



# United States Department of the Interior

## FISH AND WILDLIFE SERVICE

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Anchorage, Alaska 99503-6199



In Reply Refer to:  
FWS/R7/NWRS

JUN 18 2010

Ms. Nicole Hayes, Project Manager  
Coastal Plain Oil and Gas Leasing Program EIS  
222 West 7th Avenue, Stop #13  
Anchorage, Alaska 99513

Subject: Notice of Intent to Prepare an Environmental Impact Statement (EIS) for the Coastal Plain Oil and Gas Leasing Program, Alaska. Scoping Comments (83 FR 17562)

Dear Ms. Hayes: *Nicole*

The U.S. Fish and Wildlife Service (Service) has reviewed the Bureau of Land Management's (BLM) request for scoping comments related to preparation of an EIS for the proposed Coastal Plain Oil and Gas Leasing Program.

We are pleased to be a Cooperating Agency with BLM to develop an EIS for the Coastal Plain Oil and Gas Leasing Program. We appreciate the opportunity to be a Cooperating Agency, given that the Service has managed the Arctic National Wildlife Refuge (Arctic Refuge) and its resources for more than fifty years and has knowledge, data and expertise that will be valuable during the development of this EIS.

Comments and recommendations made by the Service are provided in accordance with the:

- National Environmental Policy Act (NEPA)
- Endangered Species Act (ESA)
- Marine Mammal Protection Act (MMPA)
- Migratory Bird Treaty Act (MBTA)
- Bald and Golden Eagle Protection Act
- Fish and Wildlife Coordination Act
- Alaska National Interest Lands Conservation Act (ANILCA)
- National Wildlife Refuge System Administration Act

The Service recommends the EIS fully evaluate potential direct, indirect, and cumulative effects of all aspects of the project on marine mammals, resident and anadromous fish, species listed under the ESA, and migratory birds, including bald and golden eagles. Effects on both fish and wildlife populations and their habitats should be evaluated. The Service further recommends that all potential effects of the project on the entire Arctic Refuge be evaluated, including impacts to designated and recommended Wilderness, wild and scenic rivers, recreation, hunting and fishing, and other uses. Specific scoping issues are identified in Attachment 1.

We look forward to working as a Cooperating Agency to evaluate the effects of the various alternatives on the following purposes of the Arctic Refuge:

- *Preservation of unique wildlife, wilderness and recreational values.*
- *Conservation of fish and wildlife populations and habitats in their natural diversity.*
- *Fulfillment of international treaty obligations of the United States with respect to fish and wildlife and their habitats.*
- *Continued subsistence uses by local residents.*
- *Ensuring water quality and quantity within the refuge.*
- *Providing for an oil and gas program on the Coastal Plain.*

For questions regarding these recommendations please contact our Arctic Program Coordinator Dr. Wendy Loya at 907-786-3532 or via e-mail at [wendy\\_loya@fws.gov](mailto:wendy_loya@fws.gov).

Sincerely,

A handwritten signature in blue ink, appearing to read "Greg S. Loya", is written over the typed name "Greg S. Loya".

Regional Director

Attachment

## **Attachment 1: Comments Section**

### **1) Subsistence**

Impacts to subsistence hunters from oil and gas development can include the direct impacts of activity and infrastructure as well as changes in hunter behavior associated with avoidance of industrial areas due to personal safety or fear of contaminants. Alternatives or cooperative measures that will reduce the negative effects of oil and gas industry activity on subsistence resources harvested should be cooperatively identified with input from potentially affected people and evaluated. Stipulations and BMPs that take into consideration the contemporary hunting practices and locations where harvest occurs will help minimize the potentially long-term impacts of oil and gas development on subsistence hunters. Further, the effects of oil and gas industry activity upon exposure to contaminants and health of fish, wildlife, and vegetation used for subsistence should be evaluated. The EIS should include BMPs for baseline monitoring, and minimization of contaminant exposure to important subsistence resources.

### **2) Caribou**

Caribou are an iconic figure of the Arctic Refuge Coastal Plain. They are of international importance and a significant subsistence resource throughout their range.

Of primary importance to the Service is that the EIS be based on the best available data describing long-term habitat use by the Porcupine caribou herd (PCH) of the coastal plain, including calving grounds, insect relief habitat, and migration routes. These data should be used to develop leasing stipulations that protect these critical habitats, including consideration of no leasing and/or no surface occupancy in important caribou habitats, especially calving when caribou are most sensitive to disturbance, in a manner that takes into account that the subsurface will be available for oil and gas extraction.

The Environmental Consequences section should model the effects of linear features (roads, pipelines, fences) on caribou movements, considering the migration movements of caribou into the Arctic Refuge Coastal Plain from the Teshekpuk and Central Arctic herds as well as the PCH migration routes, derived from collared caribou response to infrastructure across the Alaskan Arctic. Leasing stipulations and BMPs should be used to minimize the potential for disruption to significant movement corridors.

Because the Arctic Refuge Coastal Plain is an important resource for subsistence and sport hunting, the effects of infrastructure on access to caribou and other game should be considered across all stages of development.

### **3) Polar Bears:**

The proposed action is within the range of the Southern Beaufort Sea subpopulation of polar bear, a species globally listed as threatened under the federal Endangered Species Act (ESA) in addition to being protected under the Marine Mammal Management Protection Act (MMPA). This subpopulation had an estimated population size of approximately 900 bears in 2010. This estimate represents a significant reduction from previous estimates of approximately 1,800 in 1986, and 1,526 in 2006. Although there was some evidence in the 2010 estimate that the population might be showing signs of beginning to increase, analyses of over 20 years of data on the size and body condition of bears in this subpopulation demonstrated declines for most sex and age classes.

Declining sea ice conditions in the Beaufort Sea have led to an increase in the proportion of the subpopulation coming onshore in summer and autumn (from 5.8% during 1986-1999 to 20% during 2000-2014) and a 30-day increase in time spent on land. Bears in the subpopulation are drawn to

bowhead whale remains from subsistence harvest, particularly adjacent to the community of Kaktovik, AK, where ~60% of bears coming onshore will reside in late summer/fall.

The Arctic Refuge Coastal Plain has also been documented to be an important denning area for polar bears and will likely increase in importance as the percent of bears denning on land increases with sea ice loss. Designated Critical Denning Habitat overlaps with 77% of the 1002 area of the Arctic National Wildlife Refuge. With 38% more denning habitat available in the Arctic Refuge coastal plain than in the region immediately west of the refuge, and 22% of dens for bears in the subpopulation occurring within the Arctic Refuge Coastal Plain from 2000-2010, polar bears have been shown to den in the Arctic Refuge Coastal Plain with greater frequency than expected based on available habitat.

We recommend BMPs, lease stipulations (stipulations), and impact minimization measures to reduce the effects of oil and gas industry activities upon polar bears within the Arctic Refuge Coastal Plain be developed in close cooperation with the USFWS Marine Mammals Management Office (MMM). Such BMPs, stipulations, and minimization measures should also be consistent with measures required in MMPA incidental take authorizations issued by the USFWS MMM for polar bears.

#### **4) Resident and Migratory Birds**

The Arctic Refuge Coastal Plain and adjacent marine waters are recognized as Important Bird Areas by the American Bird Conservancy, Audubon, and Birdlife International. At least 158 species of migratory birds have been recorded in the northern foothills, coastal plain, and adjacent marine waters. At least 57 species regularly occur as breeding, non-breeding, or both in the Coastal Plain.

Although many studies were done to address how habitat alteration may affect migratory birds near Prudhoe Bay in the 1980s-1990s, Prudhoe Bay is physically much different than the Arctic Refuge Coastal Plain. Migratory birds residing in the Arctic Refuge Coastal Plain have more limited high quality habitat. After breeding at key river deltas throughout the coastal plain, large concentrations of migratory shorebirds stage to increase fat reserves before migrating south. BMPs which minimize loss and disturbance of migratory birds should be included within the EIS.

Red-throated Loons (*Gavia stellata*) have been identified as a species of Conservation Concern by the Service, Audubon Alaska, and the Alaska Department of Fish and Game. The highest densities of Red-throated Loons are found along coastal plain deep-water lakes and adjacent marine areas, including on the Arctic Refuge Coastal Plain near Camden Bay and around Barter Island. Stipulations and BMPs should be included to minimize potential impacts associated with exploration, development, and production to this species, and other species of Conservation Concern.

Cumulative effect analyses should include the overall impacts of activities across the Arctic Coastal Plain, including Canada, as well as impacts outside of Alaska in areas where migratory birds stage and winter for 9 months of the year as described in species status reports, publications, and other scientific sources.

#### **5) Water Quality and Quantity and the Diversity of Aquatic Habitats and Species:**

ANILCA purposes require the refuge ensure water of sufficient quality and quantity to conserve fish and wildlife populations and habitats in their natural diversity. As can be seen on landcover maps, the hydrologic differences between the NPRA and the coastal plain are significant. Given the limited water resources in the area, the EIS will need to consider how reasonably foreseeable exploration and development practices in the Arctic Refuge may differ from NPR-A and ensure that stipulations and BMPs are included to minimize the impacts to water resources as well as vegetation, soils, and permafrost.



Water withdrawal from streams, rivers, and springs could have significant and detrimental implications to the populations and habitats of fish and wildlife including aquatic invertebrates and water quality necessary to sustain aquatic life. We recommend the EIS adopt BMPs used for the development of the NPR-A prohibiting water withdrawal from rivers at all times, with the addition of prohibiting withdrawals from springs and aufeis. We recommend that the EIS analyze river systems, springs and aufeis to establish appropriate setbacks.

Water withdrawal from lakes and wetlands during exploration and development will affect water quality and quantity and potentially have negative implications on the natural diversity of populations and habitats of fish and wildlife including aquatic invertebrates. Lakes on the coastal plain are often not connected to a larger hydrologic system. We recommend BLM analyze effects of water withdrawal and develop BMPs to ensure conservation of the natural diversity of fish and wildlife habitats and populations.

Construction of ice roads, gravel roads, and other surface disturbances have the potential to disrupt surface water hydrology, overland flow, permafrost thaw, and impact water quality. We recommend BLM analyze these disturbances and their effects related to fish passage and hydrologic processes within river corridors, lake recharge, and upland vegetation with emphasis on areas with topographic relief where ponding and drying are likely to occur. BMPs should be developed and implemented to reduce the effects of infrastructure development within flood plains, on surface water hydrology, and vegetation communities.

Springs (groundwater) provide significant year round habitat for aquatic resources. Flow paths of groundwater and spring recharge within and adjacent to the coastal plain are poorly understood. We recommend the EIS consider the effects of reasonably foreseeable development activities on groundwater flow paths, evaluate the risks associated with reinjection of hazardous wastes into subsurface aquifers, and develop stipulations for leasing to eliminate the potential of contamination to springs.

Coastal lagoons are seasonally dynamic systems providing habitat, food sources, and migration routes for a variety of fish and migratory birds. We recommend the EIS evaluate the cumulative effects of all stages of oil and gas development and north slope-wide activity on coastal lagoons, including fresh water inflow and coastal stability and identify appropriate stipulations and BMPs to minimize impacts.

## **6) All Wildlife**

An important purpose of the Arctic Refuge is to conserve fish and wildlife populations and habitats in their natural diversity. ANILCA defines the term "fish and wildlife" to mean any member of the animal kingdom, including without limitation any mammal, fish, bird . . . amphibian, reptile, mollusk, crustacean, arthropod, or other invertebrate, and includes any part, product, egg, or offspring thereof, or the dead body or part thereof."

The EIS should consider how industrial activities within the Coastal Plain as well as the cumulative effects of disturbances across species' ranges (i.e., impacts outside of the Coastal Plain) might affect wildlife and their habitats within and adjacent to the Arctic Refuge Coastal Plain including changes in natural behaviors. BMPs should be developed and identified in the EIS that would help minimize these effects.

Because riparian willows are important overwintering habitat for moose and ptarmigan, the EIS should could include BMPs to avoid disturbance during winter operations and minimize disturbance during infrastructure development.

**7) Terrestrial Environment (Vegetation, Wetlands, Soils and Permafrost)**

Because of the proximity to the Sadlerochit Mountains and the Brooks Range, the coastal plain of the Arctic Refuge is six to eight times steeper than the coastal plain to the west where oil and gas development currently exists on state lands and in the National Petroleum Reserve-Alaska (NPR-A). The more varied terrain results in higher diversity of vegetation, soils, and permafrost including vegetation types more sensitive to disturbance, such as drier sites and tall shrubs in riparian areas and dwarf shrub tundra on slopes. Shallow ice rich permafrost is believed to be extensive in the region, which requires thick, intact organic mats and vegetation to be stable and protected from melting and subsidence (thermokarst). Permafrost may provide the majority of the structural integrity of hillsides and shorelines including stream channel banks. Protection of the underlying permafrost is also a key component for any construction design. Two seismic studies conducted in the Arctic Refuge tracked recovery for at least 15 years, showing that 10 – 20% of the camp move trails were still disturbed 15 years after exploration. This was sometimes due to ground subsidence that caused the trail to become a wetter trough.

The Service requests that the EIS include stipulations and BMPs that protect vegetation, soils, and permafrost based on analyses of all available landcover data including wetland maps, soils, and permafrost. Determination of the snow depth necessary to protect vegetation across the coastal plain should be determined by vegetation type and not physiography alone (i.e., more detailed than “coastal” and “foothills”).

**8) Wilderness**

The Arctic Refuge, including the coastal plain, was initially proposed by Public Land Order 2214 (1960) as the Arctic Wildlife National Range. The three identified purposes of Arctic Wildlife National Range were the preservation of wilderness values, wildlife and recreation. ANILCA §101(b) outlines the intent “to preserve in their natural state extensive unaltered arctic tundra... ecosystems; 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....” Further, ANILCA §304(g)(2)(B) requires the Secretary of the Interior to identify and describe “the special values of the refuge, as well as...wilderness value of the refuge” when developing plans. Consistent with this wilderness preservation purpose, the Refuge’s 2015 Comprehensive Conservation Plan (CCP) recommended the Arctic Refuge Coastal Plain (1002 area) for Wilderness designation because it exemplifies these wilderness qualities which provide the context within which most of the Refuge’s Special Values are understood and appreciated.

The general technical report titled *Keeping it wild 2: an updated interagency strategy to monitor trends in wilderness character across the National Wilderness Preservation System* published by the U.S. Department of Agriculture, Forest Service, Rocky Mountain Research Station defines the four primary qualities of Wilderness described in the Wilderness Act. These include: (1) undeveloped - free from roads, structures, and other evidence of modern human occupation or improvements, where the land essentially retains its original character and ecological function; (2) untrammeled - essentially unrestricted and free from modern human control or manipulation; (3) natural - when ecological systems are substantially free from the effects of modern civilization; and (4) primitive or unconfined recreation in wilderness settings - characterized by freedom from management restrictions on visitor behavior. We ask that the EIS describe and evaluate impacts to these qualities for all alternatives.

Where impacts to wilderness values will be unavoidable, we recommend that impacts be minimized by implementing Best Management Practice E-20 “managing permitted activities to meet Visual Resource Management (VRM) class objectives” (DOI 2012). The Service recommends that VRM Class I be

applied in areas identified by the public and Cooperating Agencies as having important wilderness values, and strive to achieve the lowest levels of VRM change from the existing Class I character of the coastal plain while implementing the oil and gas program.

Beyond the coastal plain, we request that BLM analyze potential impacts upon the adjacent designated Mollie Beattie Wilderness area, and that it examine whether buffer zones are appropriate in order to minimize the effect of industrial activities on the Mollie Beattie Wilderness area.

**9) Visitor use**

The Marsh Fork of the Canning, Hulahula, and Kongakut Rivers were found Eligible and Suitable under the Wild and Scenic River Act, and were recommended to Congress for inclusion in the Wild and Scenic River System. The main stem of the Canning River was found Eligible, but not Suitable; however, the river's wildlife, fish, and cultural resources are highly valued and/or used by the public for recreation. Further, the southern border of the Coastal Plain abuts the Molly Beattie Wilderness. Iconic backcountry trips start within the Wilderness and end in the lagoons of the Arctic Refuge Coastal Plain. Consideration of conserving the wild character of the rivers is requested.

Recreation occurs on the Coastal Plain throughout the year. Although the majority of recreation occurs during the summer months, emerging uses such as aurora viewing, polar bear viewing, and spring caribou hunting are occurring more and more frequently during the shoulder seasons from February through May and August through October.

Many of the potential impacts to visitors would result from changes to the view-shed and soundscape. Thus, modeling visibility and sound travel of reasonably foreseeable infrastructure and operations associated with permanent development across the diverse terrain features should be included to provide guidance on infrastructure setbacks in high visitor use areas, including river corridors.

The Service requests BLM analyze: 1) possible impacts on recreational experiences and opportunities by persistent compacted snow trails which may lead to surface ice buildup and possible impacts on flow; 2) effects to recreation opportunities by staging and exploration activities keeping in mind that recreation occurs mainly February through October; 3) effects to night sky, open landscape views, and other visual resources as they affect aurora viewing and other visitor experiences; 4) effects to soundscapes as it affects visitor experiences; 5) economic effects to commercial guides and outfitters that operate in the Coastal Plain; 6) evaluation and minimization of all effects to resources within river drainages which have been recommended to Congress for Wild and Scenic River designation as required by the Wild and Scenic River Act; and 7) evaluation and minimization of all effects to resources, which include visitor opportunities, within the Mollie Beattie Wilderness. BMPs should be included to minimize visitor use impacts.

**10) Air quality:**

There is currently no air quality monitoring data for the Arctic Refuge Coastal Plain. With prevailing winds from the north east in the Arctic Refuge Coastal Plain, it is likely that air quality would generally experience less impacts from existing industrial emissions from north slope development to the west except during instances when winds come in from the west.

We recommend the EIS analyze predicted changes in air quality for nearby communities, land management purposes, and visitor use. We recommend that the EIS include BMPs that prevent unnecessary or undue degradation of air quality and ensure collection and analysis of air quality monitoring data for proposed exploration and development activities.

#### **11) Acoustic environment**

Resources on the coastal plain and within the adjacent designated Mollie Beattie Wilderness known to be noise sensitive include several species of wildlife and wilderness character. People potentially impacted include residents in Kaktovik, subsistence users, and recreational visitors to both the coastal plain and the adjacent Wilderness.

Acoustic issues that should be considered in the EIS include the need for baseline (pre-development) acoustic conditions, acoustic characteristics of development-related noise sources, modeled spatial predictions of acoustic impacts, disturbance-response information for wildlife and people, and the combined acoustic and visual disturbance caused by aircraft. Because aircraft disturbance can have significant impacts on subsistence users, the Service would like to ensure the EIS includes BMPs to minimize the effects of low-flying aircraft, including altitude restrictions to protect subsistence users and wildlife, and include a requirement for aircraft use plans by lessees.

#### **12) Hazardous materials:**

A variety of hazardous materials that are generated or used during routine oil and gas exploration and production activities have the potential to affect sensitive resources including aquatic habitats, soil, vegetation, wildlife, and fish species. Oil Spill Contingency Plans or similar planning processes can minimize exposures that result from spills and routine releases of these chemicals. The adequacy of these plans can help determine the magnitude of effects, but often those plans are developed outside of and after the environmental analysis in the EIS, a flaw in the process which precludes a meaningful environmental analysis under NEPA. We recommend the proposed alternatives within the EIS contain complete lists of required plans dealing with hazardous materials and the specific procedures that will be enacted to minimize spills and other exposures.

The Service also recommends contributing information gathered for the EIS to the National Oceanic and Atmospheric Administration Environmental Sensitivity Index (ESI) map database. The ESI maps provide a concise summary of coastal resources at risk if an oil spill occurs nearby. Examples of at-risk resources include biological resources (e.g., birds and coastal lagoons), sensitive shorelines (e.g., marshes and tidal flats), and human-use resources (e.g., subsistence). When an oil spill occurs, ESI maps can help responders meet one of the main response objectives: reducing the environmental consequences of the spill and the cleanup efforts. Additionally, ESI maps can be used by planners before a spill happens to identify vulnerable locations, establish protection priorities, and identify cleanup strategies.

#### **13) Climate**

We recommend BLM conduct an analysis of climate data across the coastal plain, including temperature, rain, snow, and wind trends over the last 20-40 years to evaluate how weather and climate may affect operations and infrastructure. The eastern Alaskan Arctic may experience less snow cover and/or greater wind distribution of snow, which could affect the timing and duration of winter tundra travel. Available data include three stations on the Coastal Plain associated with the Global Terrestrial Network for Permafrost, satellite imagery (including snow on/off dates), and regional weather stations. BMPs should be developed that not only set the minimum snow depth/soil freeze depth, but route-specific monitoring protocols to account for potential higher spatial variability in snow depth due to diverse vegetation, slope, and snow accumulation conditions.

#### **14) Cultural Resources**

The Arctic Refuge CCP describes the extent of the known cultural and historic sites within the Refuge. When considering commercial activities within the Refuge's coastal plain, it is important to note that cultural resources on the North Slope are on, or near the surface of the tundra and tend to be oriented along river corridors and coastal beaches. This means that many cultural resource sites on the Refuge are vulnerable to erosion and other natural forces, and to a lesser extent, from public use of Refuge



lands and waters. Although it is known that people have used this area for millennia, especially along the river corridors and the coastline, exact locations of artifacts and/or historic or cultural sites are generally unknown. The EIS should include BMPs that require surveys for important cultural, archaeological or paleontological resources prior to any ground-disturbing activities as well as measures to protect such resources once discovered.

**15) International treaties/agreements/partnerships:**

The proposed action has the potential to affect resources that are covered in the following treaties, agreements or partnerships:

- a) Porcupine caribou treaty with Canada;
- b) Migratory Bird Treaty Act;
- c) East Asian-Australasian Flyway Partnership - the U.S. is a key partner in promoting the conservation of migratory birds, some of which breed in the Arctic Coastal Plain and migrate to Asia to winter;
- d) 1973 Agreement on the Conservation of Polar Bears;
- e) Inuvialuit-Inupiat Polar Bear Management Agreement in the Southern Beaufort Sea;
- f) Arctic Council, and its working group the Conservation of Arctic Flora and Fauna, that work to conserve flora and fauna throughout the Circumpolar Arctic.

We recommend direct, indirect, and cumulative effects to transboundary resources be identified and described for physical and natural resources with emphasis on caribou, migratory birds, and polar bears.

**16) Invasive Species**

The Service has developed a comprehensive list of measures that help to prevent the introduction and spread of non-native, invasive plant and animal species. Prevention is the most critical aspect of invasive species management. This is especially important along rivers and streams, which can transport invasive species into more remote areas. Unlike most of the country, the Alaska climate and poor access to remote areas previously reduced the potential for introducing and proliferating invasive species in the state. However, these barriers are no longer as effective due to a warming environment and improved access. Updated and relevant precautions will help reduce the potential for invasive species from spreading. We recommend the BLM coordinate with Service to ensure the EIS includes the appropriate BMPs that minimize the introduction and spread of invasive species into and out of project area.

**17) Wildfire**

Although not currently widespread, tundra fires can have a significant effect on vegetation, soils, permafrost, and water quality. The Service recommends the EIS evaluate the cumulative effects of increased human infrastructure and activities, and changing climatic conditions on the risk of wildfire ignition; and identify any BMPs that would minimize risk and determine if additional Wildland Fire Resources (initial attack resources, operating bases) and management activities are necessary.

**18) Connected, cumulative, or similar actions:**

We recommend BLM analyze the cumulative effects of a full oil and gas build-out scenario within the Arctic Refuge Coastal Plain coupled with the full build-out scenarios for NPR-A and the State of Alaska lands of the Central Arctic. A landscape approach is needed to ensure connectivity of habitats, especially for caribou and sufficient disturbance free nesting habitat for the millions of migratory birds that travel to the Arctic to nest each summer.