The Arctic National Wildlife Refuge

The Impact of Oil Development on the North Slope

Once part of the largest intact wilderness area in the United States, Alaska's North Slope now hosts one of the world's largest industrial complexes. More than 500 miles of roads and 1,100 miles of pipelines, as well as thousands of acres of industrial facilities, sprawl over some 1,000 square miles of once-pristine arctic tundra. Prudhoe Bay and 18 other oilfields contain more than 3,800 exploratory and producing wells, 170 production and exploratory drill pads, 22 gravel mines, and 25 oil-production plants, gas processing facilities, and seawater treatment and power plants.

All of this activity is taking place in an exceptionally fragile region. Because of the very short summer growing season, extreme cold at other times of the year, nutrient-poor soils, and permafrost, vegetation grows very slowly in the North Slope. Any physical disturbance—bulldozer tracks, seismic oil exploration, spills of oil and other toxic substances—can scar the land for decades. The economic and technical feasibility of restoring the tens of thousands of acres destroyed by roads and gravel pads is unknown.

The wilderness qualities of this remote and fragile area have been irrevocably altered by the heavy industry that now dominates its landscape. A close look at the last three decades of this sprawling oil development dispels the myth that drilling can take place in the nearby Arctic National Wildlife Refuge without harming its fragile, pristine, and unique environment.

Air pollution and greenhouse gases

Each year, oil operations on Alaska's North Slope emit more than 56,000 tons of nitrogen oxides, which contribute to smog and acid rain. According to the Environmental Protection Agency, this amount surpasses the emissions of Rhode Island or Vermont and is more than twice the amount spewed by Washington, DC. Plumes of pollution from Prudhoe Bay have been detected in Barrow, Alaska, almost 200 miles away. Pollutants from its drilling operations, natural gas facilities, and incinerators have also been detected in snow in the Prudhoe Bay area. Although the overall impact of these air pollutants on arctic ecosystems remains largely unknown, some arctic species are known to be especially sensitive to air pollutants.

It is also clear that North Slope oil facilities release greenhouse gases, which are a major contributor to global climate change. Each year, they emit 2 to 11 metric tons of carbon dioxide and some 24,000 to 114,000 metric tons of methane. ▶

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Calving ground of the Porcupine caribou herd, with Mount Michelson looming beyond. This is the area where the oil industry wants to drill.

Emissions climb even higher as North Slope oil is transported by tanker, refined, and eventually combusted in engines or power plants.

Waste

For years, old reserve pits, holding millions of gallons of drilling and other wastes, littered the North Slope. The pits typically contained a variety of toxic metals as well as petroleum hydrocarbons and other harmful substances. Thanks partly to litigation by NRDC, handling methods for the waste in these reserve pits have improved. But while industry has closed many of the pits, hundreds remain to be cleaned. And despite advances in disposal methods—in which drilling wastes are ground up and re-injected into wells—problems remain. In 2000, for instance, British Petroleum was ordered to pay $22 million in civil and criminal fines and to carry out a new environmental management program, because its contractors had illegally disposed of hazardous wastes containing benzene and other toxics for at least three years at the Endicott oil field. These crimes only came to light because a whistle-blower reported them to the EPA.

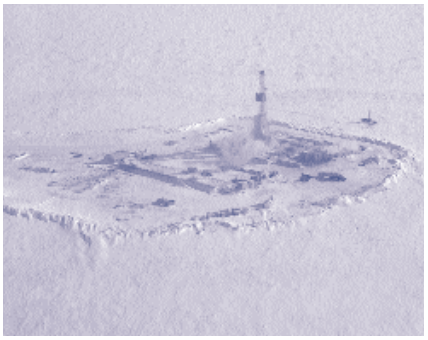
The Alaska Department of Environmental Conservation lists more than 55 existing contaminated sites associated with oil industry operations on the North Slope. These sites contain a variety of toxic materials, including acids, lead, pesticides, solvents, diesel fuel, caustics, corrosives, and petroleum hydrocarbons. Leakage from some sites has contaminated the surrounding environment.

Spills

Each year, hundreds of spills occur on the North Slope, involving tens of thousands of gallons of crude oil and other petroleum products and hazardous materials. In fact, the region suffers about a spill a day from the oil fields and Trans-Alaska Pipeline. From 1996 to 1999, approximately 1600 spills occurred, involving more than 1.2 million gallons of diesel fuel, oil, acid, biocide, ethylene glycol, drilling fluid, and other materials. In the Arctic, the environmental impacts of oil spills are more severe and last longer than in more temperate climates. Diesel fuel, for instance—the most frequently spilled product on the North Slope—is acutely toxic to plants. Even after decades have passed, tundra vegetation has been unable to recover from diesel spills.

Industrialization of Alaska's North Slope has inflicted significant damage to the air, water, and wilderness of America's Arctic. Drilling the Arctic National Wildlife Refuge will similarly transform its wilderness character and threaten the wildlife that depends on it.

Oil operations on Alaska's North Slope emit more than 56,000 tons of nitrogen oxides annually—more than either Rhode Island or Vermont emits in a year, and more than twice the amount emitted by Washington, DC.



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Aerial view of an oil drilling rig: an industrial scar in the midst of pristine arctic tundra.

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