

Chisana Caribou Recovery Program Summary

WHY did the program take place?

The Chisana caribou herd is a small, genetically distinct population of woodland caribou that ranges between Yukon and Alaska in the White River area. Although hunting by licenced hunters was stopped in 1994 the herd's population declined from 1,800 animals in 1987 to an estimate of about 700 animals in 2002. The herd's composition changed to older animals, with a skewed sex ratio of just 21 males per 100 females. Calf survival was also extremely low, with an average of 6 calves/100 cows surviving their first summer. An approach to increase early calf survival in a socially acceptable way was required to halt the decline and possible disappearance of the Chisana caribou herd.

It seemed a number of factors were responsible for this herd's decline: low recruitment, predation, climate, habitat, and harvest pressure. In 2002, the Yukon government designated the herd a *species at risk* under the *Wildlife Act*.

Had the decline continued unchecked, the local communities and biologists were concerned the Chisana herd would eventually disappear. The Yukon government, partners from Alaska, and First Nations operated the Chisana Caribou Recovery Program from 2003 to 2006. Instead of reducing predator numbers, biologists developed an experimental captive-rearing approach to increase calf survival and eventually stabilize the herd's size.

WHERE did the program take place?

The Chisana caribou herd's winter range straddles the Yukon-Alaska border, largely within Yukon's Kluane Wildlife Sanctuary and Alaska's Wrangell-St. Elias National Park and Preserve.

In Year 1 of the recovery program (2003) a 10-hectare captive-rearing pen was constructed at Tchawsahmon Lake, about 45 km south of Beaver Creek. The pen was moved the following year to Boundary Lake the Klutlan Plateau, about 80 km south of Beaver Creek. This location was closer to good capture areas resulting in less transport time by helicopter and was in core summer range when animals were released. The pen and camp stayed near Boundary Lake for the remainder of the recovery program.

WHO was involved?

Because the Chisana herd ranges crosses the Canada-US border and includes several protected areas, numerous government agencies, First Nations, and partners from both sides of the border had a role in the recovery project. Yukon members of the project team included Environment Yukon (project lead), White River First Nation, Kluane First Nation, Yukon Fish and Wildlife Management Board, Canadian Wildlife Service, and Dickson Outfitters. Alaskan project partners included the Alaska Department of Fish and Game, US Geological Service, Wrangell St. Elias National Park, Tetlin Wildlife Preserve, Northway Tribal Village Council, and University of Alaska (Fairbanks).

Chisana Caribou Recovery Program Summary

WHAT was done?

Biologists captured pregnant caribou cows in late-winter using helicopters and a net-gun and then transported them by helicopter to the captive-rearing pen. The natural forage in the enclosure was supplemented with hand-picked lichen and commercial reindeer feed. Wolves, bears and other predators were kept out by a fence constructed of geotech cloth and cable backed up by an electric fence with caretakers regularly patrolling the perimeter. The cows gave birth inside the pen, and cows and calves were released in mid-June when the calves were about one month old.

During the study, a total of 175 adult female caribou were captured and 146 calves born in captivity. Five cows died from capture-related causes, and 136 calves survived to be released from the pen. After release, biologists used radio-telemetry to monitor survival of calves born in the pen as well as control group of 156 wild-born Chisana calves.

WHAT were the outcomes?

Researchers estimated that they increased the herd by about 11 per cent, or 70 animals, during the four-year-long recovery program. Captive-reared calves survived much better than wild-born calves: about 75 per cent of captive-reared calves survived compared to just over 10 per cent of the wild-born calves. Researchers attributed the dramatic difference to reduced predation as well as improved maternal nutrition.

Current situation

The Chisana caribou herd appears to be stable between 694 and 766 animals. The initial increase of 70 animals was not sustained. No licenced hunting is allowed. Biologists consider the sex ratio of 44 bulls per 100 cows (2008 data) and cow/calf ratio of 21 calves per 100 cows to be healthy. Researchers have closely monitored the Chisana herd for 25 years. There are currently 125 active radio telemetry collars in the herd.

Lessons learned

- The Chisana caribou recovery project showed there are alternatives to lethal predator control when helping threatened wildlife populations recover.
- Captive-rearing holds promise for restoring small, at-risk populations of woodland caribou. However, the cost of constructing a pen, and capturing and caring for 50 or more caribou, in a remote location without road access was extremely high.
- Captive-rearing of woodland caribou is effective at substantially increasing calf survival through the neonatal phase although there are some fundamental limitations to the technique. This technique is socially acceptable in that it does not involve lethal predator control. The Chisana project received considerable support from local communities, outfitters and First Nations.
- Short-term (10 weeks) captive rearing in a semi-wild environment minimizes the risks associated with long-term adaptation to captivity.
- The recovery program was developed on the assumption that the Chisana herd had fewer than 360 animals. However, after the first year a survey found an estimated 720 caribou. The number of pregnant cows that would have needed to be captured to substantially increase herd size was significantly more than the program was designed to handle.