

Scoping Comments
Seismic Exploration on the Coastal Plain Scoping Comments
Arctic National Wildlife Refuge
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The following are scoping comments addressing the Scoping Notice for Seismic Exploration on the Coastal Plain, Arctic National Wildlife Refuge.

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Introduction

I lived in the community of Kaktovik and have visited many Coastal Plain settings. Perhaps the most unique feature of the Arctic National Wildlife Refuge (Arctic Refuge) is that large-scale ecological and evolutionary processes continue here, free of human control or manipulation. A prominent reason for establishment of the Arctic Refuge was the fact that this single protected area encompasses an unbroken continuum of arctic and subarctic ecosystems. The Arctic Refuge is home to an incredible array of biodiversity. Here, one can traverse the boreal forest of the Porcupine River plateau, wander north up the rolling taiga uplands, cross the rugged, glacier-capped Brooks Range, and follow any number of rivers across the tundra coastal plain to the lagoons, estuaries, and barrier islands of the Beaufort Seas coast. The Coastal Plain of the Arctic Refuge is home to rare species like the polar bear, and other iconic wildlife such as musk oxen, Arctic foxes and wolverines. I have witnessed vast numbers of the Porcupine Caribou herd and the richness of other wildlife on the Coastal Plain.

The mission of the National Wildlife Refuge System, “is to administer a national network of lands and waters for the conservation, management, and where appropriate, restoration of the fish, wildlife, and plant resources and their habitats within the United States for the benefit of present and future generations of Americans.” The Arctic Refuge is administered by the U.S. Fish and Wildlife Service, which is responsible for the planning and management of the refuge surface resources and addressing the compatibility of resource use and activities within the Coastal Plain. The Secretary of the Interior must maintain the biological integrity, diversity and environmental health of the Refuge System.

For the Arctic Refuge, the Fish and Wildlife Service is 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, muskox, Dall sheep, wolves, wolverines, snow geese, peregrine falcons and other migratory birds and Arctic char and grayling. Much of the Coastal Plain is designated as critical habitat for the polar bear under the Endangered Species Act. In addition, the refuge is to ensure, to the maximum extent practicable and in a manner consistent with the purposes set forth above, water quality and necessary water quantity within the Coastal Plain. Contrary to these established purposes of the Refuge, P.L. 115-97 (Tax Act of 2017) adds a purpose to, “*provide for an oil and gas program on the Coastal Plain*” and directs that the Bureau of Land Management (BLM) is to administer a competitive oil and gas program for the leasing, development, production, and transportation of oil and gas in and from the Coastal Plain.

Scoping Notice

The BLM's NEPA scoping process has been superficial with limited public involvement. For example, on June 19, 2018, I described in an email to blm_ak_coastalplain_EIS@blm.gov, "Please add me to your mailing list for any scoping notice for any standalone NEPA process for seismic and drilling exploration on the Arctic National Wildlife Refuge Coastal Plain—NSTrail@comcast.net." The BLM did not act on this request.

Less than a week ago, a scoping period deadline of August 17 was added to a BLM website. This was the first time BLM indicated a deadline and, more importantly, that this was a scoping period. BLM has yet to confirm whether or not they will make the draft EA available for public comment. To meet its legal obligations, BLM must provide the public with the information, analysis, and time necessary for informed, meaningful engagement.

In addition to the problems with the process, seismic exploration itself would have major impacts on the Coastal Plain which The U.S. Fish and Wildlife Service and BLM must consider:

- The impacts of the proposed activities on threatened polar bears and designated critical habitat, and other wildlife which may be present on or in the vicinity of the Coastal Plain during the timeframe of the proposed activities.
- The effects on the unique ecology and conditions of the Coastal Plain, where there is limited snow cover in the winter compared to other areas on the North Slope.
- The impacts of proposed water withdrawals to conduct surveys.
- The potential for spills from up to 7,000 gallons of fuel that SAE's summary estimates it may use each day, and the ability to clean up any spills.
- The impacts to subsistence resources and users, human health, environmental justice, and sociocultural systems.
- The impacts to wilderness characteristics and potential Wild and Scenic Rivers, including the globally significant natural values of the area.
- The impacts to tundra, soils and permafrost, and the potential changes to hydrology from seismic activities, including as assessment of the damage that may be expected to occur from operations at different snow depths.

If seismic exploration is to occur, it is essential that data obtained be made immediately available to the agencies and public to inform future land use decisions on public lands.

The BLM should be describing that providing for an oil and gas program on the Coastal Plain is only one of several purposes for this area of the Arctic Refuge. The BLM should

recognize that the proposed seismic exploration activities must be in conformance with a Coastal Plain integrated plan, which is yet to be developed and approved. The need for the NEPA analysis is to provide for integrated resource management of the Coastal Plain that is consistent with ANILCA, the Tax Act, other relevant laws, regulations, and treaties.

The proposed action is controversial and will have a significant effect on the human environment and, therefore, an EIS must be prepared. Seismic exploration activities is a connected action of development and leasing decisions to be made and must be addressed in a single NEPA process and result in an EIS decision that adopts a surface resources and minerals management plan for the Arctic Refuge Coastal Plain. This EIS will need to fully analyze the location and amount of oil and gas development that could occur while protecting surface resources. Of particular interest are the effects of seismic activities, exploration, and any development on the fish, wildlife, and water purposes of the Arctic Refuge. Most important is conserving fish and wildlife populations and habitats in their natural diversity across the Coastal Plain. Of special interest is protecting Polar bear denning and coastal use areas, caribou calving habitat, and the Canning River delta which is of great importance for fish and wildlife. The following sections provide planning references and describe issues and concerns with seismic exploration and mineral development on the Coastal Plain.

National Wildlife Refuge and ANILCA Planning

National Wildlife Refuge System Mission

“The mission of the National Wildlife Refuge System is to administer a national network of lands and waters for the conservation, management, and where appropriate, restoration of the fish, wildlife, and plant resources and their habitats within the United States for the benefit of present and future generations of Americans. With respect to the System, it is the policy of the United States that - (A) Each refuge shall be managed to fulfill the mission of the System, as well as the specific purposes for which that refuge was established... In administering the System, the Secretary shall - (A) Provide for the conservation of fish, wildlife, and plants, and their habitats within the System; and (B) Ensure that the biological integrity, diversity, and environmental health of the System are maintained for the benefit of present and future generations of Americans.”

Purposes of the ANILCA

The purposes of the ANILCA is described in part as, “SEC. 101. (a) In order to preserve for the benefit, use, education and inspiration of present and future generations certain lands and waters in the State of Alaska that contain nationally significant natural, scenic, historic,

archeological, geological, scientific, wilderness, cultural, recreational, and wildlife values, and units described in the following titles are hereby established. (b) It is the intent of Congress in this Act to preserve unrivaled scenic and geological values associated with natural landscapes; to provide for the maintenance of sound populations of, and habitat for, Wildlife species of inestimable value to the citizens of Alaska and the Nation, including those species dependent on vast relatively undeveloped areas; to preserve in their natural state extensive unaltered arctic tundra, boreal forest, and coastal rainforest ecosystems, to protect the resources related to subsistence needs; to protect and preserve historic and archeological sites, rivers, and lands, and to preserve wilderness resource values and related recreational opportunities including but not limited to hiking, canoeing fishing, and sport hunting, within large arctic and subarctic wildlands and on free-flowing rivers; and to maintain opportunities for scientific research and undisturbed ecosystems.” ANILCA describes in SEC. 304 that, “[e]ach refuge shall be administered by the Secretary, subject to valid existing rights, in accordance with the laws governing the administration of units of the National Wildlife Refuge System, and this act... The Secretary shall prepare, and from time to time, revise, a comprehensive conservation plan...for each refuge.”

Purposes of the Arctic Refuge

The purposes of the Arctic Refuge, including the Coastal Plain, are defined by a Public Land Order, ANILCA, and other laws and regulations. The Arctic National Wildlife Range was established in 1960 by Public Land Order 2214 for the purpose of preserving unique wildlife, wilderness and recreational values. The purposes for which the Arctic National Wildlife Refuge is established and shall be managed include:

- (i) To conserve fish and wildlife populations and habitats in their natural diversity including, but not limited to, the Porcupine caribou herd (including participation in coordinated ecological studies and management of this herd and the Western Arctic caribou herd), polar bears, grizzly bears muskox, Dall sheep, wolves, wolverines, snow geese, peregrine falcons and other migratory birds and Arctic char and grayling;*
- (ii) To fulfill the international treaty obligations of the United States with respect to fish and wildlife and their habitats;*
- (iii) 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;*
- (iv) 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; and*

(v) To provide for an oil and gas program on the Coastal Plain. (P.L. 115-97, ANILCA Amendment)

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. This hierarchy of purposes will limit the extent of oil and gas related activities and surface occupying infrastructure on the Coastal Plain.

Conserving Fish and Wildlife in their Natural Diversity

Providing for an oil and gas program is only one of the purposes of the Coastal Plain. Other purposes will likely constrain oil and gas development and operations, including the need to conserve fish and wildlife populations and habitats in their natural diversity. To conserve means to sustain and, where appropriate, restore and enhance, healthy populations of fish, wildlife, and plants, in accordance with applicable Federal and State laws, using methods and procedures associated with modern scientific resource programs.

Biological study and scientific research within the Arctic Refuge have confirmed that the coastal plain specifically is vital to the biological diversity of the entire refuge. Within the narrow coastal plain, there is a unique compression of habitats which concentrates a wide array of wildlife native to the Arctic, including polar bears, grizzly bears, wolves, wolverines, caribou, muskoxen, Dolly Varden char, Arctic grayling, and many species of migratory birds. According to the Fish and Wildlife Service, the Arctic Refuge coastal plain contains the greatest wildlife diversity of any protected area above the Arctic Circle.

The general purposes for the Alaskan refuges are to “conserve fish and wildlife populations and habitats in their natural diversity . . . to fulfill international treaty obligations with respect to fish and wildlife and their habitats . . . and to ensure water quality and quantity within refuges in a manner consistent with wildlife conservation... The Senate Report on ANILCA states that the refuges set aside by the statute represent “the opportunity to manage these areas on a planned ecosystem-wide basis with all of their pristine ecological processes intact.” The conservation of “natural diversity,” therefore, was not intended to mean only the number of species present on the landscape, but also the conservation of the natural interactions, dynamics, cycles, and processes within and between species in these areas. Essentially, “natural diversity” should be seen as simply an earlier iteration of the “biological integrity, diversity, and environmental health” criteria which surfaced later in the Improvement Act.”

In addition to providing refuge purposes, ANILCA also provides another layer of

management requirements for Alaska refuges. ANILCA requires that federal agencies manage wildlife in a manner that is consistent with *“the conservation of healthy populations of fish and wildlife.”* The legislative history specifically defines this phrase to mean the “maintenance of fish and wildlife resources and their habitats in a condition which assures stable and continuing natural populations and species mix of plants and animals.” This indicates that the intention of the *“healthy populations”* language was more than simply a reference to a sustainable quantitative threshold or a condition of health, but rather a broader reference to preservation of the natural population dynamics and interspecies cycles that existed on the landscape before European contact. This understanding is supported by additional statements made in the Senate Report: *“These units will assure to the greatest extent possible the protection of the ecological units and processes that support entire habitats for Alaska’s diverse fish and wildlife resources. . . . For each unit the key wildlife species are listed. However, the committee feels that while it is important to focus attention on the major species of each refuge, it is equally important that the Fish and Wildlife Service manage these units to conserve the entire spectrum of plant and animal life found on the refuge. Alaska is unique in this country in that it is the last place where man has not adversely affected the balance of nature. . . .”*

Aldo Leopold pioneered the use of the concepts of health and integrity in the environmental arena. He defined *“land health”* as *“the capacity of the land for self-renewal.”* He also noted, *“A thing is right when it tends to preserve the integrity, stability, and beauty of the biotic community. It is wrong when it tends otherwise.”*

The Tax Act and Arctic Refuge Purposes

Public Law 115-97 describes that, *“[t]he Secretary shall establish and administer a competitive oil and gas program for the leasing, development, production, and transportation of oil and gas in and from the Coastal Plain... [and] the Secretary shall manage the oil and gas program on the Coastal Plain in a manner similar to the administration of lease sales under the Naval Petroleum Reserves Production Act of 1976.”* The meaning of the phrase, *“in a manner similar to the administration of lease sales...”* is vague and therefore cannot be controlling and used to direct a surface resources planning process. This direction must be read in concert with protecting surface resource values and direction in the Comprehensive Conservation Plan.

Section 20001 parts (c)(1) and (c)(2) guidance does not supplant providing for the integrated management of Arctic Refuge purposes. Refuge planning must recognize all of the purposes of the Arctic Refuge and address an overlay of management regimes including the ANILCA, National Wildlife Refuge Administration Act, Endangered Species Act, Wild & Scenic Rivers Act, Clean Water Act, international treaties, and related regulations and policies.

Section 20001 part (c)(2) describes, “*RIGHTS-OF-WAY.—The Secretary shall issue any rights-of-way or easements across the Coastal Plain for the exploration, development, production, or transportation necessary to carry out this section.*” This prescriptive direction is most problematic. Such direction is counter to many existing laws and regulations that govern the management of the Arctic Refuge. This guidance makes it an imperative that site-specific analyses and disclosure occurs prior to leasing.

The Tax Act does not affect the responsibility of the Fish and Wildlife Service, the primary administering agency with special expertise, to administer and plan for the protection and use of the surface resources that are found on the Coastal Plain. The Leasing EIS is essentially an Arctic Refuge Coastal Plain land use planning and resource allocation process that will include a leasing availability decision. A resulting land use decision, with a Fish and Wildlife Service compatibility determination that allows for leasing, would likely lead to the BLM offering lease sales.

A Fish and Wildlife Service compatibility determination must establish that any seismic, exploration, development, and related infrastructure action is compatible with the Arctic Refuge fish, wildlife, and water purposes prior to authorizing any oil and gas related activity or development lease or permit. A compatible use is any use of a national wildlife refuge that, based on sound professional judgment, will not materially interfere with or detract from the fulfillment of the National Wildlife Refuge System mission or the purposes of the national wildlife refuge.

Coastal Plain Oil and Gas Development Issues and Concerns

A seismic exploration and minerals development EIS must fully analyze effects on the following areas of concerns and take a hard look at all reasonably foreseeable direct, indirect, and cumulative impacts to the resources identified, utilizing the best available scientific information and meet NEPA requirements for methodology and scientific accuracy.

The Canning River Delta

Particularly important for waterfowl is the Canning River Delta at the western end of the Coastal Plain. It is the largest river on the Coastal Plain and has the largest delta and wetlands in the entire Arctic Refuge. The largest thaw-lake plains in the Arctic Refuge and nearly all the largest deep lakes, are in this area.

The Canning River forms the western boundary of the Refuge north of the Brooks Range. The Canning River starts in the Romanzof Mountains and flows in an arc to the south,

west, and finally north through scenic, glaciated valleys near the Continental Divide. Within about 15 miles of the Beaufort Sea, the Canning becomes a three-mile-wide, heavily braided, shallow waterway. The river then creates a wide delta with multiple distributaries as it empties into the Beaufort Sea.

Showcasing just one of many unique Coastal Plain areas, I want to highlight the values of this portion of the refuge. The Canning River delta is of special concern due to the need to protect unique fish and wildlife habitat and populations and water quality. The Canning River has high species diversity relative to other waters on the North Slope. Shorebirds, including plovers, sandpipers, and phalaropes, concentrate around the Canning River delta between mid-July and August in preparation for their fall migration. High densities of nesting tundra swans and molting small geese, as well as the only known nesting sites of Sabine's gulls in the Refuge, are found on the Canning River delta. The Canning River delta has significant resource values, including habitat for threatened species; habitat for overwintering, spawning and smolting fish; wetlands dependent on water flow; historical and cultural values; and subsistence and general fishing values. Muskoxen have often concentrated along the Coastal Plain of the Canning River during the summer. Polar bear denning occurrences are high. The Central Arctic caribou herd's calving activity usually is concentrated in two areas, one of which is the lower Canning River delta.

Conserving the Polar Bear

A primary concern is conserving the polar bear by avoiding actions within the Arctic Refuge that may adversely affect the species. Coastal Plain areas free of human disturbance for maternal den sites and unobstructed access between den sites and the coast are essential to conservation of the southern Beaufort Sea polar bear population. Preventing adverse modification of the Arctic Refuge's coastal plain, other North Slope coastal plain areas, barrier islands, river bank drainages, and coastal bluffs that occur at the interface of mainland and marine habitat is key to the species' survival and recovery because these habitats receive proportionally greater use for denning than other areas. Further, these terrestrial habitats are likely to become ever more important because the predicted, continued loss of arctic sea ice due to climate change is expected to result in an increase in the number of polar bears denning on land in northern Alaska. During recent years, the proportion of dens on land has already increased in relation to dens excavated out on sea ice. Polar bear use of terrestrial areas during the summer and early fall is also expected to increase as climate change causes the distance between the southern edge of the pack ice and coastal denning areas to increase during the summer.

The United States is one of five signatories to the 1973 Senate-ratified Agreement on the Conservation of Polar Bears. The other parties are Russia, Canada, Norway, and Denmark (Greenland). Article 2 of that agreement states that Each Contracting Party shall take appropriate action to protect the ecosystems of which polar bears are 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.

Given that the refuge is the most important onshore denning habitat in the United States and that exploration and/or drilling in the refuge could likely negatively impact this segment of the Beaufort Sea population, any action that authorizes exploration or drilling would result in a violation by the United States of the Agreement. Polar bears in other regions are under serious threat from the effects of poisons and pollutants or from the effects of global warming. These threats could also seriously impact the Southern Beaufort Sea population and the best means of protecting the population is through habitat protection.

Furthermore, the Special Rule for the Polar Bear states, *“a federal agency would have to specifically consider whether a Federal action that produces Green House Gas (GHG) emissions is a “may affect” action that requires consultation under section 7 of the ESA with regard to any and all species that may be impacted by climate change... The regulatory analysis of indirect effects of the proposed action requires the determination that a causal linkage exists between the proposed action, the effect in question (climate change), and listed species. There must be a traceable connection... from one to the next and the effect must be reasonably certain to occur... The Service recognizes that the biggest long-term threat to polar bears is the loss of sea ice habitat from climate change. While GHG emissions are clearly contributing to that climate change, comprehensive authority to regulate those emissions is not found in the ESA. The challenge posed by climate change and its ultimate solution is much broader. Rising to that challenge, Federal and State governments, industry, and nonprofit organizations are exploring ways to collectively reduce GHG emissions as we continue to meet our nation’s energy needs.”* (78 FR 11785).

Development of yet another oil field would further set back efforts to limit the carbon emissions that are fueling the dramatic changes in climate now affecting Alaska. 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. 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.

Degradation of polar bear habitat is inconsistent with a primary purpose of the refuge and the need to protect critical habitat. The direct and indirect impacts of the proposed action may adversely affect polar bears that utilize the Arctic Refuge and Beaufort Sea. Oil and gas development on the Arctic Refuge is incompatible with conserving fish and wildlife populations and habitats in their natural diversity, including protecting polar bear populations and critical habitat. The proposed project provides an opportunity for the Secretary, without needing comprehensive authority in the ESA, to limit the GHG emissions effects of the proposed action by greatly limiting the scope and scale of the development proposal.

Porcupine Caribou Herd

Protecting the Porcupine Caribou herd population and habitats is of utmost concern. In 1987, the U.S. and Canadian governments signed the “Agreement between the Government of the United States of America and the Government of Canada on the Conservation of the Porcupine Caribou Herd.” This bilateral agreement recognizes that the Porcupine caribou herd regularly migrates across the international boundary between Canada and the United States and that the herd should be conserved according to ecological principles emphasizing the importance of conserving habitat, including calving, post-calving, migration, wintering, and insect relief habitat.

The main objectives of the agreement are to conserve the herd and its habitat through international cooperation and coordination so that the risk of irreversible damage or long-term adverse effects, including cumulative effects, as a result of use of caribou or their habitat is minimized, and to ensure opportunities for customary and traditional uses of the Porcupine caribou herd.

Broad Issues and Concerns

The EIS assessment and affected environment must identify and describe any significant problems which may adversely affect the populations and habitats of fish and wildlife on the Coastal Plain, which would include resource condition trends and contributing factors such as climate change. The EIS processes must use the best available data and ensure that a continuing study of the fish and wildlife of the coastal plain and their habitat is current and that the analyses meet the methodology and scientific integrity requirements of NEPA. It is important to identify any gaps in data and information needs now, so that the information can be obtained for this EIS process. The DEIS affected environment and environmental consequences must describe—

- The size, range, and distribution of the populations of the fish and wildlife;
- Determine the extent, location and carrying capacity of the habitats of the fish and wildlife;
- Assess the impacts of human activities and natural processes on the fish and wildlife and their habitats;
- Analyze the potential impacts of oil and gas seismic activities, exploration, development, and production on such wildlife and habitats; and
- Analyze the potential effects of such activities on the culture and lifestyle (including subsistence) of affected Native and other people.

Additionally, the seismic and minerals development EIS must assess the effects of oil and gas seismic activities, exploration, and the full potential development footprint of the proposed action and alternatives on:

- The purposes of the Arctic Refuge –
 - To preserve unique wildlife, wilderness and recreational values (Public Land Order 2214).
 - 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, muskox, Dall sheep, wolves, wolverines, snow geese, peregrine falcons and other migratory birds and Arctic char and grayling. This would include protecting fisheries and wildlife habitat, migration corridors, and rare plants.
 - To fulfill the international treaty obligations of the United States with respect to fish and wildlife and their habitats.
 - To provide for the opportunity for continued subsistence uses by local residents.
 - To ensure, to the maximum extent practicable and in a manner consistent with the conserving fish and wildlife populations and habitats, water quality and necessary water quantity within the refuge. This would include assessing watershed conditions, steep slopes, and fragile soils. The EIS must identify all potential water sources and thoroughly analyze potential impacts to aquatic and riverine systems – localized and downstream – and impacts on resources dependent on those systems.
 - To provide for an oil and gas program on the Coastal Plain. Does the proposed action and each alternative provide for an oil and gas program?
- Greenhouse gas emissions and climate change.
- Ambient air quality and potential impacts, including cumulative impacts, to air quality.
- Wilderness character of the Mollie Beattie Wilderness.
- Scenic resources -- assessment should follow the Visual Management System.

- Public health and safety (e.g., management of fluids and emissions). The Beaufort Sea coast can have extensive periods of stagnant air that could trap pollutants.
- Special values, including –
 - Wilderness Characteristics –Arctic Refuge Coastal Plain exemplifies the idea of wilderness—to leave some remnants of this nation’s natural heritage intact, wild, and free of the human intent to control, alter, or manipulate the natural order. Embodying tangible and intangible values, the Refuge’s wilderness characteristics include natural conditions, natural quiet, wild character, and exceptional opportunities for solitude, adventure, and immersion in the natural world;
 - Ecological Values – The distinguishing ecological aspect of the Refuge—and a major reason for its establishment—is that this single protected area encompasses a wide range of arctic and subarctic ecosystems, their unaltered landforms, and native flora and fauna. The Refuge Coastal Plain is a place of free-functioning ecological and evolutionary processes, exhibiting a high degree of biological integrity, natural diversity, and environmental health;
 - Wildlife Values – The Refuge’s diverse fauna includes at least 47 species of terrestrial mammals. At least 42 species of fish inhabit waters in the Refuge and more than 201 species of birds depend upon the Refuge for at least some portion of their lifecycles;
 - Scientific Values – The Refuge has become a natural laboratory of international importance. The ecological processes, natural diversity, and free function of natural communities in the Refuge provide unsurpassed opportunities for scientific understanding of arctic and subarctic wildlife, ecology, geophysics, and the changing climate;
 - Native Culture and Subsistence – Arctic Refuge encompasses the traditional homeland of Iñupiat and Gwich’in peoples and perpetuates opportunities for their continuing traditional subsistence uses, skills, and relationships with the land;
 - Recreational Values – The Refuge is renowned for the opportunities it provides for adventure, exploration, independence, and solitude; and
 - Potential Wild & Scenic Rivers – Important free-flowing rivers on the Coastal Plain include the Canning River, Sadlerochit River/Sadlerochit Spring, Hulahula River, Okpilak River, Jago River, and Aichilik River.

In general, the analysis of programmatic and site-specific effects of the proposed action and alternatives including actions of seismic activities, exploration, exploratory drilling, production pads, pipelines, roads, airstrips, gravel pits, and transportation of oil and gas in and from the Coastal Plain, must be fully analyzed under NEPA as implemented through CEQ regulations (40 CFR Parts 1500-1508).

Reasonably Foreseeable Development and Effects Analyses

A scientifically based and well-documented Reasonably Foreseeable Development (RFD) scenario is a critical component of information necessary for performing thorough cumulative effects analyses of oil and gas activities that could occur as a result of leasing. A RFD scenario provides information needed to facilitate the allocation of areas for leasing, and to build the management framework for oil and gas resource development. It should identify areas where different levels and/or types of activities might occur.

RFD scenarios should reflect the lessons of the “Alpine Development.” The history of the Alpine field, located along the border of the National Petroleum Reserve-Alaska (NPR-A) west of Prudhoe Bay, is relevant to the Arctic Refuge possible development. At first, the two initial pads, their connecting road, and an airstrip totaled about 100 acres. In the next 10 years, two additional pads were added, including one connected by an additional road of more than 3 miles, plus a pipeline. The other pad is joined to the first two pads only by a pipeline; to compensate for the absence of a road, it has its own airstrip. A fifth pad inside NPR-A was completed and is connected by a new 6-mile road; mineral rights at the fifth pad are owned largely by the Arctic Slope Regional Corporation. First production from the fifth pad began in October 2015. To support construction, additional facilities for office space and dormitories were added to the main Alpine camp. Altogether, the expansion of the field was expected to add roughly 27.5 miles of gravel roads to the first 3 miles of roads and to create 1,845 acres of disturbed soils, including 316 acres of gravel mines or gravel structures. Approximately 150 miles of roads would be constructed if the field is fully developed. The Alpine example illustrates the difficulty in keeping development to the smallest possible footprint as additional discoveries are made. The seismic and minerals development EIS and the RFD scenarios for the alternatives considered must account for the full potential development footprint.

The Department of Interior is required to analyze the significant and foreseeable effects of oil and gas development in the region and to take a hard look at the direct, indirect, and cumulative impacts of leasing additional areas in the National Petroleum Reserve, on adjacent State lands, Native corporation lands, and waters. This should include information about new discoveries and developments in the region and the contribution to climate change from greenhouse gas emissions. The scenarios must reflect the warming of the arctic. Over the long term heavy reliance on ice technology could be reduced further and might force greater reliance on gravel structures, with inherently longer-lasting impacts and higher costs.

To facilitate public review and comment on the proposed action and alternatives, supporting natural and physical resources geospatial data should be made available to the

public when the DEIS is released for public review and comment. Specific to oil and gas seismic activities, exploration and development, RFD scenarios geospatial data should identify the potential locations for oil and gas exploration surveys; infrastructure such as production and support facilities; and standard roads, ice roads, airfields, helipads, bridges, production pads, water diversions and withdrawal areas, storage tanks, and pipelines.

Thank you for considering these comments.

Sincerely,

Greg Warren

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