



CHISANA CARIBOU HERD STABLE, SLIGHTLY GROWING IN 2007

CARIBOU MONITORING IN THE CENTRAL ALASKA NETWORK

RECENT DECLINES IN HERD SIZE AND AN INTERNATIONAL CAPTIVE REARING PROGRAM MAKE WRANGELL-ST. ELIAS NATIONAL PARK & PRESERVE'S CHISANA CARIBOU HERD OF SPECIAL INTEREST TO BOTH NATIONAL PARK SERVICE RESEARCHERS AND MANAGERS.

Wrangell-St. Elias National Park and Preserve hosts 3 of 32 recognized caribou herds in Alaska. Of these, one herd is unique. The Chisana Caribou herd, whose range crosses the border between Alaska and Canada, is the only woodland caribou in Alaska. Woodland caribou are slightly larger than their alter ecotype, "barrenland" caribou, and are primarily found in the forested areas of Canada and the northern United States.

The Chisana Caribou herd was first surveyed in 1977 and has been consecutively tracked since 1986. Based on these surveys, observed caribou have numbered between 100 (1978) and 1,142 (1992). The Chisana caribou herd is important both because of its unique (in Alaska) woodland ecotype and because of its resource value to the region's indigenous people. Because the Chisana herd has had such great fluctuations in herd size and has seen declines in recent decades,

hunting of the Chisana caribou has been prohibited since 1994.

An intensive captive rearing program was conducted with the USGS and the Canadian Wildlife Service from 2003 through 2006. During calving, captured cows and offspring were protected from their major predators, wolves and bears. The hope was that improving calf survival would result in overall population growth. Surveys since 2003 reflect increased caribou numbers when compared to the prior 10 years. The most recent survey was conducted in October 2007 and results show a stable, slightly growing Chisana Caribou population.

In October 2007, the annual fall survey of the Chisana Caribou Herd was conducted by air over a 910 km² area in eastern Wrangell-St. Elias National Park & Preserve, Alaska, and western Canada. The goal of the survey was to estimate herd size and composition (number of cows, calves by sex,

and bulls by 3 size classes). Herd location prior to the survey was determined by the distribution of 138 radiocollared females. During the two days of the survey, 719 caribou were observed, including 442 cows, 58 calves (25 males, 32 females, 1 unknown sex), and 219 bulls (66 small, 75 medium, 75 large). Since not all caribou that exist on the ground are seen by the researchers during the survey, statistics are applied to the observed total. The result is a 2007 population estimate of 766 caribou in the Chisana herd, with a 90% degree of accuracy.

Based on the annual surveys since 2003, the Chisana Caribou Herd has maintained a fairly stable population of approximately 700 caribou. The most recent survey in 2007 shows an increase of 46 caribou since 2003 and 60 caribou since 2005. Only time and continued monitoring will reveal whether the Chisana Caribou Herd will grow in the future.

What do we want to understand about caribou?

1. Determine changes in abundance, distribution and demographics of caribou in the Central Alaska Network.
2. Estimate calf survival and recruitment in the Central Alaska Network.
3. Estimate mortality of caribou in and around the Central Alaska Network.



Why are Caribou Important?

Caribou are of great importance to the ecosystem, as well as to people who value them as a resource or as an icon of the arctic and sub-arctic wilderness.

Caribou occur in all three Central Alaska Network (CAKN) parks and are a keystone large mammal species in interior Alaska. They are critical to the northern ecosystems in which they live and have been an important source of food and raw materials for humans across thousands of years.

Caribou are of interest for monitoring from several perspectives. First, three of the four herds found in CAKN parks have experienced significant recent declines. Second, subsistence harvest on two herds has been curtailed due to conservation concerns, and providing the opportunity for

subsistence activities is a directive for NPS lands in Alaska. Third, one herd is the subject of intensive interagency management, including the control of predators. Fourth, one herd is the subject of an international captive rearing conservation program which has significant long-term implications. Finally, long-term research and monitoring of caribou on CAKN lands provides a background against which future patterns may be compared.

CAKN contains four separate caribou herds: Denali, Mentasta, Chisana, and Fortymile.

**LEAD
SCIENTIST:**

Judy Putera
Wildlife Biologist
Wrangell-St. Elias N.P. & Pres.
P.O. Box 439
Copper Center, AK 99573
(907) 822-5234

**PARKS
BEING
MONITORED:**



- DENA: Denali National Park & Preserve
- WRST: Wrangell-St. Elias National Park & Preserve
- YUCH: Yukon-Charley Rivers National Preserve

How Are We Monitoring The Chisana Herd?

Monitoring of caribou populations in CAKN employs the use of radiocollars and radiotelemetry to locate groups and to provide a mark/recapture estimate of population size. The use of radiotelemetry is standard throughout Alaska and parts of Canada for monitoring caribou populations

A sample of 30-40 radiocollared cows is maintained for population assessment. This requires the addition of about 10-15 radiocollars annually.

Population assessment is made in two efforts: a post-calving (June) census, when cows are grouped and calf production can be determined; and a fall (Sept. - Oct.) composition count when bulls associate with cows during the rut. With the mark-recapture estimate of cows from the spring survey and the herd composition obtained from the fall count, the herd size, composition, and calf recruitment can be estimated. Both annual surveys are conducted by aerial observation from a helicopter and small airplane.



CENTRAL ALASKA NETWORK

USING SCIENCE TO PROTECT OUR PARKS

THE CENTRAL ALASKA NETWORK (CAKN) IS ONE OF 32 NATIONAL PARK SERVICE INVENTORY AND MONITORING NETWORKS. EACH NETWORK EXISTS AS PART OF A NATIONAL EFFORT TO BETTER UNDERSTAND AND MANAGE PARK LANDS USING SCIENCE-BASED INFORMATION.

In order to focus this effort, 270 national park units with significant natural resources were grouped into 32 regional networks.

The Central Alaska Network is made up of 3 parks: Denali National Park and Preserve, Wrangell-St. Elias National Park and Preserve, and Yukon-Charley Rivers National Preserve. Together, these 3 parks contain over

21.7 million acres and makeup 25% of all the land in the National Park Service. They represent a great diversity of climate and landform, from temperate coastal rainforests to glaciated mountain ranges. What they share in common are their largely wild and unaltered landscapes.

In order to track the condition of our parks, Central Alaska Network

scientists have chosen 37 key indicators, or “vital signs,” to represent the overall health of the network. Each vital sign falls into one of 4 categories: animal life, physical environment, human use, or plant life. Underlying these 4 vital sign categories is a focus on habitat change.

CAKN VITAL SIGNS:

Animals
Arctic Ground Squirrel Bald Eagles Brown Bears Caribou Freshwater Fish Golden Eagles Macroinvertebrates Moose Passerines Peregrine Falcon Ptarmigan Sheep Small Mammals Snowshoe Hare Wolves
Environment
Air Quality Climate Fire Flooding Glaciers Land Cover Permafrost Rivers & Streams Shallow Lakes Snow Pack Soundscape Tectonics & Volcanoes
Humans
Human Population Human Presence Natural Resource Consumption Trails
Plants
Exotic Species Forage Quantity/Quality Insect Damage Plant Phenology Subarctic Steppe Vegetation Structure/Composition

**CONTACT US AT: (907) 457-5752, 4175 GEIST ROAD, FAIRBANKS, ALASKA 99709
OR VISIT [HTTP://SCIENCE.NATURE.NPS.GOV/IM/UNITS/CAKN](http://SCIENCE.NATURE.NPS.GOV/IM/UNITS/CAKN)**