

# DIVERSIFIED ENVIRONMENTAL SERVICES

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## BC OIL AND GAS RESEARCH AND INNOVATION SOCIETY BOREAL CARIBOU TELEMETRY PROGRAM

### TELEMETRY MONITORING FLIGHT – JANUARY-FEBRUARY 2016

**Date:** February 29, 2016

**Attention:** Brian Thomson  
BC Oil and Gas Research and Innovation Society  
Victoria, BC

#### *Executive Summary*

In lieu of dedicated monthly fixed-wing monitoring flights in January and February 2016, Diversified Environmental Services (DES) conducted opportunistic and incidental monitoring of VHF signals from collared boreal caribou during moose and caribou collar deployment operations conducted between January 4 and February 27, 2016. One hundred fifty-six caribou collar frequencies were scanned during the January/February 2016 monitoring flights, including 140 caribou collars potentially active at the start of the monitoring period and 21 new GPS collars deployed on new and re-captured caribou during the monitoring period. One mortality signal was detected, however it was investigated and confirmed to be false. No actual caribou mortalities occurred during the monitoring period.

Twenty-seven wolf collar frequencies were scanned during the January/February flights, including 4 new OGRIS GPS collars deployed on new and previously-collared wolves during the monitoring period. No wolf collar mortality signals were detected.

#### *Background*

Between December 17, 2012 and April 01, 2015, 224 adult boreal caribou were radio-collared in British Columbia's boreal caribou ranges as part of the *British Columbia Boreal Caribou Implementation Plan* (BCIP). In lieu of dedicated monthly fixed-wing monitoring flights in January and February 2016, Diversified Environmental Services (DES) conducted opportunistic and incidental monitoring of VHF signals from collared boreal caribou during moose and caribou collar deployment operations between January 4 and February 27, 2016. Fixed-wing monitoring flights are normally conducted at monthly intervals throughout the year in order to identify mortality events, which are followed up by ground-based mortality investigations and collar recoveries, as well as to track potential long distance seasonal movements of VHF-collared caribou.

### *Objectives*

The objective of the January/February 2016 monitoring was to determine the approximate location and VHF beacon status of all boreal caribou and wolf collars believed to be active in the survey area. These included caribou and wolf collars deployed on behalf of SCEK, caribou collars deployed on behalf of MFLNRO, wolf collars deployed for a research program funded by Nexen Inc., and pre-existing collars known to have entered BC's boreal caribou ranges from adjacent jurisdictions.

### *Methods*

The January/February VHF signal monitoring was conducted from a Bell 206B helicopter equipped with 1 outward-facing directional antenna on each side. Collar frequencies were scanned using Lotek™ STR 1000 and Lotek BioTracker telemetry receivers. The flight was conducted at 200-1,000 m above ground level at an average speed of 160 km/hr. The VHF beacon status of all detected collars was recorded on hard copy forms. In the case of VHF collars (Lotek LMRT4), status was recorded as either normal (60 pulses per minute (ppm)) or mortality mode (120 ppm), and a location (+/- 1 km) was recorded using a hand-held GPS unit. In the case of GPS/satellite collars (ATS Iridium, Vectronic Vertex, and Lotek LifeCycle), additional diagnostic VHF beacon patterns were recorded where applicable. As GPS/satellite collars are programmed to log multiple daily locations with high precision, additional effort to obtain collar locations after VHF signal detection is not necessary. Therefore, waypoints for GPS/satellite collars were typically recorded at the location from which the collar was heard, with corrections for estimated bearing and distance, unless the VHF beacon status indicated a collar malfunction or mortality, in which case, more precise locations were obtained.

### *Results*

One hundred fifty-six caribou collar frequencies were scanned during the January/February 2016 monitoring flights. These included 140 caribou collars potentially active at the start of the monitoring period and 21 new GPS collars deployed on new and re-captured caribou during the monitoring period. The 156 collars potentially active at the end of the monitoring period included 153 SCEK/OGRIS collars (2 ATS Iridium, 76 Vectronic Vertex, 10 Lotek LifeCycle, and 65 Lotek VHF), 2 previously-deployed MFLNRO VHF collars, and 1 Alberta VHF collar. Of the 21 new GPS collars deployed during the monitoring period, 15 were deployed on new caribou and 6 new collars deployed on previous collared caribou. In addition, 27 wolf collar frequencies were scanned during the January/February flights. These included, 4 new OGRIS GPS collars deployed on new and previously-collared wolves during the monitoring period.

Results of the January/February 2016 monitoring activity are presented in Table 1. Of 156 caribou collar frequencies scanned, 148 normal VHF signals and 1 false mortality signal were detected; no actual caribou mortalities occurred during the monitoring period. The false mortality was confirmed through visual observation of the live animal (SCEK111). The VHF beacons of the remaining 7 caribou collars were not detected. These included 2 Lotek VHF collars (Milligan SCEK029 and Kiwigana SCEK062), 2 SCEK ATS Iridium collars that have ceased Iridium data transmission and are believed to have failed (Calendar SCEK184 and West Kotcho male SCEK173), 1 SCEK Vectronic GPS collar whose VHF beacon appears to be non-functional but whose GPS data transmissions indicate normal activity within the search area (Chinchaga RRA SCEK216), 1 SCEK Vectronic GPS collar whose GPS data transmissions ceased in early December 2015 (Milligan SCEK034), and 1 Alberta VHF collar assumed to have failed (Milligan AB149.391).

Twenty-seven wolf collar frequencies were scanned during the January/February 2016 monitoring period, including 20 Lotek GPS/satellite collars and 7 Lotek VHF collars. No wolf collars mortality signals were detected.

There were no opportunities for First Nations field assistance on the January/February monitoring flights.

Cordially,



Brad Culling, R.P.Bio  
Diversified Environmental Services  
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Table 1. VHF signal status and location of boreal caribou and wolf collars detected during January/February 2016 OGRIS telemetry monitoring period.

ID	Species	Range	Core	Collar Type	Status	Date	Zone	East	North	Comments
SCEK112	Caribou	Calendar	Calendar	Lotek VHF	60 ppm	25-Feb-16	10	629819	6654494	normal
SCEK113	Caribou	Calendar	Calendar	Lotek VHF	60 ppm	25-Feb-16	10	638060	6649159	normal
SCEK119	Caribou	Calendar	Calendar	Vectr-Vertex	42 ppm	25-Feb-16	10	621544	6643006	normal
SCEK120	Caribou	Calendar	Calendar	Lotek VHF	60 ppm	25-Feb-16	10	620065	6638497	normal
SCEK122	Caribou	Calendar	Calendar	Lotek VHF	60 ppm	25-Feb-16	10	627963	6653996	normal
SCEK123	Caribou	Calendar	Calendar	Lotek VHF	60 ppm	25-Feb-16	10	620190	6622943	normal
SCEK125	Caribou	Calendar	Calendar	Lotek VHF	60 ppm	25-Feb-16	10	640044	6655717	normal
SCEK134	Caribou	Calendar	Calendar	Lotek VHF	60 ppm	25-Feb-16	10	620853	6640942	normal
SCEK135	Caribou	Calendar	Calendar	Vectr-Vertex	42 ppm	25-Feb-16	10	639359	6669973	normal
SCEK136b	Caribou	Calendar	Calendar	Vectr-VertexTD	42 ppm	25-Feb-16	10	626972	6628011	normal
SCEK137	Caribou	Calendar	Calendar	Lotek VHF	60 ppm	25-Feb-16	10	623254	6648828	normal
SCEK146b	Caribou	Calendar	Calendar	Vectr-VertexTD	42 ppm	25-Feb-16	10	613366	6636950	normal
SCEK180	Caribou	Calendar	Calendar	Vectr-VertexTD	42 ppm	25-Feb-16	10	646255	6635897	normal
SCEK181b	Caribou	Calendar	Calendar	Vectr-VertexTD	42 ppm	25-Feb-16	10	626976	6627936	Recaptured; re-collared
SCEK183	Caribou	Calendar	Calendar	Vectr-VertexTD	42 ppm	25-Feb-16	10	607531	6632308	normal
SCEK184	Caribou	Calendar	Calendar	ATS-Irid	not heard	25-Feb-16	n/a	n/a	n/a	failed; last data Sep 23 14
SCEK185	Caribou	Calendar	Calendar	Lotek-Lifecycle	50 ppm	25-Feb-16	10	640852	6644075	normal
SCEK234	Caribou	Calendar	Calendar	Vectr-VertexTD	42 ppm	25-Feb-16	10	646345	6635132	New caribou collared
SCEK126b	Caribou	Calendar	RRA-C	Vectr-VertexTD	42 ppm	25-Feb-16	10	608758	6676059	normal
SCEK107	Caribou	Calendar	RRA-D	Lotek VHF	60 ppm	25-Feb-16	10	622362	6634473	normal
SCEK108	Caribou	Calendar	RRA-D	Lotek VHF	60 ppm	25-Feb-16	10	640215	6645217	normal
SCEK040	Caribou	Chinchaga	Etthithun	Vectr-Vertex	42 ppm	19-Feb-16	10	661109	6404666	normal
SCEK195	Caribou	Chinchaga	Etthithun	Vectr-VertexTD	42 ppm	26-Feb-16	10	652253	6409336	normal
SCEK224	Caribou	Chinchaga	Etthithun	Vectr-VertexTD	42 ppm	26-Feb-16	10	653230	6409306	normal
AB149.391	Caribou	Chinchaga	Milligan	unknown	not heard	19-Feb-16	n/a	n/a	n/a	Assumed failed
SCEK026b	Caribou	Chinchaga	Milligan	Vectr-VertexTD	42 ppm	19-Feb-16	10	664939	6315672	normal
SCEK027	Caribou	Chinchaga	Milligan	Lotek VHF	60 ppm	19-Feb-16	10	666080	6299574	normal
SCEK029	Caribou	Chinchaga	Milligan	Lotek VHF	not heard	19-Feb-16	n/a	n/a	n/a	VHF signal not detected
SCEK032	Caribou	Chinchaga	Milligan	Lotek VHF	60 ppm	19-Feb-16	10	629983	6354459	normal
SCEK033b	Caribou	Chinchaga	Milligan	Vectr-VertexTD	42 ppm	19-Feb-16	10	639562	6358760	normal
SCEK034	Caribou	Chinchaga	Milligan	Vectr-Vertex	not heard	19-Feb-16	n/a	n/a	n/a	VHF signal not detected; last data Dec 7, 15
SCEK035	Caribou	Chinchaga	Milligan	Lotek VHF	60 ppm	19-Feb-16	10	631448	6357113	normal
SCEK036b	Caribou	Chinchaga	Milligan	Vectr-VertexTD	42 ppm	19-Feb-16	10	615561	6366031	normal
SCEK038b	Caribou	Chinchaga	Milligan	Vectr-VertexTD	42 ppm	19-Feb-16	10	651576	6297262	Recaptured; re-collared
SCEK041	Caribou	Chinchaga	Milligan	Lotek VHF	60 ppm	19-Feb-16	10	628482	6361626	normal
SCEK053	Caribou	Chinchaga	Milligan	Lotek VHF	60 ppm	19-Feb-16	10	625730	6351741	normal
SCEK054	Caribou	Chinchaga	Milligan	Lotek VHF	60 ppm	19-Feb-16	10	626142	6358183	normal
SCEK055	Caribou	Chinchaga	Milligan	Vectr-Vertex	42 ppm	19-Feb-16	10	621016	6348768	normal
SCEK057	Caribou	Chinchaga	Milligan	Lotek VHF	60 ppm	19-Feb-16	10	624853	6360482	normal
SCEK059	Caribou	Chinchaga	Milligan	Lotek VHF	60 ppm	19-Feb-16	10	629800	6346454	normal
SCEK060	Caribou	Chinchaga	Milligan	Lotek VHF	60 ppm	19-Feb-16	10	623631	6356593	normal
SCEK061	Caribou	Chinchaga	Milligan	Lotek VHF	60 ppm	19-Feb-16	10	631262	6338663	normal
SCEK196	Caribou	Chinchaga	Milligan	Vectr-VertexTD	42 ppm	19-Feb-16	10	628004	6351888	normal
SCEK197	Caribou	Chinchaga	Milligan	Lotek-Lifecycle	50 ppm	19-Feb-16	10	630394	6352565	normal
SCEK198	Caribou	Chinchaga	Milligan	Vectr-VertexTD	42 ppm	19-Feb-16	10	633094	6349640	normal
SCEK201	Caribou	Chinchaga	Milligan	Vectr-VertexTD	42 ppm	19-Feb-16	10	665804	6292026	normal
SCEK223	Caribou	Chinchaga	Milligan	Vectr-VertexTD	42 ppm	19-Feb-16	10	609482	6362122	normal
SCEK226	Caribou	Chinchaga	Milligan	Vectr-VertexTD	42 ppm	19-Feb-16	10	665137	6315591	New caribou collared
SCEK227	Caribou	Chinchaga	Milligan	Vectr-VertexTD	42 ppm	19-Feb-16	10	625514	6352363	New caribou collared
SCEK048	Caribou	Chinchaga	RRA-A	Lotek VHF	60 ppm	26-Feb-16	10	612205	6462875	normal
SCEK142	Caribou	Chinchaga	RRA-A	Vectr-Vertex	42 ppm	26-Feb-16	10	597104	6452613	normal

Table 1 cont. VHF signal status and location of boreal caribou and wolf collars detected during January/February 2016 OGRIS telemetry monitoring period.

ID	Species	Range	Core	Collar Type	Status	Date	Zone	East	North	Comments
SCEK170b	Caribou	Chinchaga	RRA-A	Vectr-Vertex	42 ppm	26-Feb-16	10	610285	6460954	Recaptured; re-collared
SCEK172	Caribou	Chinchaga	RRA-A	Lotek-Lifecycle	50 ppm	26-Feb-16	10	582987	6455918	normal
SCEK189	Caribou	Chinchaga	RRA-A	Vectr-VertexTD	42 ppm	26-Feb-16	10	610385	6460954	normal
SCEK213	Caribou	Chinchaga	RRA-A	Vectr-VertexTD	42 ppm	26-Feb-16	10	582887	6455918	normal
SCEK214	Caribou	Chinchaga	RRA-A	Vectr-VertexTD	42 ppm	26-Feb-16	10	588365	6456384	normal
SCEK215	Caribou	Chinchaga	RRA-A	Vectr-VertexTD	42 ppm	26-Feb-16	10	610385	6460654	normal
SCEK216	Caribou	Chinchaga	RRA-A	Vectr-VertexTD	not heard	26-Feb-16	10	629647	6435573	VHF not heard since Apr 2015; GPS activity normal
SCEK235	Caribou	Chinchaga	RRA-A	Vectr-VertexTD	42 ppm	26-Feb-16	10	612123	6462873	New caribou collared
SCEK236	Caribou	Chinchaga	RRA-A	Vectr-VertexTD	42 ppm	26-Feb-16	10	587252	6456569	New caribou collared
SCEK009b	Caribou	Fort Nelson	Fort Nelson	Vectr-VertexTD	42 ppm	25-Feb-16	10	516242	6549507	normal
SCEK166	Caribou	Fort Nelson	Fort Nelson	Vectr-VertexTD	42 ppm	25-Feb-16	10	516282	6549451	normal
SCEK167	Caribou	Fort Nelson	Fort Nelson	Lotek-Lifecycle	50 ppm	25-Feb-16	10	517136	6550724	normal
BC1014	Caribou	Maxhamish	Capot-Blanc	Lotek VHF	60 ppm	16-Feb-16	10	472519	6582020	normal
SCEK007b	Caribou	Maxhamish	Capot-Blanc	Vectr-VertexTD	42 ppm	16-Feb-16	10	472633	6582285	normal
SCEK066b	Caribou	Maxhamish	Capot-Blanc	Vectr-VertexTD	42 ppm	16-Feb-16	10	466224	6571747	Recaptured; re-collared
SCEK076	Caribou	Maxhamish	Capot-Blanc	Lotek VHF	60 ppm	16-Feb-16	10	466205	6579957	normal
SCEK225	Caribou	Maxhamish	Capot-Blanc	Vectr-VertexTD	42 ppm	16-Feb-16	10	466197	6579954	New caribou collared
BC1033	Caribou	Maxhamish	Fortune	Lotek VHF	60 ppm	25-Feb-16	10	536648	6628807	normal
SCEK005b	Caribou	Maxhamish	Fortune	Vectr-VertexTD	42 ppm	16-Feb-16	10	481794	6611342	normal
SCEK078	Caribou	Maxhamish	Fortune	Lotek VHF	60 ppm	25-Feb-16	10	n/a	n/a	heard not located; VHF normal
SCEK085	Caribou	Maxhamish	Fortune	Vectr-Vertex	42 ppm	25-Feb-16	10	534516	6617635	normal
SCEK086	Caribou	Maxhamish	Fortune	Lotek VHF	60 ppm	25-Feb-16	10	n/a	n/a	heard not located; VHF normal
SCEK087	Caribou	Maxhamish	Fortune	Lotek VHF	60 ppm	25-Feb-16	10	536344	6617251	normal
SCEK128	Caribou	Maxhamish	Fortune	Lotek VHF	60 ppm	25-Feb-16	10	530892	6626334	normal
SCEK129	Caribou	Maxhamish	Fortune	Lotek VHF	60 ppm	25-Feb-16	10	531118	6622812	normal
SCEK164	Caribou	Maxhamish	Fortune	Lotek VHF	60 ppm	25-Feb-16	10	532605	6619211	normal
SCEK175	Caribou	Maxhamish	Fortune	Lotek-Lifecycle	50 ppm	25-Feb-16	10	537255	6622420	normal
SCEK176	Caribou	Maxhamish	Fortune	Lotek-Lifecycle	50 ppm	25-Feb-16	10	494148	6636983	normal
SCEK177	Caribou	Maxhamish	Fortune	Vectr-VertexTD	42 ppm	25-Feb-16	10	527432	6631745	normal
SCEK178	Caribou	Maxhamish	Fortune	Vectr-VertexTD	42 ppm	25-Feb-16	10	540540	6623890	normal
SCEK205	Caribou	Maxhamish	Fortune	Vectr-VertexTD	42 ppm	25-Feb-16	10	527376	6631789	normal
SCEK206	Caribou	Maxhamish	Fortune	Vectr-VertexTD	42 ppm	25-Feb-16	10	533886	6620401	normal
SCEK208	Caribou	Maxhamish	Fortune	Vectr-VertexTD	42 ppm	25-Feb-16	10	495206	6636413	normal
SCEK221	Caribou	Maxhamish	Fortune	Vectr-VertexTD	42 ppm	25-Feb-16	10	539900	6624307	normal
SCEK004	Caribou	Maxhamish	Kiwigana	Lotek VHF	60 ppm	25-Feb-16	10	n/a	n/a	heard not located; VHF normal
SCEK062	Caribou	Maxhamish	Kiwigana	Lotek VHF	not heard	25-Feb-16	10	n/a	n/a	VHF signal not detected
SCEK064	Caribou	Maxhamish	Kiwigana	Lotek VHF	60 ppm	25-Feb-16	10	551032	6594165	normal
SCEK168	Caribou	Maxhamish	Kiwigana	Vectr-VertexTD	42 ppm	25-Feb-16	10	540367	6566977	normal
SCEK169b	Caribou	Maxhamish	Kiwigana	Vectr-VertexTD	42 ppm	16-Feb-16	10	510139	6572277	Re-captured; re-collared
SCEK211	Caribou	Maxhamish	Kiwigana	Vectr-VertexTD	42 ppm	25-Feb-16	10	540467	6566977	normal
SCEK231	Caribou	Maxhamish	Kiwigana	Vectr-VertexTD	42 ppm	24-Feb-16	10	524035	6568706	Failed 151.701 (BC1009) re-collared
SCEK232	Caribou	Maxhamish	Kiwigana	Vectr-VertexTD	42 ppm	25-Feb-16	10	539336	6566584	New caribou collared
SCEK010	Caribou	Parker	Parker	Lotek VHF	60 ppm	27-Feb-16	10	490842	6522306	normal
SCEK012	Caribou	Parker	Parker	Lotek VHF	60 ppm	27-Feb-16	10	490480	6524355	normal
SCEK015	Caribou	Parker	Parker	Lotek VHF	60 ppm	27-Feb-16	10	485161	6524903	normal
SCEK016b	Caribou	Parker	Parker	Vectr-VertexTD	42 ppm	27-Feb-16	10	488205	6526808	normal
SCEK194	Caribou	Parker	Parker	Vectr-VertexTD	42 ppm	27-Feb-16	10	487379	6522377	normal
SCEK237	Caribou	Parker	Parker	Vectr-VertexTD	42 ppm	27-Feb-16	10	490373	6525336	New caribou collared
SCEK238	Caribou	Parker	Parker	Vectr-VertexTD	42 ppm	27-Feb-16	10	491613	6523753	New caribou collared
SCEK045	Caribou	Prophet	Prophet	Lotek VHF	60 ppm	26-Feb-16	10	557528	6457188	normal
SCEK049	Caribou	Prophet	Prophet	Lotek VHF	60 ppm	26-Feb-16	10	557735	6459248	normal

Table 1 cont. VHF signal status and location of boreal caribou and wolf collars detected during January/February 2016 OGRIS telemetry monitoring period.

ID	Species	Range	Core	Collar Type	Status	Date	Zone	East	North	Comments
SCEK051	Caribou	Prophet	Prophet	Lotek VHF	60 ppm	26-Feb-16	10	559985	6442597	normal
SCEK161b	Caribou	Prophet	Prophet	Vectr-VertexTD	42 ppm	26-Feb-16	10	551005	6455615	normal
SCEK217	Caribou	Prophet	Prophet	Vectr-VertexTD	42 ppm	26-Feb-16	10	551035	6455593	normal
SCEK019	Caribou	Snake-Sahtaneh	Clarke	Lotek VHF	60 ppm	26-Feb-16	10	570059	6501077	normal
SCEK020b	Caribou	Snake-Sahtaneh	Clarke	Vectr-VertexTD	42 ppm	26-Feb-16	10	578489	6496256	normal
SCEK024	Caribou	Snake-Sahtaneh	Clarke	Lotek VHF	60 ppm	26-Feb-16	10	566586	6501717	normal
SCEK025	Caribou	Snake-Sahtaneh	Clarke	Lotek VHF	60 ppm	26-Feb-16	10	564410	6501812	normal
SCEK068	Caribou	Snake-Sahtaneh	Clarke	Lotek VHF	60 ppm	26-Feb-16	10	534097	6509899	normal
SCEK070	Caribou	Snake-Sahtaneh	Clarke	Lotek VHF	60 ppm	26-Feb-16	10	567365	6503589	normal
SCEK145	Caribou	Snake-Sahtaneh	Clarke	Lotek VHF	60 ppm	24-Feb-16	10	596367	6579933	normal
SCEK148	Caribou	Snake-Sahtaneh	Clarke	Lotek VHF	60 ppm	26-Feb-16	10	582940	6488772	normal
SCEK149	Caribou	Snake-Sahtaneh	Clarke	Lotek VHF	60 ppm	26-Feb-16	10	570725	6504869	normal
SCEK150	Caribou	Snake-Sahtaneh	Clarke	Lotek VHF	60 ppm	26-Feb-16	10	590740	6483866	normal
SCEK152	Caribou	Snake-Sahtaneh	Clarke	Lotek VHF	60 ppm	26-Feb-16	10	562616	6501749	normal
SCEK153	Caribou	Snake-Sahtaneh	Clarke	Lotek VHF	60 ppm	26-Feb-16	10	534475	6504263	normal
SCEK156	Caribou	Snake-Sahtaneh	Clarke	Lotek VHF	60 ppm	26-Feb-16	10	560188	6502219	normal
SCEK157	Caribou	Snake-Sahtaneh	Clarke	Lotek VHF	60 ppm	26-Feb-16	10	541248	6501334	normal
SCEK191	Caribou	Snake-Sahtaneh	Clarke	Lotek-Lifecycle	50 ppm	26-Feb-16	10	596734	6478296	normal
SCEK192	Caribou	Snake-Sahtaneh	Clarke	Lotek-Lifecycle	50 ppm	26-Feb-16	10	595301	6482192	normal
SCEK193	Caribou	Snake-Sahtaneh	Clarke	Vectr-VertexTD	42 ppm	26-Feb-16	10	563477	6503779	normal
SCEK218	Caribou	Snake-Sahtaneh	Clarke	Vectr-VertexTD	42 ppm	26-Feb-16	10	568470	6503456	normal
SCEK220	Caribou	Snake-Sahtaneh	Clarke	Vectr-VertexTD	42 ppm	26-Feb-16	10	584343	6489364	normal
SCEK239	Caribou	Snake-Sahtaneh	Clarke	Vectr-VertexTD	42 ppm	27-Feb-16	10	549840	6491078	New caribou collared
SCEK240	Caribou	Snake-Sahtaneh	Clarke	Vectr-VertexTD	42 ppm	27-Feb-16	10	570354	6498638	New caribou collared
SCEK102	Caribou	Snake-Sahtaneh	East Kotcho	Lotek VHF	60 ppm	24-Feb-16	10	631345	6558810	normal
SCEK103	Caribou	Snake-Sahtaneh	East Kotcho	Lotek VHF	60 ppm	24-Feb-16	10	630616	6560644	normal
SCEK105	Caribou	Snake-Sahtaneh	East Kotcho	Lotek VHF	60 ppm	24-Feb-16	10	n/a	n/a	heard not located; VHF normal
SCEK088	Caribou	Snake-Sahtaneh	North Kotcho	Lotek VHF	60 ppm	24-Feb-16	10	636992	6561605	normal
SCEK089	Caribou	Snake-Sahtaneh	North Kotcho	Lotek VHF	60 ppm	24-Feb-16	10	595614	6582069	normal
SCEK090	Caribou	Snake-Sahtaneh	North Kotcho	Lotek VHF	60 ppm	24-Feb-16	10	n/a	n/a	heard not located; VHF normal
SCEK092	Caribou	Snake-Sahtaneh	North Kotcho	Lotek VHF	60 ppm	25-Feb-16	10	623871	6584164	normal
SCEK097b	Caribou	Snake-Sahtaneh	North Kotcho	Vectr-VertexTD	42 ppm	24-Feb-16	10	597065	6585662	normal
SCEK100b	Caribou	Snake-Sahtaneh	North Kotcho	Vectr-VertexTD	42 ppm	24-Feb-16	10	634150	6563827	normal
SCEK111	Caribou	Snake-Sahtaneh	North Kotcho	Vectr-Vertex	84 ppm	24-Feb-16	10	592917	6574106	False mortality signal; confirmed OK visual
SCEK182	Caribou	Snake-Sahtaneh	North Kotcho	Vectr-VertexTD	42 ppm	24-Feb-16	10	597054	6585673	normal
SCEK186	Caribou	Snake-Sahtaneh	North Kotcho	Vectr-VertexTD	42 ppm	24-Feb-16	10	593412	6583609	normal
SCEK187	Caribou	Snake-Sahtaneh	North Kotcho	Lotek-Lifecycle	50 ppm	24-Feb-16	10	597494	6580036	normal
SCEK204	Caribou	Snake-Sahtaneh	North Kotcho	Lotek-Lifecycle	50 ppm	24-Feb-16	10	630168	6561226	normal
SCEK228	Caribou	Snake-Sahtaneh	North Kotcho	Vectr-VertexTD	42 ppm	24-Feb-16	10	611674	6564355	New caribou collared
SCEK229	Caribou	Snake-Sahtaneh	North Kotcho	Vectr-VertexTD	42 ppm	24-Feb-16	10	607113	6569185	New caribou collared
SCEK230	Caribou	Snake-Sahtaneh	North Kotcho	Vectr-VertexTD	42 ppm	24-Feb-16	10	593074	6574529	New caribou collared
SCEK096	Caribou	Snake-Sahtaneh	Paradise	Lotek VHF	60 ppm	26-Feb-16	10	565394	6503769	normal
SCEK079b	Caribou	Snake-Sahtaneh	Tsea	Vectr-VertexTD	42 ppm	25-Feb-16	10	550547	6589634	normal
SCEK081	Caribou	Snake-Sahtaneh	Tsea	Lotek VHF	60 ppm	25-Feb-16	10	552026	6596847	normal
SCEK082	Caribou	Snake-Sahtaneh	Tsea	Lotek VHF	60 ppm	25-Feb-16	10	557212	6587339	normal
SCEK127	Caribou	Snake-Sahtaneh	Tsea	Lotek VHF	60 ppm	25-Feb-16	10	554253	6594223	normal
SCEK131	Caribou	Snake-Sahtaneh	Tsea	Lotek VHF	60 ppm	25-Feb-16	10	550347	6589634	normal
SCEK132	Caribou	Snake-Sahtaneh	Tsea	Lotek VHF	60 ppm	25-Feb-16	10	555592	6587939	normal
SCEK233	Caribou	Snake-Sahtaneh	Tsea	Vectr-VertexTD	42 ppm	25-Feb-16	10	554573	6585740	New caribou collared
SCEK071	Caribou	Snake-Sahtaneh	West Kotcho	Vectr-Vertex	42 ppm	24-Feb-16	10	586165	6546789	normal
SCEK091	Caribou	Snake-Sahtaneh	West Kotcho	Lotek VHF	60 ppm	24-Feb-16	10	n/a	n/a	heard not located; VHF normal

Table 1 cont. VHF signal status and location of boreal caribou and wolf collars detected during January/February 2016 OGRIS telemetry monitoring period.

ID	Species	Range	Core	Collar Type	Status	Date	Zone	East	North	Comments
SCEK173	Caribou	Snake-Sahtaneh	West Kotcho	ATS-Irid	not heard	24-Feb-16	n/a	n/a	n/a	VHF not detected; no data since July 28, 15
SCEK209	Caribou	Snake-Sahtaneh	West Kotcho	Vectr-VertexTD	42 ppm	24-Feb-16	10	593577	6573932	normal
SCEK219	Caribou	Snake-Sahtaneh	West Kotcho	Vectr-VertexTD	42 ppm	25-Feb-16	10	539474	6580668	normal
BW034	Wolf	Calendar	July	Lotek VHF	60 ppm	25-Feb-17	10	561095	6630308	normal; visual on 12 wolves
BW042	Wolf	Calendar	July	Lotek Iridium	50 ppm	25-Feb-18	10	561095	6630308	VHF normal; GPS data normal
BW043	Wolf	Calendar	July	Lotek Iridium	50 ppm	25-Feb-19	10	561095	6630308	VHF normal; GPS data normal
BW044	Wolf	Calendar	July	Lotek Iridium	not heard	25-Feb-20	n/a	n/a	n/a	VHF not detected; GPS data ceased Jan 27, 16
BW045	Wolf	Calendar	July	Lotek Iridium	50 ppm	25-Feb-21	10	561095	6630308	VHF normal; GPS data normal
BW046	Wolf	Calendar	July	Lotek Iridium	not heard	25-Feb-22	n/a	n/a	n/a	VHF not detected; GPS data ceased Dec 21, 15
BW002	Wolf	Chinchaga	Big Arrow	Lotek VHF	not heard	19-Feb-16	n/a	n/a	n/a	VHF not detected
BW053	Wolf	Chinchaga	Kahntah	Lotek Iridium	50 ppm	26-Feb-16	10	615888	6441001	New wolf collared
BW038	Wolf	Clarke	Elleh	Lotek Iridium	50 ppm	27-Feb-16	10	556579	6502267	Re-captured; Failed Vectronic 149.340 replaced
BW039	Wolf	Clarke	Elleh	Lotek Iridium	50 ppm	26-Feb-16	10	557568	6502201	VHF normal; GPS data normal
BW040	Wolf	Clarke	Elleh	Lotek Iridium	50 ppm	26-Feb-16	10	557568	6502201	VHF normal; GPS data normal
BW014	Wolf	Fort Nelson	Tsimeh	Lotek Iridium	not heard	25-Feb-16	n/a	n/a	n/a	VHF not detected; last data Sep 17, 15
BW048	Wolf	Fort Nelson	Tsimeh	Lotek VHF	60 ppm	25-Feb-16	10	531513	6549252	Visual on 5 wolves
BW051	Wolf	Fort Nelson	Tsimeh	Lotek Iridium	not heard	25-Feb-16	n/a	n/a	n/a	VHF not detected; last data Oct 14, 15
BW032	Wolf	Fortune/Tsea	Petitot	Lotek VHF	not heard	25-Feb-16	n/a	n/a	n/a	VHF not detected
BW033	Wolf	Fortune/Tsea	Petitot	Lotek Iridium	not heard	25-Feb-16	n/a	n/a	n/a	VHF not detected; last data Nov 23, 15
BW047	Wolf	Fortune/Tsea	Petitot	Lotek Iridium	not heard	25-Feb-16	n/a	n/a	n/a	VHF not detected; last data Oct 30, 15
BW049	Wolf	Fortune/Tsea	Petitot	Lotek Iridium	not heard	25-Feb-16	n/a	n/a	n/a	VHF not detected; GPS data normal
BW050	Wolf	Fortune/Tsea	Petitot	Lotek Iridium	not heard	25-Feb-16	n/a	n/a	n/a	VHF not detected; last data Nov 06, 15
BW035	Wolf	Maxhamish	Fortune	Lotek Iridium	not heard	25-Feb-16	n/a	n/a	n/a	VHF not detected; Last GPS data Nov 22, 15
BW036	Wolf	Maxhamish	Fortune	Lotek Iridium	not heard	25-Feb-16	n/a	n/a	n/a	VVHF not detected; last GPS data Jan 20, 16
BW037	Wolf	Maxhamish	Fortune	Lotek VHF	not heard	25-Feb-16	n/a	n/a	n/a	VHF not detected
BW030	Wolf	Snake-Sahtaneh	Clarke	Lotek Iridium	not heard	26-Feb-16	n/a	n/a	n/a	VHF not detected; last data Dec 28 14.
BW024	Wolf	Snake-Sahtaneh	Kwokullie	Lotek Iridium	50 ppm	25-Feb-16	10	626616	6578497	Re-captured; Failed Lotek 149.280 replaced
BW026	Wolf	Snake-Sahtaneh	Kwokullie	Lotek VHF	not heard	25-Feb-16	n/a	n/a	n/a	VHF not detected
BW052	Wolf	Snake-Sahtaneh	Kwokullie	Lotek Iridium	50 ppm	25-Feb-16	10	626617	6578497	New wolf collared
BW007	Wolf	Snake-Sahtaneh	Snake	Lotek VHF	not heard	26-Feb-16	n/a	n/a	n/a	not detected; missing since deployment