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Comments on SAExploration Inc.'s proposed seismic survey for the Coastal Plain.

Dear Ms Jones,

The Canadian Parks and Wilderness Society, Yukon chapter (CPAWS Yukon) appreciates the opportunity to comment on the proposed seismic survey for the Coastal Plain of the Arctic National Wildlife Refuge. CPAWS Yukon has serious concerns over SAExploration (SAE) Inc.'s application and BLM's review of the proposal. CPAWS Yukon is disappointed by the BLM's decision to preclude seismic surveys from a rigorous Environmental Impact Statement.

CPAWS Yukon is dismayed by BLM's lack of transparency throughout its review of SAE's application. BLM was slow to release SAE's application publicly: receiving the application on May 18th, but not publishing it until August 6th. While BLM officials have been quoted in the media as encouraging public comments, it is difficult to comment on the specifics of a proposal that is only released publicly at the last minute. The two publicly available documents are the BLM's seven page overview of SAE's application (hereafter "the BLM Overview") and SAE's thirty three page application titled Marsh Creek Plan of Operations (hereafter "the Marsh Creek Plan"). Neither document provides a robust explanation of the proposed activities, anticipated environmental impacts, or mitigation measures.

The poor quality of SAE's application and BLM's untransparent review of the project are indicative of the rushed and sloppy approach to oil and gas development in the Arctic National Wildlife Refuge. BLM should require SAE to submit a far more robust application, then thoroughly review the application as part of its Environmental Impact Statement of the proposed oil and gas leasing program for the Coastal Plain.

Thank you,



Chris Rider
Executive Director, CPAWS Yukon

The legal basis for seismic surveying on the Coastal Plain is questionable.

While the Tax Cuts and Jobs Act P.L. 115-97 authorized a leasing program for the Coastal Plain of the Arctic National Wildlife Refuge, the legislation makes no specific allowance for seismic testing. Previous attempts by the State of Alaska to conduct seismic surveys in the Arctic Refuge were rejected by former Secretary of the Interior Sally Jewell and the U.S. District Court, District of Alaska, who agreed that provisions under ANILCA for seismic testing in the 1002 lands sunset during the 1980s^{1,2}. The BLM has not indicated what it sees as the legal basis for authorizing seismic activities within the Coastal Plain.

SAE and BLM provides inadequate information on protecting polar bear dens.

As Alaska Department of Fish and Game Polar Bear biologist Dick Shideler notes, “there is currently no way to predict where dens will be, and they cannot be avoided/ protected if their den location is unknown.”³ SAE’s application states that the company will conduct a polar bear den survey prior to seismic activities. However, the Marsh Creek Plan provides no details on how the survey would occur, nor what technologies such a survey would rely upon. According to the BLM overview SAE would conduct its den surveys using Forward Looking Infrared (FLIR) sensors, likely during the first half of December.

Locating dens using FLIR sensors mounted on planes or helicopters can be complicated by wind, fresh snow and stormy weather. For instance, ADFG reports that during December and January of 2009-10, just nine days were suitable for the use of FLIR on the Coastal Plain⁴. BLM’s assertion that surveys could be conducted during the first half of December may be highly optimistic, given the uncertainties of Coastal Plain weather. Even when conducted by experts with substantial training and experience, bear den surveys routinely yield both false positives and false negatives⁵.

Polar bear dens are broadly distributed across the 67,000 square miles of the 1002 lands⁶. Given the expansive area needed to be surveyed, the harshness of winters on the North Slope, the fleeting windows for the effective use of infrared technology, the rigorous training needed to reliably locate dens, and SAE’s failure to publicly release details on how it intends to conduct its den surveys, CPAWS Yukon is skeptical that SAE would be capable of conducting adequate surveys for grizzly and polar bear dens. Disturbance around dens can lead to abandonment and cub mortality⁷. SAE proposes to conduct surveying across the entirety of the 1002 lands, and run

¹Gutierrez, D. (10 July, 2013). State Presents New Plan For ANWR Development. *Alaska Public Radio Network*.

²Demer, L. (22 July, 2015). U.S judge rejects push to open ANWR. *Alaska Dispatch News*.

³Shideler, D. (2015). Detecting grizzly and polar bear dens on Alaska’s North Slope. Alaska Department of Fish and Game (Web Page). Retrieved from:

http://www.adfg.alaska.gov/index.cfm?adfg=wildlifeneews.view_article&articles_id=708

⁴ *Ibid.*

⁵ *Ibid.*

⁶ Durner, G.M., S.C. Amstrup, & K.J. Ambrosius. (2006). Polar bear maternal den habitat in the Arctic National Wildlife Refuge, Alaska. *Arctic*. 59(1): 31-36.

⁷ Durner, G.M., S.C. Amstrup, & K.J. Ambrosius. (2006). Polar bear maternal den habitat in the Arctic National Wildlife Refuge, Alaska. *Arctic*. 59(1): 31-36.

approximately 16 seismic lines within each square mile. This means that seismic machinery would likely penetrate extremely close to any un-located den.

The Agreement on the Conservation of Polar Bears of 1973 outlines measures to be taken by the Arctic states to conserve polar bear populations. Article II of the treaty states “[e]ach Contracting Party shall take appropriate action to protect the ecosystems of which polar bears are a part, with special attention to habitat components such as denning and feeding sites and migration patterns, and shall manage polar bear populations in accordance with sound conservation practices based on the best available scientific data.” Seismic activities within polar bear denning habitats on the Coastal Plain. As article IX of ACPB outlines, “[t]he Contracting Parties shall continue to consult with one another with the object of giving further protection to polar bears.” ACPB recognizes the importance of cooperation between Arctic states in the conservation of polar bears. In accordance with this spirit, the Bureau of Land Management should consult with scientists, policy makers and Indigenous peoples from the nations of the Arctic on the potential impacts of Coastal Plain oil and gas activities on polar bear populations. The Bureau should make special efforts to consult with Canada, as polar bear populations within the western Beaufort Sea region of Canada may be directly impacted by seismic activities in adjacent habitats.

SAE’s application lacks details on impacts and mitigation.

SAE’s Marsh Creek Plan makes no attempt to provide information on environmental impacts or mitigation measures. SAE’s Marsh Creek Plan does not come close to meeting the standard of an application for an environmental review, and it is irresponsible of the BLM to treat it as such. BLM should reject SAE’s application and require the company to return with one that appropriately addresses the potential environmental impacts of its proposed activities.

The lack of information provided by SAE is evident in many areas, including:

Tundra compaction. SAE provides no information on the impacts of its activities on the underlying tundra. What impacts would seismic vehicles have on plant life? Would the presence of compacted snow delay spring melt along seismic lines, and therefore shorten the productive season for vegetation along these lines? Is water expected to collect in the depressions left behind by seismic activities? What are the anticipated impacts of increased standing water on insect populations, vegetation assemblages and permafrost dynamics?

Snow conditions. The Marsh Creek Plan provides no details on the minimum snow depth that it would require to operate. The BLM overview indicates this to be mere six inches. The Marsh Creek Plan does not assess how the environmental impacts of its proposed activities may vary across the heterogeneous snow regimes of the Coastal Plain. SAE does not indicate how it plans to monitor changing snow conditions throughout time and space on the Coastal Plain, or how it would adapt its activities should insufficient snow cover exist.

Willow protocol. The Marsh Creek Plan indicates that SAE will use remote sensing and ground truthing to map willow locations. However the plan does not define what types of willows SAE

will map. Will SAE map all willows, including the low-profile scrub willows common across the Coastal Plain, or only the tall willows found alongside streams and rivers? Beyond the mapping of willows, SAE's application provides no information on what measures, if any, would be used to avoid damaging willows.

Oil spill protocol: The Marsh Creek Plan provides no details on how any spills would be cleaned and remediated. The application provides few specifics on how such spills would be avoided, such as the use of bermed fuelling stations.

Wildlife avoidance: SAE's proposed seismic activities could be harmful to muskox and caribou. Winter disturbances could increase the energy demands of these wildlife, drive animals away from important feeding habitats and disturb muskox calving: which takes place prior to snow melt in the late winter. SAE's wildlife interaction plan is completely lacking for details of how the company would minimize impacts on caribou and muskox: simply stating SAE would "[a]void any interaction with wildlife." The BLM makes no mention of any wildlife apart from bears in its overview. SAE's wildlife avoidance plan is utterly inadequate.

Waste disposal: The Marsh Creek Plan provides no details of how black water would be either disposed of or transported out of the Coastal Plain. The Marsh Creek Plan does not address the potential impacts of grey and black water disposal, or monitoring of such impacts.

SAEs plan lacks basic professionalism.

SAE's Marsh Creek Plan report is riddled with typos, grammatical errors and other inconsistencies. For instance, the report's introductory page lists both December 10th, 2018 and December 1st, 2018 as the anticipated start date. The application appears have been hurriedly drafted and not proofread. The application's lack of professionalism raises red flags about SAE's quality of work and the company's respect for the regulatory process. The following sentences are representative of the document's sloppiness:

"If it is determined willows are in the area, SAE has developed a willow protocol that ensures willow areas are defined and mapped by size." (SAE, 2018, p 8).

"Survey will mark trials to be follow by the crews if it is determined the area is accessible." (SAE, p 8).

"Bear awareness, will be responsible as the lead vehicles in the field to scout for possible additional locations and to bring to the crew's attention at the daily safety meetings those locations." (SAE, p 32).

These are a few examples of SAE's poor quality of work. The sloppiness and lack of details in SAE's application raise numerous red flags about the abilities of the company to carry out seismic activities in a responsible fashion. If the BLM has received or expects to receive more recent applications and/or supporting documents from SAE, then the information should be released publicly at the soonest possible moment.