

2014

**BC Boreal Caribou Implementation Plan:
Mortality Investigation Summary Report No. 15:
September 2014**

**Diversified Environmental Services
Fort St. John, BC**

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 September 2014 monitoring period. SCEK013/BC1042 (Parker; Lotek VHF) was killed by wolves in mature deciduous riparian forest immediately adjacent to the Muskwa River. One wolf mortality was also detected and investigated during the September monitoring period (Clarke Pack female BW031; Lotek VHF); cause of death was undetermined.

Sixty-seven radio-collared boreal caribou (60 SCEK, 7 MFLNRO) died from natural causes between the commencement of BCIP monitoring in December 2012 and September 30, 2014. Predation accounted for the majority of cases, including 43 confirmed wolf kills, an additional 5 cases of suspected wolf kills, and 2 confirmed wolverine kills. Poor condition was a factor in the death of several caribou following a particularly severe winter in 2012-13. In contrast, no non-predation mortality of radio-collared caribou occurred during the more moderate winter of 2013-14. Twenty-three of 25 radio-collared caribou mortalities investigated between late winter and early fall 2014 (March through September) 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 September 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

One SCEK-collared caribou death was investigated during the September 2014 monitoring period (Table 1). Collar SCEK013/BC1042 (Parker; Lotek VHF) was heard transmitting a mortality signal during the September 14, 2014 monitoring flight and was recovered on September 17. The caribou was killed by wolves in mature riparian forest, approximately 25 m from the north bank of the Muskwa River, which bisects the Parker Core.

A total of 67 radio-collared boreal caribou (60 SCEK, 7 MFLNRO) have died from natural causes between the commencement of BCIP monitoring in December 2012 and September 30, 2014. No non-predation natural deaths were detected for either collared or unmarked caribou during late winter through early fall of 2014 (March through September).

Eighteen wolf collar frequencies were scanned during the September 14-15, 2014 monitoring flight, including 14 Lotek Iridium GPS and 4 Lotek VHF. One wolf mortality was detected and investigated on September 17 (BW031; Clarke Pack; Lotek VHF). Female BW031 was collared in the Clarke Core on April 01, 2014. The putrid, but intact body was located approximately 15 m from a borrow pit adjacent to a Petroleum Development Road (UTM 10.574581.6510322). Cause of death could not be determined.

One additional collared wolf (BW025; Kwokullie Pack; Vectronic Vertex) was legally killed by a hunter on September 03, 2014. The collar was turned in to the Fort Nelson Conservation Officer Service prior to the September monitoring flight.

First Nation Sub-contractors

William Needlay, of the Fort Nelson First Nation, participated in caribou mortality site investigations in September 2014.

Table 1. Summary of SCEK and MFLNRO radio-collared boreal caribou mortality investigations conducted in September 2014, 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
076	SCEK013/BC1042	PRK	Lotek VHF	07-Jan-13	PRK	PRK	UNK	18-Aug-14	17-Sep-14	Wolf kill	Mortality detected on September 14, 2014 telemetry flight; kill site within intact, mature riparian forest (balsam poplar/aspen) approximately 25 m from north bank of Muskwa River.

¹ PRK - Parker

² PRK - Parker

³ UNK - Unknown

APPENDIX I: Caribou Mortality Investigation Reports

Mortality Investigation #076: SCEK013/BC1042, September 17, 2014, report and photos.

Mortality Investigation #	076
Caribou ID	SCEK013/BC1042
Range	Parker
Date Detected	14-Sep-14
Date Investigated	17-Sep-14
Collar Type	Lotek VHF
Date Collared	07-Jan-13
Core Collared	Parker
Capture Site UTM	10.502024.6517478
Core Died	Parker
Date of Death	Unknown
Date Last Known Alive	18-Aug-14
Mortality Site UTM	10.486743.6518080
Cause of Death	Wolf kill
Samples	Skull/antlers, vertebrae, wolf scat (x2), caribou hair
Collar Condition	Good (still attached to neck)
Photos	0473-0486
Investigators	Brad Culling, Diane Culling, William Needlay
Site Investigation Comments	First collared in Parker Core on February 26, 2011 (BC1042; ATS Iridium 149.045), recaptured and recollared in Parker in January 2013; mortality detected during September 2014 telemetry flight; carcass consumed, only skull with antlers (lower jaw missing) and upper portion of spine remain; sheared caribou hair along trail; collar still attached to neck; wolf scat and several beds within 20 m, kill site within intact mature riparian forest (balsam poplar/aspen) approximately 25 m from north bank of Muskwa River.



Plate 1. Mortality Site Investigation #076: SCEK013/BC1042 (Lotek VHF), Parker Range, (UTM 10.486743.6518080), September 17, 2014. (1/2)



Plate 2. Mortality Site Investigation #076: SCEK013/BC1042 (Lotek VHF), Parker Range, (UTM 10. 486743.6518080), September 17, 2014. (2/2)