



Central Alaska Network

Denali NP & Pres. • Wrangell-St. Elias NP & Pres. • Yukon-Charley Rivers N Pres.

Caribou Resource Brief

October 2013, no. 49



Status & Trends

Monitoring caribou in the Central Alaska Network

Seven of the 32 caribou herds recognized in Alaska utilize the Central Alaska Network (CAKN). Three of these herds use parklands as their primary range. Caribou herds have historically experienced extreme periods of growth and decline. Because of the migratory nature and large ranges of the animals, a collaborative approach with other governing agencies is required for successful monitoring and management.

Wrangell-St. Elias: Chisana Herd

The population appears to be stable at approximately 720 animals. The last abundance survey was completed in 2010 in partnership with an international working group of monitoring agencies. The Chisana herd leveled off at its current numbers in 2003. Captive rearing and collaring efforts in the early 2000s led to more accurate counts of this herd and put to rest concerns of herd decline. Bull:cow and calf:cow ratios have been stable

since 2005. The Chisana herd now has a working adaptive management plan. As part of the plan's implementation, small subsistence hunts were opened in 2012 and 2013. These are the first hunts allowed on the Chisana herd since 1994. A population abundance survey is scheduled for Fall 2013.

Wrangell-St. Elias: Mentasta Herd

The Mentasta herd also utilizes Wrangell-St. Elias for its home range. In 2012, park staff outfitted animals in the Mentasta herd with GPS collars to track movement. Recent animal movement data shows that the entire herd uses the park for spring calving and summer grounds while a portion of the herd migrates out of the park in winter. Because of the small size of the herd and overlap with the Nelchina herd during fall and winter months, the Mentasta herd has proven difficult to monitor.

Denali: Denali Herd

The Denali herd primarily uses the park for its home range, but is also found in regions adjacent to parklands. The Denali herd has been intensively monitored since 1984. Over the last decade, calf recruitment has improved to an average of 22 calves:100 cows. However, the age structure is still disproportionately made up of older females, leaving the herd vulnerable to the potential effects of a severe winter.

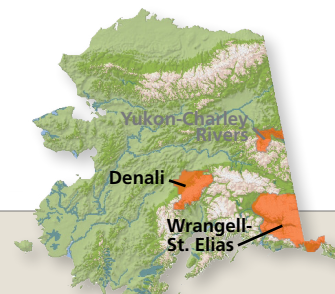
Objectives

What do we want to know about caribou in CAKN?

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

HERD	PARK UNIT	POPULATION ESTIMATE (YEAR)	TREND	MONITORING AGENCY
Denali	Denali	2,300 (2012)	slowly increasing	NPS and USGS
Chisana	Wrangell-St. Elias	720 (2010)	stable after decline in 1990s	Multi-agency
Mentasta	Wrangell-St. Elias	336 (2010)	stable after decline in 1990s	NPS

Caribou are being monitored in 2 of 3 network parks



Importance

Why are caribou important in the Central Alaska Network?

Caribou occur in all three 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 in the Chisana, Denali, and Mentasta herds are of interest for monitoring from several perspectives. First, much of their year-round ranges occur within

NPS-managed units. Second, all three herds have experienced significant declines since the late 1980s. Third, harvests on all three herds have been largely curtailed due to conservation concerns. Finally, previous research and monitoring of these caribou, particularly in Denali, provide understanding of the dynamics of such small, montane caribou populations against which future changes can be compared.

Contacts: Judy Putera, Wildlife Biologist, Judy_Putera@nps.gov (907) 822-7241
Layne Adams, Research Wildlife Biologist, ladams@usgs.gov (907) 786-7159

Management Applications

How can monitoring protect caribou in CAKN?

- Provide valuable information on the status and trends of this ecologically and culturally important species
- Provide high-quality information for managers to use in making decisions about harvest regulations



Long-term Monitoring

How do we monitor caribou in the Central Alaska Network?

The Network works in collaboration with the other agencies to monitor three caribou herds in central Alaska. Radio collars are used to locate herds in the spring just prior to calving and again just after calving. Aerial counts are then used to obtain overall population estimates as well as sex and age composition. In addition, productivity, calf:cow ratios, and seasonal distribution are also monitored.

In Wrangell-St. Elias, the Mentasta caribou herd is monitored via a

cooperative effort between the park, the Alaska Department of Fish and Game, and the Tetlin National Wildlife Refuge. These surveys were initiated in the early 1970s and are conducted annually. The Chisana caribou herd is monitored as part of an international working management plan for the herd. The herd has been surveyed annually since the late 1980s.

The Denali Caribou Herd has been intensively monitored since 1984; that work has been directed by Layne Adams, USGS-Alaska Science Center, since 1986.



left to right: NPS biologists collar a caribou to track animal movement; a helicopter used to locate and collar caribou prepares to take off



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 34 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:

Animal Life

Arctic Ground Squirrel
Bald Eagles
Brown Bear
Caribou
Dall's Sheep
Freshwater Fish
Golden Eagles
Moose
Passerines
Peregrine Falcons
Ptarmigan
Small Mammals
Snowshoe Hare
Wolves

Physical Environment

Air Quality
Climate
Fire
Glaciers
Land Cover
Permafrost
Shallow Lakes
Snow Pack
Soundscape
Streams & Rivers
Volcanoes & Tectonics

Human Use

Human Populations
Human Presence/Use
Natural Resource Consumption
Trails

Plant Life

Exotic Species
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)