

Project Title: Moose in the Crown of the Continent: Do Bears, Climate, or Other Factors Control Populations?

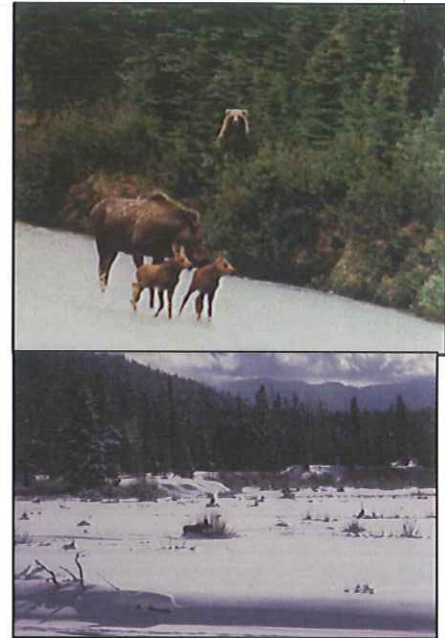
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Project Description:

Climate change and glacial recession are prominent features of the landscape in and around Glacier National Park. Moose —recent Asiatic colonizers to North America — are widely distributed across the cold, boreal, and montane environments of the northern Rocky Mountains. Both the habitats and climate regimes of eastern and western Glacier vary, and understanding how moose respond to these conditions will improve our understanding of how this iconic species will handle future challenges. In fact, because

moose have never been studied in Glacier, we know nothing of local densities, the role of snow and food as drivers of movements in and out of the park, nor the extent to which predation or other factors affect calf survival. What we do know is that tick loads increase and that moose do not do well with high temperatures. We also know that temperature and snow pack exert important effects on moose distribution.



The goal of the proposed effort is to develop a basic understanding of moose density, current trends, and populations in Glacier National Park. This will require understanding the extent to which moose use high and low elevation habitats, how density varies with habitat, and factors that affect population levels. For instance, in USA national parks where moose co-exist with both wolves and grizzly bears, predation may exert strong effects on adult and calf survival. The level of predation may in part be dictated by the abundance of alternative foods for bears, such as elk, caribou, and berries and other foods. Further, impacts outside of parks may affect populations within them in part because of habitat, roads, railroads, and other factors may alter migrations. Little of these issues however are well understood with respect to moose at Glacier.

The proposed work will provide provide critical information to address these uncertainties. Specifically: i) how density varies across elevation and habitats on the east and west side of the Continental Divide, b) the role of snow in promoting movements into and out of the park, and c) how nutrition, disease, and predation affect adult and calf production and annual survival. The ultimate goal is to understand how these different forces, both now and into the future, are likely to affect the largest species of deer in one of America's premier national park.

Budget: \$100,000/yr for a 4-year period