



## Central Alaska Network

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

## Moose Resource Brief

July 2013, no. 42

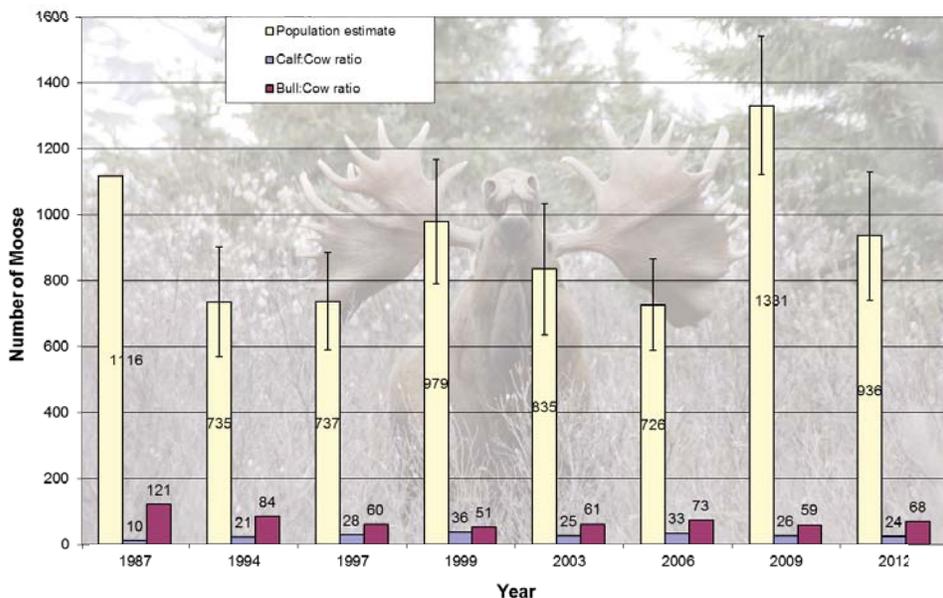


### Status & Trends

#### Monitoring moose in the Central Alaska Network

Based on surveys completed in Yukon-Charley Rivers National Preserve in the fall of 2012, the estimated population along the Yukon River corridor is 936 moose ( $\pm 195$ ). The population is composed of 489 cows, 118 calves, and 329 bulls. Of the bulls counted, 55 were spike, fork, or yearlings. Moose densities in this area are typically among the lowest in the region, and the 2012 density estimate is approximately one moose every three square miles. The 2012 surveys also show the population dropping back down from an above-normal increase in 2009 to near the long-term average.

Population Estimates and Bull: Cow Ratio for YUCH's Moose Population



Annual population estimates and composition ratios are shown for Yukon-Charley Rivers from 1987 to 2012. The population is small but stable.

### Objectives

#### What do we want to know about moose in CAKN?

- Monitor changes in abundance, distribution, and composition of moose via surveys in each park
- Monitor calf survival and recruitment success for moose
- Monitor annual human harvest of moose



Moose are being monitored in all 3 network parks



### Importance

#### Why are moose important in the Central Alaska Network?

Moose (*Alces alces*), occur in all three network parks and are one of six large mammal species in interior Alaska. Moose are of great importance to people from both consumptive and non-consumptive viewpoints, and to the ecosystem as a whole. From a monitoring standpoint, moose are considered to be good indicators of long-term habitat change within park ecosystems because they depend on large scale, healthy habitats for food and cover, which in turn are dependent on weather and other habitat patterns across the entire landscape. As a top herbivore, moose may play a key role in influencing vegetation growth and change potentially resulting in habitat change on a landscape scale. Changes in moose populations directly affect subsistence

harvest on NPS park and preserve lands in Alaska, and harvest by the general public on NPS Preserve lands (National Park Service 2003).

Moose are important to park visitors because of the opportunities to view and hunt moose in Alaskan parks and preserves. While the primary objectives of monitoring are to track the distribution and abundance of moose in Yukon-Charley Rivers, these data are likely to be valuable for wildlife management and research throughout most of interior Alaska. Data on moose populations in Alaska parks is critical for managing those populations for both visitor enjoyment and human harvest.

### Management Applications

#### How can monitoring protect moose in CAKN?

- Understand long-term trends in populations
- Make informed decisions on changes to harvest regulations



### Long-term Monitoring

#### How are we monitoring moose in CAKN?

Moose surveys are conducted in each Network park unit every three years in late fall or early winter. Up to four pilot-observer teams survey stratified units. In Yukon-Charley Rivers, surveys are conducted in the Yukon River Valley between the communities of Eagle and Circle. Surveys are conducted in the area north of the Alaska Range in Denali. In Wrangell-St. Elias, the survey area is generally defined by the lower elevation areas to the west of the Wrangell Mountains. Survey units are classified into high or low strata based on knowledge from prior surveys. Flights are conducted at an altitude of less than 500 feet, and counted moose are classified as cow, calf, yearling bull, medium bull, and large bull. Total abundance, density, and composition are calculated for each survey year. Sightability correction factors are applied to each survey.



Left to right: An NPS biologist attaches a collar, which will provide information on animal movement; fall surveys are conducted via 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 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

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