

2014

BC Boreal Caribou Implementation Plan:

**Mortality Investigation Summary Report No. 16:
October 2014**

EXECUTIVE SUMMARY

A total of 204 boreal caribou were radio-collared between December 2012 and March 2014 in British Columbia's boreal caribou ranges as part of the *British Columbia Boreal Caribou Implementation Plan* (BCIP). The fate of these animals, as well as all boreal caribou previously collared by the Ministry of Forests, Lands, and Natural Resource Operations (MFLNRO), is monitored monthly to track adult survival and calf recruitment.

One SCEK-collared caribou mortality was detected and investigated during the October 2014 monitoring period. SCEK094 (West Kotcho; Lotek VHF) was killed by wolves on a pipeline right-of-way through mature white spruce riparian forest between the Paradise and West Kotcho cores. No wolf mortalities were detected during the October monitoring period.

Sixty-eight radio-collared boreal caribou (61 SCEK, 7 MFLNRO) died from natural causes between the commencement of BCIP monitoring in December 2012 and the end of October 2014. Forty-four caribou mortalities were confirmed wolf kills, with an additional 6 cases of suspected wolf kills, and 2 confirmed wolverine kills. Poor condition was a factor in the death of several caribou following the particularly severe winter of 2012-13. In contrast, no non-predation mortality of radio-collared caribou occurred during the more moderate winter of 2013-14. Twenty-four of 26 radio-collared caribou mortalities investigated between late winter and early fall 2014 (March through October) were confirmed wolf predation, with an additional 2 cases of suspected wolf predation.

BACKGROUND

During the winter of 2012-13, 164 adult female caribou were radio-collared in British Columbia's boreal caribou ranges as part of the *British Columbia Boreal Caribou Implementation Plan* (BCIP). An additional 41 caribou (40F, 1M¹) were collared between February 28 and March 31, 2014. Caribou collaring activities were administered and funded through the Science and Community Environmental Knowledge Fund (SCEK). The fate of SCEK-collared caribou, as well as boreal caribou previously collared by MFLNRO, was monitored to track adult survival and calf recruitment.

The VHF signal status of each active radio-collar is monitored monthly during regular fixed-wing telemetry flights, as well as during associated incidental surveys and field activities. In addition to the SCEK collars, active caribou and wolf collars from other programs, known to be present within BC boreal caribou ranges, are also monitored for approximate location and mortality status. These include caribou and wolf collars deployed by MFLNRO, as well as collared caribou that have entered BC's boreal caribou ranges from adjacent jurisdictions.

Upon detection of a suspected mortality event, through VHF signal status or transmitted GPS/satellite data, a ground-based mortality investigation is conducted to determine the cause and approximate date of

¹ SCEK173/BC1037 was collared as a yearling by MFLNRO in March 2010. It was recaptured and fitted with a larger SCEK collar in February 2014.

death, collect biological samples, and recover the collar. Adult mortality information is used in conjunction with juvenile recruitment data to estimate population trend.

This summary report pertains to mortality signals investigated during October 2014.

METHODS

Mortality sites are typically accessed by helicopter from the Fort St. John airport, in the case of the Milligan and Etthithun cores of the Chinchaga Range, and from the Fort Nelson airport in the case of the Chinchaga RRA and all other ranges and cores.

Information recorded for each confirmed mortality site includes: animal ID, collar frequency, collar condition, GPS coordinates, photodocumentation, condition of remains, habitat, and other evidence relevant to suspected cause of death. Where available, and when the stage of decomposition allows, biological samples are collected (e.g., long bones, lower jaw, tissue samples, and internal organs). Samples of predator scat from the mortality site are collected when available. Mortality investigation numbers are assigned based on the date of detection, not the date of the ground investigation.

RESULTS

An extended period of poor weather, including low cloud and heavy snow, resulted in delays and interruption of the October 2014 telemetry monitoring flight as well as the associated mortality investigation. Day 1 of the 2-day flight was conducted on October 25, however, deteriorating weather conditions prevented completion of the flight until November 1. One SCEK-collared caribou SCEK094 (Snake-Sahtaneh Range; Lotek VHF) death was detected during on November 1 flight (Table 1), but poor weather prevented helicopter access to the mortality site until November 6.

SCEK094 was killed by wolves within the Snake-Sahtaneh Range, midway between the Paradise and West Kotcho cores. The mortality site was located at the junction of a pipeline and a small stream, in mature riparian white spruce forest.

A total of 68 radio-collared boreal caribou (61 SCEK, 7 MFLNRO) have died from natural causes between the commencement of BCIP monitoring in December 2012 and October 31, 2014. No non-predation natural deaths were detected for either collared or unmarked caribou during late winter through early fall of 2014 (March through October).

Seventeen wolf collar frequencies were scanned during the October 2014 monitoring flight, including 13 Lotek Iridium and 4 Lotek VHF. No wolf mortalities were detected.

First Nation Sub-contractors

Eva Needlay, of the Fort Nelson First Nation, participated in caribou mortality site investigations for the October 2014 monitoring period.

Table 1. Summary of SCEK and MFLNRO radio-collared boreal caribou mortality investigations conducted during the October 2014 monitoring period, northeastern British Columbia ($n=1$).

Mort Invest #	Caribou ID	Range ¹	Collar Type	Date Collared	Core Collared ²	Core Died ²	Date of Death ³	Date Last Known Alive	Date Investigated	Cause of Death	Site Investigation Comments
077	SCEK094	SNS	Lotek VHF	06-Feb-13	OS-WSK (southeast of core)	Between PRD and WSK cores	UNK	15-Sep-14	06-Nov-14	Wolf kill	*October telemetry flight delayed/interrupted and mortality investigation delayed by bad weather (freezing rain/snow/low fog) throughout latter part of October, therefore, mortality detected on November 01 and investigated on November 06, 2014; kill site on pipeline through mature white spruce forest at junction with small creek.

¹ SNS - Snake-Sahtaneh

² WSK - West Kotcho PRD - Paradise

³ UNK - Unknown

APPENDIX I: Caribou Mortality Investigation Reports

Mortality Investigation #077: SCEK094, November 6, 2014*, report and photos.

Mortality Investigation #	077
Caribou ID	SCEK094
Range	Snake-Sahtaneh
Date Detected	01-Nov-14*
Date Investigated	06-Nov-2014
Collar Type	Lotek VHF
Date Collared	06-Feb-13
Core Collared	West Kotcho-OS (southeast of core)
Capture Site UTM	10.601444.6532363
Core Died	Between Paradise and West Kotcho cores
Date of Death	Unknown
Date Last Known Alive	15-Sep-14
Mortality Site UTM	10.576094.6526872
Cause of Death	Wolf kill
Samples	Lower jaw, scapula (1)
Collar Condition	Damaged (webbing chewed)
Photos	0498-0508
Investigators	Brad Culling, Diane Culling, Eva Needlay
Site Investigation Comments	*October telemetry flight delayed/interrupted and mortality investigation delayed by poor weather (snow/low cloud/freezing rain) throughout latter part of October, therefore, mortality detected on November 01 and investigated on November 06, 2014; carcass consumed; approximately 20 cm fresh snow - only jaw and scapula found, no fresh tracks; kill site on pipeline through mature white spruce forest at junction with small creek.

*Mortality investigation delayed by extended period of poor weather (snow storm/persistent low cloud).



Plate 1. Mortality Site Investigation #077: SCEK094 (Lotek VHF), Snake-Sahtaneh Range, (UTM 10.576094.6526872), November 06, 2014. (1/2)



Plate 2. Mortality Site Investigation #077: SCEK094 (Lotek VHF), Snake-Sahtaneh Range, (UTM 10.576094.6526872), November 06, 2014. (2/2)