THE WILDLIFE SOCIETY
ALASKA CHAPTER

The Alaska Chapter of The Wildlife Society strives to enhance the ability of wildlife professionals to conserve biological diversity, sustain productivity, and ensure responsible use of wildlife resources in Alaska for the benefit of society.

November 7th, 2023
Submitted via email and online ePlanning project website

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Attn: Coastal Plain Oil and Gas Leasing Program EIS
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Comments re: Notice of Availability of the Draft Coastal Plain Oil and Gas Leasing Program Supplemental Environmental Impact Statement, 88 Fed. Reg. 62,104 (Sept. 8, 2023).

To Ms. Serena Sweet and Reviewers:

This letter represents the Alaska Chapter of The Wildlife Society's public comments on the Coastal Plain Draft Supplemental Environmental Impact Statement (draft SEIS) on the Arctic National Wildlife Refuge Coastal Plain Oil and Gas Leasing Program. The Wildlife Society (TWS) was founded in 1937 and is a non-profit scientific and educational association of over 15,000 professional wildlife biologists and managers, dedicated to excellence in wildlife stewardship through science and education. Our mission is to inspire, empower, and enable wildlife professionals to sustain wildlife populations and habitats through science-based management and conservation. Our professional membership represents and serves the community of scientists, managers, educators, technicians, planners, and others who work actively to study, manage, and conserve wildlife and its habitats worldwide.

The Alaska Chapter of TWS has roughly 200 members representing wildlife scientists and resource managers across the state of Alaska. These members work for state and federal agencies, Native organizations, universities, non-profit groups, and consulting biologists conducting some of the best available research on Alaskan wildlife and natural systems.

We recognize and respect the Biden Administration's cancellation of the Alaska Industrial Development and Export Authority's (AIDEA) seven remaining leases on the Coastal Plain on the basis of the legal deficiencies cited for the lease sale. The Alaska Chapter of TWS remains opposed to all oil and gas activities on the Coastal Plain of the Arctic National Wildlife Refuge (Arctic Refuge or the Refuge) but understand that the Bureau of Land Management (BLM) and

US Fish and Wildlife Service (FWS) must navigate legal requirements that exist under the 2017 Tax Cut and Jobs Act (Tax Act).

The Arctic National Wildlife Range is the largest and northernmost refuge in the National Wildlife refuge system and was established in 1960 to:

1. Preserve unique wildlife values,
2. Preserve wilderness values,
3. Preserve recreational values.

In the Alaska National Interest Lands Conservation Act of 1980 (ANILCA), Congress enlarged the Range to 19.6 million acres, renamed it the Arctic National Wildlife Refuge, and designated 8 million acres of mountains, foothills, and coastal plain as Wilderness. ANILCA added the following four purposes for the Arctic Refuge:

1. To conserve fish and wildlife populations and habitats in their natural diversity including, but not limited to, the Porcupine Caribou Herd, polar bears, grizzly bears, muskoxen, Dall sheep, wolves, wolverines, snow geese, peregrine falcons and other migratory birds, Dolly Varden, trout, grayling, whitefish, and burbot.
2. To fulfill the international treaty obligations of the United States with respect to fish and wildlife and their habitats.
3. To provide, in a manner consistent with the purposes set forth in subparagraphs i and ii, the opportunity for continued subsistence uses by local residents.
4. To ensure, to the maximum extent practicable and in a manner consistent with the purposes set forth in paragraph I, water quality and necessary water quantity within the Refuge.

The draft SEIS fails to include the original three purposes from the 1960 Range designation among the recognized Arctic Refuge draft purposes, instead acknowledging only the four original ANILCA purposes plus the added Tax Act purpose "to provide for an oil and gas program on the Coastal Plain". FWS policy is clear the original three purposes outlined in PLO 2214 for the Arctic National Wildlife Range apply to the Coastal Plain equally with its other purposes[1]. The agencies must therefore include the original three purposes identified in PLO 2214 among the listed purposes of the Coastal Plain outlined in the draft SEIS. This would also apply to the Leasing Program being consistent with these purposes. By not recognizing or including the original three purposes in its analysis, BLM and FWS cannot ensure that an oil and gas program would be consistent with the legal purposes of the Refuge.

Section 1002 of ANILCA required the Secretary of the Interior to assess the petroleum and wildlife values of a 1.5-million-acre portion of the Arctic Refuge coastal plain often referred to as the 1002 Area. Section 1003 of ANILCA reserved the decision of whether to allow oil and gas leasing and production or development leading to production within that area to Congress. The

[1] U.S. Fish and Wildlife Service, 601 FW 1, 1.15, National Wildlife Refuge System Mission and Goals and Refuge Purposes (July 26, 2006), *available at:* https://www.fws.gov/policy/601fw1.html.

necessary assessments of the 1002 Area are complete and indicate it may contain substantial amounts of oil and gas, and that it is also of vital importance to many wildlife species.

Decades of biological study and scientific research have confirmed that the coastal plain of the Arctic Refuge is a vital component of the biological diversity of the refuge. Within the narrow (15-40 miles) coastal plain, there is a unique compression of habitats which concentrates a wide array of wildlife native to the Arctic. According to the U.S. Fish & Wildlife Service, Arctic Refuge is home to at least 42 fish species, 37 land mammal species (including endangered Southern Beaufort Sea polar bears, grizzly bears, wolves, wolverines, caribou, muskoxen) eight species of marine mammals, innumerable numbers of insects, and more than 200 species of migratory birds whose ranges includes 5 continents and all 50 US states.[2] In fact, according to the FWS, the Arctic Refuge coastal plain contains the greatest wildlife diversity of any protected area above the Arctic Circle.

At the request of Congress, the National Research Council (NRC) of the National Academy of Sciences evaluated the cumulative environmental effects of oil and gas activities on Alaska's North Slope and published a report in 2003.[3] Led by Dr. Gordon Orians, University of Washington, this report was prepared by a panel of prominent scientists following an extensive review of the literature and consultations with experts. It remains the best, most comprehensive synthesis of the effects of oil development on wildlife and the landscape of Arctic Alaska. Among the report's "major findings" (chapter 11) are the following:

- Three-dimensional seismic surveys require a high spatial density of trails. "Seismic exploration can damage vegetation and cause erosion, especially along stream banks."
- The effects of roads, pads, pipelines, and other infrastructure extend beyond the physical footprint itself and distances at which impacts occur vary according to the environmental component affected. "Effects on hydrology, vegetation, and animal populations occur at distances up to several kilometers... "
- "Roads have had effects as far-reaching and complex as any physical component of the North Slope oil fields."
- Denning polar bears are among the animals that "have been affected by industrial activities on the North Slope."
- Readily available food supplies in the oil fields attract higher-than-normal densities of predators, which then prey on birds and their eggs and young. The reproductive success rate of some bird species in the developed parts of oil fields "has been reduced to the extent that it is insufficient to balance mortality."
- The spread of industrial activity, especially to the east where the coastal plain is narrower than elsewhere [i.e., the Arctic Refuge], "would likely result in reductions in reproductive success" for caribou.

The NRC stated that "The effects of North Slope industrial development on the physical and biotic environments and on the human societies that live there have accumulated despite

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[2] US Fish and Wildlife Service. Arctic National Wildlife Refuge. Accessed 11 Nov 2023. *Available at:* https://www.fws.gov/refuge/arctic/species

[3] National Research Council. Cumulative environmental effects of oil and gas activities on Alaska's North Slope. National Academies Press, 2003.

considerable efforts by the petroleum industry and regulatory agencies to minimize them... Continued expansion is certain to exacerbate some existing effects and to generate new ones... " Based on limited knowledge and understanding of the cumulative effects of oil and gas exploration and development on Alaska's North Slope, and the difficulty of accurately predicting the timing or extent of potential development scenarios, it is challenging to quantitatively predict the long-term, cumulative effects on the wildlife and ecosystem processes of the Arctic Refuge's 1002 Area. Thus, it is unlikely that a mitigation plan could be developed with any degree of certainty. We believe it is prudent to understand these effects more fully before risking leasing and development of other, more sensitive areas. The NRC report identified a list of gaps in current knowledge regarding effects of oil and gas development on wildlife. Studies of wildlife and vegetation on the 1002 Area of the Arctic Refuge during past decades have provided considerable baseline information on structure and function of an arctic tundra ecosystem that has been relatively undisturbed by human activities. Few arctic areas have baseline data as extensive as the 1002 Area. There are considerable scientific and cultural values in maintaining undisturbed arctic regions where effects of long-term global changes can be identified and distinguished from localized human influence. This is particularly the case today where climate change is accelerating four times faster in the Arctic than the rest of the plant.[4]

The Wildlife Society believes that the 1002 Area of the Arctic National Wildlife Refuge is an area critical to the abundance and diversity of wildlife in the entire Refuge, as well as some populations of both national and international importance. Furthermore, this area possesses significant cultural, aesthetic, recreational, and scientific values in its present state. Industrial activities that are expected to occur as a result of petroleum exploration and development are likely to have significantly negative effects on these values, including introduction of invasive species and habitat fragmentation. Adverse effects on some wildlife species of petroleum at existing oil fields on the North Slope have not been avoided, and the unique aspects of wildlife resources are such that mitigation of the impacts of oil and gas development may not be possible. Additionally, the long-term cumulative effects on wildlife resources are unknown.

The Alaska Chapter of TWS identified the following specific concerns for the Coastal Plain draft SEIS:

1. **It is important that the draft SEIS explicitly address the conflicting Refuge purposes**. The draft SEIS does not explicitly address or resolve potential conflicts between the proposed leasing program and the original seven purposes (identified above) for which the Arctic Refuge was established. These conflicts must be explicitly discussed and resolved. Specifically, the draft SEIS must address how the original Refuge purposes for wildlife, fish, and water conservation; treaty obligations; and subsistence uses will be maintained through petroleum exploration and development. BLM and FWS's draft SEIS states that no purpose is "superseded" by any others. However, as has been pointed out in prior comments, FWS policy instructs that the oil and gas purpose of the Coastal Plain is subservient to the seven conservation purposes. This is clarified by FWS's policy manual that states the following regarding refuges with multiple purposes on the priority of those purposes:

4 Rantanen, M., Karpechko, A.Y., Lipponen, A. *et al.* The Arctic has warmed nearly four times faster than the globe since 1979. Commun Earth Environ 3, 168 (2022). https://doi.org/10.1038/s43247-022-00498-3

1.15 If a refuge has multiple purposes, do some purposes take priority over others?
Purposes dealing with the conservation, management, and restoration of fish, wildlife, and plants and the habitats on which they depend take precedence over other purposes in the management and administration of a refuge unless otherwise indicated in the establishing law, order, or other legal document."[5]

The Improvement Act states that "compatible wildlife-dependent recreational uses are the priority general public uses of the System and shall receive priority consideration in refuge planning and management."[6]

Despite this completely applicable policy, the BLM and FWS continually fail to recognize that the seven conservation purposes are the priority purposes for the Coastal Plain above the oil and gas program language added by the Tax Act. The draft SEIS should correct this, especially as the most recent Refuge purpose to develop a robust oil and gas drilling program on the Coastal Plain is prohibitively exclusive to the implementation of all other seven purposes of the Arctic Refuge. To the extent that the BLM and FWS interpret this policy does not apply, they should explain this rationale in the draft SEIS, as they are the experts passing this information on to Congress who must know these policies when passing laws.

2. **Compliance with Caribou Treaty Obligations.** One of ANILCA's four added values of the Refuge includes "to fulfill the international treaty obligations of the United States with respect to fish and wildlife and their habitats." Such an international agreement exists currently between the governments of Canada and the United States for the conservation of the Porcupine Caribou Herd, signed in 1987.[7] This agreement obliges both countries to enact important protections for caribou and subsistence caribou users on both sides of the Canada-US border. It states that "the Porcupine Caribou Herd regularly migrates across the international boundary between Canada and the United States of America and that caribou in their large free-roaming herds comprise a unique and irreplaceable natural resource of great value which each generation should maintain and make use of so as to conserve them for future generations." This agreement identifies the importance of conserving habitat on an landscape level in order to protect this long-ranging, migratory species. This "include[es] such areas as calving, post-calving, migration, wintering and insect relief habitat," and specifically defines the herd's habitat as "the whole or any part of the ecosystem, including summer, winter and migration range, used by the Porcupine Caribou Herd during the course of its long-term movement patterns."

The agreement contains language that imposes stipulations for both nations, should the PCH potentially be affected. It mandates "tak[ing] appropriate action to conserve the Porcupine Caribou Herd and its habitat." It further requires consultation between countries should one country take any action that "is determined to be likely to cause significant long-term adverse impact".

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[5] U.S. Fish and Wildlife Service, 601 FW 1, 1.15, National Wildlife Refuge System Mission and Goals and Refuge Purposes (July 26, 2006), *available at:* https://www.fws.gov/policy/601fw1.html.
[6] *Id.*
[7] Agreement Between the Government of Canada and the Government of the United States of America on the Conservation of the Porcupine Caribou Herd, U.S.-Can. July 17, 1987, E100687-CTS 1987 No. 31, *available at* http://www.treaty-accord.gc.ca/text-texte.aspx?id=100687.

The agreement established a board to make recommendations on any activities that "could significantly affect the conservation of the Porcupine Caribou Herd or its habitat." While they have developed comments that adopting an oil and gas program will "likely to cause significant long-term adverse impact on the Porcupine Caribou Herd or its habitat," notably absent in the draft SEIS is the incorporation of the board's recommendation or meaningful commentary therein, especially as relates to each proposed alternative. The agencies should fully engage with the board to inform decisions for a potential leasing program. Without doing so, it is uncertain how Agencies can ensure that all the Refuge's purposes will be achieved with no purpose being "superseded" by any others, without compliance to its international treaty obligations.

3. **The draft SEIS needs to address in detail the geographical variation across the landscape of the North Slope**. Nearly all of the current petroleum exploration and development to the west of the Refuge (e.g., Prudhoe Bay and the northeastern NPR-A) have occurred in a landscape much different than the Refuge coastal plain. The narrow, compressed coastal plain of the Refuge makes large-scale resource development much more problematic as there are many fewer options for wildlife to avoid development infrastructure. This is particularly an issue for the Porcupine Caribou Herd. In addition, the lack of water in lakes, which is much different from the vast wetlands to the west where oil and gas activities are expansive, has significant implications for the feasibility, design and cost of an industrial-scale oil and gas program on the Refuge coastal plain, as well as for impacts on fish, wildlife, and the natural landscape. These differences must be clearly addressed in the draft SEIS.

4. **The draft SEIS should outline an explicit plan to acquire more comprehensive baseline information for the coastal plain of the Arctic Refuge**. The draft SEIS draws on incomplete and old baseline data. This inadequacy should be addressed with additional surveys, monitoring, research, and synthesis. Specific priorities include: analyzing detailed caribou movements and habitat use; assessing population dynamics and habitat use for the Southern Beaufort Sea subpopulation of polar bears; updating wetlands inventories and bird surveys; and predicting how these populations will respond to petroleum exploration and development in the narrow landscape of the coastal plain, how they will respond to accelerating climate change, and the interaction of these two forces. These analyses are needed not only to meet the legal requirements of NEPA but are necessary to predict potential cumulative impacts to Refuge resources and to develop an adequate research and monitoring plan for the Refuge coastal plain.

5. **The Interior should offer an alternative with the fewest acres necessary to meet Tax Act requirements to best preserve critical Arctic habitat on the Coastal Plain.** Alternative D should offer no more than 400,000 acres for lease sale. The Tax Act states, "not fewer than 400,000 acres area wide in each lease sale [and] those are areas that have the highest potential for the discovery of hydrocarbons." Both the Refuge Act and ANILCA require the Interior ensures that the Refuge's original purposes are fully realized. As these purposes are complicated by oil and gas development, the fewest legally mandated acres should be offered in no less than one viable alternative of the draft SEIS. For example, Under ANILCA, the first purpose for which the Refuge was established and managed is "to conserve fish and wildlife populations and habitats in their natural diversity." Given that the Coastal Plain provides critical habitat for the Refuge's diversity of fish and wildlife, offering more than the required minimum acreage

necessarily constrains this management requirement. Offering more acres than required may have particularly dire consequences for some of the most sensitive elements of the Refuge's ecosystem, as high and medium carbon potential areas overlap with some of the most sensitive habitat areas.

Polar bear habitat will be disproportionately affected by increased acreage. According to the draft SEIS, polar bear terrestrial denning habitat occupies "76.3 percent (1,193,000 acres) of the program area." Known dens and potential maternal denning habitat are at highest risk in the combined high and medium hydrocarbon potential zones. The draft SEIS observed that "the most denning habitat (75 percent) and number of documented dens (95 percent)" occur in these areas.

As it is currently written, Alternative D permits development on the vast majority of the acreage identified as potential maternal denning habitat. Even with the proposed no-surface occupancy (NSO) stipulations, these areas would still be subject to harmful seismic exploration that could result in "moderate to major direct impact on the [Southern Beaufort Sea] SBS population of bears." Reducing the total acreage to the 400,000-acre minimum would reduce this risk to denning polar bears and maintain better consistency with ANILCA.

In addition, as was written in the USFWS 2019 letter, the agency should exclude leasing on the areas most likely to contain polar ben dens. SBS Polar bears are threatened under the Endangered Species Act (ESA) with more habitat loss accruing yearly. The draft SEIS states that the "most important characteristic of maternal denning habitat is the presence of topographic features of sufficient height and slope to catch blowing snow and form persistent drifts in early winter, with at least 4.3 feet of vertical topographic relief and steep slope." This informed the draft SEIS's maps that identified over 18,000 acres as "estimated area of potential maternal denning habitat."

As a species protected by the ESA, the agency should afford as many protections as possible while developing critical denning habitat determinations and exempt this area from leasing. In addition, there need to be adequate buffers in place that are sufficient to protect dens, mothers, and cubs from the impacts of seismic explorations. The agency has authority to exclude high hydrocarbon potential areas from development as is seen in both Alternatives C and D that include less than 400,000 acres of high hydrocarbon potential areas because of protections afforded to springs and aufeis in the high hydrocarbon zones. The agency should do the same to protect polar bears.

Similarly, the Porcupine Caribou Herd (PCH) must be considered in this capacity. Like denning for polar bears, calving and post-calving areas for PCH are disproportionately affected by the acreage and distribution of areas offered under Alternative D. The draft SEIS highlights the harmful effects of development on the PCH. In particular, it notes the impact of roads and other infrastructure. A well-studied consequence of road infrastructure on caribou is the potential for widespread displacement. Alternative D allows for development on thousands of acres of potential PCH calving grounds. Even in areas where NSO stipulations are mandated, the draft SEIS acknowledges that there are exceptions and "it is likely that roads will cross areas with NSO restrictions to access leased areas," that "there likely will be some displacement of

maternal caribou during calving," and further that development "could cause delays or deflection of [PCH] and Central Arctic Herd [CAH] animals during post-calving movement." Displacement during calving is associated with declines in calf survival and displacement in the post-calving period is associated with increased nutritional and physiological stress. We recognize that while some leasing conditions like NSO stipulations may reduce some of this stress, they cannot eliminate it. Reducing the total acreage available for leasing under Alternative D to an ecologically selective 400,000 acres would further help mitigate some of the unavoidable consequences of development on the Coastal Plain.

6. **The draft SEIS must conduct a thorough, quantitative, cumulative effects analysis of oil and gas exploration and development on the coastal plain of the Arctic Refuge.** The Arctic Refuge is one of the wildest, most ecologically intact, and important protected areas in the world. The draft SEIS fails to thoroughly assess cumulative effects of a leasing progam and subsequent development in the context of oil and gas activity, as well as a changing climate, across Arctic Alaska and the circumpolar Arctic. The draft SEIS provides only a cursory analysis of individual industrial and climate impacts and does not explicitly assess how these impacts are additive and interactive across the Arctic landscape and beyond. For example, there is an inadequate cumulative effects analysis for caribou and polar bear populations that use the coastal plain of the Refuge. Resident Southern Beaufort Sea Polar bears—listed as "threatened" under the Endangered Species Act—are already struggling with deteriorating sea ice and increasingly are forced to den on land on the eastern Beaufort Sea coast, including the coastal plain of the Arctic Refuge. In fact, three-fourths of the Refuge coastal plain is designated as critical habitat for polar bears, which are highly vulnerable to disturbance due to oil and gas activities.

7. **The draft SEIS must develop and explicitly describe a comprehensive monitoring plan and conservation strategy for the coastal plain of the Arctic Refuge and describe how this monitoring program will be coordinated with monitoring across the entire North Slope.** The monitoring plan must be capable of determining adverse effects of oil and gas development on the wildlife, plants, waters, and frozen soils of the coastal plain and substantiating beneficial effects of any mitigation measures proposed in the draft SEIS. Other than the Arctic National Wildlife Refuge, there are no landscape-scale protected areas on the coastal plain of our nation's only Arctic ecosystem. Climate change is occurring four times faster in the Arctic than anywhere else in the U.S. In August, the National Academy of Sciences published recent findings that permafrost is now projected to be up to 75% melted by the end of the century. The devastating effects of this level of permafrost melt is not reviewed in the draft SEIS. Without a comprehensive monitoring plan and a network of protected areas to serve as a baseline for scientific monitoring, scientists will be unable to evaluate the effects of climate change on arctic fish and wildlife or the ecosystems that support them. It would be highly risky to commit the entire coastal plain of America's only Arctic ecosystem to industrial development without a master plan for conservation and monitoring. The draft SEIS is seriously flawed unless it can explicitly address this important issue. We recognize that there will be significant impacts from development infrastructure on fish and wildlife resources, their habitats, and the human uses of those resources, including subsistence use and wilderness recreation. Without a scientific benchmark to serve as a control and a comprehensive monitoring plan, industrial development of the entire arctic coastal plain (including the Arctic Refuge) would be very risky for conservation

of Refuge resources and would not provide an opportunity for adequately assessing potential environmental effects and for comparing costs vs. benefits of development.

8. **Other inadequacies in the draft SEIS content related to caribou.** The draft SEIS provides improvements in the analysis and consideration of impacts of potential Coastal Plain oil and gas leasing and subsequent development on caribou compared to the previous FEIS. However, issues with the analysis remain, including areas for improvement to better align with the best available science:

   i. The draft SEIS acknowledges the potential for changes in spring snowmelt timing, which could have effects on forage amount, timing, and quality,[8] but fails to meaningfully analyze the impacts of this change. Such effects are especially important given recent findings that female caribou select for fine-scale habitat patches that are snow free during the calving period, even when the landscape around them is still mostly covered in snow.[9]
   ii. The draft SEIS indicates that traffic levels of "15 vehicles per hour or more ha[ve] been shown to deflect caribou movements and delay road crossings." Such a statement likely underestimates the impacts of traffic. The draft SEIS later acknowledges that "maternal caribou exhibit some displacement from roads even with low traffic levels (< 8 vehicles /day) during calving." The final SEIS should present this acknowledgement alongside the other traffic effect information first mentioned to not mistakenly imply that no effects will happen at traffic levels lower than 15 vehicles per hour. Similarly, a new study by the United States Geological Survey (USGS) found that adult female caribou selected areas with lower traffic volumes throughout the summer, with the greatest selection probabilities when traffic was < 5 vehicles per hour. This new scientific information should be incorporated into the final SEIS to better conform to the best-available data.
   iii. Alternative D holds a 4-week maximum duration of traffic stoppage to prevent displacement of caribou. No justification is provided for this time limit. It should be removed and replaced by a requirement to stop traffic whenever needed to prevent displacement of caribou.
   iv. Important caribou calving and post-calving habitat continues to be defined in the draft SEIS as that used by collared caribou "during more than 40% of the years surveyed."[10] This is one of the primary metrics used in the draft SEIS for identifying potential impacts to caribou under the various alternatives.[11] No justification is given for why only areas used in more than 40% of years are important for caribou. A clear biological rationale, grounded in the best-available science, must be stated.
   v. In general, treatment of climate change impacts upon caribou in the draft SEIS underestimates likely impacts. With such a strong preponderance of potential negative effects arrayed against relatively few expected positive effects for cold-adapted caribou, BLM and FWS must clearly articulate reasonably foreseeable negative impacts and support any assertion that positive effects may balance or outweigh negative effects with reference to scientific literature.

[8] DSEIS at 3-205.
[9] *Id*.
[10] DSEIS at 2-15, 2-18, 2-20.
[11] *See e.g.*, DSEIS at 3-215, 3-216, 3-21, App. J Tables J-22, J-23, J-27.

vi. Another way the implications of climate change are diminished for caribou in the draft SEIS is the treatment of Severson et al. 2021. This recent study[12] led by USGS examined resource selection and habitat use by the PCH and found that the distribution of adult female caribou during the calving and post-calving periods can be predicted by environmental factors like timing of snow melt and greening of vegetation.[13] Projecting these selection patterns into the future based on reasonable climate change scenarios, the authors found predictions of increased use of the Alaskan coastal plain during the calving and post-calving periods.

vii. The requirements described under Alternative D do not show any responsiveness to changes in caribou population. The scientific field of conservation biology has long been aware of the greater risks of extirpation faced by small populations.[14] However, there is no consideration of this increased risk in the protections of the draft SEIS. The caribou protections of Alternative D, strengthened as described above, should be used as a baseline for requirements to avoid impacts to caribou. If the herd size of the CAH or PCH decreases, however, additional restrictions should be added to reduce pressures on caribou at a time of increased vulnerability.

viii. The ANILCA 810 Analysis concludes that "potential impacts to herd size as a result of displacement of maternal caribou are still anticipated to be negligible. Potential impacts to herd size as a result of behavior, feeding, and body condition changes are not anticipated to impact population size. Thus, caribou abundance for Kaktovik, Arctic Village, and Venetie would not be significantly impacted." Similarly, it states that "large-scale displacement and consequent large decreases in the abundance of Porcupine Caribou Herd available for subsistence use is unlikely." As is discussed above, such conclusions are neither supported by the literature, in line with Indigenous Knowledge cited in the ANILCA 810 Analysis, nor in alignment with the results of the best-available scientific modeling of population implications of development. Such a conclusion is also in conflict with other statements in the draft SEIS, including that "changes in caribou behavior will likely occur as a consequence of disturbance and could result in energetic costs that could have demographic impacts," "displacement of calving caribou by active roads is likely to persist despite repeated annual exposure," and in the cumulative sense, "climate change is expected to change the survival rates and distribution of terrestrial mammals (including caribou").

9. **Inadequacies in the draft SEIS content related to other mammals**

One purpose of the Arctic Refuge identified by ANILCA is to conserve muskoxen.[15] The BLM and FWS have not sufficiently evaluated the impacts of the oil and gas program in light of this management purpose. Despite acknowledging this startling population decline, the draft SEIS fails to take a sincere look at the various impacts of development activities on muskoxen and its habitats. Muskoxen are threatened by disturbance, displacement, and habitat degradation from seismic exploration activities and increased air and ground traffic; direct loss of habitat from gravel mining; barriers to movement from facilities, roads, and other infrastructure; increased

[12] Severson, John P., Timothy C. Vosburgh, and Heather E. Johnson. "Effects of vehicle traffic on space use and road crossings of caribou in the Arctic." Ecological applications (2023). https://doi.org/10.1002/eap.2923

[13] *Id.*

[14] E.g., Stacey and Taper. 1992; Caughley. 1994; Newman and Pilson. 1997; Saccheri et al. 1998; Briskie and Mackintosh. 2004; Matthies et al. 2004.

[15] ANILCA § 303(2)(B)(i).

hunting and poaching associated with increased human presence; increased predation due to increased numbers of predators attracted to human trash and food; and the additive and synergistic effects of climate change. According to the FWS,[16] oil and gas exploration and extraction activities, particularly along river corridors, can cause:

- displacement from preferred winter habitat
- increased energy needs related to disturbance and displacement
- decreased body condition of females
- increased incidents of predation
- decreased calf production and animal survival

Seismic exploration and other winter oil and gas development activities, such as air and ground traffic, can disturb muskoxen and have serious negative impacts to the animals' energy balance.[17] Reactions to seismic activities can be variable, but animals have responded with alert behavior, assorting in defensive formations, and running from the disturbance from distances up to 2.5 miles away from operations.[18] This can result in the deaths of young calves that are left behind.[19] According to the BLM, "Where 3-D seismic exploration survey lines were located only 500 to 2,000 feet apart, localized displacement of terrestrial mammals could last for several days or lead to complete abandonment of localized habitat"[20]. Calving season — just before snowmelt from mid-April to mid-May — is a sensitive time, and anthropogenic disturbance can be particularly taxing.[21]

This information suggests that seismic exploration on the Coastal Plain would risk disturbing and displacing muskoxen, causing additional stress in the winter and early spring that could lead to abandonment of preferred habitat areas and increased mortality. The draft SEIS must address the significant potential impacts of seismic exploration on muskoxen in the Coastal Plain, particularly the animals currently using the program area, and explain how inflicting those impacts on this small population will be consistent with the Refuge purpose of conserving muskoxen.

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[16] U.S. Fish and Wildlife Service, Arctic National Wildlife Refuge, Potential Impacts of Proposed Oil and Gas Development on the Arctic Refuge's Coastal Plain: Historical Overview and Issues of Concern (Jan 17, 2001), *available at*: https://www.fws.gov/uploadedFiles/Region_7/NWRS/Zone_1/Arctic/PDF/arctic_oilandgas_impact.pdf.

[17] Department of Interior, Bureau of Land Management. National Petroleum Reserve – Alaska, Final Integrated Activity Plan/EIS. Vol. 2, Ch. 4 (November 2012) at 189 and 191.

[18] Reynolds, P.E. and LaPlant, D.J. 1985. Effects of Winter Seismic Exploration Activities on Muskoxen in the Arctic National Wildlife Refuge. In Arctic National Wildlife Refuge Coastal Plain Resource Assessment. 1984 Update Report Baseline Study of the Fish, Wildlife, and Their Habitats, G.W. Garner and P.E. Reynolds (eds.). ANWR Progress Report No, FY85-2, Volume I. U.S. Department of Interior, U.S. Fish and Wildlife Service, Anchorage, Alaska; J.F. Winters and R.T. Shidler 1990. An Annotated Bibliography of Selected References of Muskoxen Relevant to the National Petroleum Reserve. Alaska Department of Fish and Game. Fairbanks, Alaska.

[19] U.S. Fish and Wildlife Service, Arctic National Wildlife Refuge, Potential Impacts of Proposed Oil and Gas Development on the Arctic Refuge's Coastal Plain: Historical Overview and Issues of Concern (Jan 17, 2001), at p.9, *available at*: https://www.fws.gov/uploadedFiles/Region_7/NWRS/Zone_1/Arctic/PDF/arctic_oilandgas_impact.pdf.

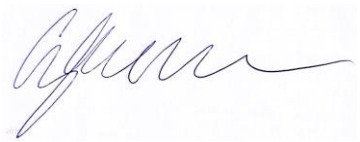
[20] Department of Interior, Bureau of Land Management. Northeast National Petroleum Reserve – Alaska, Final Supplemental Integrated Activity Plan/EIS. Vol. 2, Ch. 4 (May 2008) at 4-158.

[21] Department of Interior, U.S. Fish and Wildlife Service. Proposed Oil and Gas Exploration within the Coastal Plain of the Arctic National Wildlife Refuge, DEIS and Draft Regulations. (September 1982) at IV-34.

In summary, the Alaska Chapter of The Wildlife Society recommends maintaining the coastal plain of the Arctic National Wildlife Refuge in an undeveloped state for the conservation of Refuge resources, as identified in the original seven purposes for which the Range, and later Refuge, was intended. Maintaining the Wildlife Refuge System's mission is increasingly difficult over time. As industry will continue to test the boundaries of protective measures in our legal system, now is the time to reaffirm our commitment to the integrity of the National Wildlife System and uphold the original statutory purposes of the Arctic National Wildlife Refuge.

Thank you for considering our comments on the Coastal Plain draft SEIS.

On behalf of the Executive Board and membership of the Alaska Chapter of the Wildlife Society,



Cynthia Wardlow, President