

## Itcha-Ilgachuz Seasonal Caribou Calf Survival Inventory

DATE: October 25, 2013

PERSONNEL: T. Arduini – Arduini Helicopters  
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WEATHER: Clear / Perfect  
Unlimited visibility  
Skiff of snow on the Mtn tops  
Temp. 10° - 12° C

FLIGHT TIME: 10:30 am – 3:30 pm (approx)

This flight was a continuation of the calf survival flight conducted in 2012. Conditions were ideal. Radio signals were assessed to determine which radios were still active.

The Itcha-Ilgachuz caribou population has declined approximately 52% between 2003 and 2010. Although there are a range of cumulative effects, the precise cause is unclear.

Mining, logging, roads, mountain pine beetle and fire may reduce habitat quality and quantity through the medium and long term, while wolf predation may act through the short and medium term. Cause and effect changes through habitat supply are more difficult to assess, while population changes through wolf predation may be more obvious.

### OBJECTIVES

The purpose of the present survey was to assess population parameters and change between years 2012 – 2013, through the calf component. In the past few years, few seasonal calf indices have been obtained.

### SURVEY

The survey was conducted on October 25, using 2 observers and 1 pilot/observer and 1 person checking radio collar signals, between 10:30 am and 3:30 pm (approximately).

During the 2013 survey, there were no animals at high elevation. All animals were at mid elevation on gentle slopes or in mid to upper elevation meadows and creek bottoms.

According to the Ministry of Environment caribou survey reports, the Itcha-Ilgachuz caribou population has declined approximately 52% between 2003 and 2010. During that time, the June age ratio has remained relatively stable ranging between 42 – 55 calves/100 cows. This might suggest that carrying

capacity and habitat have remained consistent. Similarly, the bull/cow ratio has remained relatively stable and both ratios suggest adequate to good reproductive success. However, there have been few seasonal surveys to assess either sex or age ratio changes.

The yearling to adult female ratio conducted during the June surveys (yearlings are difficult to identify at 1 year of age) (2003, 2009, & 2010) indicates a potential decline in annual survival (9 yrl/100 cows, 5.17 yrl/100 cows and 3.9 yrl/100 cows).

This year, although yearlings were not specifically counted, to reduce the level of harassment, there were only, about 6 yearlings observed (0.9 yrl/100 cows)

The October 25, 2013 survey obtained a sample of 616 caribou, which resulted in an age ratio of 3.36 ca/100 cows (Table 1). In order to maintain the Itcha-Ilgachuz caribou population, the age ratio at 1 year of age should be approximately 10 – 15 calves (yrl)/100 cows. Combining the October 2012 fall ratio with the previous recruitment ratios of 2003 – 2012, would suggest that the population is continuing to decline rapidly. Based on an age ratio of 3.36 ca/100 cows in October, the recruitment rate in March to June will likely drop to 0 yrl/100 cows.

Area	Cows	Calves	Bulls	Totals
Itcha Flats	107	3	5	115
Itcha N. Mts.	141	5	14	160
Itcha NW	14	1	5	20
<b>TOTALS</b>	<b>262</b>	<b>9</b>	<b>24</b>	<b>295</b>
Ilgachuz Flats Between the Itcha & Ilgachuz Mts.	42	1	3	46
Itchas	232	8	35	275
<b>TOTALS</b>	<b>274</b>	<b>9</b>	<b>38</b>	<b>321</b>
<b>TOTAL (ALL AREAS)</b>	<b>536</b>	<b>18</b>	<b>62</b>	<b>616</b>

$$18/536 = 3.36 \text{ Calves}/100 \text{ Cows}$$

$$62/536 = 11.7 \text{ Bulls}/100 \text{ Cows}$$

$$18/598 = 3\% \text{ Calves in total population}$$

**Table 1. Caribou Population Ratio Survey – October 25, 2013**

The cow/calf ratio declined significantly between 2012 and 2013, from 13.2 ca/100 cows to 3.36 ca/100 cows. It also appears that recruitment is continuing to decline. The spatial distribution of caribou was also significantly different between years. Whereas there were only 88 caribou observed in the Itcha mountains in 2012 and 298 observed in the Ilgachuz mountains, there were 614 seen in the Itcha mountains in 2013, and only 2 in the Ilgachuz mountains. There were a few caribou using the flats and meadows between the two mountain ranges and these animals may have come from the Ilgachuz range.

The bull/cow ratio is a bit low, but relatively consistent between years.

Although more surveys and/or more research could aid in the assessment of cause and effect, it is hard to imagine that the population could survive the exercise. It is imperative that a wolf predation assessment program be initiated immediately. It is possible and highly likely that wolf predation could reduce the caribou population and allow the remaining cumulative effects (mining, logging, roads, fire, mountain pine beetle) to curtail the opportunity for recovery.

Similarly, unless the SARA recovery plan and action plan are completed within the next year, and action undertaken, it is unlikely that this population will be given an opportunity to recover.

#### ASSOCIATED OBSERVATIONS

Although mountain goats were not specifically counted, to minimize harassment levels, the number of kids/100 females was considerably higher than that for the caribou population. Most mountain goats were on gentle terrain, at variable distances from escape terrain.

As well, the game trails throughout the Ilgachuz appeared to have little relative use, compared to past years. The temporal/monthly pattern of use throughout this range is unknown.