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[EXTERNAL] Scoping comments for proposed SAE seismic program on the coastal plain of the Arctic National Wildlife Refuge

1 message

Francis Mauer <fmauer@mosquitonet.com> Fri, Aug 17, 2018 at 1:54 PM
To: blm_ak_coastal_plain_seismic_ea@blm.gov

August 17, 2018

Shelly Jones

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Submitted via e-mail

Dear Ms. Jones:

The following comments are provided in response to BLM's request for scoping comments for an environmental assessment of SAE's proposed 3-D seismic survey of the entire coastal plain of the Arctic National Wildlife Refuge.

For a period of 21 years (1981 to 2002) I worked as a wildlife biologist at the Arctic National Wildlife Refuge. During 1976 through 1980, I provided information and analysis of fish and wildlife resources of the northwest and arctic regions of Alaska for the legislative effort leading up to passage of the Alaska National Interest Lands Conservation Act. I was employed by the U.S. Fish and Wildlife Service during both of these periods. As a result I became familiar with the original purposes of the Arctic National Wildlife Range, ANILCA purposes and the wildlife, fish, and habitat values and conditions of the coastal plain and their relationship to the entire 19.6 million acre Refuge the international range of the Porcupine Caribou Herd in Canada.

Given the expansive scope (entire coastal plain), vast amount of heavy equipment and personnel involved, and the great intensity (survey line grids of 660 to 1320 feet apart) of the proposed seismic surveys, and considering the well-documented impacts of previous seismic surveys conducted in this area during the 1980's[1], it is clear that a full environmental impact statement is required according to the National Environmental Policy Act. An environmental assessment process would be inappropriate, inadequate and ill-advised.

I would like to point out a few of many major concerns regarding this proposed 3-D seismic exploration program.

Terrain and Snow cover characteristics

During the 21 years that I worked at the Refuge, I flew numerous aerial surveys for wildlife over the coastal plain during all seasons, including the winter, and am very familiar with the unique topography and weather conditions that make this area especially susceptible to impacts from seismic operations. To understand better, one must realize that in the Arctic Refuge, the Brooks Range arcs northward towards the Beaufort Sea coast resulting in a very narrow arctic coastal plain and foothills region ranging from only 12 to about 30 miles wide. The gradient of water courses flowing north to the sea is significantly greater than what is found to the west of the Refuge where distance from mountains to coast ranges from 100 to 150 miles. A steeper gradient of streams in the Refuge results in more narrow, incised valleys, all aligned on a north – south orientation These valleys are perpendicular to prevailing east and west winds that are generally of greater velocity due to the close proximity to the coast.

These features set the stage for consistently uneven snow cover over most of the Arctic Refuge coastal plain area. Exposed hill tops and river bluffs are often nearly bare of snow, and deep snow accumulations are found in stream bottoms. Thus the resulting snow cover patterns during winter on the Refuge coastal plain are a complex maze of bare ground or very shallow snow cover intermingled with deep snow in the complicated branches of water tracks leading to stream and river valleys.

During 21 years of winter field work in the Refuge, I have observed this complicated pattern of snow cover to occur nearly every year. Consistently adequate snow cover that is deemed sufficient to minimize impacts of seismic operations do not exist in the Arctic Refuge. This situation is starkly different from that which is generally the found to the west where oil exploration and development occurs on State lands and in the NPRA. I believe it would be a grave error of judgement to assume that snow cover conditions found to the west of the Refuge that are familiar to industry and government regulators is the case in the Arctic Refuge. It clearly is not.

Whatever environmental analysis process that is followed (EA or EIS) must include an honest and thorough appraisal of potential impacts that are associated with the very different physical environment of the coastal plain of the Arctic Refuge. It will be essential to consider the history of 2-D seismic surveys that were conducted in the Refuge during 1983-84 and recognize the impacts that occurred. Impacts resulting from the 2-D seismic surveys have been monitored at regular intervals during the past 34 years, and some impacts remain to this date.

Your analysis must include the great expanse and intensity of the proposed 3-D seismic program, and acknowledge the impossibility of negotiating the complex labyrinth of uneven snow cover in the Refuge by heavy seismic vehicles, tractors and bulldozers pulling camp facilities. It must include both qualitative and quantitative aspects of potential impacts to vegetation, soils, water, fish and wildlife habitat, visual aspects, wilderness and recreational values. For example, your analysis must address both qualitative and quantitative impacts due to damage of vegetation such as *Eriophorum vaginatum*, which is critical food for lactating female caribou on the calving grounds of the Porcupine Caribou Herd.

Protection of denning polar bears

The special terrain and snow cover features in the Arctic Refuge coastal plain that are described above are also the most heavily used maternal denning habitat for polar bears in all of Alaska. The early fall accumulation of snow in the stream and river valleys of the Refuge coastal plain allow for pregnant female polar bears to excavate and occupy their dens in October where they give birth to young during December, and remain until March. Disturbance from seismic exploration activity has been known to cause premature evacuation of dens by maternal female polar bears and jeopardize survival of young cubs.

While the use of forward looking infra-red radar (flir) to locate maternal dens prior to initiating winter seismic operations may be helpful, there are several limitations to the efficacy of this technique.[2] Some limitations include difficult weather conditions during fall and early winter that often preclude flight operations necessary to search for maternal dens. Blowing snow and wind can interfere with establishing a clear thermal signature that is necessary to establish den

locations. Dens in deep snow and the insulation of the bear's fur can prevent identifying a clear thermal signature. The complex array of water tracks and stream courses where there is sufficient snow depth for dens in the Arctic Refuge make it difficult to effectively achieve complete searches for polar bear dens.

Your environmental analysis must provide an honest, objective assessment of the limitations of flir technology, and properly appraise the potential impacts to polar bears that may occur from this intensive 3-D seismic program. The information currently provided by BLM and the permit applicants is woefully inadequate determine actual impacts to polar bears. Furthermore, the analysis must acknowledge that amount of onshore denning by polar bears is increasing because of thin, unstable ice conditions related to climate warming in the Arctic, and therefore, the significance of onshore denning by polar bears on the coastal plain of the Refuge is increasing.

Impacts of Water Use

Another consequence of terrain and topographic differences between the Refuge coastal plain and areas to the west, where oil industry has operated for decades, is the markedly lower availability of water during the winter season. For example, winter water availability in the coastal plain of the Refuge is less than one-tenth of that found in the north eastern portion of the NPRA. Also due to proximity of mountains to the coastal plain in the Arctic Refuge, the presence of perennial springs is much greater that for the areas to the west. Many of these springs in the Refuge provide overwinter habitat for fish, some of which are endemic to a single spring area. Springs such as Sadlerochit Spring also support unique plant communities, invertebrate species, birds such as the American dipper that remain year-round, and provide habitat for river otters. The plan provided by SAE and the BLM do not indicate what, if any measures will be used to avoid impacting these sensitive spring areas. Your analysis must address the many issues surrounding water use and the impacts of seismic operations to these vital resources.

Wilderness and recreational values

An objective environmental analysis of potential impacts to visual aesthetics such as long lasting scars on the tundra environments of the coastal plain resulting from the proposed action must also be presented. The purposes of the original Arctic National Wildlife Range included preservation of wildlife, wilderness and recreational values. Your analysis must address how these purposed may be violated by the 3-D seismic survey. In addition, all of the lands immediately south and east of the coastal plain are designated as wilderness according to the Wilderness Act of 1964. These lands to the south are higher in elevation and thus, scars to the tundra vegetation and soils will be highly visible from a vast area within the designated Wilderness. The effects of visual impacts on wilderness values and recreation visitors must be explained and analyzed.

Alternatives

A full range of alternatives, including the no action option must be analyzed. Various alternatives limiting the size and location of areas to be surveyed should be provided. For example, an alternative to limit the proposed action to native corporation lands only, should be evaluated.

Thank you for the opportunity to provide these additional scoping comments. Please realize that these comments are not all inclusive, but are aimed to encourage an honest appraisal of this very important issue.

Sincerely,

Fran Mauer

Alaska Rep for Wilderness Watch

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[1] Jorgenson, J.C, J.M. VerHoef, and M.T. Jorgenson. (2010). Long-term recovery patterns of arctic tundra after winter seismic exploration. Ecological Applications, 20(1): 205-221.

[2] Amstrup, S.C., G.York, T.L. McDonald, R. Nielson, and K. Simac. (2004). Detecting denning polar bears with forward looking infra-red (FLIR) imagery. BioScience 54(4): 337-344.