T. Aran Mooney, K.A. Taylor, and M. Yuen. 2007. Polar bear *Ursus maritimus* hearing measures with auditory evoked potentials. *Journal of Experimental Biology* 210:116–1122.
- Owen, M.A., and A.E. Bowles. 2011. In-air auditory psychophysics and the management of a threatened carnivore, the polar bear (*Ursus maritimus*). *International Journal of Comparative Psychology*. 24(3):244-254.
- Polar Bear Specialist Group [IUCN/SSC]. 2019. Status report on the world's polar bear subpopulations. 31 pages. Available at: <http://pbsg.npolar.no/export/sites/pbsg/en/docs/2019-StatusReport.pdf>
- Rode, K.D., S.C. Amstrup, and E.V. Regehr. 2010. Reduced body size and cub recruitment in polar bears associated with sea ice decline. *Ecological Applications* 20(3):768–782.
- Rode, K.D., J. Olson, D. Eggett, D.C. Douglas, G.M. Durner, T.C. Atwood, E.V. Regehr, R.R. Wilson, T. Smith, and M. St. Martin. 2018. Den phenology and reproductive success of polar bears in a changing climate. *Journal of Mammalogy* 99(1):16–26.
- Southall, B.L., J.J. Finneran, C. Reichmuth, P.E. Nachtigall, D.R. Ketten, A.E. Bowles, W.T. Ellison, D.P. Nowacek, and P.L. Tyack. 2019a. Marine mammal noise exposure criteria: Updated scientific recommendations for residual hearing effects. *Aquatic Mammals* 45(2):125-232.
- Southall, B.L., J.J. Finneran, C. Reichmuth, P.E. Nachtigall, D.R. Ketten, A.E. Bowles, W.T. Ellison, D.P. Nowacek, and P.L. Tyack. 2019b. Errata: Marine mammal noise exposure criteria: Updated scientific recommendations for residual hearing effects. *Aquatic Mammals* 45(5):569-572.