

# Fish and Wildlife of Alaska's North Slope

## ARCTIC FOX

Arctic foxes (*Alopex lagopus* or *tibiganniaq*) are one of the most abundant mammalian predators in the Arctic and are widely distributed throughout Alaska's North Slope. Their natural food sources include lemmings, voles, carrion, tundra-nesting birds, and bird eggs. Fox populations generally fluctuate with changes in local rodent populations.

Biologists have long known that arctic foxes are attracted to human settlements and industrial areas and can easily become a nuisance there and at dump sites. In addition, rabies outbreaks are known to occur occasionally, with arctic foxes being a primary carrier of the virus. When foxes find a sufficient long-term food source and

begin to use human facilities and shelters as den sites, their populations can increase to above-normal densities, and they can then potentially influence bird nesting success by preying on eggs and young birds.

With these potential problems, ConocoPhillips has long been concerned about human/fox interactions and their consequences, especially the threat of rabies transmission to its employees in the North Slope oilfields. During construction of the Trans Alaska Pipeline, animal feeding became a major problem, and arctic foxes quickly learned to approach people and vehicles to beg

for food. Although policies against feeding animals were in place, enforcement over the remote 800-mile pipeline construction corridor was extremely difficult. In the oilfields, foxes would frequent the loading docks of camp kitchens and climb into open dumpsters and pickup trucks in search of food. They also learned to sneak into open warehouses in summer, when doors were open, and find workers' lunch sacks. To bet-



Arctic fox (*Alopex lagopus* or *tibiganniaq*) in summer coat.

ter understand this issue, ConocoPhillips began conducting fox surveys in the early 1990s both to monitor fox population levels and to determine if artificial den sites, such as culverts and small storage units on gravel fill, were leading to increased denning and attracting an unusually large year-round fox population.

## Survey Results

Surveys conducted in the 1970s and 1990s found that arctic foxes were indeed present at increased densities in the Prudhoe Bay and Kuparuk oilfields. These studies also found that litter sizes were larger and that more young survived in the oilfield than in surrounding natural settings.



Foxes typically disperse in winter when food sources are limited and often follow polar bears on the sea ice to feed on the remains of bear kills. The University of Alaska, Fairbanks, with a grant from the U.S. Fish and Wildlife Service and in-kind support from ConocoPhillips, conducted a satellite collaring study of winter fox movements in the Prudhoe Bay area in 1998-99. The study found that many foxes living in the oilfields were not dispersing and remained in the fields all winter. These foxes were attracted by food sources available to them in dumpsters and at the regional landfill. Studies of the impact of fox predation on local nesting birds found that, while there was not a significant influence in most years, there were occasions when fox predation reduced that year's nesting success for geese, waterfowl, and shorebirds.

## Mitigating the Problem

First and foremost, managing an issue like controlling fox numbers inside an industrial area requires full cooperation from all participants. In the oilfields, management of adjacent areas by multiple operators has resulted in different policies and different levels of enforcement of those policies. In the early 1990s, the fox surveys found that, even following years of strict enforcement of policies to eliminate human-related food sources in areas operated by ConocoPhillips, these animals were still able to secure sufficient food to maintain and increase their numbers. Most of that human-related food came from within the fields and at Deadhorse.

At this point in the mid-1990s, recognizing that the problem still existed, ConocoPhillips began a program to eliminate fox access to human-related food sources throughout the oilfields. This program included the participation of all parties that had a presence in the oilfields and included the oversight, advice, and direct participation of the Alaska Department of Fish and Game. New education and training programs

were designed and implemented. All facility food storage and preparation locations were inspected. In the late 1990s, a review of new dumpster designs was conducted as part of the grizzly bear monitoring and mitigation program, and new bear- and fox-proof dumpsters were purchased and placed in approved locations. Food-only dumpsters were installed, and other solid waste materials were segregated to allow improved handling and collection of food waste. The regional landfill was fenced with a buried electric fence to keep foxes from accessing that area. In addition, the incinerator at that landfill was improved, and an enclosed temporary storage area for material waiting to be burned was established near the incinerator.

These new programs have been implemented for the past few years in the Prudhoe Bay, Kuparuk, and Alpine oilfields. The result has been a reduction in access to human food waste and in numbers of fox encounters at the regional landfill and around camp dumpsters, and fewer encounters in general throughout the oilfields.

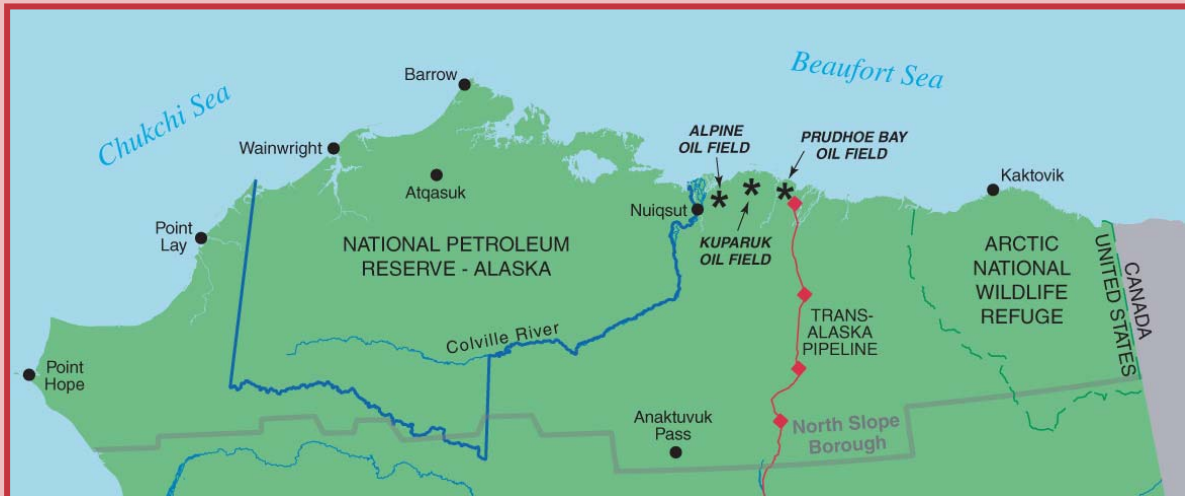
For new development areas, ConocoPhillips has taken the lessons learned at Prudhoe Bay and Kuparuk and applied them to improved waste management. Landfills are no longer constructed for waste disposal. All waste is now either incinerated (all food waste), recycled, or shipped to approved receivers off-site. To eliminate attracting arctic foxes to facilities at the Alpine oilfield, a detailed Predator Response Plan was written, reviewed, and approved by state and federal agencies, and was implemented as part of the daily field operations plan. This plan addresses issues such as evaluating and, wherever possible, eliminating potential fox hiding and denning locations, eliminating workers taking food out of the main camp facility, and eliminating



*Arctic fox transitioning between summer and winter coat.*

daily storage of food waste outside of the buildings. Subsequent to the Alpine Predator Response Plan, a Wildlife Avoidance and Interaction Plan was prepared and implemented at all ConocoPhillips facilities. In addition to documenting baseline counts, detailed surveys of the number of foxes and of active fox dens were completed for several years before construction of the Alpine facilities. These baseline counts will be used to monitor changes resulting from the presence of the Alpine facilities.

These programs appear to have been effective at Alpine. Through 2003, there were no known arctic fox dens on the Alpine pads, and the numbers of active fox dens had not increased in the local area.



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