

SCEK Project Profile

Project Name:	Determination When Caribou Habitat is Functional
Project Number:	BCIP-2015-04
Proponent:	Foothills Research Institute
SCEK Funding Envelope:	Boreal Caribou
Timeframe:	April 1, 2014 to April 30, 2016

Project objectives

The objectives of this project are to:

1. Determine whether caribou and predator response to roads and pipeline right of ways is influenced by the extent of re-vegetation and human use of these features and assess how this varies seasonally.
2. Evaluate whether currently accepted 500m buffers on roads and pipeline right of ways apply when line characteristics incorporate information on regeneration.
3. Assess how human activity of linear features is affected by topography, geographic barriers and re-vegetation height.
4. Determine whether activity at worksites (active industrial activity) affects the movements of caribou.
5. Use non-invasive fecal DNA collections for caribou during the winter to determine the relationship between re-vegetation and current restoration activities on the distribution, size and health of caribou populations.
6. Assess whether the response of boreal caribou in the Chinchaga range (mixedwood upland peatland habitat) to re-vegetation stage of disturbed habitat differs from that of boreal and mountain caribou in conifer dominated landscapes.
7. Produce a list of landscape variables (e.g., re-vegetation height, human use thresholds) that can be used to quantify the extent of the caribou functional habitat both in our study area, and elsewhere.

Project description

The project will use LIDAR data to determine the height of vegetation in disturbed areas and then analyze use by wildlife with available GPS telemetry data for several species (e.g., caribou, wolves, grizzly bears). The objective is to correlate habitat regrowth characteristics with wildlife use to determine factors influencing when the system returns to a pre-disturbance state—specifically assessing:

- how caribou and their predators respond to seismic lines, cutblocks, pipeline right of ways and roads at different stages of re-vegetation and subject to different levels of human use; and

- whether responses of caribou to disturbed landscapes differ in mixedwood landscapes (Chinchaga range) when compared to alpine and foothills landscapes.

When combined, data from this research will provide a holistic understanding of how re-vegetation affects caribou and their predators for use in identifying science based and effective restoration tactics across caribou ranges.

Project approach

The project will occur under six activities:

1. Assess how the inclusion of data on re-vegetation growth and human use affects the extent of disturbed habitat across the landscape from a caribou perspective, and whether the currently accepted 500m buffer on disturbed areas applies to all stages of re-vegetation.
2. Assess how human activity of linear features is affected by topography, geographic barriers and re-vegetation height.
3. Determine whether activity at worksites affects the movements of caribou, and whether this varies seasonally.
4. Determine how many caribou occur within West-central area and carry out population health assessments in this area.
5. Assess whether the response of boreal caribou in the Chinchaga range to re-vegetation stage of disturbed habitat differs from that of boreal and mountain caribou in conifer dominated landscapes.
6. Draft guidance for the reclamation of disturbed areas to increase caribou functional habitat.

Project deliverables

The following project deliverables will be provided:

1. Annual Report (year 1)—containing the results of the response of caribou to active work sites, final results on the relationship between re-vegetation stage of roads and pipeline right of ways, human use and caribou and predator occurrence.
2. Final Report—detailing the results of the caribou response to re-vegetation in mixedwood landscapes (Chinchaga range) and integration of these results with human use surveys. The report will also present the results of the integration of the response of caribou and their predators to re-vegetation stage of roads and pipelines right of ways, as well as the indirect effects of habitat disturbance (stress, pregnancy rates) on caribou.