

## SCEK Project Profile

<b>Project Name:</b>	Censusing wolves to determine associations between industrial activity and caribou population growth rates
<b>Project Number:</b>	BCIP-2015-08
<b>Proponent:</b>	Alberta Biodiversity Monitoring Institute, University of Alberta
<b>SCEK Funding Envelope:</b>	Boreal Caribou
<b>Timeframe:</b>	October 15, 2014 to July 15, 2015

### Project objectives

The objectives of this project are to:

- Census wolves in the Parker, Prophet, Calendar and Chinchaga ranges.
- Determine how strong the relationship is between human activity and altered predator-prey dynamics.

### Project description

This project will test the relationships between human development and predator-prey dynamics by making use of existing variability in landscape disturbance, moose and wolf densities, and caribou vital rates. A hypothesis based on disturbance leads us to predict that higher levels of human development result in greater moose and wolf abundance, and consequently higher rates of caribou decline. However, an alternate hypothesis is that other factors such as climate change or weather patterns affect moose population dynamics and in turn wolf abundance. Yet, a key piece of information that is missing to discriminate among these hypotheses is wolf abundance. This project will refine and implement methods to estimate wolf numbers in boreal caribou ranges with different levels of human footprint, moose density, and caribou population dynamics.

The project builds on existing information from the REMB monitoring program where caribou population dynamics and moose densities have already been estimated. We are also adding to a new initiative in the Calendar boreal caribou range led by Nexen Inc., which will include a sample of radio-collared wolves that will assist with population censuses. This project expands this program by censusing wolves in 3 other ranges including the Parker, Prophet, and the northern portion of the Chinchaga range.

## **Project approach**

The project will involve the following approach:

1. Design a 2-phase sampling with occupancy estimates based on using systematic transects with a fixed wing aircraft, and abundance estimates based on near-immediate follow-up with helicopter or fixed wing aircraft.
2. Conduct census 4-6 days after a large snowfall event to allow fresh tracks to be detected and counted. Each range is censused once during a single winter and will be complete within 3 days to minimize confusion from wolf movement among survey areas.
3. Analyze findings and draft final report.

## **Project deliverables**

The following project deliverable will be provided:

1. Final Report— describing the project methodology and timeframe, data collected, findings and recommendations. The report will also contain the following information:
  - Estimate of wolf abundance for each caribou range;
  - Recommendations to adjust methods; and
  - Discussion on wolf population closure.