

# **MOUNTAIN GOAT SURVEY**

## **ITSI RANGE**

**JULY 2012**

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## Summary

In July 2012 Environment Yukon staff conducted a survey of mountain goats (*Oreamnos americanus*) in the Itsi Range of east-central Yukon, along the YT-NWT border immediately south of Macmillan Pass at the end of the North Canol Highway. Increasing mineral exploration in the area and the possibility of upgrades to the North Canol Highway, coupled with this population being open to harvest, were all factors leading to the survey. Additionally, the mountain goat population in the area has been historically small.

- The survey took place on 19 July 2012 over 5.5 hours.
- During the survey six adults were observed in two groups.
- Harvest of this goat population averages 0.2 animals/year, although for a population of this size any harvest may be unsustainable.

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## Background

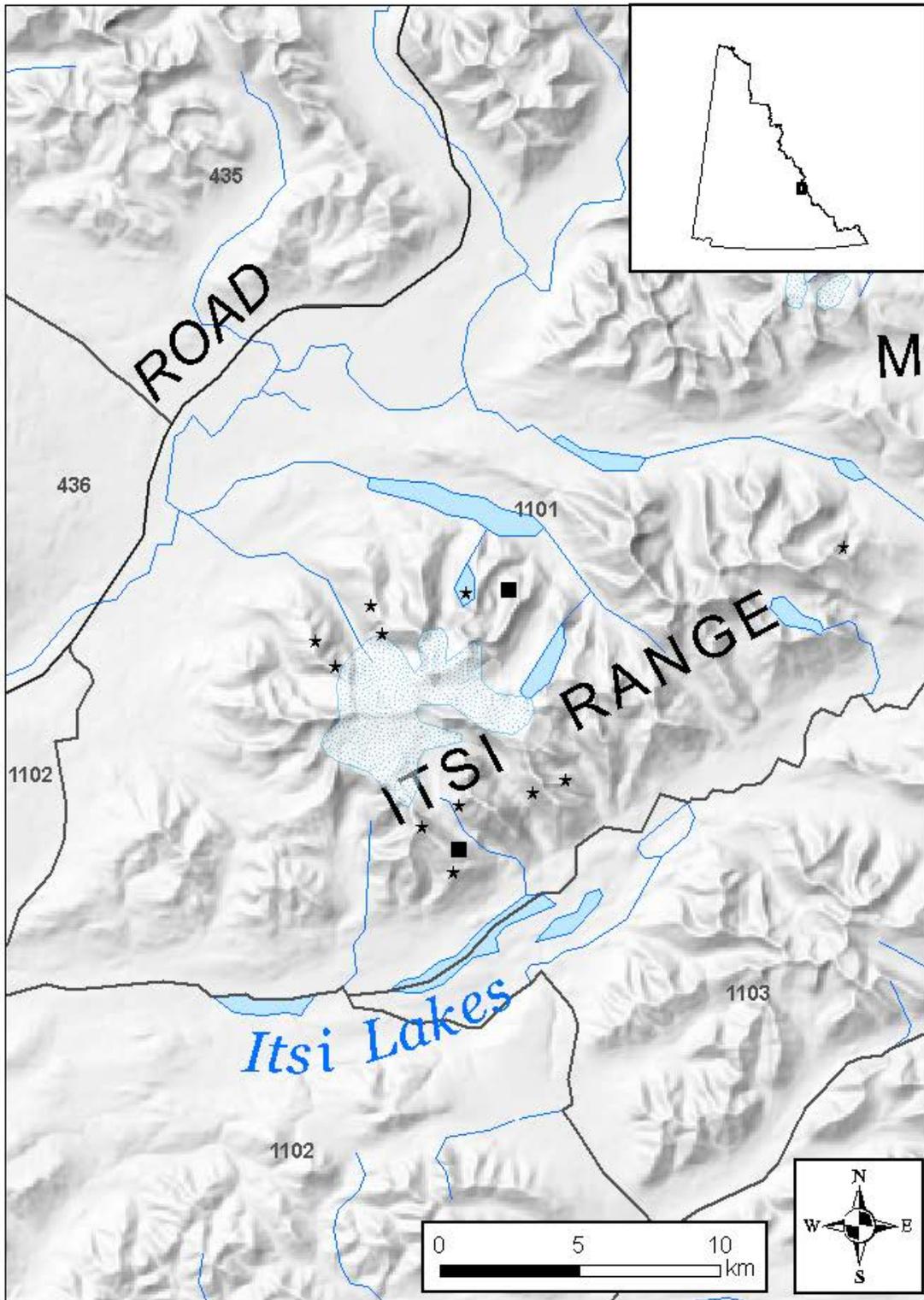
Mountain goats (*Oreamnos americanus*) in the Itsi Range represent the northernmost distribution of goats in Yukon. Over the 2 to 3 years prior to this survey, the number of quartz mineral claims being staked in the area increased. Additionally, with the proposed development of the Mactung mine and the upgrading of the North Canol Highway to an all season road, this population may become more accessible. These concerns, coupled with the open harvest on the population, its relative isolation from other goat populations, and a lack of current information, were determining factors leading to a survey of this population.

Mountain goats in the Itsi Range have been observed in Game Management Subzones (GMS) 11-01, 11-03, and 11-04. Historically, this population has been found to exist at very low densities, with low numbers of goats observed during 6 previous surveys from 1975 to 1994 (Table 1; Figure 1). The majority of goats were previously observed in GMS 11-01. Licensed harvest of this population has been low. From 1973 to 2012, 6 goats (all billies) have been harvested, primarily by non-resident hunters resulting in an average annual harvest rate of 0.2 goats/year. Additionally, one goat was harvested on Keele Peak (GMS 4-32) in 1987.

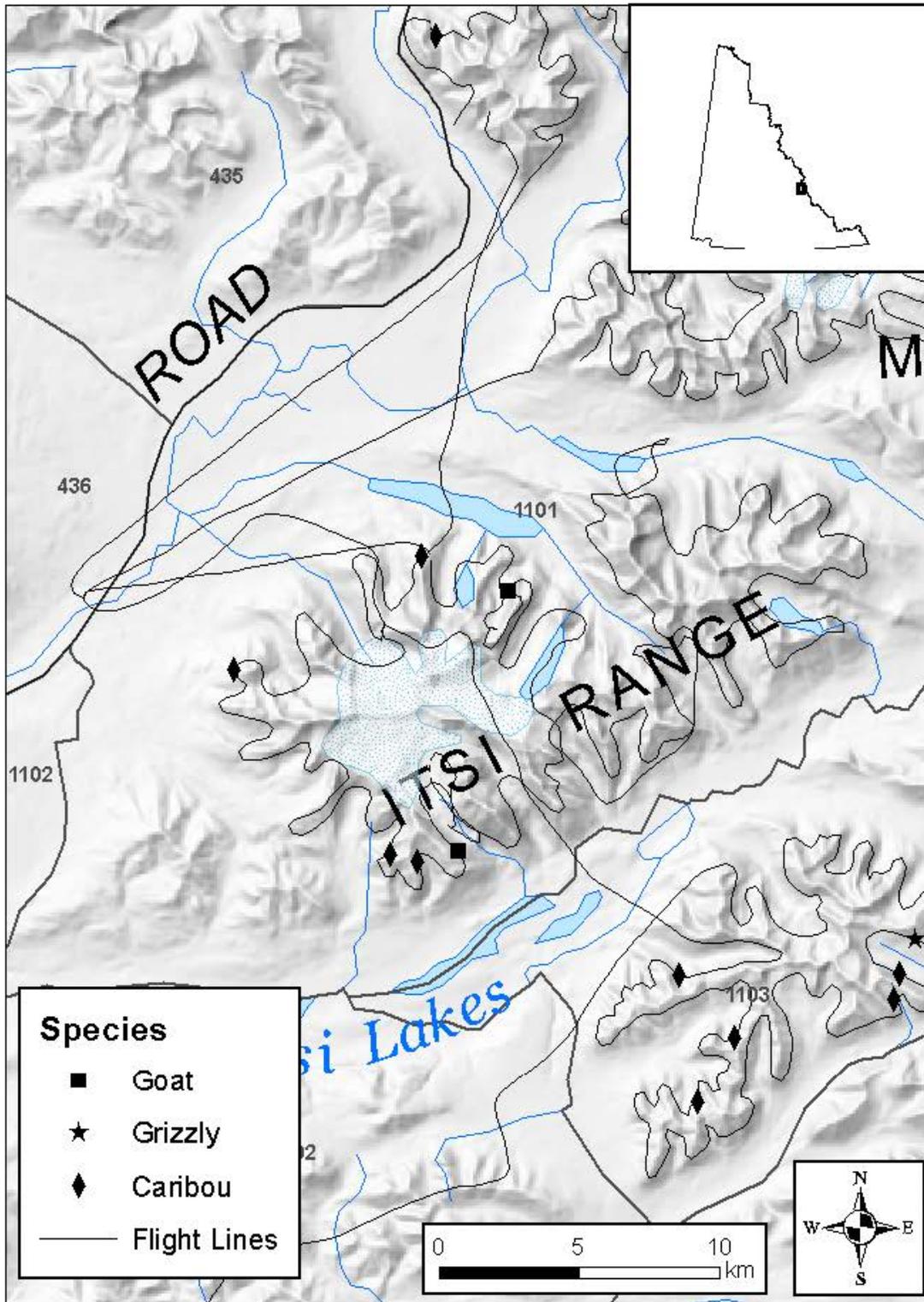
## Methods and Results

On July 19, 2012, we surveyed high elevation mountainous areas in the study area to locate goats (Figure 2). Generally, areas considered to have a higher probability of goat occurrence were identified in the air, and a single pass made over these areas. Higher mountains which were deemed to have significant goat habitat were surveyed with 2 contours: one lower elevation and a second pass at higher elevations. During the survey contours were flown in a counter-clockwise direction, with the observers facing the mountain side. A total of 5.5 hours of survey time was flown using a Bell 206B Jet Ranger helicopter, covering a linear distance of approximately 640 km, not including ferrying time to and from Ross River.

Six adult mountain goats were observed in 2 groups; one group of 5 and another lone individual. All goats were observed in GMS 11-01. Incidental observations of caribou and grizzly bears were also recorded (Figure 2).



**Figure 1.** July 2012 (squares) and historic (stars) mountain goat observations in the Itsi Range. Observations from the 1975, 1976, and 1982 surveys are not included as their coordinates were not recorded.



**Figure 2.** Survey tracks and species observations during the 19 July 2012 mountain goat survey in the Itsi Range.

**Table 1.** Survey results from aerial mountain goat surveys in the Itsi Range (1975 – 2012).

Year	Month	Kids	Yearlings <sup>a</sup>	Adults	Total
1975	July	0	0	8	8
1976	July	0	0	6	6
1979	July	1	0	10	11
1982	August	1	3	15	19
1983	March	0	0	7	7
1994	October	0	0	9	9
2012	July	0	0	6	6

a: Animals may not have been classified to the yearling stage during all surveys, thus yearling numbers across years may not be comparable.

## Discussion

The size of the Itsi mountain goat population has historically been small, with no aerial survey observing more than 20 individuals. Given the nature of the aerial surveys used to monitor goat populations in the Yukon, there is no measure of detectability indicating how many goats were missed during the survey, and thus estimating a formal trend of the population is ill-advised. Nevertheless, the number observed during the 2012 survey is within the range observed previously in the early 1970s and 1990s (Table 1), and aerial surveys have been demonstrated to track rough trends in adult goat numbers, but may miss yearlings and kids (Gonzalez-Voyer et al. 2001).

Given the low numbers of goats in the area, this population may be maintained, at low numbers, by immigrating individuals from other mountain goat populations to the south, where numbers are higher (Hoefs and Lortie 1976, Veitch et al. 2002). However, information on movements by mountain goats in

this area is lacking. Thus, ensuring that connectivity remains between the Itsi population and more southerly populations along the Yukon-NWT border may be a key component to the long-term persistence of mountain goats in the Itsi Range.

While harvest of goats in the Itsi Range is small (less than one per year), it is questionable if this population can withstand any harvest. Information and simulation models from populations in Alberta indicate that native populations below 50 cannot sustain any harvest and that populations exceeding 100 may withstand a 1% harvest rate (Gonzales-Voyer et al. 2003, Hamel et al. 2006). Additionally, while access to the Itsi Range is currently difficult and dependent on the condition of the North Canal Road, if the road were to be upgraded to accommodate mineral development (e.g., Mactung), access to this area would be much easier which could lead to increased harvest. Given the small size of this population, any harvest on this population is likely unsustainable.

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