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The Right Thing To Do:

**Energy Development in the
Arctic National Wildlife Refuge**

Introduction

Energy development in the coastal plain of the Arctic National Wildlife Refuge (ANWR) has been the subject of a long and often bitter political battle. This debate has generated a tremendous amount of contradictory information regarding the possible environmental and human effects of energy development in the coastal plain. But Alaskans, including those whom the anti-development activists claim to defend, widely support development and argue that the environmental harm would be minimal.

Opponents of energy development in the coastal plain of the Refuge put forth the following three primary arguments:

- It will damage ANWR's "pristine" environment and harm wildlife.
- It will destroy the unique way of life of the native inhabitants of the Refuge.
- It will yield a relatively small amount of oil, and only after many years of development.

Each of the arguments is incorrect and exploits ignorance about the remote coastal plain region of the Refuge.

A Background to the Debate

In 1960, Secretary of the Interior Fred Seaton issued Public Land Order 2214, officially establishing the Arctic National Wildlife Range. The order set aside 8.9 million acres to preserve the wildlife and recreational values of the area. In addition, the order specifically permitted oil and gas exploration and development in the Range.

Almost 20 years later, Congress again evaluated resource development in the Arctic Range. Between 1978 and 1980, Congress debated the Alaska National Interest Lands Conservation Act, which resulted in the creation of over 100 million acres of parks, wildlife refuges, and national forests, and a tripling of the amount of land designated as wilderness. The

Act expanded the original Arctic National Wildlife Range to 19.6 million acres and renamed it the Arctic National Wildlife Refuge. In the spirit of compromise, and consistent with the original purpose of the 1960 order, Section 1002 was included in the Act to set aside 1.5 million acres for oil and gas exploration and development, subject to an Environment Impact Statement and authorization by Congress.¹

In 1987, the Final Legislative Environmental Impact Statement was submitted to Congress, whereby the Secretary of the Interior recommended that the Refuge be opened to oil and gas exploration and development. However, Congress has yet to authorize development of the coastal plain.

Environmental Issues

Despite the unqualified claim by opponents, the coastal plain is not an entirely pristine wilderness.² Although vast stretches of the flat, featureless plain are empty, it is not untouched by human activity. For example, there is a village of 260 Inupiat natives living there, with housing (most of which do not have flush toilets), schools, stores, power lines, an airstrip and, oddly enough, an oil well. Moreover, the village imports 500,000 gallons of diesel fuel each year, which is brought in by barge around Alaska's west coast.³ The U.S. military's Barter Island Distant Early Warning System radar site is also located on the coastal plain's shoreline.

Supporters of ANWR development are confident that the environmental effects on the coastal plain would be minimal, due to proactive efforts to avoid harm. The United States has the most stringent environmental safeguards in the world, and energy exploration and development would be subject to the strictest environmental standards. The most recent effort to open the coastal plain (H.R. 6 of the 108th Congress) stated that: the leasing program must result in "no significant adverse effect" on wildlife, habitat or the environment; a new environmental impact statement must be completed before leasing begins; all drilling activities are subject to site reviews; oil and gas companies must fully restore the affected land to pre-development conditions or better; and 45,000 acres can be designated "special areas" protected from exploration and development.

Additionally, oil and gas companies would use ice roads to protect tundra and the ecosystem, and would employ directional and multi-lateral drilling to reach reservoirs of oil and gas, which reduces the impact to the land. Production and support facilities will be limited to 2,000 acres of the 1.5-million-acre coastal plain. For comparison purposes, if the Refuge were a page of the *New York Times*, the area in question would be the size of a single letter.

Experience of North Slope Drilling

¹Public Law 96-487.

²The American Heritage Dictionary (4th ed.) defines pristine as "a. remaining in a pure state; uncorrupted by civilization; b. remaining free from dirt or decay; clean."

³*International Gas Report*, "Alaska frontier ANWR more gas prone?" September 5, 1995.

Such provisions that take into account environmental concerns should be viewed in juxtaposition with changes to the energy industry itself in recent decades. Industry has learned much during the last 30 years of energy development on Alaska's North Slope about how to minimize environmental harm. The North Slope is about 60 miles west of ANWR's coastal plain. The use of directional and extended-reach drilling has allowed North Slope drillers to minimize the drilling "footprint." Such techniques have vastly reduced the spacing of individual wells. For example, in 1977, production wells were spaced 100 feet apart. That spacing has since been reduced to 25 feet, to 15 feet, and in some cases to as little as 10 feet. The size of the typical drill pad has been reduced from 65 acres to 8.7 acres as a result. If built today, the footprint of the Prudhoe Bay oilfield would be 64 percent smaller.⁴ Such technology would be employed in the coastal plain to significantly reduce the footprint of energy development.

Drilling in Alaska's North Slope was long accompanied by many dire warnings of environmental harm. Recently, the National Research Council, which is part of the National Academy of Sciences, completed a study of the cumulative environmental effects of energy development there.⁵ The study was widely interpreted by environmental activists as showing that energy development has significantly affected the environment. An actual reading of the study reveals a much less alarming story. Of course, energy exploration and development require roads and facilities. Such industrial activity may not be pleasing to the eye, but the practical effect of energy development, in terms of actual harm to wildlife, has been remarkably small.

The study reported that noise from exploratory drilling and marine seismic development have caused fall-migrating bowhead whales to avoid the noise sources, but there is no indication in the report that this has had any adverse effect on the health of the whales. The study also reports that industrial activity has not had serious effects on ringed seals, polar bears, muskoxen, Arctic fox, or grizzly bear. The study notes a shift in nesting distribution in shore birds, but says there is insufficient information to determine how this has affected oil field bird populations. The report also notes that, in the early years, stream flow was disturbed, adversely affecting fish movement. But more recent efforts have largely eliminated the problem. Overall, wildlife has continued to do well on the Alaskan North Slope. Yet charges to the contrary still abound. (For example, the section below on the views of some native Alaskans discusses the misconception about the likely effect on caribou.)

Energy Development and Environmental Protection Can Coexist

Some environmental groups that have opposed energy development in the coastal plain nonetheless have allowed such development on their own environmentally sensitive lands. In the mid-1970s, for instance, the Audubon Society allowed oil companies to operate natural gas

⁴All of these techniques are discussed in the U.S. Department of Energy, Office of Fossil Energy, *Environmental Benefits of Advanced Oil and Gas Exploration and Production Technology*, October 1999.

⁵National Research Council, *Cumulative Environmental Effects of Oil and Gas Activities on Alaska's North Slope*, Washington, D.C., National Academies Press, 2003.

wells on its 26,000-acre Paul J. Rainey Wildlife Sanctuary in Louisiana, earning a total of \$25 million in royalties.⁶

One species that opponents of ANWR development raise concern about is the snow geese that use the coastal plain as a resting and feeding area in the final course of their 1,300-mile migration from the southeastern United States to the Canadian Arctic. But the snow geese also use the Audubon's Rainey Sanctuary as a resting and feeding area during their migration.

The Audubon Society has also allowed drilling on its Bernard W. Baker Sanctuary in Michigan. So, too, has the Nature Conservancy on its Galveston Bay Prairie Preserve, home of the endangered Atwater's prairie chicken.⁷

Through the use of appropriate technologies – many developed in Alaska – and restrictions, environmental groups have successfully engaged in energy extraction from their own environmentally sensitive lands without causing harm. The same could be accomplished on the coastal plain.

The Debate Within the Native Alaskan Community

Opponents charge that energy exploration and development on the coastal plain will destroy the Native Alaskans' way of life, but polls have consistently shown strong Native Alaskan support for development, including that of the Inupiat Eskimos, who reside there and who own 98,000 acres of the coastal plain. The Inupiat people favor development on their lands by an 8-to-1 margin, contending that it would vastly improve their lives and provide their children better education, healthcare, and other services that most middle-income Americans take for granted.⁸

Inupiat leaders Fenton Rexford and Eve Ahlers note, "For us, responsible development means the right to live healthy and productive lives. It means flush toilets and running water, two elements key to sanitary living conditions."⁹ And Ben Nageak, an Inupiat Eskimo and former mayor of North Slope Borough, has said, "The oil industry made a concerted effort to cooperate with the Inupiat people in addressing their concerns. They listened to us. Together, we have refined practices and rules for safe development. Today, the oil industry is no longer seen as an adversary by the Inupiat people. It is now viewed as a partner. And our Inupiat culture is still alive and thriving."¹⁰

⁶Pamela Snyder and Jane Shaw, "PC Oil Drilling in a Wildlife Refuge," *Wall Street Journal*, September 7, 1995.

⁷Dwight R. Lee, "To Drill or Not to Drill: Let the Environmentalists Decide," *The Independent Review*, Fall 2001.

⁸Survey of the residents of the City of Kaktovik, January 2000, <http://www.anwr.org/features/kaktovik.htm>.

⁹Robert Novak, "Harsh Reaction to Tariff Stuns Bush," *Chicago Sun-Times*, March 17, 2002.

¹⁰In a speech delivered before the National Association of Counties at the Western Interstate Region Conference, May 20-23, 1998, <http://www.anwr.org/features/news-nag.htm>.

In contrast to the Inupiat position is that of the Gwich'in Indians, who live 140 miles from the coastal plain and well outside of the Refuge. About 90 percent of the Gwich'in live in Canada. They are opposed to energy exploration and development. They argue that the coastal plain is the calving grounds of the Porcupine caribou herd that they depend on for their livelihoods, and that energy development in that area would harm the herd. However, this fear has little factual basis. Since energy exploration began on Prudhoe Bay on the North Slope, the size of the Central Arctic herd, which resides on the North Slope, has increased from 5,000 in the 1970s to 32,000 in 2002.¹¹

The National Research Council's report failed to show an adverse effect on the Central Arctic herd. The worst it could find was a decline in herd size from 1992 to 1995, which it attributed to both the "additive effects of surface development and relatively high insect activity."¹² Why it blamed this short-term decline on surface development is unclear, because it also notes that, from 1995 to 2000, insect activity was relatively low and herd size increased. It also completely failed to mention the large increase in herd size since oil development began. Another study noted that caribou populations "characteristically fluctuate dramatically, and differentiating human and non-human impacts is difficult if not impossible."¹³

Thus, looking at the growth of the Central Arctic caribou herd since the arrival of energy exploration and development on the North Slope, and the National Research Council's report, there is little evidence that harm would come to the coastal plain's Porcupine caribou herd in the event of energy development in that region. In fact, according to the U.S. Fish and Wildlife Service, the Porcupine herd's calving grounds cover a wide-ranging area, which includes the coastal plain, and which extends well into Canada. Each year the caribou calve in different locations, depending on numerous factors. And, as it turns out, the area where energy development would occur does not overlap any of the sites where the herd calved between 1983 and 2001.¹⁴ So the small area that would be affected would likely be inconsequential for the caribou.

While the Gwich'in today cite fear of harm to the caribou as a reason for their opposition to oil drilling, that has not been their position in the past. In the 1980s, the tribe leased 1.8-million acres of their tribal lands for oil development with no provisions in the lease agreement to protect the caribou. Unfortunately, no oil was found. Since then, the Gwich'in Steering Committee has received hundreds of thousands of dollars from foundations who oppose energy development in the coastal plain.¹⁵

¹¹Matthew A. Cronin, "Oil vs. Wildlife: A Phony Issue," *Range*, Winter 2005.

¹²National Research Council, 2003.

¹³Matthew A. Cronin, Warren B. Ballard, James D. Bryan, Barbara J. Pierson, and Jay D. McKendrick, "Northern Alaska oil fields and caribou: A commentary," *Biological Conservation*, February 1998.

¹⁴To see a map of calving locations see: <http://arctic.fws.gov/caribou.htm>. To see a map showing the location of the proposed development areas see: <http://www.anwr.org/docs/CloseupofareaIII.pdf>.

¹⁵*Foundation Grants Index*, New York, NY: The Foundation Center, 2005. According to this index, the Gwich'in Steering Committee received nearly \$624,000 from various foundations who oppose

More recently, the Gwich'in have formed the Gwich'in Oilfield Services company and plan to drill for oil in a 1.4-million-acre area of the McKenzie River delta area governed by the Indians. The area is just east of a major migratory path where the caribou often birth their calves.¹⁶

How Much Oil is Available on the Coastal Plain?

Opponents of energy development in the coastal plain argue that the amount of oil available is relatively small, and that it would take several years to develop the resource. Thus, they argue, the benefit would be nil for the near term and relatively small overall.

A 1998 US Geological Survey (USGS) assessment of energy resources in the coastal plain found that there are between 15.6 billion and 42.3 billion barrels "in place." Of that amount, 5.7 billion to 16 billion barrels were assessed to be technically recoverable, with a mean of 10.4 billion barrels. Assuming a price of \$24 per barrel, which the USGS did, nearly 90 percent of the technically recoverable oil would be commercially viable. In other words, 90 percent of the oil would be available at a profitable rate of return. With oil today selling at around \$50 per barrel, virtually all of the technically recoverable oil would be commercially viable.

Furthermore, these estimates assume current technology. So over time, with improving technology, the amount of technically recoverable oil on the coastal plain will likely rise. This occurred in Prudhoe Bay, where initially it was estimated that about 35 percent of the total could be recovered. Now recovery is expected to exceed 65 percent. A similar experience on the coastal plain would imply recovery of 10 billion to 27 billion barrels.

The bottom line is that, once developed, the coastal plain would provide the United States with about 900,000 barrels a day, or about 4.5 percent of today's U.S. consumption, for the next 30 years.¹⁷ By comparison, the United States imports about 1.5 million barrels a day from Saudi Arabia.¹⁸ In terms of production, such a yield is highly significant: at its peak, it would amount to nearly 16 percent of today's total U.S. production.¹⁹

drilling on the coastal plain between 1991 and 2003. This does not include any non-foundation grants it may have received over this period.

¹⁶Paul Driessen, "The Slick Politics of ANWR Oil Exploration," *Tech Central Station*, November 26, 2001.

¹⁷Energy Information Administration, "Analysis of Oil and Gas Production in the Arctic National Wildlife Refuge," March 2003.

¹⁸Energy Information Administration, "Saudi Arabia: Country Analysis Briefs," January 2005, <http://www.eia.doe.gov/cabs/saudi.html>.

¹⁹Energy Information Administration, "United States: Country Analysis Briefs," January 2005, <http://www.eia.doe.gov/emeu/cabs/usa.html>.

As to the amount of time required to develop the coastal plain's energy resource, it is true that it will take about 10 years. But in 1995, Congress passed legislation to open the coastal plain, and President Clinton vetoed it. Had he not done so, the first oil would be coming on line today, and the economic benefits of more affordable energy would be ours. Until we get started, it will always be 10 years away.

A Note on Energy Independence

Energy development on the coastal plain can be sold on the economic merits. That is, the energy is commercially available and would provide benefits well in excess of the costs, including environmental costs. National defense or energy-independence arguments are fine as far as they go, but because oil is a fungible commodity, any oil shock (caused, for instance, by OPEC) would have the same effect on U.S. energy markets whether it imports all or none of its oil from OPEC. The primary effect on energy markets of opening the coastal plain would be to reduce the world price of oil by a small amount. To the extent that the United States can diversify its sources of oil, it should do so. This would indeed serve a useful national security purpose. Moreover, opening the coastal plain would help stabilize energy markets and generate economic growth. But it will not reduce our dependence on foreign oil by a significant amount.

Conclusion

After 25 years of acrimonious debate, there is a lot of contradictory information about energy development in ANWR's coastal plain. An examination of the evidence shows that energy development's effect on the environment would be minimal while its effect on the native people living there would be very beneficial. Moreover, it would provide a large and long-term supply of energy to the U.S., about twice as much as the East Texas oilfield, which to date has been the nation's largest and most productive oilfield in the lower 48 states since oil was discovered there in 1930.²⁰

²⁰Texas State Historical Society, "The Handbook of Texas Online," <http://www.tsha.utexas.edu/handbook/online/index.html>.