

Itcha-Ilgachuz Northern Caribou Recruitment Survey: March 2013

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Introduction

This report summarizes the results of calf recruitments surveys conducted for the Itcha-Ilgachuz northern caribou population in west- central British Columbia. The summary is based on data collected during aerial surveys in June 2012 and March 2013. The most recent population estimate for this herd is 1685 animals (1431 – 1791) based on mark-recapture surveys in June 2012 (Wilson 2012).

Methods

In late June 2012, radio-collared female caribou in the study area were surveyed shortly after calving to determine demographic parameters including the number of individuals that had calves. Surveys in March 2013, utilized fixed wing flights to relocate the collared female caribou followed by a rotary survey to count the number of adult caribou, number of calves, and determine which radio collared caribou still had calves.

Results and Discussion

Fixed-wing flights were completed over 3 days (17 hours flight time) in mid-March (17, 18, and 22nd) by Larry Davis and Clint Cannings (Cariboo Air). Weather conditions were unstable during mid-March (mixed sun/cloud/periods of snow showers) resulting in the first day being cut short and the second day being delayed for several hours by unacceptable flying weather, while day 3 had clear weather. The plane was flown while listening for female caribou frequencies in areas around the Itcha-Ilgachuz Mountains where caribou had been located in past surveys and using information from the location of GPS collared caribou. The fixed-wing flights located all but two of the female VHF radio-collared caribou (Frequencies 150.520 and 150.961). Neither of these animals were observed during the June 2012 survey. Of the animals that were located, one female (150.141) and one male (150.190) were verified as mortalities.

Rotary flights were conducted on 2 days (March 19th and 23rd) by Pat Dielman (MFLNRO - Navigator), Larry Davis (Davis Environmental Ltd – observer /telemetry), Steve Doucette (Davis Environmental Ltd – observer/recorder), and Tom Arduini (Pilot). Weather conditions were excellent for the survey averaging -5.5 °C with low winds (5-15 km/hr), a high overcast on the 19th, and clear skies on the 23rd. Observers flew to locations where caribou were known to be located (from fixed-wing flights or recent GPS locations) while listening for all available radio-collared caribou signals. Once animals

were located using radio tracking, the total number in the group, number calves, and number collared animals were tallied. Radio collared animals were then identified using the radio frequency, ear tags, and sex. For collared cows, a calf following a female closely was recorded as the individual having a calf. The same procedures were followed for any caribou groups located without the aid of radio-collared animals.

The two days of rotary surveys counted 700 caribou in 45 different groups; however, one group may include duplicate animals (Sighting 39) from earlier sightings (i.e. the caribou were counted close to this location on the previous survey day) and the removal of these groups yields 687 caribou in 44 groups for the final count (Table 1). Out of the final count, 55 calves were identified resulting in 8.0 calves per 100 caribou in the survey. When this ratio is calculated using only adult animals, the sample has 8.7 calves per 100 adult caribou (Table 1). The survey in June 2012 located 23 of the 27 radio-collared cows, while the March 2013 survey located 25 live radio-collared cows and one mortality. In June 2012, 14 calves were observed with radio-collared females yielding an estimate of 61 calves/100 cows; however, by March 2013 only 3 calves were observed with radio-collared females resulting in this ratio declining to 12 calves/100 cows (Table 1).

Table 1. Calf recruitment parameters for the Itcha Ilgachuz Caribou Herd between June 2012 and March 2013.

Attribute	Value
Total # caribou seen in March 2013 survey	687 caribou
% Calves in total March 2013 sample	$100 \times (55 \text{ calves} / 687 \text{ animals}) = 8.0\%$
% Calves per adult in March 2013 sample	$100 \times (55 \text{ calves} / 632 \text{ adults}) = 8.7\%$
# Collared cows seen in June 2012	23 cows
% Calves for collared cows seen in June 2012	$100 \times (14 \text{ calves} / 23 \text{ cows}) = 61\%$
# Radio collared cows seen in March 2013	25 females
% Calves for collared cows seen in March 2013	$100 \times (3 \text{ calves} / 25 \text{ females}) = 12\%$

The surveys identified one female with ear tag colors (blue/red) that matched the animal with frequency 150.520; however, we recorded no signal of any frequency in the vicinity of this animal. This animal (150.520) was not seen in the June 2012 survey and had no calf with it during the March 2013 survey. Given the uncertainty in this animal's status, it has not been included in the statistics presented above (i.e. part of group 39). Data for this project has been entered into Excel templates obtained from the Ministry of Environment Wildlife Species Inventory Home Page (Appendix 1 and 2) and from the Ministry of Forest Lands and Natural Resource Operations (Appendix 3).

References

Wilson, S.F. 2012. Itcha-Ilgachuz Northern Caribou Population Estimate: June 2012 Survey. Unpublished report prepared for MFLNRO. 6pp.

Appendix 1. Telemetry observation collected during the 2013 March Itch-Ilgachuz Northern Caribou Survey

Animal ID	Radio Frequency	Date	Time	Telemetry Observer	UTM Zone	Easting	Northing	Visual (Y/N)	Activity	Sex	Comments
9	150.320	17-Mar-13	9:21	LD	10	382887	5866192	N	LI	F	NORTH OF ITCHA LAKE
14	150.601	17-Mar-13	9:53	LD	10	375884	5868590	Y	LI	F	NORTH OF ITCHA LAKE
36	150.761	17-Mar-13	9:59	LD	10	391768	5862103	N	LI	F	NORTH OF ITCHA LAKE
21	151.415	17-Mar-13	10:19	LD	10	370205	5864426	N	LI	F	TSETSI CREEK
18	150.921	17-Mar-13	10:23	LD	10	370549	5864374	N	LI	F	TSETSI CREEK
28	150.041	17-Mar-13	12:15	LD	10	349038	5794123	N	LI	F	SOUTH OF NIMPO LAKE
27	150.019	17-Mar-13	12:25	LD	10	349611	5793660	Y	LI	F	SOUTH OF NIMPO LAKE
5	150.119	17-Mar-13	12:44	LD	10	345915	5802016	N	LI	F	SOUTH OF NIMPO LAKE
15	150.720	17-Mar-13	13:07	LD	10	408705	5780948	N	LI	F	WEST OF PUNTZI LAKE
37	150.840	17-Mar-13	13:15	LD	10	424341	5779649	N	LI	F	WEST OF PUNTZI LAKE BY P-ROAD
8	150.160	18-Mar-13	12:42	LD	10	373005	5800791	N	LI	F	HOLTRY CREEK HEADWATERS
10	150.429	18-Mar-13	14:40	LD	10	371110	5774737	N	LI	F	SUCKER LAKE
34	150.610	18-Mar-13	14:48	LD	10	377092	5772645	N	LI	F	SUCKER LAKE
7	150.150	18-Mar-13	15:19	LD	10	403605	5766614	N	LI	F	NW OF TATLA LAKE
50	150.081	18-Mar-13	15:25	LD	10	412349	5769856	N	LI	F	NORTHEAST OF CHANTSLAR LAKE
50	150.081	22-Mar-13	9:33	LD	10	399760	5786255	N	LI	F	NE CHARLOTTE LAKE
47	150.060	22-Mar-13	13:10	LD	10	353477	5793629	N	LI	F	SE NIMPO LAKE
7	150.150	22-Mar-13	9:11	LD	10	414591	5779337	N	LI	F	WEST OF PUNTZI LAKE
37	150.840	22-Mar-13	9:51	LD	10	403684	5762795	N	LI	F	WEST OF TATLA LAKE
39	151.474	22-Mar-13	10:00	LD	10	404866	5772734	N	LI	F	WEST OF PUNTZI LAKE
35	150.703	22-Mar-13	10:22	LD	10	415959	5771946	N	LI	F	BETWEEN PUNTZI AND TATLA LAKES
17	150.903	22-Mar-13	10:30	LD	10	421567	5778102	N	LI	M	NEAR PUNTZI LAKE
6	150.141	22-Mar-13	11:22	LD	10	410625	5838116	N	CR	F	SIGNAL CENTERED ON MOORE CK BUT FADES IN ALL DIRECTIONS
33	150.881	22-Mar-13	11:51	LD	10	373903	5871001	N	LI	M	SW OF TSASHA LAKE
42	150.342	22-Mar-13	13:22	LD	10	359244	5787471	N	LI	M	EAST OF NIMPO LAKE
43	150.371	22-Mar-13	14:01	LD	10	416012	5766661	N	LI	M	NORTH OF EAGLE LAKE
1	150.190	22-Mar-13	14:30	LD	10	421863	5828440	N	CR	M	CLUSKO RIVER
29	150.402	22-Mar-13	14:55	LD	10	465274	5789640	Y	LI	M	IN MEADOW EAST OF ALEXIS LAKES RD

Appendix 2. Animal observations during rotary count of the 2013 March Itcha-Ilgachuz Northern Caribou Survey

Study Area Name	Date	Time	End Time	Surveyor	Group Label	Species	Count	UTM Zone	Easting	Northing	Juveniles - Unclassified Sex	Adults - Unclassified Sex	Comments
Itcha Ilgachuz	19-Mar-13	8:30	16:22	LD	1	M-RATA	31	10	377998	5772945	4	27	150.610- no calf
Itcha Ilgachuz	19-Mar-13	8:30	16:22	LD	2	M-RATA	40	10	372839	5772978	0	40	150.429- no calf
Itcha Ilgachuz	19-Mar-13	8:30	16:22	LD	3	M-RATA	11	10	372471	5772409	0	11	
Itcha Ilgachuz	19-Mar-13	8:30	16:22	LD	4	M-RATA	23	10	366292	5775410	2	21	151.293 - no calf
Itcha Ilgachuz	19-Mar-13	8:30	16:22	LD	5	M-RATA	10	10	347815	5787186	2	8	151.152 - no calf
Itcha Ilgachuz	19-Mar-13	8:30	16:22	LD	6	M-RATA	39	10	364723	5784213	3	36	150.782- no calf
Itcha Ilgachuz	19-Mar-13	8:30	16:22	LD	7	M-RATA	26	10	362588	5786710	0	26	150.501- no calf
Itcha Ilgachuz	19-Mar-13	8:30	16:22	LD	8	M-RATA	17	10	348438	5794705	2	15	150.019, 150.041- no calves
Itcha Ilgachuz	19-Mar-13	8:30	16:22	LD	9	M-RATA	11	10	348408	5794133	1	10	150.119- no calf
Itcha Ilgachuz	19-Mar-13	8:30	16:22	LD	10	M-RATA	26	10	380448	5798199	3	23	150.160- no calf
Itcha Ilgachuz	19-Mar-13	8:30	16:22	LD	11	M-RATA	28	10	371338	5869040	2	26	151.415, 150.583, 150.921- no calves. Sighting #12 also recorded here
Itcha Ilgachuz	19-Mar-13	8:30	16:22	LD	13	M-RATA	14	10	373759	5866577	1	13	151.603- no calf, bull with collar also in group
Itcha Ilgachuz	19-Mar-13	8:30	16:22	LD	14	M-RATA	6	10	374529	5865060	0	6	151.443- no calf, 150.881- bull
Itcha Ilgachuz	19-Mar-13	8:30	16:22	LD	15	M-RATA	20	10	385733	5860965	0	20	150.320- no calf
Itcha Ilgachuz	19-Mar-13	8:30	16:22	LD	16	M-RATA	26	10	386360	5860419	4	22	150.601 - yes 1 calf
Itcha Ilgachuz	19-Mar-13	8:30	16:22	LD	17	M-RATA	14	10	395561	5860372	2	12	150.761- no calf
Itcha Ilgachuz	19-Mar-13	8:30	16:22	LD	18	M-RATA	49	10	419040	5772060	4	45	150.720- no calf
Itcha Ilgachuz	19-Mar-13	8:30	16:22	LD	19	M-RATA	17	10	422035	5774186	0	17	
Itcha Ilgachuz	20-Mar-13	8:30	16:00	LD	20	M-RATA	3	10	431106	5777843	0	3	
Itcha Ilgachuz	20-Mar-13	8:30	16:00	LD	21	M-RATA	2	10	431052	5778000	0	2	150.070- bull
Itcha Ilgachuz	20-Mar-13	8:30	16:00	LD	22	M-RATA	7	10	403800	5762552	0	7	

Appendix 2. Continued

Study Area Name	Date	Time	End Time	Surveyor	Group Label	Species	Count	UTM Zone	Easting	Northing	Juveniles – Unclassified Sex	Adults - Unclassified Sex	Comments
Itcha Ilgachuz	20-Mar-13	8:30	16:00	LD	23	M-RATA	13	10	404304	5762366	0	13	
Itcha Ilgachuz	20-Mar-13	8:30	16:00	LD	24	M-RATA	17	10	404389	5762177	4	13	150.150- yes 1 calf
Itcha Ilgachuz	20-Mar-13	8:30	16:00	LD	25	M-RATA	18	10	404102	5762027	4	14	
Itcha Ilgachuz	20-Mar-13	8:30	16:00	LD	26	M-RATA	31	10	404838	5761879	2	29	
Itcha Ilgachuz	20-Mar-13	8:30	16:00	LD	27	M-RATA	9	10	407813	5761605	1	8	150.081- no calf
Itcha Ilgachuz	20-Mar-13	8:30	16:00	LD	28	M-RATA	15	10	407992	5762049	0	15	
Itcha Ilgachuz	20-Mar-13	8:30	16:00	LD	29	M-RATA	6	10	408142	5762201	1	5	
Itcha Ilgachuz	20-Mar-13	8:30	16:00	LD	30	M-RATA	9	10	405123	5762132	0	9	150.470- bull
Itcha Ilgachuz	20-Mar-13	8:30	16:00	LD	31	M-RATA	9	10	407584	5761980	1	8	151.474- no calf
Itcha Ilgachuz	20-Mar-13	8:30	16:00	LD	32	M-RATA	5	10	412041	5772462	0	5	150.840- no calf
Itcha Ilgachuz	20-Mar-13	8:30	16:00	LD	33	M-RATA	5	10	412333	5772242	0	5	
Itcha Ilgachuz	20-Mar-13	8:30	16:00	LD	34/35	M-RATA	13	10	422595	5784071	2	11	150.903- yes 1 calf
Itcha Ilgachuz	20-Mar-13	8:30	16:00	LD	36	M-RATA	3	10	421824	5786886	0	3	150.703- no calf
Itcha Ilgachuz	20-Mar-13	8:30	16:00	LD	37	M-RATA	5	10	424680	5784834	0	5	150.529- bull
Itcha Ilgachuz	20-Mar-13	8:30	16:00	LD	38	M-RATA	30	10	416164	5766898	3	27	150.371- bull
Itcha Ilgachuz	20-Mar-13	8:30	16:00	LD	39	M-RATA	13	10	418927	5770906	1	12	Probable recount - collar red/blue (150.520?)
Itcha Ilgachuz	20-Mar-13	8:30	16:00	LD	40	M-RATA	6	10	357848	5788546	0	6	150.342- bull0
Itcha Ilgachuz	20-Mar-13	8:30	16:00	LD	41	M-RATA	9	10	350615	5793939	2	7	
Itcha Ilgachuz	20-Mar-13	8:30	16:00	LD	42	M-RATA	9	10	350627	5793868	1	8	150.060- no calf
Itcha Ilgachuz	20-Mar-13	8:30	16:00	LD	43	M-CALU	1	10	409973	5783063			150.600 pick up wolf collar
Itcha Ilgachuz	20-Mar-13	8:30	16:00	LD	44	M-RATA	21	10	409923	5791756	4	17	
Itcha Ilgachuz	20-Mar-13	8:30	16:00	LD	45	M-RATA	1	10	380184	5834934			150.141 locate mortality
Itcha Ilgachuz	20-Mar-13	8:30	16:00	LD	46/47	M-RATA	32	10	464675	5790286	0	11	150.402 bull

Appendix 3. Information on presence of a calf for the 2013 March Itch-Ilgachuz Northern Caribou Survey

CARIBOU ID#	Frequency	Sex M/F	EAR TAG *LEFT*	EAR TAG *RIGHT*	Ear Tag Color Verified	JUNE 2012 MARK-RESIGHT		CARIBOU HERD (as of June 2012)	Sighting # (from rotary survey)	MARCH 2013 MARK-RESIGHT		Comments
						Marked Seen (Y/N)	Calf (Y/N)			Marked Seen (during survey) (Y/N)	Calf (with collared female) (Y/N)	
27	150.019	Female	red	orange		N	---	ITCHA-ILGACHUZ	8	y	n	
28	150.041	Female	white	orange		N	---	UNKNOW N	8	y	n	
47	150.060	Female	green	orange	tags may be reversed. Need to verify.	N	---	UNKNOW N	42	y	n	
50	150.081	Female	orange	orange		N	N	ITCHA-ILGACHUZ	27	y	n	
5	150.119	Female	yellow	green		N	Y	CHARLOTTE ALPLANDS	9	y	n	
6	150.141	Female	no tag	green	yes	Y	N	ITCHA-ILGACHUZ	45	n/a	n/a	mortality
7	150.150	Female	blue	green		Y	Y	ITCHA-ILGACHUZ	24	y	y	
8	150.160	Female	orange	green	yes	Y	N	ITCHA-ILGACHUZ	10	y	n	
9	150.320	Female	red	red	yes	Y	N	ITCHA-ILGACHUZ	15	y	n	
10	150.429	Female	white	red (missing in June?)	R-red tag may be missing	Y	N	ITCHA-ILGACHUZ	2	y	n	

Appendix 3. Continued

CARIBOU ID#	Frequency	Sex M/F	EAR TAG *LEFT*	EAR TAG *RIGHT*	Ear Tag Color Verified	JUNE 2012 MARK-RESIGHT		CARIBOU HERD (as of June 2012)	Sighting # (from rotary survey)	MARCH 2013 MARK-RESIGHT		Comments
						Marked Seen (Y/N)	Calf (Y/N)			Marked Seen (during survey) (Y/N)	Calf (with collared female) (Y/N)	
11	150.501	Female	yellow	pink	yes	Y	Y	ITCHA-ILGACHUZ	7	y	n	
12	150.520	Female	blue	red		N		UNKNOWN	39	?	n	collar seen on group near puntzi with proper eartag combination, but no signal
13	150.583	Female	blue	white	yes	Y	Y	ITCHA-ILGACHUZ	11	y	n	
14	150.601	Female	red (reversed? L-yellow?)	yellow (reversed? R-red?)	tags may be reversed. Need to verify.	N	Y	ITCHA-ILGACHUZ	16	y	y	
34	150.610	Female	yellow	yellow	yes	N	Y	ITCHA-ILGACHUZ	1	y	n	
35	150.703	Female	orange	white	tags were reversed. Verified June 2012	Y	Y	ITCHA-ILGACHUZ	36	y	n	
15	150.720	Female	orange	yellow	yes	N	Y	ITCHA-ILGACHUZ	18	y	n	
36	150.761	Female	pink	yellow	yes	N	N	ITCHA-ILGACHUZ	17	y	n	
16	150.782	Female	orange	white	yes	Y	Y	ITCHA-ILGACHUZ	6	y	n	
37	150.840	Female	red	white	yes	Y	Y	ITCHA-ILGACHUZ	32	y	n	

Appendix 3. Continued

CARIBOU ID#	Frequency	Sex M/F	EAR TAG *LEFT*	EAR TAG *RIGHT*	Ear Tag Color Verified	JUNE 2012 MARK-RESIGHT		CARIBOU HERD (as of June 2012)	Sighting # (from rotary survey)	MARCH 2013 MARK-RESIGHT		Comments
						Marked Seen (Y/N)	Calf (Y/N)			Marked Seen (during survey) (Y/N)	Calf (with collared female) (Y/N)	
17	150.903	FEMALE	NO TAGS blue	NO TAGS white	verified (june 2012)	Y	Y	ITCHA-ILGACHUZ	34-35	y	y	
18	150.921	Female	white	white	not verified	N	Y	ITCHA-ILGACHUZ	11+12	y	n	
38	150.961	Female	green	white	yes	N		UNKNOWN				not found
19	151.152	Female	white	pink	yes	N	Y	RAINBOW	5	y	n	
20	151.293	Female	no tags seen (green)	no tags seen (pink)	not verified	N	N	ITCHA-ILGACHUZ	4	y	n	
21	151.415	Female	blue	pink	yes	N	N	ITCHA-ILGACHUZ	11	y	n	
39	151.474	Female	white	no tag	yes	Y	N	ITCHA-ILGACHUZ	31	y	n	
22	151.603	Female	black	pink	yes	N	Y	ITCHA-ILGACHUZ	13	y	n	