

Coast Mountains Moose Recovery Program Summary

WHY did the program take place?

The Coast Mountains area in the 1970s and early 1980s was heavily used for both consumptive and non-consumptive use of moose. About 30% of the moose harvested in the territory were taken from this area, which covers just 4% of the land base. Wildlife viewing along the South Klondike and Alaska Highways was also popular.

Between 1979 and 1987, the moose harvest by licensed hunters declined significantly (80%). (First Nation hunting was unregulated and undocumented.) The government undertook the first systematic moose inventory in the Coast Mountains area in 1980. Subsequent surveys found the moose population was relatively low but stable, with low numbers of calves and yearlings. As well, in the early 1980s the number of wolf- human conflicts increased sharply in the Whitehorse area.

In response to these circumstances, the Yukon government in 1982 allowed limited wolf poisoning near Whitehorse and private aerial hunting of wolves across much of southern Yukon.

WHERE did the program take place?

The moose study area covered 16,000 km², bounded by the Haines Road to the west, Alaska Highway to the north, Teslin Lake to the east, and the Yukon-B.C. border to the south. This portion of the Coast Mountain ecoregion has rugged mountains and rolling plateaus with some glaciated peaks. About 70% of Coast Mountain terrain lies above treeline. The mountains are drained by tributaries of the Yukon, Dezadeash and Tatshenshini rivers, and the Southern Lakes are an important feature of the area.

WHO was involved?

The Yukon government carried out the program with assistance from residents and trappers. From 1983-1987, the government offered trappers a \$200 incentive for each wolf taken.

WHAT was done?

The recovery program involved hunting restrictions, research and predator reduction. The government limited the harvest by licensed hunters starting in 1984 – a practice that continues to this day.

An intensive study in 1983-87 on the causes of moose mortality saw 134 moose cows and 132 newborn calves captured, radio collared and monitored in a 6,000 km² portion of the study area. The effects of hunting, weather, forage, moose productivity, and emigration on moose numbers were also studied.

Between 1982 -1987, wolf reduction took place in parts of the study area. Techniques included poisoning, aerial hunting, and trapping by residents. Researchers captured and radio-collared 54 wolves in 25 packs and 10 solitary wolves. Radio-collared packs were monitored to determine their home ranges and later used to locate and kill wolves. As well, between 1984-1987 the grizzly bear hunting regulations were liberalized in parts of the study area.

Between 1983 and 1988, biologists located 184 ungulate kill sites in the study area (171 in winter, 13 in summer). Moose represented 79 percent of kills followed by Dall sheep at 18 percent. Caribou and mule deer were not important prey to Coast Mountain wolves.

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WHAT were the outcomes?

Research found that grizzly bears were the primary limiting factor on the Coast Mountain moose population. Grizzlies accounted for 48% of all deaths in the overall population over one year, followed by wolves (29%), and licensed hunting (9%). Among cow moose, the causes of mortality were wolves (50%), grizzly bears (25%), and grizzly bears, wolves, or other predators (25%). Young animals were quite different: 83% of calves born died within their first year. Grizzly bears killed 58% of them, wolves 27%, black bears 4%, and unknown predators 3%.

Because wolf reduction was not carried out systematically, it was not possible to evaluate its effects with rigour. It is noteworthy that in the one area (Rose Lake) where there was a 66% reduction in wolf numbers over four years, moose numbers did not significantly increase.

From 1983-1985 humans killed a total of 251 wolves, for an overall 71% decline. The population increased to 141 from 47 wolves during the recovery phase of the program (1985-1988) recovering to about 88% of the original 1983 size. The rapid increase was mainly due to wolves moving into the study area during the first winter after reduction stopped.

There were other confounding factors which hampered a rigorous evaluation of the recovery program's effectiveness:

- Bear reduction levels were considered too low to result in a measurable effect on the moose population,
- The moose harvest rates were above sustainable levels (7-9%) prior to and during the study, and
- While weather may have affected calf survival, forage, moose productivity, and emigration had little effect on moose numbers.

Current situation

The Southern Lakes moose population is still at a very low density (134 moose/1000 km²) throughout the study area, with a conservative harvest rate estimated at 1%. However, most areas have not been surveyed recently (data is 10-25 years old).

The wolf population is shrinking. In 2004 wolf density had fallen about 35% from 1988; a wolf survey in 2009 found that the population density had further declined to below-average levels for Yukon.

Lessons learned

- The Coast Mountains area is a dynamic and complex multi-predator, multi-prey ecosystem. As a result, program results may not be transferable to other areas or other time periods.
- The allowable harvest limit for the moose population in this area is minimal after predators have taken their share. Unrestricted harvesting during the 1970s and early 1980s by both licenced and First Nations hunters significantly contributed to the decline of moose numbers.
- Grizzly bears were the most significant limiting factor on moose in this area, followed by wolves and hunting.
- Moose calf survival rates did not appear to substantially increase following wolf control.
- Weather may have affected calf survival over the study period.
- Caribou and mule deer were not important prey to Coast Mountain wolves.