

Assessing Spatial Factors Affecting Predation Risk to Boreal Caribou Calves: Implications for Management

Craig DeMars / Stan Boutin, University of Alberta
GL 13-AU-ERPC-01

The overarching objective of this three year project, is to assess spatial factors affecting predation risk to calves of boreal caribou (*Rangifer tarandus caribou*), an ecotype of woodland caribou currently designated as Threatened under the federal Species at Risk Act. Low rates of annual calf recruitment (survival to one year of age) are a key demographic factor contributing to population declines of boreal caribou (1). Predation is the primary cause of calf mortality (2, 3) and increasing predation of caribou has been linked to increasing levels of landscape alteration (1, 4, 5). By facilitating access to caribou habitat, landscape alteration impacts the spatial separation of caribou from other ungulates and their associated predators (6). For boreal caribou, spatial separation is a key mechanism for reducing predation risk, particularly during the calving season

when females become more highly dispersed to further decrease predation risk (7). Consequently, in altered landscapes, an inability of parturient females to spatially separate from predators can result in above-normal mortality rates of neonate calves (0-6 weeks of age; 8, 9). Preliminary results from our project's first two years support this hypothesis with neonate calf-to-cow ratios in our study area, located near Fort Nelson, BC, falling below thresholds of annual calf recruitment necessary for population stability (e.g. ~29 calves:100 cows; 1). For many boreal caribou populations in BC and Alberta, where caribou ranges have been impacted by landscape alteration to varying degrees (10, 11), our findings continue a sustained trend of high rates of neonate mortality (e.g. >70%; 12), a trend that if continued increases extinction risk to these populations.

Policy Issue

Biodiversity: Species conservation; boreal caribou

Knowledge Gap

Predator use of habitats and anthropogenic features in and around caribou ranges and effects of predation on caribou (adults females and males and calves) throughout the year

Herds Studied: British Columbia : Maxhamish, Parker, Prophet, and Snake-Sahtaneh ranges as well as a portion of the Calendar range

Reports

2013 Report

2012 Report

2011 Report

Presentations

2014 Presentation

2013 Presentation

2012 Presentation

2011 Presentation