U.S. Department of the Interior
Bureau of Land Management

Welcome

Coastal Plain Oil and Gas Leasing Program

Draft EIS Public Meeting

US Department of the Interior
Bureau of Land Management

BLM Oil and Gas Leasing and Development Process

- Leasing (EIS, Sales, Lease Issuance)
- Geophysical Exploration (pre and post lease)
- Applications for Permits to Drill
  - Drilling Exploration
  - Development
- Operations and Production
- Inspection and Enforcement
- Reclamation

Note: Any on-the-ground activities will require separate NEPA analysis and would not be authorized as a result of this EIS

Alternatives Summary

Alternative A (No Action):

- Alternative A would not comply with the directive under Public Law 115-97; however, Alternative A is being carried forward to provide a baseline for comparing impacts from the action alternatives

Alternative B:

- Entire program area could be offered for lease sale; fewest acres with No Surface Occupancy (NSO) stipulations; several required operating procedures (ROPs) would apply to oil and gas activities to reduce impacts

Alternative C:

- Entire program area could be offered for lease sale; the BLM would rely on the same ROPs as Alternative B, but would apply more NSO stipulations

Alternative D:

- Portions of the program area would not be offered for lease sale; greatest acres with NSO stipulations; in some instances, more prescriptive ROPs are required

A preferred alternative will be selected in the Final EIS.

US Department of the Interior
Bureau of Land Management

How to Provide Comments

Project website: www.blm.gov/alaska/coastal-plain-eis

Mail:
Attn: Coastal Plain Oil and Gas
Leasing Program EIS
222 West 7th Avenue, #13
Anchorage, AK 99513

Comment form: Submit via project website or mail to the address above

Comments should be submitted by **March 13, 2019**.

US Department of the Interior
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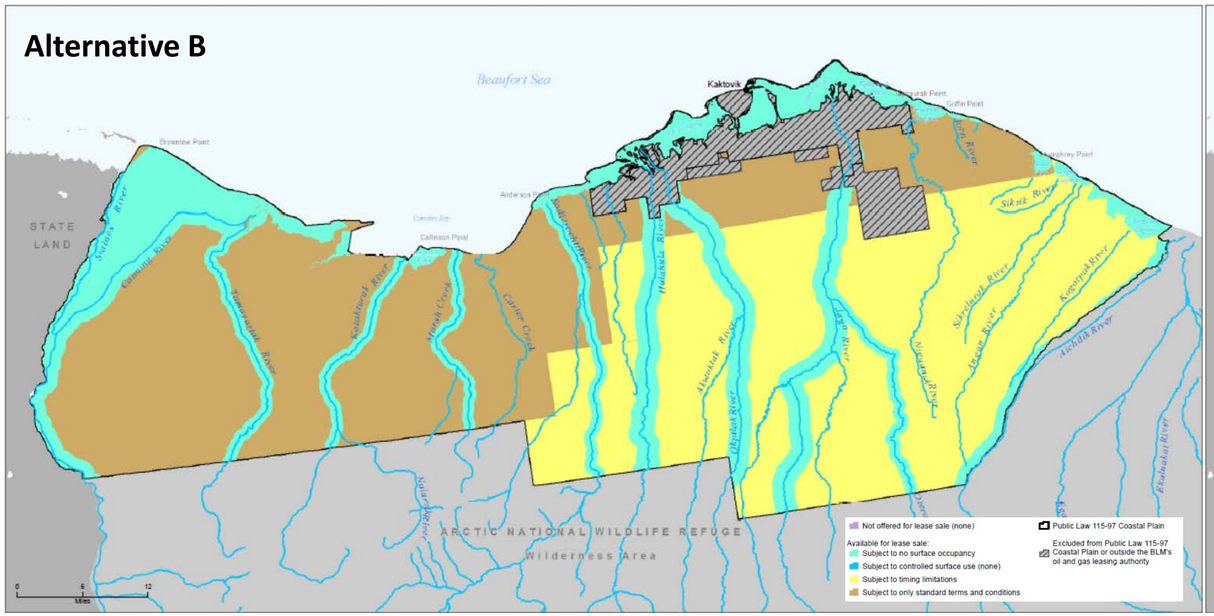
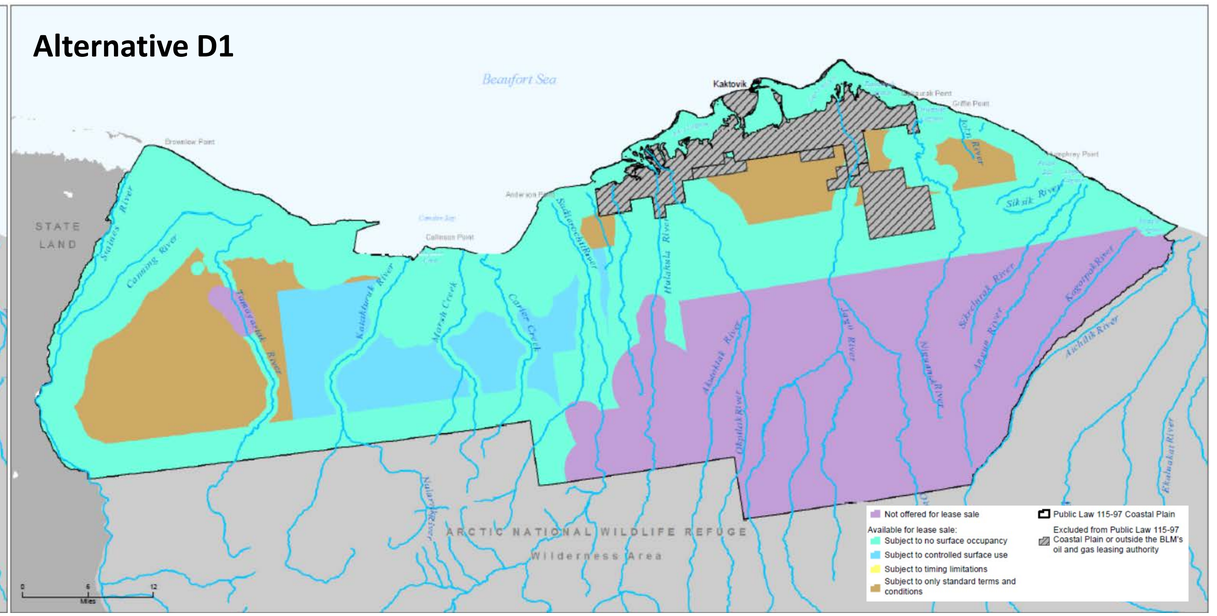
Action Alternatives

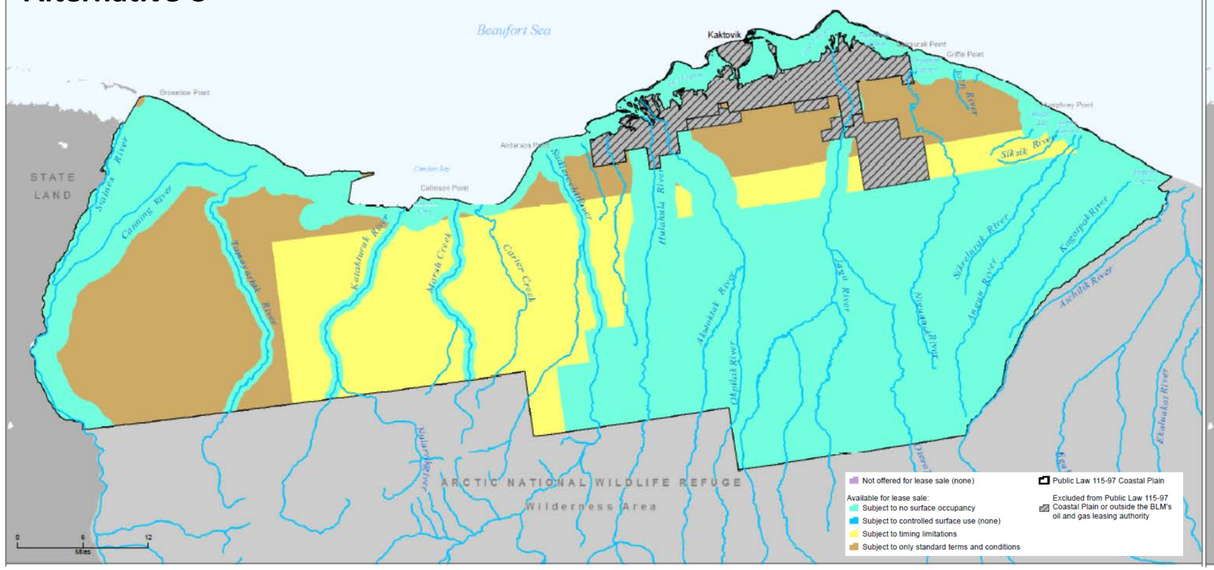
Alternative B



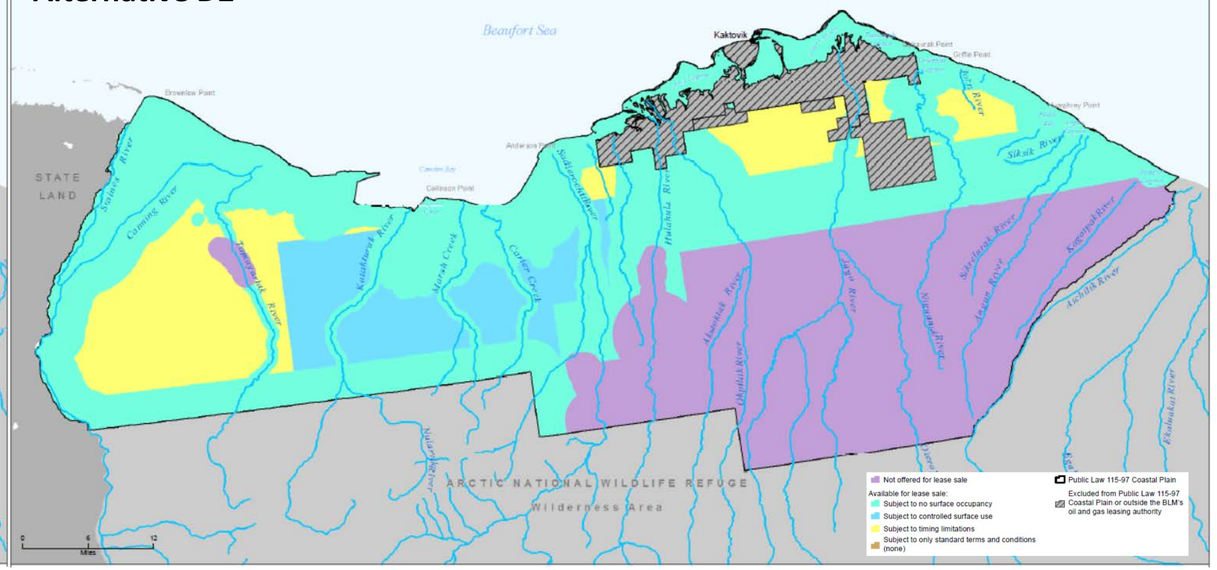
Alternative D1



Alternative C



Alternative D2



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National Environmental Policy Act (NEPA) Process

Project Requirement to prepare a Leasing Environmental Impact Statement (Public Law 115-97, Tax Cuts and Job Act 2017)

December 22, 2017

Notice of Intent

April 20, 2018

Conduct Scoping and Data Collection

April 20 – June 19, 2018

Scoping Report- what issues need analysis in EIS? Formulate alternatives and analyze effects of alternatives

BLM Prepares Draft EIS

July – November 2018

Current Effort

Draft EIS Released for Public Review and Comment Period, including public meetings

December 2018 – March 2019

Public Comments Received/Addressed, Prepare a Final EIS

March 2019 – May 2019

Publish Final EIS

3rd Quarter 2019

Record of Decision and Lease Sales

Coastal Plain Oil and Gas Leasing Program
Draft Environmental Impact Statement
Subsistence Uses and Resources

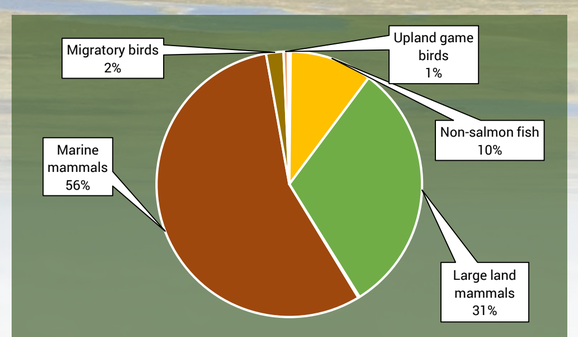


Figure 1: Kaktovik Harvest Data, Average Across Available Study Years

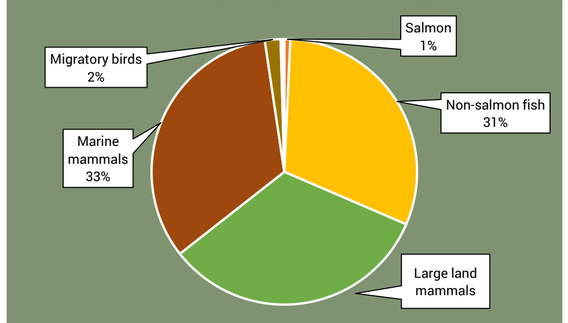


Figure 2: Nuiqsut Harvest Data, Average Across Available Study Years

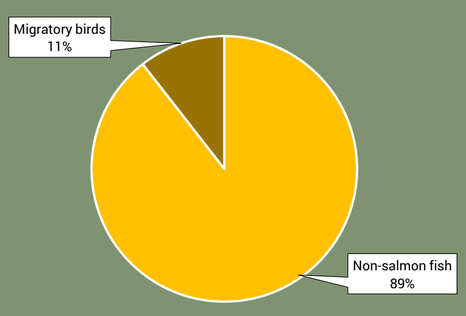


Figure 3: Arctic Village Harvest Data, Average Across Available Study Years

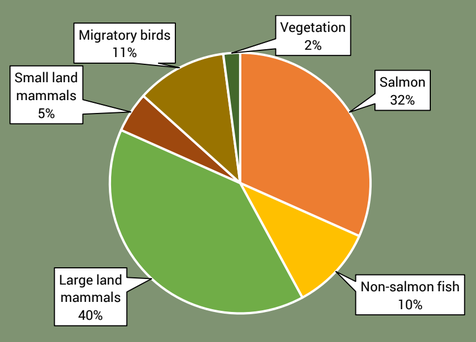


Figure 4: Venetie Harvest Data, Average Across Available Study Years

Sources: ADFG 2018c, Fuller and George 1999, Pedersen 1995a and 1995b, Brower et al. 2000, Pedersen and Linn 2005, Bacon et al. 2009, Harcharek et al. 2018, Kofinas et al. 2016, Andersen and Jennings 2001, Brower and Hepa 1998, Brown et al. 2016, Van Lanen et al. 2012, Stevens and Maracle n.d.

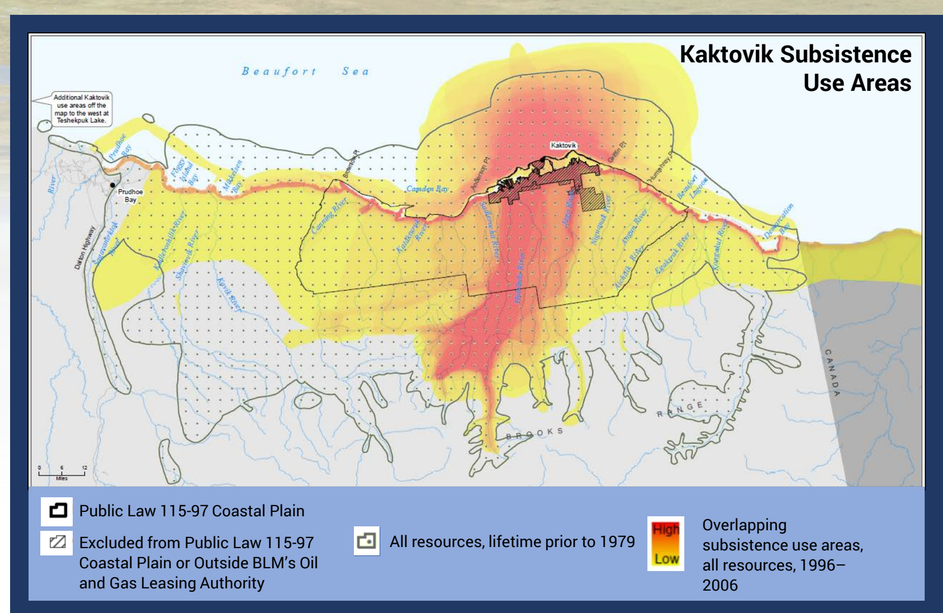
What are the primary subsistence resources in the program area, and what are the patterns of harvest and use?

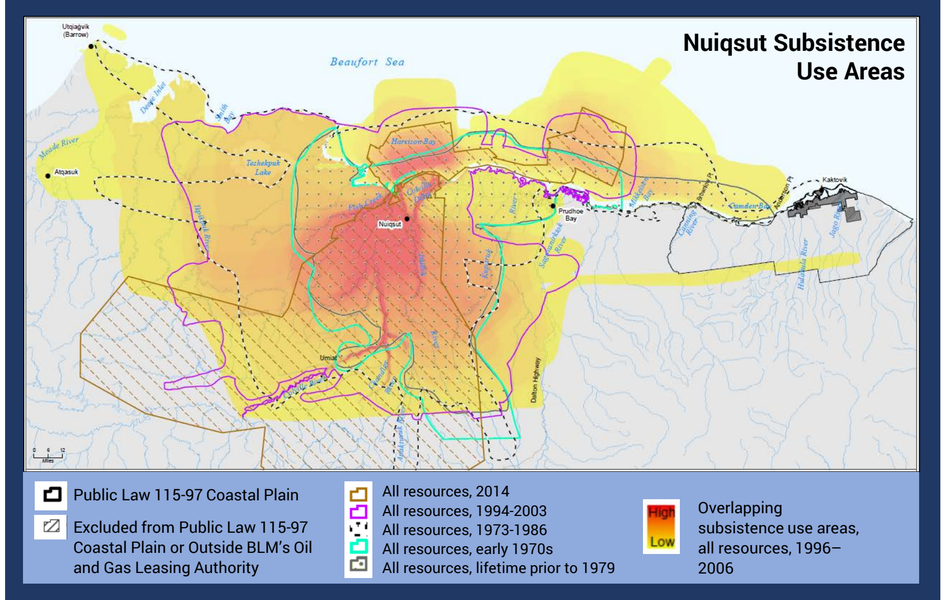
More than just food, residents of the subsistence study communities rely on harvests of plant and animal resources both for nutrition and for their cultural, economic, and social well-being. Activities associated with subsistence—processing, sharing, redistribution networks, cooperative and individual hunting, fishing, and gathering, and ceremonial activities—strengthen community and family social ties, reinforce community and individual cultural identity, and provide a link between contemporary Natives and their ancestors (USFWS 2015a).

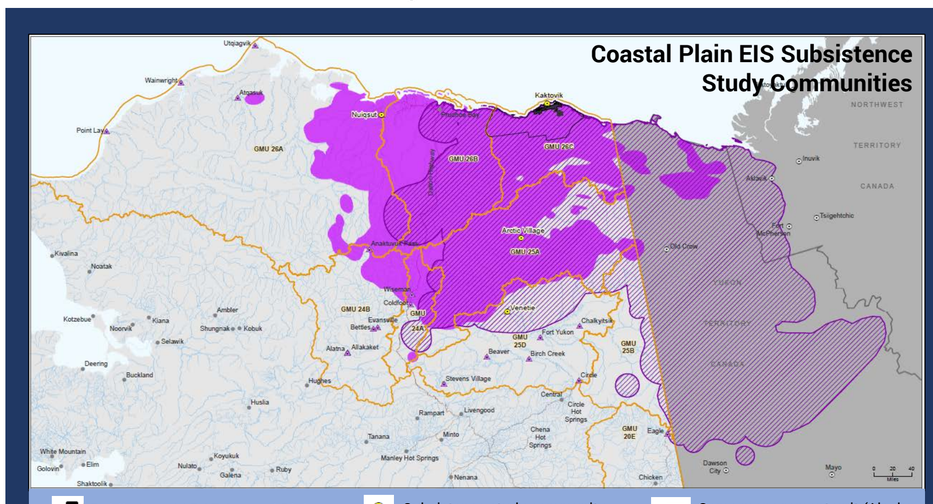
The four primary subsistence study communities that rely heavily on resources in the program area are **Kaktovik, Nuiqsut, Arctic Village, and Venetie**. Additionally, because of the importance of the program area to caribou—particularly the Porcupine and Central Arctic herds—the EIS analysis includes an additional 18 Alaskan communities and seven Canadian user groups such as Gwich'in and Inuvialuit people.

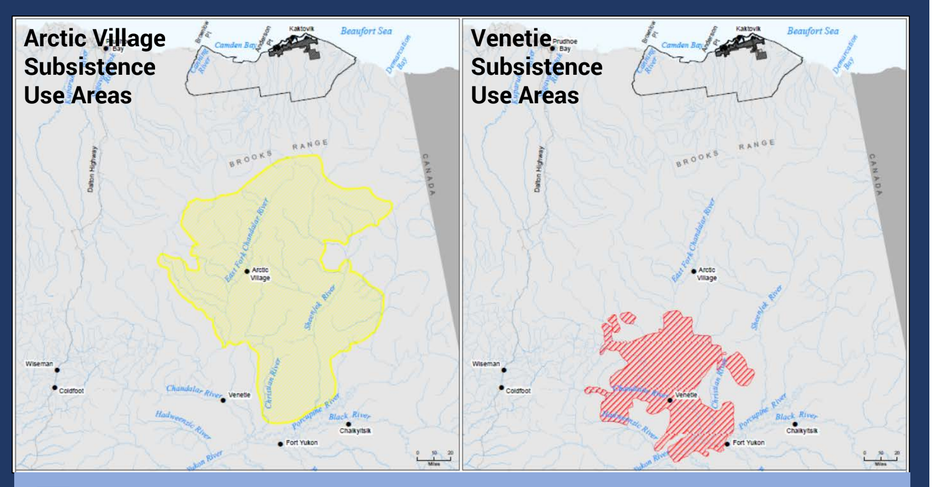
The figures on the left represent the subsistence resources harvested for each study community in terms of the percent of total harvest based on edible pounds. Subsistence use areas overlap with the program area for the following resources: terrestrial mammals (including caribou, moose, grizzly bear, and Dall sheep), furbearers and small land mammals, fish, birds (including geese and eiders), vegetation, and marine mammals (including bowhead whale, beluga whale, seal, walrus, and polar bear) (SRB&A 2017).

Sharing of subsistence resources is also a crucial part of the social structure and resiliency in Alaska Native communities. For example, a study found that during a single year, 176,577 pounds of subsistence foods flowed between Kaktovik households. In addition to food, sharing was in the form of labor, money/equipment, and other contributions. Over 90 percent of Kaktovik households participate in one or more subsistence resource harvesting activities (Kofinas et al. 2016).









What are the potential impacts on subsistence uses and resources from post-lease activities?

The analysis discusses potential direct and indirect impacts from on-the-ground post-leasing activities. Common **types of direct and indirect effects** associated with oil and gas development in the program area include changes in subsistence use areas, harvest success, harvest amounts, participation, costs and time, competition, culture, and access (both physical and legal barriers and user avoidance). Climate change could also influence the rate or degree of the potential direct and indirect impacts.

Primary factors which may result in impacts on subsistence resources and uses include:

- Noise, traffic, and human activity
- Infrastructure (including physical barriers)
- Contamination
- Legal or regulatory barriers
- Increased employment or income/revenue

Kaktovik residents are the primary subsistence users of the program area and would therefore be the most likely to experience direct impacts associated with development. Nuiqsut could experience potential direct and indirect impacts related to the harvest of marine mammals, and indirect impacts associated with the harvests of caribou, waterfowl, and fish. Arctic Village, Venetie, and other communities that use the Porcupine and Central Arctic herds, have the potential to experience indirect impacts associated with the harvest of caribou and, to a lesser extent, waterfowl.

Note: This topic poster is designed to give a general overview. More information on subsistence uses and resources can be found in the Draft EIS.

What did the analysis find?

Oil and gas development in the program area, in combination with past, present, and reasonably foreseeable activities, would lead to additional impacts on subsistence resources and uses, including impacts on user access, resource availability, and resource abundance. This would ultimately lead to reduced harvesting opportunities and reduced participation in subsistence activities.

Thus far, communities on the North Slope have adapted to the changes occurring around them and maintained a strong subsistence identity. The continued maintenance of subsistence traditions would depend on the continued availability of subsistence resources and the continued ability of subsistence users to access resources, particularly if there are changes in resource abundance, distribution, or migration.

Increased employment and revenue related to future oil and gas development could have potential positive and negative impacts on subsistence uses in affected communities. Increased income from employment and corporation dividends would likely be put to use in supporting subsistence activities through the purchase of faster and more efficient equipment and technologies and through supporting super-harvester households in the community.

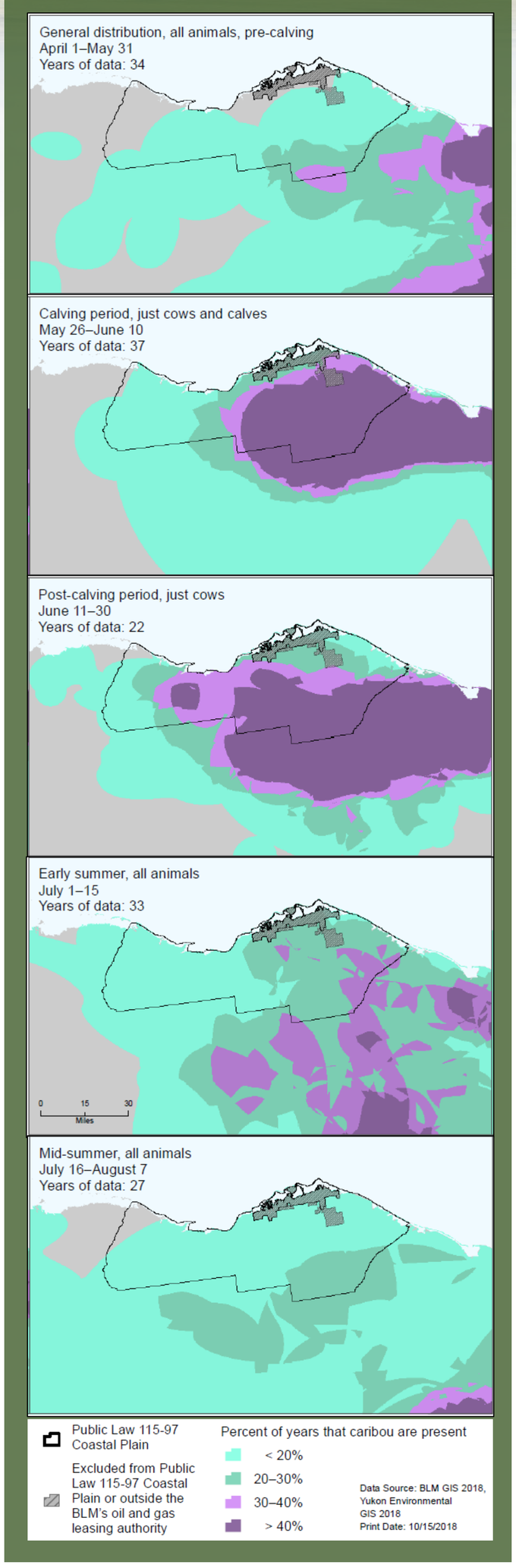
The hypothetical development scenario is used to inform the analysis of impacts for each alternative; future environmental analysis would occur with site-specific development proposals.

Alternatives that allow the greatest amount of land to be developed and which have fewer timing and other restrictions would provide the greatest potential contribution to cumulative effects on subsistence uses and resources. Alternative B would have the largest potential contribution to cumulative effects on subsistence uses and resources (with the greatest amount of land available for leasing), while Alternative D2 would have the smallest potential contribution to cumulative effects on subsistence uses and resources.

Native Village of Kaktovik
Native Village of Venetie Tribal Government
Venetie Village Council
Arctic Village Council

Coastal Plain Oil and Gas Leasing Program
Draft Environmental Impact Statement
Terrestrial Mammals

Seasonal Distribution of the Porcupine Caribou Herd (PCH)



What are the primary terrestrial mammals in the program area?

Thirty-nine species of terrestrial mammals are known or expected to occur in the Arctic Refuge, 18 of which occur regularly on the Coastal Plain physiographic province in the Arctic Refuge (MacDonald and Cook 2009; USFWS 2015a). Most notably are ungulates such as the caribou, musk ox, and moose; carnivores including the grizzly bear, wolf, and wolverine; and small mammals such as arctic ground squirrels.

According to the US Fish and Wildlife Service (USFWS 2015a), 156 bird species have been recorded in the Arctic Refuge and in adjacent marine waters. With few exceptions, all birds in the program area are migratory and are present only during the summer breeding season.

The PCH reached a herd size of 218,000 animals in July 2017.

(Caikoski 2015; ADFG 2018a)

The CAH most recent estimate was 28,000 individuals in 2017.

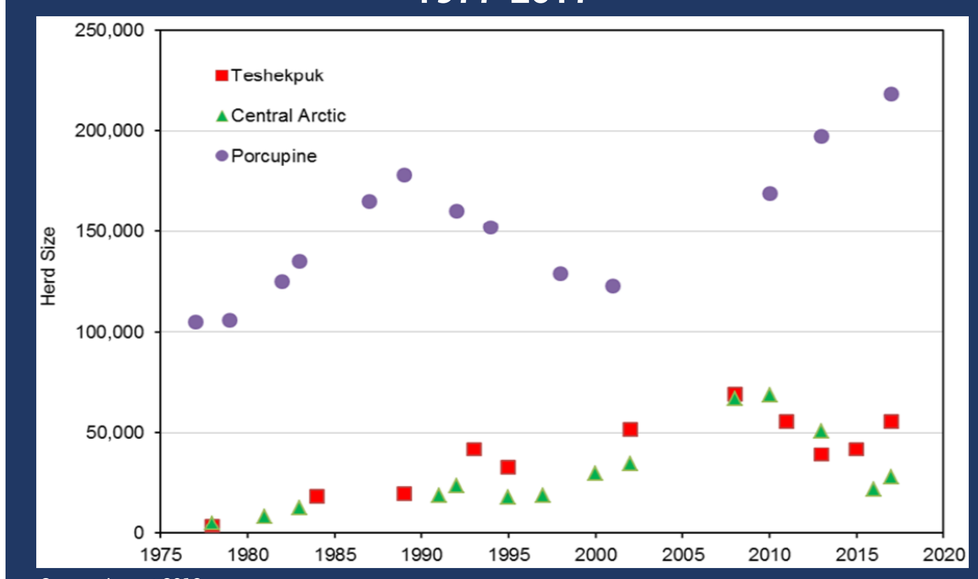
(Lenart 2015a, 2018; ADFG 2017)

Caribou are the most abundant large mammals in the program area and are an important subsistence resource for Iñupiaq and Gwich'in hunters. They also are important for harvest by other hunters who do not live in the refuge and for nonconsumptive uses, such as tourism and wildlife viewing. Four herds of barren-ground caribou occur in Arctic Alaska: (proceeding from west to east) the **Western Arctic herd, the Teshekpuk herd, the Central Arctic herd (CAH), and the Porcupine Caribou herd (PCH)**. These four herds differ in their use of seasonal ranges, especially during the calving, insect-relief, and winter seasons (Russell et al. 1993; Murphy and Lawhead 2000).

Caribou in the PCH give birth in the program area during most years and use the Coastal Plain and ridges in the adjacent foothills and mountains for relief from insect harassment during summer, a period when some CAH caribou also use the program area. For these reasons, the EIS discussion focuses on the PCH and CAH.

Seasonal Distribution of the Central Arctic Herd (CAH)

Population Size of Three Caribou Herds in Arctic Alaska, 1977-2017



Source: Lenart 2018

What are the potential impacts on terrestrial mammals from post-lease activities?

The analysis discusses potential direct and indirect impacts from on-the-ground post-leasing activities. Common **types of direct and indirect effects** associated with oil and gas development in the program area include habitat loss and alteration, behavioral disturbance and displacement, and injury or mortality. Climate change could also influence the rate or degree of the potential direct and indirect impacts.

Primary factors which may result in impacts on subsistence resources and uses include:

- Noise, traffic, and human activity
- Infrastructure (including physical barriers)
- Contamination
- Seismic exploration
- Construction
- Drilling and Development Operations

What did the analysis find?

Future construction activities would result in potential loss and alteration of terrestrial mammal habitats due to gravel placement for roads, pads, and airstrips, as well as from gravel extraction from mine sites. Potential indirect impacts on terrestrial mammals would include habitat alteration, fragmentation, and loss of use because of disturbance and displacement.

Given the 2,000-acre limit on gravel placement, the amount of activity during future development drilling and operations is expected to be similar among alternatives. Many of the same impacts that occur during construction would persist throughout future drilling and operation, although some activities, such as gravel hauling, gravel fill placement, pipeline construction, would end and others, such as vehicle and air traffic volume, would continue at a lower frequency. Drill rigs and associated activity would introduce additional noise disturbance.

Future seismic exploration is expected to occur in all portions of the program area that are open to lease sales. It has the potential to affect terrestrial mammals by eliminating below snow habitat for small mammals, reducing forage availability during winter through compaction of snow and underlying vegetation, and disturbing denning grizzly bears and muskoxen.

Note: This topic poster is designed to give a general overview. More information on terrestrial mammals can be found in the Draft EIS.

Native Village of Kaktovik
Native Village of Venetie Tribal Government
Venetie Village Council
Arctic Village Council

Coastal Plain Oil and Gas Leasing Program
Draft Environmental Impact Statement
Marine Mammals

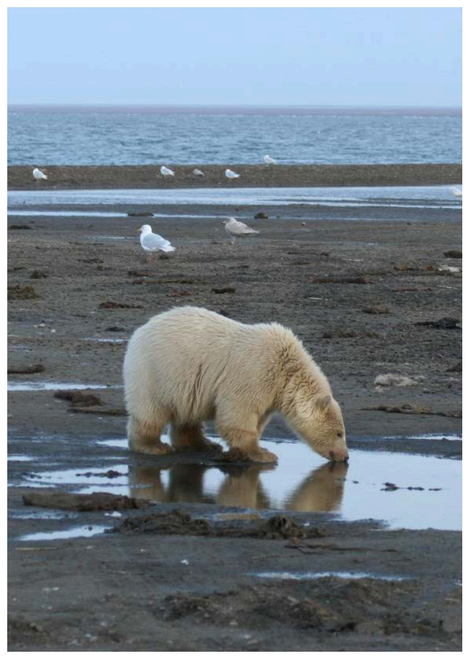
Nine species of marine mammals have been recorded in marine waters within 5 nautical miles of the program area. The bowhead whale is listed as endangered under the Endangered Species Act, and the polar bear and bearded and ringed seals are listed as threatened. All marine mammals found in US waters are protected under the Marine Mammal Protection Act, as amended (16 USC 1631 et seq.). Some species receive additional protection under the Endangered Species Act (16 USC 1531 et seq.).

Polar Bear

In Alaska, polar bears occur most commonly within 200 miles of the coast of the Arctic Ocean (Amstrup and DeMaster 1988). The program area is the core activity area of the Southern Beaufort Sea stock.

The USFWS listed the polar bear as a threatened species under the ESA in May 2008 (73 FR 28212). The ESA listing decision was based on the rapidly diminishing sea-ice cover and thickness in the Arctic Ocean due to climate change, primarily during summer (73 FR 28212; Durner et al. 2009).

The USFWS designated three units of critical habitat occurring in the program area for polar bears in 2011 (75 FR 76086). Critical habitat excludes human-made structures and the land on which they are located, as well as seven specific areas consisting of the communities of Utqiaġvik and Kaktovik and five US Air Force radar sites (Point Barrow, Point Lonely, Oliktok Point, Bullen Point, and Barter Island).



Bowhead, Beluga, and Other Whales

Bowhead whales transit past the program area during spring (April–June) and fall (September and October) migration (Quakenbush et al. 2010; Citta et al. 2015). Bowhead whales were listed as endangered under the predecessor of the ESA in 1973, but no critical habitat has been designated. The decline in extent and duration of sea ice over the past 40 years has coincided with an increase in harvest by residents of Kaktovik, who harvested 1–2 whales per year from 1973 to 1994 and 2–4 whales per year from 1995 to 2016 (Koski et al. 2005; Suydam and George 2018)

Beluga whales have been recorded within 5 nautical miles of the program area and are sometimes harvested by Kaktovik residents.

In addition to the species listed above, sub-arctic whales that could be encountered during vessel transit (Dutch Harbor to the Beaufort Sea) are blue, fin, humpback, minke, North Pacific right, sperm, and killer whales.

Seals

The decline in extent and duration of sea ice cover is the primary conservation concern (Cameron et al. 2010) leading to the ringed and bearded seal listings as threatened under the ESA in 2012. During the summer, ringed seals forage along ice edges offshore and in productive open water (Harwood et al. 2015), including waters within 5 nautical miles of the program area. Residents of Kaktovik hunt bearded seals as part of their subsistence activities, but seals are not considered a primary food source (Clough et al. 1987). Bearded seals are expected to occur within 5 nautical miles of the program area.

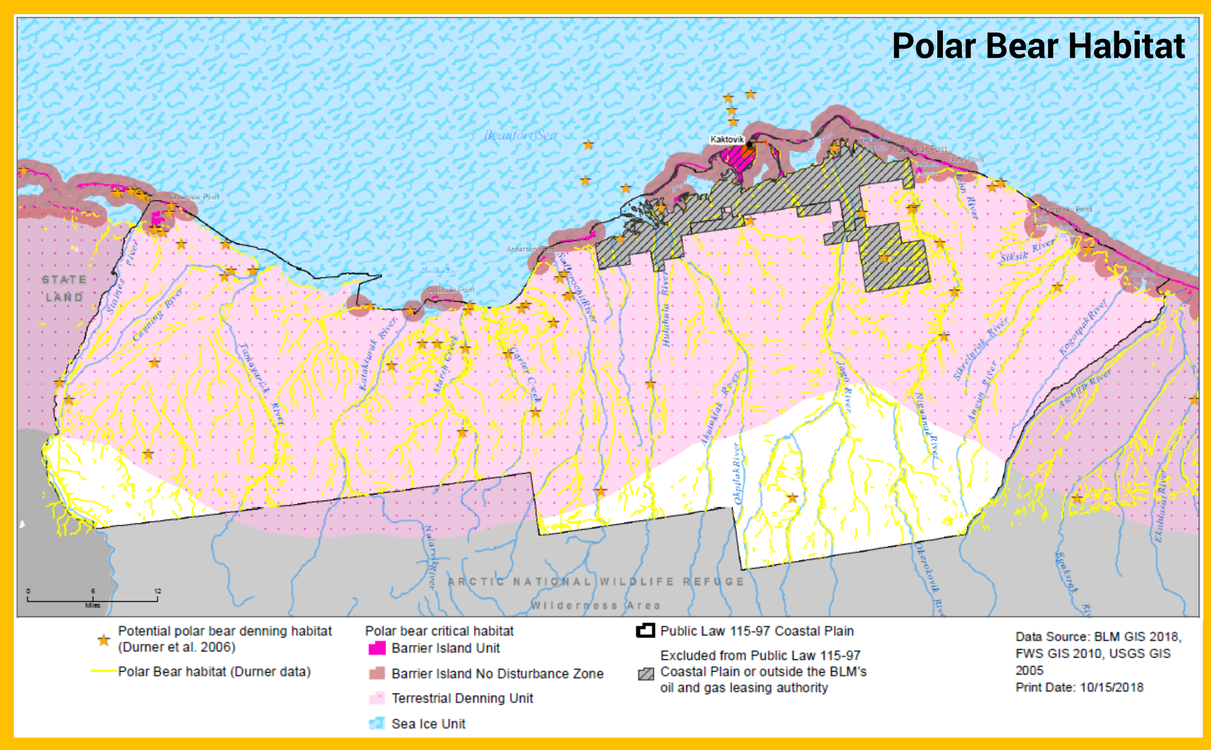
What are the potential impacts on marine mammals from post-lease activities?

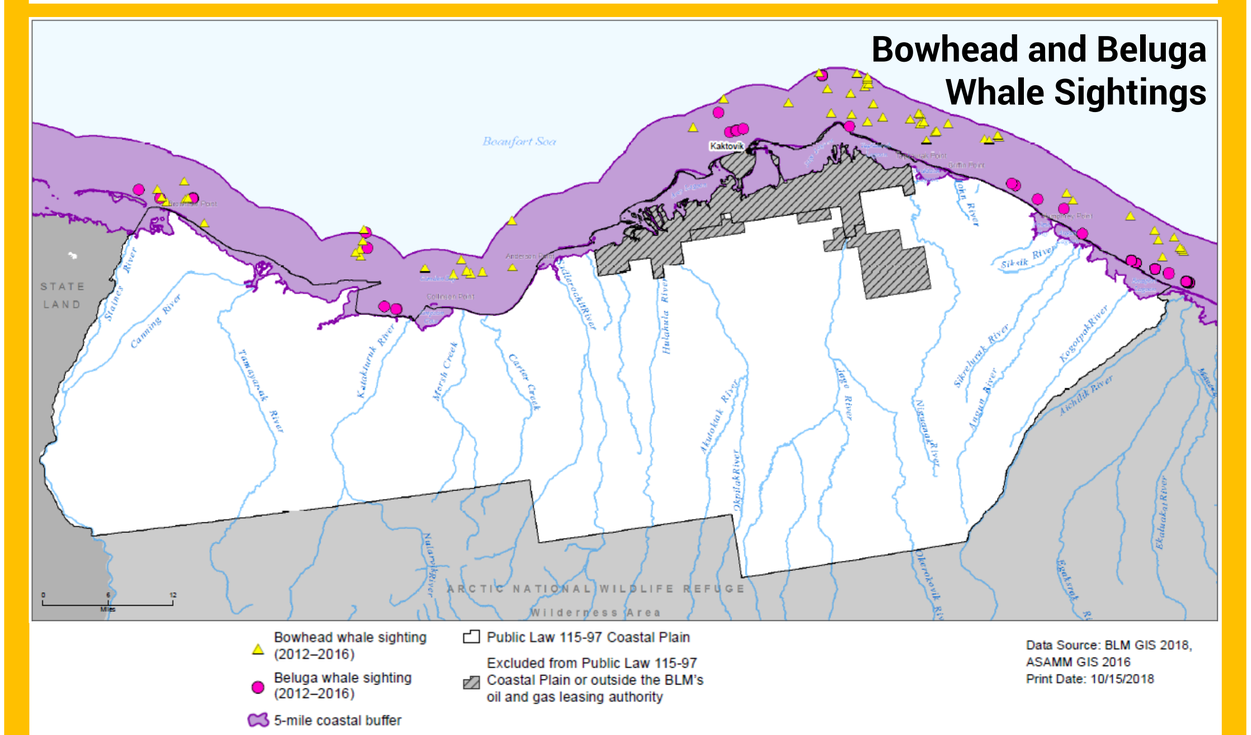
The analysis discusses potential direct and indirect impacts from on-the-ground post-leasing activities. Common **types of direct and indirect effects** associated with oil and gas development in the program area include habitat loss and alteration, disturbance and displacement, injury and mortality, attraction to human activity and facilities. Climate change could also influence the rate or degree of the potential direct and indirect impacts.

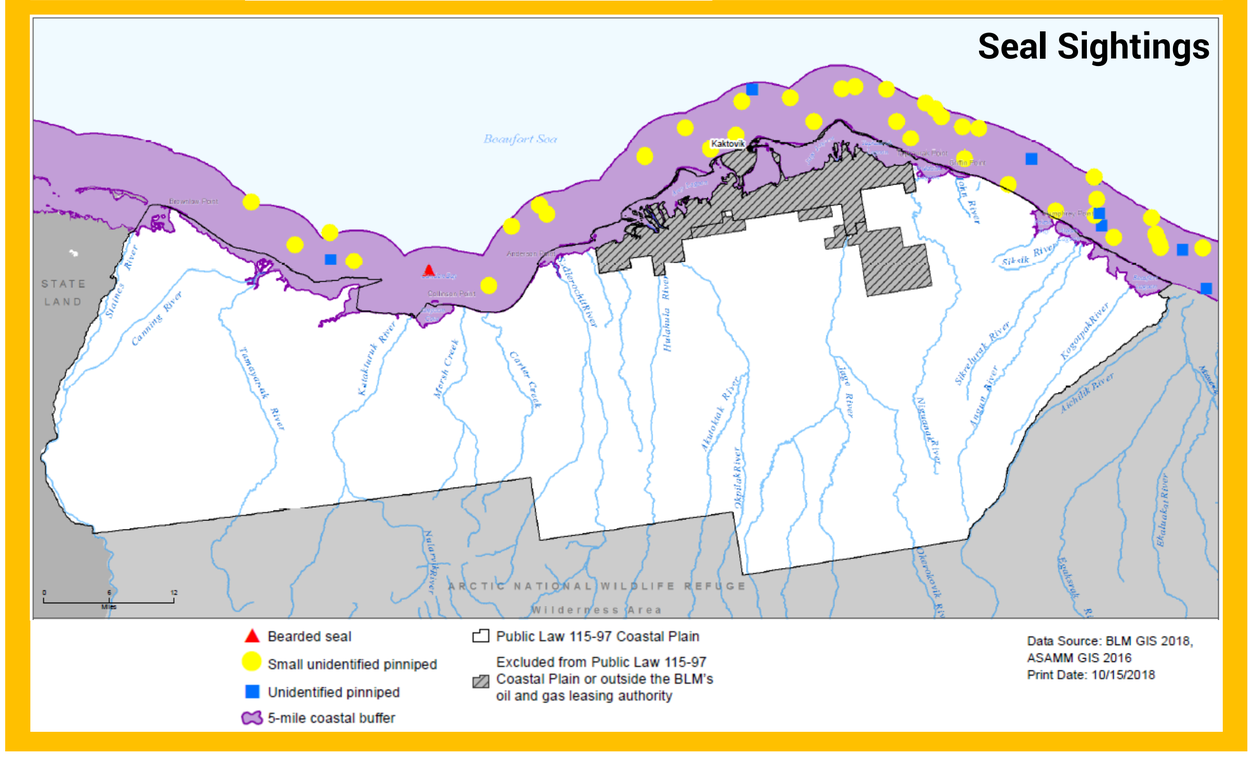
Primary factors which may result in impacts on subsistence resources and uses include:

- Gravel mining
- Gravel and ice road construction
- Off-pad snow disposal
- Alteration of seafloor foraging habitat caused by dredging or screeding operations at barge landing site
- Marine and land vehicle activity
- Location and extent of infrastructure
- Human activities at camps
- Human-bear interactions and hazing
- Noise from operation of equipment, including underwater sounds from vessel traffic
- Oil spills and contaminations
- Visual disturbance from operation of equipment, especially aircraft and vehicle traffic

Existing oil and gas development, commercial transportation, subsistence harvest and changes in the activities of local communities, and management and research actions by federal and state agencies are the principal activities contributing to cumulative effects on polar bears and other marine mammals in Arctic Alaska.







What did the analysis find?

All the action alternatives would affect large areas of the designated terrestrial-denning unit of critical habitat for polar bears; any facilities constructed within 20 miles of the coast would be located in that critical habitat unit. A wide variety of behavioral responses by polar bears is likely to occur, ranging from avoidance to approach by those attracted by sights, sounds, and odors.

The impacts of onshore production would likely affect polar bears through disturbance in coastal barrier-island and denning habitats, especially during construction, but would be mitigated through the Incidental Take Regulations and Letter of Authorizations issued by the USFWS. The USFWS (2006, 2008b, 2009; 81 FR 52276) has concluded that the types of activities typical of oil and gas exploration, development, and production projects in northern Alaska were not likely to have population-level effects on polar bear populations at the levels analyzed in developed areas. This is because the behavioral responses of individual bears were short term and localized.

Note: This topic poster is designed to give a general overview. More information on marine mammals can be found in the Draft EIS.

Native Village of Kaktovik
Native Village of Venetie Tribal Government
Venetie Village Council
Arctic Village Council

Coastal Plain Oil and Gas Leasing Program
Draft Environmental Impact Statement
Socioeconomics

Iñupiaq

Iñupiaq social organization traditionally revolved around the family and extended kin, in addition to trading partnerships and friendships (Hall 1984). Following Euro-American contact in the second half of the nineteenth century, the social and political organization of the Iñupiat changed over time.

These changes were a result of various factors, including the introduction of compulsory education. Despite the changes in social and political organization over time, the core of Iñupiaq social organization is similar on the North Slope today, in that it encompasses not only households and families, but also wider networks of kinship and friends and individual family groups that depend on the extended family for support. The sharing and exchange of subsistence resources strengthen these kinship ties.

The NSB has taxing authority on all lands throughout the North Slope, while the ASRC and other village corporations generate revenue through leasing their lands and providing oilfield services. As oil and gas development has moved closer to Nuiqsut, the community's Kuukpik Corporation has generated revenue, provided employment opportunities, and become a key player in advocating for environmentally and socially responsible development on the North Slope; thus, North Slope communities have shared in the financial gains associated with petroleum development since the 1970s.

Gwich'in

Despite the various changes to social and political organization over time, much of the traditional Gwich'in people's social and political structure remains intact. Subsistence remains central to their identity. The people of Arctic Village and Venetie are primarily descendants of the Neets'aii band of the Gwich'in and, along with other Gwich'in, identify as the "caribou people" in reference to their main source of food and cultural and spiritual identity (Kofinas 1998). They view their primary cultural tradition as living with the caribou, with an emphasis on the reciprocal nature of their relationship with this important resource.

After passage of ANCSA, residents of the formerly established Venetie Indian Reservation, including those from Arctic Village and Venetie, elected a provision in ANCSA that allowed villages to forgo payments in exchange for free and simple title to former reservation land, in the case of Venetie and Arctic Village, approximately 1.8 million acres (Venetie Village Council 2013; Inoue 2004). An additional 3.4 million acres north and west of the original reservation were later added, based on earlier petitions. Venetie and Arctic Village thus established the Venetie Indian Reserve, which is managed jointly under the Native Village of Venetie Tribal Government. Unlike many Alaska Native communities, Arctic Village and Venetie are not enrolled in a regional Native corporation and do not have ANSCA village corporations. As such, those communities do not receive any increased economic activity associated with resource development or shares therein by ANCSA corporations.

In 1988, the first of many Gwich'in gatherings was held in Arctic Village to discuss the potential for development in the Arctic Refuge. Out of this meeting the Gwich'in Steering Committee was established, whose stated goal was to "establish Gwich'in cultural survival as a major issue in the debate over oil development in the Arctic Refuge" (Inoue 2004). Meeting attendees included over 500 Gwich'in people from both Alaska and Canada.

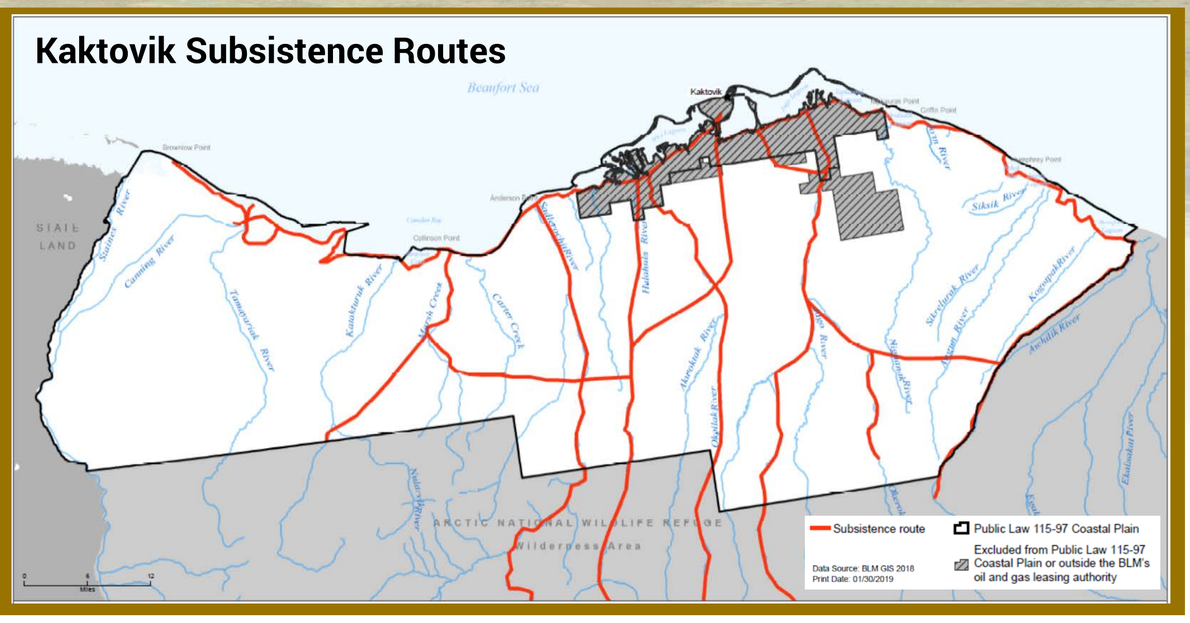
What are the potential impacts on sociocultural systems from post-lease activities?

The analysis discusses potential direct and indirect impacts from on-the-ground post-leasing activities. Potential **types of direct and indirect effects** associated with oil and gas development in the program area include changes to traditional subsistence lands and resources, the social, health, and cultural environment, and local and regional economies.

Primary factors that may result in impacts on sociocultural systems include:

- changes in income and employment levels
- changes in available technologies
- disruptions to subsistence activities and uses
- influx of non-resident temporary workers associated with post-lease oil and gas activities
- influx of outsiders coming into the subsistence study communities.

Kaktovik Subsistence Routes



What indirect economic impacts might result from leasing activities?

Potential indirect effects related to oil or natural gas development would include the spin-off effects of spending; these are also referred to as multiplier effects. They include additional economic effects that would result from in-state industry spending on goods and services, workers' spending of wages, and government spending of royalties and tax payments during the construction and operations phases.

Like other development projects in the North Slope, many of the materials and equipment are expected to be purchased outside Alaska. Still, a significant portion of the total future development costs, both capital and operating costs, would be paid to companies in Alaska for construction, transportation, logistics, and other oilfield services. Some of the contracts for construction and operations and maintenance of the facilities are expected to be awarded to Alaska owned and operated companies, including the North Slope regional and village corporations. These payments to local businesses would in turn generate additional economic activity in the state, resulting in indirect economic effects in the form of additional business sales, employment, and labor income. Likewise, potential local spending by workers as well as government spending of revenues would also generate multiplier effects statewide.

Potential impacts on subsistence activities could have impacts on cost of living for some families through the need to substitute store-bought foods for subsistence obtained foods.

Projected Direct and Indirect Jobs: Exploration, Development, and Production Phases

Jobs (Average Number of Part-Time and Full-Time Jobs)	Annual Average	Peak
Direct Effects		
Exploration	250	650
Development	480	680
Production	730	1,150
Indirect Effects		
Exploration	190	560
Development	3,180	4,570
Production	3,160	4,970

Source: Northern Economics, Inc 2018 estimate

Projected Direct and Indirect Labor Income: Exploration, Development, and Production Phases

Labor Income (Millions of Dollars 2017)	Annual Average	Peak
Direct Effects		
Exploration	$29	$77
Development	$97	$140
Production	$125	$197
Indirect Effects		
Exploration	$10	$30
Development	$214	$307
Production	$212	$307

Source: Northern Economics, Inc 2018 estimate

Projected North Slope Borough, State, and Federal Government Revenues

Government Revenues (in Millions of Dollars, 2017)	Annual Average	Total
NSB Property Taxes	$52	$1,192
State Royalties	$894	$21,463
State Taxes	$2,151	$49,473
Federal Royalties	$894	$21,463
Federal Taxes	$462	$11,082

Source: Northern Economics, Inc 2018 estimate

What did the analysis find?

Because of its proximity to the program area, the community of Kaktovik would experience the greatest intensity of effects associated with future oil and gas activities in the Coastal Plain. Potential impacts on sociocultural systems may also occur for other communities if future oil and gas activities in the program area results in changes to resource abundance or availability, particularly caribou. Because of the spiritual and cultural importance of the coastal plain and Porcupine Caribou Herd calving grounds to the people of Arctic Village and Venetie, any disruption to that herd or perceived contamination or degradation of calving grounds in the program area would have sociocultural impacts on the Gwich'in people.

The oil and gas leasing program and subsequent exploration, development, and production activities in the program area would increase oil production in the North Slope and, increase TAPS throughput, increase economic activity at the local, regional, and State level due to direct industry spending on labor, materials, and services, increase government revenues from shared royalties, tax payments such as property taxes, corporate income taxes, severance taxes, and other local taxes, increase job opportunities for Alaskans, including residents of communities in the NSB, and increase labor income in regions where industry spending would occur and where the oil and gas workforce resides.

Note: This topic poster is designed to give a general overview. More information on sociocultural systems and economics can be found in the Draft EIS.

Native Village of Kaktovik
Native Village of Venetie Tribal Government
Venetie Village Council
Arctic Village Council