



Alagnak

Aniakchak

Katmai

Kenai Fjords

Lake Clark

Moose

Resource Brief
October 2011

Importance

Moose are an integral component of terrestrial systems in Alagnak Wild River (ALAG), Aniakchak NMP (ANIA), Katmai NPP (KATM), and Lake Clark NPP (LACL). During cycles of high abundance, moose have the potential to influence structure and function of terrestrial systems both through their browsing effects on vegetation communities and through their role as a prey species. Monitoring moose abundance and bull:cow ratios provides important information on dynamics of terrestrial systems. Moose also are an important natural and cultural resource to Alaskan sport and subsistence hunters.



Status and Trends

Since 2003, LACL biologists have estimated moose abundance in three unit areas within LACL using an aerial survey technique developed by ADF&G. This technique accounts for the differential sightability among moose based on group and habitat variables. The preferred survey timing is November, before bulls shed their antlers for the winter, which enables biologists to determine sex ratios. Survey units are flown every 3 years weather conditions permitting. During these surveys, observers record the number of moose, their sex/age class (calf/bull/cow), percent snow cover, and percent vegetation cover. This information is used to estimate the population for that unit. Additionally, ratios of bulls:cows and calves:cows are estimated to better understand the population dynamics of moose within the park.

Discussion

Results from LACL surveys conducted between 2003 and 2010

indicate that moose populations have declined from 25% to 33% across all three survey units (Fig. 1). Bull:cow ratios ranged from a low of 13.6:100 to a high of 53.5:100 and have generally increased over the survey period. These ratios suggest that there are enough bulls to meet the breeding potential within the population. Population declines may be due to low calf numbers. The observed calf:cow ratio in 2010 was 20:100, which is considered marginal for maintaining a stable moose population.

Because KATM often has poor snow conditions in November, the sightability method has been problematic.

Biologists are currently testing the line transect double observer method used to estimate brown bear populations.

This aerial survey technique is designed to detect presence under a variety of environmental conditions.

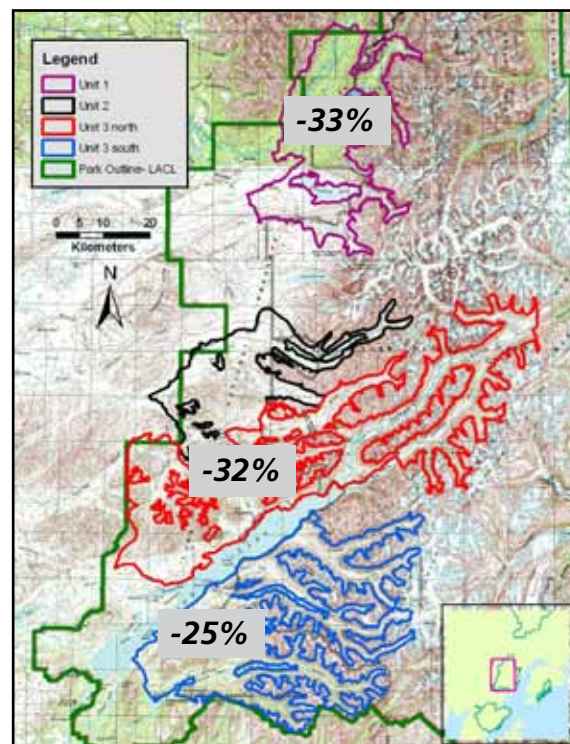


Figure 1. All moose survey unit areas in LACL show a decline (-25% to -33%) in moose population between 2003 and 2010.