

2015

BC Boreal Caribou Implementation Plan:

**Mortality Investigation Summary Report No. 18:
January and February 2015**

EXECUTIVE SUMMARY

A total of 220 boreal caribou were radio-collared between December 2012 and February 2015 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 hundred fifty-seven boreal caribou collar frequencies and 17 wolf collar frequencies were scanned during a monthly fixed-wing telemetry monitoring flight conducted on January 19-21, 2015. No caribou or wolf mortalities were detected during the January monitoring period.

The February 2015 telemetry monitoring was completed using a Bell 206 Jet Ranger helicopter, in conjunction with radio-collar deployment sessions conducted between February 24 and 27. One SCEK-collared caribou mortality was detected and investigated during this period. SCEK207 (Fortune; Vectronic Vertex) died from accidental strangulation on February 15, 2015, when the antler of a second caribou became entangled in its collar. Calendar caribou SCEK135 (Vectronic Vertex) was heard transmitting a mortality signal on February 26, however, the animal was located visually and confirmed alive. SCEK038 was transmitting a VHF recovery pattern indicating it had detached from a caribou; the collar was immediately retrieved.

One wolf mortality (BW001; Tsimeh Pack) was detected and investigated during the February monitoring period.

Seventy-one radio-collared boreal caribou (64 SCEK, 7 MFLNRO) died from natural causes between the commencement of BCIP monitoring in December 2012 and the end of February 2015. Forty-six caribou mortalities were confirmed wolf kills, with an additional 6 cases of suspected wolf kills, 2 confirmed wolverine kills, and one accidental death. Three caribou died of apparent poor condition. Cause of death for the remaining 13 animals was undetermined.

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). The sample size was augmented during the winters of 2013-14 and 2014-15, with a total of 220 individual boreal caribou collared by February 28, 2015. 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 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 the January and February 2015 monitoring periods.

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

January 2015 Monitoring Period

One hundred fifty-seven boreal caribou collar frequencies and 17 wolf collar frequencies were scanned during a monthly fixed-wing telemetry monitoring flight conducted on January 19-21, 2015. No caribou mortality indications were detected, however SCEK143 (Prophet; Vectronic Vertex) was transmitting a false mortality signal and 8 caribou collars were transmitting VHF signal patterns indicating their release mechanisms had attempted to activate on low voltage conditions. No wolf mortality signals were detected; most GPS wolf collars are presumed to have reached the end of their battery life.

February 2015 Monitoring Period

One hundred sixty boreal caribou collar frequencies and 23 wolf collar frequencies were scanned during monthly telemetry monitoring conducted between February 24 and 27, 2015, concurrent with caribou capture and collar deployment activities. One caribou mortality was detected. SCEK207 (Maxhamish; Vectronic Vertex) died from strangulation when a second caribou got an antler lodged under her radio-collar.

Calendar caribou SCEK135 (Vectronic Vertex) was heard transmitting a mortality signal on February 26, 2015. The animal was located visually, in a group of 8 caribou in the East Kotcho Core (10.632867.6566940), confirming that the collar was transmitting a false mortality signal.

No predation mortalities occurred during February 2015. The snow pack was typically between 50-75 cm, with little crusting, throughout BC boreal caribou ranges during the February 24-27 period. These conditions likely were an impediment to wolf movements within peatland habitats.

The VHF beacon of wolf BW001 (Tsimeh Pack; Lotek VHF) was last heard on December 23, 2014; no signal was detected on the January 2015 flight. A weak mortality signal was heard on February 24, 2015. The collar was located on a small lake in the Fort Nelson Core, under approximately 50 cm of snow (UTM 10.512860.6547226). There was no sign of the carcass. The antenna and webbing were completely chewed off, leaving only the transmitter and battery. Based on the collar condition, intra-specific aggression was suspected as the cause of death.

Details of SCEK and MFLNRO radio-collared boreal caribou mortality investigations conducted during the January and February 2015 monitoring periods are presented in Table 1 and Appendix I.

First Nation Sub-contractors

There was no opportunity for First Nation participation in caribou mortality site investigations during the current monitoring period.

Table 1. Summary of SCEK and MFLNRO radio-collared boreal caribou mortality investigations conducted during January and February 2015, northeastern British Columbia ($n=1$).

Mort Invest #	Caribou ID	Range ¹	Collar Type	Date Collared	Core Collared ²	Core Died ²	Date of Death	Date Investigated	Cause of Death	Site Investigation Comments
080	SCEK207	MAX	Vectronic Vertex GPS	08-Dec-14	FRT	FRT	15-Feb-15	25-Feb-15	Accident	Mortality detected during February 25 collar deployment session; SCEK207 died by accidental strangulation when a second caribou got an antler lodged under her radio-collar. Black spruce forest habitat. Collar redeployed in Chinchaga Range on 27 Feb 2015 (SCEK033B).

¹ MAX - Maxhamish

² FRT - Fortune

APPENDIX I: Caribou Mortality Investigation Reports

Mortality Investigation #080: SCEK207, February 25, 2015, report and photos.

Mortality Investigation #	080
Caribou ID	SCEK207
Range	Maxhamish
Date Detected	25-Feb-15
Date Investigated	25-Feb-15
Collar Type	Vectronic Vertex
Date Collared	08-Dec-14
Core Collared	Fortune
Capture Site UTM	10.525890.6627574
Core Died	Fortune
Date of Death	15-Feb-15
Mortality Site UTM	10.537971.6620328
Cause of Death	Strangulation
Samples	Head (intact), femur, heart, lungs, tissue, hide, blood (x2)
Collar Condition	Good - redeployed on SCEK033B, Chinchaga Range, on Feb 27, 2015
Photos	0671-0696
Investigators	Brad Culling, Diane Culling, John Cook
Site Investigation Comments	<p>Mortality detected during February 25 collar deployment session; SCEK207 died accidentally when a second caribou got an antler lodged under her radio-collar and she was strangled during the struggle. The body was found almost intact, with a broken antler from the other animal caught in the tightly twisted collar. The collar was deployed two months previously; post-mortum examination confirmed the collar had been appropriately fitted. It appeared that the second caribou succeeded in freeing itself by breaking off its antler after SCEK207 died. A small mammal (suspect marten or fisher) had scavenged the carcass internally, entering the body cavity via the perineum and consuming the uterus, lower G.I. tract, liver and kidneys; there was evidence of minor additional scavenging by birds. Post-mortum rump fat was measured at ≤ 0.2 cm. A review of the GPS data revealed the date of death as Feb 15, 2015. Black spruce forest.</p>



Plate 1. Mortality Site Investigation #80: SCEK207 (Vectronic Vertex), Maxhamish Range (UTM 10.537971.6620328), February 25, 2015. (1/2)



Plate 2. Mortality Site Investigation #80: SCEK207 (Vectronic Vertex) showing evidence of small mammal scavenging; Maxhamish Range (UTM 10.537971.6620328), February 25, 2015. (2/2)