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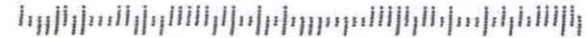


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Coastal Plain Oil and Gas Leasing Program EIS
Bureau of Land Management (BLM)
222 West 7th Avenue, Stop #13
Anchorage, Alaska
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5 March 2019

Coastal Plain Oil and Gas Leasing Program EIS
Bureau of Land Management (BLM)
222 West 7th Avenue, Stop #13
Anchorage, Alaska 99513 -7504

Dear BLM Staff,

We have examined the Draft Environmental Impact Statement (DEIS) for the Coastal Plain Oil and Gas Leasing Program and wish to submit some brief comments here. We are researchers from the University of Miami with expertise in environmental assessment and are concerned about the potential adverse environmental and social impacts of the oil and gas leasing program in the Arctic National Wildlife Refuge. The Refuge is a protected area of great environmental quality. BLM's oil and gas leasing program will initiate hydrocarbon exploration and development in this unique region of our country. Before the approval of a leasing program in a national wildlife refuge with significant numbers of endangered and threatened species, BLM must conduct a thorough environmental study that properly addresses the potential impacts in light of great scientific uncertainties. Upon examination of the environmental document, we believe that it insufficiently addresses numerous potential issues as we detail below. Our analyses lead us to recommend at this time that BLM select Alternative A, the No Action Alternative. We believe that the agency should improve its environmental analysis before continuing down the road to an oil and gas leasing program.

Marine Mammals

The proposed action will negatively affect multiple marine mammal species that are under protection from the Endangered Species Act (ESA) and the Marine Mammal Protection Act (MMPA). In particular, polar bears will be highly affected by this leasing program due to land use and pollution. There is a disproportionately high level of polar bear activity on the lands that will be leased, as well as a disproportionately high incidence of maternal dens in high hydrocarbon zones that will be leased. Polar bears may lose almost 5,000 acres of maternal denning habitat, land that is designated as critical habitat by the USFWS and is vital to their future survival.

In the fall, female polar bears dig into densely packed snow and sea ice to create a den where they will spend 5+ months giving birth and raising cubs until spring when they are strong enough to emerge. However, if the polar bears are disturbed in their dens, they will leave the safety of the den early and face the cold of the winter. This puts the cubs at much greater risk, lowering their chance of survival.¹ Denning habitat must be preserved and dens must be respected in order to give the cubs the greatest chance of survival, preventing extinction of the species.

The operations and human activity of this leasing program will disrupt the activity of hundreds of female polar bears, deterring them away from suitable denning sites and disturbing them in their dens.² Pregnant mothers must carefully select suitable ice for their dens; if the ice is not dense enough, it will not provide much needed insulation. Due to climate change in Alaska, there is often not enough snow accumulation for polar bears to make their dens, so suitable sites for denning are rare and must be left unobstructed.³ Even if a polar bear finds a suitable place to den and gives birth, noise from facility operations inland and drilling activities can drive them out of their dens prematurely. A buffer zone between human activity and polar bear dens is essential to preventing this issue.

Due to the various concerns enumerated above, it is imperative to the survival of this species that the proposed action is further modified to minimize its impact. The BLM's DEIS fails to sufficiently evaluate the effects that the leasing program will have on polar bear activity and reproduction. The BLM must reconsider alternatives to prioritize marine mammal protection and minimize detriment to polar bear populations.

Birds

The Bureau of Land Management's DEIS fails to adequately assess the long-term effects that winter exploration activities will have on bird abundance in the project area. The DEIS gives a conclusory assertion that the direct impacts of exploration will be limited to short-term disturbances to species with a year-round presence and dedicates less than a sentence to acknowledging the potential for indirect effects on birds through alterations in vegetation and habitat quality.⁴ The lack of any analysis of these "indirect effects" in the DEIS seems to imply they will be negligible. However, this ignores the reality that tracks left behind by seismic oil exploration persist for decades, as do associated

¹ Durner, G., K. Simac, and S. Amstrup. 2012. Mapping Polar Bear Maternal Denning Habitat in the National Petroleum Reserve – Alaska with an IfSAR Digital Terrain Model. *Arctic* 66(2):197-206.

² Fischbach, A., S. Amstrup, S., and D. Douglas. 2007. Landward and eastward shift of Alaskan polar bear denning associated with recent sea ice changes. *Polar Biol.* 30:1395-1405.

³ *Id.*

⁴ See Draft Environmental Impact Statement at 3-92 ("Winter activities would affect few species and low numbers of year-round residents."; "Exploration occurs during winter and would have little direct effect on birds; indirect effects would occur only from ice roads and rolligon traffic on vegetation and terrain surfaces and impacts on habitat quality from water removal.")

alterations in vegetation and soil drainage, which research suggests will have significant long-term impacts on the distribution and abundance of various bird species in the project area. Thus, these potential impacts must be considered.

Studies of northern landscapes after oil exploration activities have found altered vegetation and soil drainage long after those activities terminated.⁵ A 2018 study of the persisting effects on vegetation two to three years after modern 2D winter seismic exploration in northwestern Canada found vascular plant cover along seismic lines was reduced by as much as 59.5% for medium and low shrubs, 27% for tall shrubs, and 18% for wet graminoid plants compared to reference areas, coinciding with increased amounts of bare ground and increased thaw depth. Decreases in plant cover approaching 90% have been observed along seismic trails in the first summer following oil exploration activities,⁶ and though vegetative cover begins to improve in subsequent years, such effects persist in a significant capacity for greater than forty years after the termination of exploration activities.⁷ These long-term impacts on vegetative cover pose significant implications for a variety of birds, especially those that nest in low and medium-height shrubs, the plant type found to be the most impacted by exploration activities.

While studies evaluating the long-term impacts of seismic lines on bird populations are more difficult to conduct and thus less numerous than those concerned solely with vegetation, a study conducted by Ashenhurst and Hannon observed a reduced abundance of savannah sparrows, Lapland longspurs, tree sparrows, and common redpolls along seismic lines ranging from eighteen to thirty-three years old in upland tundra, low-centre polygon, and sedge/willow habitats compared to reference areas.⁸ They attributed these reductions to decreased plant cover, altered plant species composition, and altered soil characteristics. The study only collected data for species with sufficiently high abundance, as collecting data for rarer and infrequently observed species posed data collection difficulties that hindered the researchers' ability to record statistically significant discrepancies—though the reduced abundance observed in species for which data was collected is likely to extend to many bird species outside the scope of Ashenhurst and Hannon's data collection. Furthermore, Lapland longspurs and

⁵ See McCarter, S.S., A.C.A. Rudy, and S.F. Lamoureux. 2017. Long-Term Landscape Impact of Petroleum Exploration, Melville Island, Canadian High Arctic, *Arctic Science* 3:730; Felix, N.A., and M.K. Raynolds. 1989. The Effects of Winter Seismic Trails on Tundra Vegetation in Northeastern Alaska, U.S.A., *Arctic and Alpine Research* 21:188; Kemper, J.T. and S.E. Macdonald. 2009. Effects of Contemporary Winter Seismic Exploration on Low Arctic Plant Communities and Permafrost, *Arctic, Antarctic, and Alpine Research* 41: 228.

⁶ Felix, N.A. and M.K. Raynolds. 1989. The Effects of Winter Seismic Trails on Tundra Vegetation in Northeastern Alaska, U.S.A., *Arctic and Alpine Research* 21:188.

⁷ McCarter, S.S., A.C.A. Rudy, and S.F. Lamoureux. 2017. Long-Term Landscape Impact of Petroleum Exploration, Melville Island, Canadian High Arctic, *Arctic Science* 3:730.

⁸ Ashenhurst, A.R. and S.J. Hannon. 2008. Effects of Seismic Lines on the Abundance of Breeding Birds in the Kendall Island Bird Sanctuary, Northwest Territories, Canada, *Arctic* 61:190.

savannah sparrows occur in significant numbers within the project area, so even without such extrapolation, the consideration of the long-term effects of oil exploration are warranted.

Terrestrial Animals

Many species, especially terrestrial species, are predicted to be affected by this project because even in the most conservative alternatives, there will still be infrastructure, which is the main reason for concern. This type of construction can span far and wide across the landscape leading to habitat disturbances and fragmentation. The species of greatest concern is the caribou, a species of great importance as prey for subsistence hunters and local predators. For many rural Alaska Residents, subsistence hunting is a substantial part of their nutrition, food security, and economy.⁹ In addition to their importance as a food source for local residents, caribou are also an important source of food for several predator species, including wolves, bears, golden eagles, lynx, and wolverines.¹⁰ The Porcupine caribou, the species that has resisted declines in population size experienced by other types of caribou, will be most endangered by this project.

Caribou call the coastal plain of Alaska's Arctic National Wildlife Refuge home in the spring and summer, when their most prominent activity is giving birth.¹¹ They migrate to these calving grounds annually, and it is feared that they will abandon these grounds if they detect disturbances or cannot physically access them. It is understood that caribou will be reluctant to cross roads, berms, pipelines, or any other obstacles,¹² and they are sensitive to the presence of humans, vehicles, and sound.¹³ Although studies have shown that different factors may affect their ability and/or willingness to cross these obstacles and human-occupied areas, such as degree of obstruction and actual traffic levels on the roads or paths,¹⁴ there is still a high potential for caribou to be displaced due to this oil drilling project, which may lead to inconsistent birth and survival rates, threatening their population size.

⁹ Subsistence Hunting in Alaska. *The Great State of Alaska*. Retrieved from: www.adfg.alaska.gov/index.cfm?adfg=subsistence.hunting.

¹⁰ Arctic - Frequently Asked Questions about Caribou - Arctic - U.S. Fish and Wildlife Service. *U.S. Fish and Wildlife Service*. Retrieved from: www.fws.gov/refuge/arctic/carcon.html.

¹¹ Fancy, S.G., and K.R. Whitten. 1991. Selection of Calving Sites by Porcupine Herd Caribou. *Canadian Journal of Zoology* 69(7):1736-1743. doi:10.1139/z91-242.

¹² U.S. Fish and Wildlife Service, *supra* note 10.

¹³ Cameron, R.D., W.T. Smith, R.G. White, and B. Griffith, B. 2002. The Central Arctic Caribou Herd. In *Arctic Refuge Coastal Plain Terrestrial Wildlife Research Summaries*, D.C. Douglas, P.E. Reynolds, and E.B. Rhode (eds.), pp. 38-45. U.S. Geological Survey, Biological Resources Division, Biological Science Report USGS/BRD/BSR-2002-0001.

¹⁴ Fancy, S.G., L.F. Pank, K.R. Whitten, and W.L. Regelin. 1989. Seasonal Movements of Caribou in Arctic Alaska as Determined by Satellite. *Canadian Journal of Zoology* 67(3):644-650. Retrieved from: <https://doi.org/10.1139/z89-093>

We are not only concerned that caribou will be unable to reach, or may abandon, their usual calving grounds, but also whether they will be able to navigate from the coastal plain to their winter range. The coastal plain provides a good summer range after calving in the spring, because the plain provides nutritious new plant growth, allowing the mothers to produce rich milk for the calves¹⁵ and build up body fat before winter.¹⁶ Additionally, studies have shown that the coastal plains are safer for calves because predators are less abundant.¹⁷ However, the calves cannot remain on the coastal plain after summer because the area experiences harsh and windy weather conditions.¹⁸

Studies from past excavation projects have shown that caribou can alter their ranges and migration patterns to avoid these operations,¹⁹ but this adaptation to changing conditions often results in lower fecundity, heightened competition, increased risk of predation, and lower productivity of the herd.²⁰ Moreover, we cannot be certain of the changes this project may cause and how these disturbances will affect the migrations of the caribou populations within the action area.

Subsistence Uses

The DEIS acknowledges that the impacts of future exploration and development activities—like seismic and drilling exploration, air traffic, and infrastructure for transportation of oil and gas—are generally unknown. Environmental groups claim that much information regarding the region (like potential oil reserves) is outdated, which could cause serious miscalculations in the impact statement.²¹

Our primary concern with the program's impact on subsistence activities is the effect on caribou—a species currently listed as having a vulnerable conservation status. The long-term effects of the development on caribou reproductive cycles, herd migration activity, and resource availability may cause a significantly diminished opportunity for natives to harvest caribou for subsistence. Further, the presence of oil and gas operations are

¹⁵ Griffith, B., D.C. Douglas, N.E. Walsh, D.D. Young, T.R. McCabe, D.E. Russell, R.G. White, R.D. Cameron, and K.R. Whitten. 2002. The Porcupine caribou herd. In *Arctic Refuge Coastal Plain Terrestrial Wildlife Research Summaries*, D.C. Douglas, P.E. Reynolds, and E.B. Rhode (eds.), pp. 8-37. U.S. Geological Survey, Biological Resources Division, Biological Science Report USGS/BRD/BSR-2002-0001.

¹⁶ U.S. Fish and Wildlife Service, *supra* note 10.

¹⁷ *Id.*

¹⁸ *Id.*

¹⁹ Cameron, R.D., D.J. Reed, J.R. Dau, and W.T. Smith. 1992. Redistribution of calving caribou in response to oil field development on the Arctic slope of Alaska. *Arctic* 45(4):338-342. doi:10.14430/arctic1412.

²⁰ Nellemann, C., and R.D. Cameron. 1998. Cumulative impacts of an evolving oil-field complex on the distribution of calving caribou. *Canadian Journal of Zoology* 76(8):1425-1430. doi:10.1139/z98-078.

²¹ Mufson, S. 2018. *Trump Administration takes another step toward oil drilling in Arctic National Wildlife Refuge*, The Washington Post. 20 December 2018. Retrieved from: https://www.washingtonpost.com/national/health-science/trump-administration-takes-another-step-toward-oil-drilling-in-arctic-national-wildlife-refuge/2018/12/20/5fb93f40-0469-11e9-b5df-5d3874f1ac36_story.html?utm_term=.82e44d7520b7. (last visited February 23, 2019).

expected to result in stricter restrictions on firearm discharges and access to lands, greatly diminishing the opportunity for subsistence harvesting by natives.

Because caribou are a keystone species, such alterations in subsistence habits pose a threat not only to community tradition and the native subsistence culture, but also to the entire composition of the ecosystem. A representative for a native group has expressed concern that BLM has not adequately considered effects on climate, wildlife, and her people.²² Until a more in-depth study of caribou resilience is conducted, the potential harms to native communities and the caribou population greatly outweigh the economic benefits of oil leasing.

Cultural Resources

The remains of sites, structures, and objects in the Arctic Refuge Coastal Plain are subject to damages from post-lease activities associated with the Coastal Plain Oil and Gas Leasing Program. Large areas of land included in the program have not been surveyed, making it likely that sacred sites and other structures will be disturbed or destroyed completely during development. Traditional harvest sites and dwellings built by indigenous peoples are also subject to disturbances. A strong possibility exists that unsurveyed areas of land in the coastal region may also contain important resources. The National Environmental Policy Act and section 106 of the National Historic Preservation Act should be used to assess the Arctic Refuge Coastal Plain's cultural resources. Guidelines for historic properties are also included in the Archaeological Resources Protection Act of 1979 and the Native American Graves Protection and Repatriation Act.²³

An area-wide survey, similar to the one conducted by Edwin Hall in 1982, should be conducted in the entire Coastal Plain area using state-of-the-art technologies. The study produced aerial-view images, and utilized them to identify traits of prehistoric encampments, and locate archaeological materials. The survey lasted 20 days and minimized pedestrian interference, identifying artifacts of stone, bone, glass, charcoal, and china. Evidence of human occupation found in images like those from the study can also be helpful to identify sacred sites.²⁴ Previously documented sites throughout the Arctic Refuge include tent ring complexes, sod houses and cabins, cemeteries, and

²² Fountain, H. 2018. *Interior Dept. Moves Toward Selling Oil Leases in Arctic Refuge*, The New York Times 20 December 2018. Retrieved from: <https://www.nytimes.com/2018/12/20/climate/alaska-anwr-oil-drilling-proposal.html>. (last visited February 23, 2019).

²³ ACHP (Advisory Council on Historic Preservation). 1980. *Treatment of Archeological Properties: A Handbook*. Advisory Council on Historic Preservation, Washington, D.C.

²⁴ Labdell, J.E. 1995. North Alaskan Pingos: Ephemeral refugia in prehistory. *Arctic Anthropology* 32(1):62-81.

whalebone houses.²⁵ To identify and document cultural resource sites, time should be allotted for the area to be thoroughly surveyed using a similar technique.

Conclusion

Given the concerns that we mention above, we urge BLM to select Alternative A (No Action Alternative) at this time because of the risks that oil and gas exploration presents to marine and terrestrial fauna, cultural resources, and subsistence uses. The uncertainty surrounding the potential impacts demands additional environmental analyses and improved environmental documents before we can support any oil and gas leasing program in the Arctic National Wildlife Refuge. Please contact us if you have additional questions.

Sincerely,



Chamie Brown



Jacob Hensch

Caroline Jasperse



Kristen Ranges



Madeline Miller



Daniel Suman



²⁵ Striphas, T. 1998. Cultural Studies' Institutional Presence: A Resource and Guide. *Cultural Studies* 12(4):571-594. doi:10.1080/09502386.1998.10383121.