

# *Saving America's Arctic*



*Dispelling Myths about Drilling in  
the Arctic National Wildlife Refuge*

**U.S. PIRG Education Fund • September 2005**

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# ACKNOWLEDGEMENTS

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## EXECUTIVE SUMMARY

The coastal plain of the Arctic National Wildlife Refuge is truly one of America's last wild places. It contains no roads, trails, or structures, so you must fly, boat, or walk to get there. It is a pristine habitat, one that supports large populations of migratory birds, caribou, muskoxen, all three species of bear, wolves, Dall sheep, and snow geese. The annual migration of the 129,000-member caribou herd evokes images of the long-gone buffalo herds of the Great Plains.

The coastal plain of the Arctic Refuge is the only area along Alaska's entire North Slope that is not currently open for oil and gas exploration. Unfortunately, oil companies such as ExxonMobil and their allies in the Bush administration and Congress are pushing to drill in the coastal plain of the Arctic Refuge, endangering one of America's last wild places for a few months' worth of oil and gas.

Drilling advocates have made several different arguments to try to garner more support for drilling in the Arctic National Wildlife Refuge. These arguments simply do not stand up to the facts.

- **Drilling Myth: Drilling in the Arctic Refuge will lower gasoline prices and make America less dependent on foreign oil.** Turning the coastal plain of the Arctic Refuge into a sprawling industrial complex would do little to ease our energy problems in the short or long term. At its peak, the Arctic Refuge likely would provide less than one percent (0.7%) of projected world oil production and would decline thereafter, according to the Energy Information Administration (EIA). Given the small amount of oil in the Arctic Refuge, EIA also estimates that drilling in the Refuge would reduce gasoline prices by less than a penny-and-a-half a gallon and not until

2025. Moreover, since oil prices are set on the world market, OPEC producers and other oil-exporting nations could cut their output to counter any increase in U.S. output to keep oil and gasoline prices high.

- **Drilling Myth: The oil industry can drill without harming the environment.** According to the Alaska Department of Environmental Conservation, Alaska's North Slope experienced 4,532 oil spills between 1996 and 2004, an average of 504 spills annually. Overall, reported spills increased by 33 percent between 1996 and 2004, peaking in 2002. These spills released a total of 1.9 million gallons of crude oil, diesel, drilling fluids and waste, and other substances into the delicate Arctic environment. In 2004 alone, 554 spills were reported on the North Slope, or one spill every 16 hours.

- **Drilling Myth: The oil industry could develop the coastal plain using only 2,000 acres.** Drilling proponents who argue the oil industry can limit development to 2,000 acres are only referring to surface acreage covered by production and support facilities and are excluding seismic or other exploration activities, which have had significant impacts on the Arctic environment to the west of the coastal plain. Oil field development in America's Arctic includes a vast network of seismic exploration trails, gravel mines, roads, drill pads, pipelines, processing facilities, operating and housing facilities, and waste and sewer treatment plants that stretches across 1,000 square miles of tundra and has changed the Arctic ecosystem forever.

Drilling for oil in this pristine haven for wildlife would disrupt and ultimately destroy one of America's last remaining truly wild places. Instead of pushing to drill in the

Arctic Refuge, the Bush administration should act to make our cars and SUVs go farther on a gallon of gasoline. Simply closing certain regulatory and tax loopholes for gas guzzlers would reduce U.S. oil dependence by 1.5 million barrels per day in 2025 and save consumers more than \$30 billion, according to the Union of Concerned Scientists (UCS). Moreover, a 2001 UCS

study showed that increasing fleetwide fuel economy standards to 40 mpg by 2012 and 55 mpg by 2020 would save nearly 5 million barrels of oil a day after 18 years and 1.5 million barrels per day after only eight years. Drilling in the Arctic Refuge is no substitute for a real energy policy to reduce America's dependence on oil.

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## BACKGROUND



*Arctic National Wildlife Refuge, courtesy of U.S. Fish and Wildlife Service*

In 1960, President Dwight Eisenhower established the Arctic National Wildlife Range in recognition of the area's unparalleled scenic, wildlife and recreational values. In 1980, Congress renamed the Range as the Arctic National Wildlife Refuge and enlarged the Refuge to 19 million acres. Most of the former Range became a part of the Wilderness Preservation System. The only area not designated as wilderness was the 1.5 million acre coastal plain. Known as Section 1002, the coastal plain was designated as a study area at the behest of the oil and gas industry. As a study area, the coastal plain is not open to drilling, nor is it permanently protected from drilling or development.

The coastal plain is the only area along Alaska's entire North Slope that is not open to oil and gas exploration. It is also one of the most pristine. There are no roads, developments, or trails. The Refuge is the lone conservation area in the nation that provides a complete range of Arctic and sub-arctic ecosystems and the only wholly unspoiled part of America's Arctic. As one of the last true vestiges of a world untouched by humans and a natural wonder to pass on to the next generation, it deserves the highest level of protection.

### **What's at Stake**

The U.S. Fish and Wildlife Service calls the coastal plain the "center of wildlife activity" in the Refuge. Known as "America's Serengeti," the coastal plain supports large populations of migratory birds, caribou, muskoxen, all three species of bear (brown, black and polar), gray wolves, and Dall sheep.

The annual migration of the 129,000-member Porcupine caribou herd evokes images of the long-gone buffalo herds of the Great Plains. For centuries this vast herd has traveled hundreds of miles from the Porcupine River region of Canada to the coastal plain to give birth each spring. The herd undertakes this arduous migration because the plain is a perfect nursery—almost no predators, few mosquitoes, and a lush garden of flowers, lichen, and plants to support pregnant and newborn caribou alike. No alternative habitat exists for the Arctic Refuge caribou.

The Arctic Refuge also is the most consistently used polar bear denning area on American soil. Denning polar bears are extremely sensitive to human activity. Females may abandon dens—with fatal results for newborn cubs—if disturbed, even at a distance of nearly 250 yards.

Among the scores of bird species that gather on the coastal plain of the Refuge for breeding, nesting, and migratory stopovers are snow geese, tundra swans, red-throated loons, sandhill cranes and a variety of shorebirds. Most states, as well as a number of nations in South America, the Pacific Rim and beyond, are visited each year by birds from the Arctic Refuge coastal plain. The snow geese, for example, depend on the coastal plain as a place to rapidly build their fat reserves for the 1,200-mile nonstop migration to southern California and Mexico.

The Refuge is also sacred to the Gwich'in people, one of the last subsistence cultures left in North America. Gwich'in means "people of the caribou," and they have lived on or near the coastal plain for 20,000 years. To the Gwich'in, the coastal plain and caribou herd are sacred. The herd is central

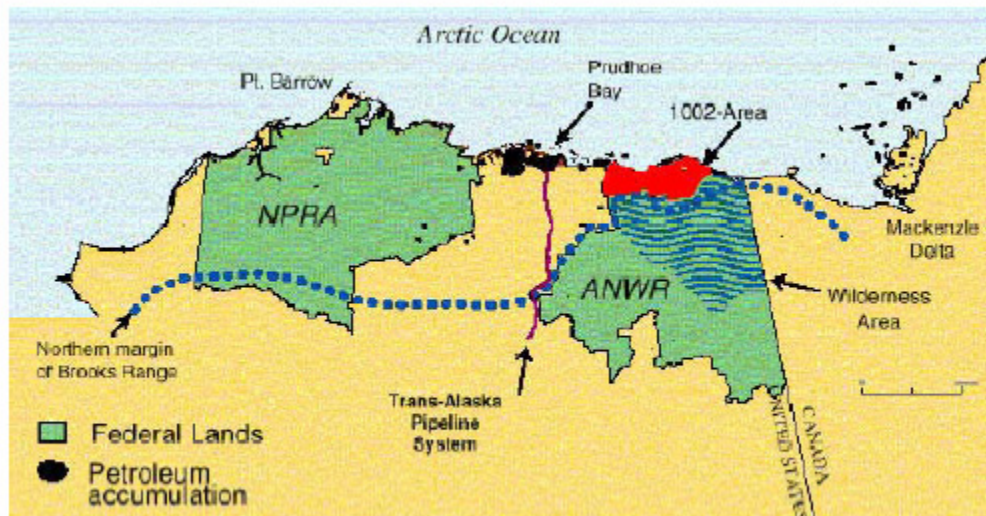
to the Gwich'in way of life, providing food, clothing, tools, and a critical link to the people's traditional ways.

In 1987, the Department of the Interior released a Legislative Environmental Impact Statement saying that oil development and production in the Arctic Refuge coastal plain would have major effects on the region's Porcupine caribou herd and musk oxen. It then defined 'major effects' as "widespread, long-term change in habitat availability or

quality, which would likely modify natural abundance or distribution of species."<sup>1</sup>

The Arctic National Wildlife Refuge is a national gem. Like Yellowstone or the Grand Canyon, the coastal plain of the Arctic Refuge is a unique, exceptional place that helps define our nation's natural character and beauty. It is not worth ruining our nation's last piece of untamed wilderness for a few months of oil.

**Figure 1. Map of Northern Alaska Showing the Arctic National Wildlife Refuge (ANWR) and the Coastal Plain (1002 Area)**



Source: Energy Information Administration, *Potential Oil Production from the Coastal Plain of the Arctic National Wildlife Refuge: Updated Assessment*, SR/O&G/2000-02, May 2000.

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# DRILLING MYTH: DRILLING IN THE ARCTIC REFUGE WILL LOWER GAS PRICES AND MAKE AMERICA LESS DEPENDENT ON FOREIGN OIL



**Drilling in the Arctic Refuge will not lower prices at the pump.** Allowing oil drilling in the coastal plain of the Arctic Refuge will not lower the price of a gallon of gasoline. First, the Arctic Refuge does not hold enough

oil to affect the world market. Second, OPEC producers and other oil-producing nations could reduce output to counter any increase in U.S. output to keep oil prices high.

The Arctic Refuge would yield too little oil to influence prices. The U.S. Geological Survey has concluded that the Arctic Refuge contains less oil than the U.S. consumes in a year. Moreover, the amount of oil likely to be recovered from the Arctic Refuge would be no more than one-third of one percent (0.3%) of the world's oil reserves.<sup>2</sup> The Bush administration's own Energy Information Administration (EIA) found that drilling in the Arctic Refuge would do nothing to lower gasoline prices at the pump in the short term and almost nothing over the long term, as drilling would reduce gasoline prices by less than a penny-and-a-half a gallon and not until 2025.<sup>3</sup>

In addition, oil from the Arctic Refuge would not hit U.S. markets in the short-term. Terry Koonce, president of exploration and production at ExxonMobil, gave a realistic timeline for drilling in the Arctic Refuge when he told the Senate Energy and Natural Resources Committee that "the normal process ... would put you up in the 10 year range."<sup>4</sup>

Even if production from the Arctic Refuge lowered oil and gasoline prices slightly, OPEC and other oil-exporting nations could cut their oil production in order to influence the market. OPEC has historically cut production when oil prices decline.<sup>5</sup> EIA explains: "Assuming that world oil markets continue to work as they do today, the Organization of Petroleum Exporting Countries could countermand any potential price impact of ANWR coastal plain production by reducing its exports by an equal amount."<sup>6</sup>

**Drilling in the Arctic Refuge will not reduce America's dependence on foreign oil.** According to EIA, oil from the Arctic Refuge would only reduce oil imports by about two to four percent in 2025. At its peak, the Arctic Refuge likely would provide only 7/10 of one percent (0.7%) of projected world oil production and would decline thereafter.<sup>7</sup>

# DRILLING MYTH: OIL DRILLING IS SAFE FOR THE ENVIRONMENT

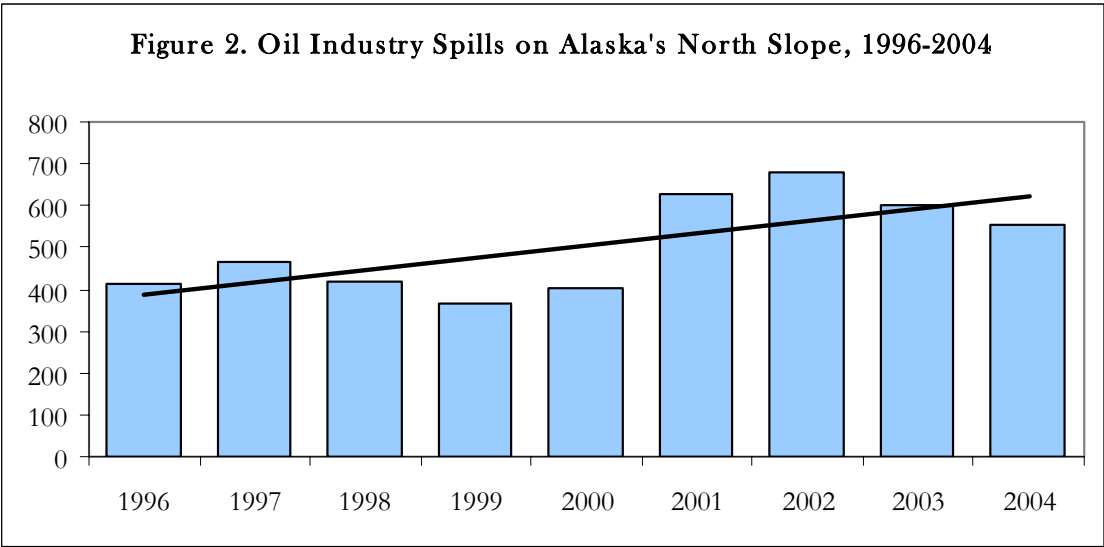


*Oil covered bird, courtesy of Pedro Armestre/Grepeace*

Toxic spills and air pollution from year-round oil and gas drilling are polluting Alaska's fragile North Slope, home to Prudhoe Bay and 26 other producing fields that sprawl across 1,000 square miles, an area the size of Rhode Island.<sup>8</sup> This industrial complex includes more than 4,800 exploratory and production wells, 223 production and exploratory drill pads, more than 500 miles of roads, 1,800 miles of trunk and feeder pipes in more than 600 miles of pipeline corridors, two refineries, 20 airports, 107 gravel pads for living quarters and other support facilities, five docks and gravel causeways, 36 gravel mines, and a total of 28 production plants, gas processing facilities,

seawater treatment plants, and power plants.<sup>9</sup> Prudhoe Bay air pollution emissions have been detected nearly 200 miles away in Barrow, Alaska.<sup>10</sup>

Oil spills on the North Slope are on the rise (Figure 2).<sup>11</sup> According to data reported to the Alaska Department of Environmental Conservation,<sup>12</sup> Alaska's North Slope experienced 4,532 spills between 1996 and 2004, an average of 504 spills annually. Overall, reported spills in this area increased by 33 percent between 1996 and 2004, reaching a high of 678 spills in 2002. These spills released a total of 1.9 million gallons of crude oil, diesel, drilling fluids and waste, and other substances into the delicate Arctic environment. In 2004 alone, 554 spills were reported on the North Slope, or one spill every 16 hours.



*Source: Alaska Department of Environmental Conservation, Statewide Oil and Hazardous Substance Spills Database*

Some of the recent oil spills have been significant. For example:

- On April 12, 2005, a high-pressure oil line sprang a leak at BP's Drill Site 14 in Prudhoe Bay. About 1.4 million cubic feet of natural gas and an unknown amount of crude oil were sprayed over an area measuring nearly a mile in length and 300 feet in width.<sup>13</sup>
- On March 26, 2005, a buried pipe broke for unknown reasons, spilling about 111,300 gallons produced water over two acres of

frozen tundra at a ConocoPhillips gravel production site in Kuparuk, the North Slope's biggest oil field after Prudhoe Bay. The spilled water contained about 50 gallons of crude oil; but much of the water was seawater, and the salt can kill tundra plant life just as crude oil can. About 80 workers toiled around the clock for three weeks to clean up the spill, which ranked as one of the largest industrial spills ever in the North Slope oil fields.<sup>14</sup>

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## DRILLING MYTH: THE OIL INDUSTRY WOULD DEVELOP ONLY 2,000 ACRES



*Prudhoe Bay, courtesy of U.S. Fish and Wildlife Service*

Since 2001, proponents of drilling in the Arctic Refuge have tried to argue that the oil industry could develop the coastal plain using only 2,000 acres. The

history of the oil industry in Alaska, however, shows that drilling in the Arctic Refuge could industrialize the entire coastal plain.

Drilling proponents who claim the oil industry can limit development to 2,000 acres are using misleading arguments. They are only referring to surface acreage covered by production and support facilities and are excluding seismic or other exploration activities, which have had significant impacts on the Arctic environment to the west of the coastal plain. Seismic activities are conducted with convoys of bulldozers and “thumper trucks” over extensive areas of the tundra. Exploratory oil drilling involves large rigs and aircraft.

Already, oil field development in America's Arctic includes a vast network of seismic exploration trails, gravel mines, roads, drill pads, pipelines, processing facilities, operating and housing facilities, and waste and sewer treatment plants that stretches across 1,000 square miles of tundra and has changed forever the Arctic ecosystem. It is one of the largest industrial complexes in the world.

Similarly, the 2,000 acre limitation does not include gravel mines or roads. The state-of-the-art 100-acre Alpine oilfield to the west of the Arctic Refuge required a 150 acre gravel mine and includes several miles of roads, with more planned.<sup>15</sup> The 2,000 acre limitation does not cover the many miles of pipelines snaking above the tundra, just the locations where the vertical posts that support the pipelines literally touch the ground, nor the tundra permafrost excavated for buried pipelines. More than 1,000 miles of pipelines snake through the existing Prudhoe Bay oil fields and 37 miles of above-ground pipelines sit above the Alpine fields, with more

planned. Using the logic of drilling advocates, the 37 miles of pipeline associated with Alpine would take up less than one-quarter acre of the Arctic Refuge coastal plain—where the pipelines actually hit the tundra.<sup>16</sup>

This industrialization has more than cosmetic consequences. Seismic exploration activities disturb wildlife. Polar bears have been known to abandon their dens after seismic exploration trucks drove nearby. Damage to underlying tundra, which serves as food and shelter to many Arctic animals, also can last for decades. Decreased caribou calving within a four kilometer zone of pipelines and roads shows that the “extent of avoidance greatly exceeds the physical ‘footprint’ of an oil-field complex,” according to caribou biologists.<sup>17</sup>

Finally, there is no requirement that the 2,000 acres of production and support facilities be in one contiguous area. As with the oil fields to the west of the Arctic Refuge, development could and would be spread out over a large area. Indeed, according to the United States Geological Survey, oil under the coastal plain is not concentrated in one large reservoir but is spread under the coastal plain in numerous small deposits.<sup>18</sup> To produce oil from this vast area, therefore, supporting infrastructure would stretch across the coastal plain; we likely would see a sprawling spider web of development. No matter how well done, oil exploration and development will industrialize a unique, wild area that is the biological heart of the Refuge.

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## CONCLUSION

Drilling for oil in this pristine haven for wildlife would disrupt and ultimately destroy one of America's last remaining truly wild places. Instead of pushing to drill in the Arctic Refuge, the Bush administration should act to make our cars and SUVs go farther on a gallon of gasoline.

Simply closing certain regulatory and tax loopholes for gas-guzzlers could cut U.S. oil dependence and save more oil per year than may be available in the Arctic National Wildlife Refuge. EIA estimates that at best the Arctic National Wildlife Refuge would produce .77 million barrels of oil each day by 2015 and 1.43 million barrels each day by 2020.<sup>19</sup> In contrast, the Union of Concerned Scientists (UCS) found that by closing certain regulatory and tax loopholes (including the exemption from fuel efficiency standards for trucks weighing over 8,500 pounds), we would save 0.8 million barrels of oil each day by 2015 and 1.5 million barrels a day by

2025.<sup>20</sup> Moreover, a 2001 UCS study showed that increasing fleetwide fuel economy standards to 40 mpg by 2012 and 55 mpg by 2020 would save nearly five million barrels of oil a day after 18 years and 1.5 million barrels per day after only eight years.<sup>21</sup> The National Academy of Sciences agreed in 2002 that automakers could use existing technology to increase the fuel economy of their fleets to 40 mpg over the next decade while improving safety and maintaining performance.<sup>22</sup>

A century ago, a short-sighted development policy almost wiped out the buffalo of the Great Plains. The buffalo narrowly survived, but the magnificent prairie is gone. One hundred years later, the Arctic Refuge is facing the same kind of threat. We must not let that happen to the Arctic Refuge and the wildlife it supports. It just does not make sense to ruin one of America's last wild places for a few months worth of oil.

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## END NOTES

<sup>1</sup> U.S. Department of the Interior, *Arctic National Wildlife Refuge—Alaska—Coastal Plain Resource Assessment: Final Legislative Environmental Impact Statement*, April 1987.

<sup>2</sup> The Wilderness Society, fact sheet, "Oil and National Security," October 2001. Available at <http://www.wilderness.org/Library/Documents/upload/Security-Does-Not-Require-Drilling-for-Oil-in-the-Arctic-National-Wildlife-Refuge.pdf>; U.S. Geological Survey, Fact Sheet 0028-01, "Arctic National Wildlife Refuge, 1002 Area, Petroleum Assessment, 1998, Including Economic Analysis," April 2001.

<sup>3</sup> Energy Information Administration, *Impacts of Modeled Provisions of H.R. 6 EH*, July 2005. EIA estimates that allowing drilling in the Arctic Refuge will reduce world oil prices by \$0.57 per barrel in 2025. Assuming a one-to-one impact on gasoline prices, this translates into  $\$0.57/42 = \$0.014$  per gallon. See also Dan Lashoff, Senior Scientist, Natural Resources Defense Council, testimony before the House Committee on Energy and Commerce, September 7, 2005.

<sup>4</sup> Terry Konce, President Exxon Mobil Production, testimony before the US Senate Committee on Energy and Natural Resources, 2 October 2001.

<sup>5</sup> "Oil Giants Have Us Over A Barrel," *The Observer*, 28 March 2004.

<sup>6</sup> Energy Information Administration, *Analysis of Oil and Gas Production in the Arctic National Wildlife Refuge*, Report #: SR/OIAF/2004-04, March 2004.

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<sup>7</sup> Energy Information Administration, *Analysis of Oil and Gas Production in the Arctic National Wildlife Refuge*, Report #: SR/OIAF/2004-04, March 2004; The Wilderness Society, fact sheet, "Drilling in the Arctic has Nothing to do with National Security," accessed September 13, 2005 at

[http://www.arcticrefugeaction.org/about\\_refuge/National\\_Security\\_Facts.pdf](http://www.arcticrefugeaction.org/about_refuge/National_Security_Facts.pdf).

<sup>8</sup> National Research Council. 2003. *Cumulative environmental effects of oil and gas activities on Alaska's North Slope*. National Academies Press, Washington DC. 2003. Pp. 14.

<sup>9</sup> Numbers collected from numerous state and federal government documents. Sources on file with the author.

<sup>10</sup> The Wilderness Society, *Broken Promises: The Reality of Big Oil in America's Arctic*, March 2005.

<sup>11</sup> Pamela A. Miller, Arctic Connections, analysis of data obtained from the Alaska Department of Environmental Conservation, Statewide Oil and Hazardous Substance Spills Database.

<sup>12</sup> Under Alaska Statute 18 AAC 75.300(a)(1), a person in charge of a facility or operation is required to notify the Alaska Department of Environmental Conservation as soon as the person has knowledge of any discharge of a hazardous substance other than oil. "Hazardous substance" is defined as "an element or compound which...presents an imminent and substantial danger to the public health or welfare..." [AS 46.03.826(5)(A)]. The regulation also sets forth specific time frames for the reporting of oil spills based on three receiving environments-water, land, or an impermeable secondary containment area or structure.

<sup>13</sup> Kristen Nelson, "BP has Spill in Prudhoe Bay from Lift Line," *Petroleum News*, 17 April 2005.

<sup>14</sup> Wesley Loy, "Water, crude leak on Slope," *Anchorage Daily News*, 29 March 2005; The Wilderness Society, "Drilling, Spilling and the Arctic Refuge," *The Arctic Truth*. 6 April 2005.

<sup>15</sup> U.S. Army Corps of Engineers Alaska District, Permit Evaluation and Decision Document, Alpine Development Project, Colville River 18 (2-960874), p. 2 (February 13, 1998); U.S. Army Corps of Engineers Alaska District, Colville River 17 (4-960869) to Nuiqsut Constructors (Alpine gravel pit) (June 24, 1997).

<sup>16</sup> The 34-mile pipeline connecting Alpine to the oil fields to its east has 2,760 Vertical Support Members (VSMs) while the 3-mile in-field pipeline for Alpine has 450 VSMs. Each VSM is approximately 12 inches in diameter, for a total of 10,000 sq. ft, or roughly one-quarter acre.

<sup>17</sup> C. Nellemann and R.D. Cameron. 1998. "Cumulative impacts of an evolving oil-field complex on the distribution of calving caribou," *Canadian Journal of Zoology*. 76: 1425-1430.

<sup>18</sup> U.S. Geological Survey, 1999, "Oil and Gas Potential of the Arctic National Wildlife Refuge 1002 Area, Alaska," (U.S. Department of the Interior, Open File Report 98-34); see also, Richard A. Fineberg, "Understanding the U.S. Geological Survey Analysis of Estimated Oil Beneath the Coastal Plain of the Arctic National Wildlife Refuge," Fairbanks: Research Associates (June 20, 2001).

<sup>19</sup> Energy Information Administration, *Addendum to The Effects of the Alaska Oil and Natural Gas Provisions of H.R. 4 and S. 1766 on U.S. Energy Markets*, Table 1A, 13 October 2004, available at [http://www.eia.doe.gov/oiaf/servicrpt/aong/addendum\\_tbls.html](http://www.eia.doe.gov/oiaf/servicrpt/aong/addendum_tbls.html).

<sup>20</sup> Union of Concerned Scientists, *Fuel Economy Fraud: Closing the Loopholes that Increase U.S. Oil Dependence*, August 2005.

<sup>21</sup> Union of Concerned Scientists, *Drilling in Detroit*, June 2001.

<sup>22</sup> National Research Council, *Effectiveness and Impact of Corporate Average Fuel Economy (CAFE) Standards*, 2002.