2022

Itcha-Ilgachuz Caribou Calf Recruitment

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Introduction

The caribou in the Itcha-Ilgachuz subpopulation on the Chilcotin plateau are shallow snow, terrestrial lichen eating caribou, referred to as Designatable Unit 7 by the Committee on the Status of Endangered Wildlife in Canada and classified as a species of Special Concern (COSEWIC 2014). The Itcha-Ilgachuz caribou herd declined by 80% between 2003-2019 (Shores 2019). Given the rate of decline, it was estimated in 2019 that functional extirpation (<20 animals) was possible within the next 8 years, and wolf removal was initiated in 2020 as an emergency measure while habitat protection and restoration plans were initiated. The March 2022 recruitment survey was flown to estimate overwinter calf survival, which indicates survival of calves to reproductive age.

Methods

The 2022 March recruitment survey was flown in a Bell 206 Jet Ranger with Arduini Helicopters on March 28th in the Itcha-Ilgachuz low elevation winter range habitat. The survey was concentrated between Puntzi and Tatla Lakes north of Highway 20, which consists of forested lodgepole pine, large clearcut openings and habitat with wetland complexes. One caribou was further north at Chantslar Lake, and a group of 6 collared caribou were further west by Clearwater Lake. Three collared female caribou did not have recent GPS collar locations.

There were 43 radio-collared caribou in the population at the time of the survey, 40 cows and 3 bulls. Caribou were located based on recent locations from GPS collars. Caribou were classified as either adults or calves. Unclassified animals are caribou whose age could not be determined, but all caribou on this survey were successfully classified as either adults or calves. Attempts were made to determine if collared female caribou had calves with them, but we did not hover near the herd for extended periods of time to avoid causing unnecessary stress if it was difficult to tell if a calf was with a specific cow.

Results

Weather conditions were good for surveying, with full, high cloud cover. Although it snowed lightly the day of the survey, snow cover on the ground was not extensive, and in areas surveyed in the afternoon there was no snow cover in some areas, which made survey conditions go from good to fair as animals were harder to spot. Temperatures were 0°C at the start of the survey at 8:41, warming up to 5°C in the early afternoon. The survey finished at 16:32, for a total of 7.85 hours of survey time.

A total of 235 caribou were counted, 213 adults, 22 calves and 0 unclassified caribou, for a recruitment percentage of 10.3% (Figure 1). The majority of caribou were concentrated in large groups at the southern extent of the low elevation winter range near Highway 20. We were able to determine if 24 out of the 40 collared females had calves or not, and the majority of them did not have calves. Two of the 24 females for which we were able to ascertain calf presence had calves, and one of these females had two calves following her. 5 cow caribou could not be located, and 11 were seen but it was unclear if they had a calf or not due to low sightability being in thick timber and/or mixed into large groups.

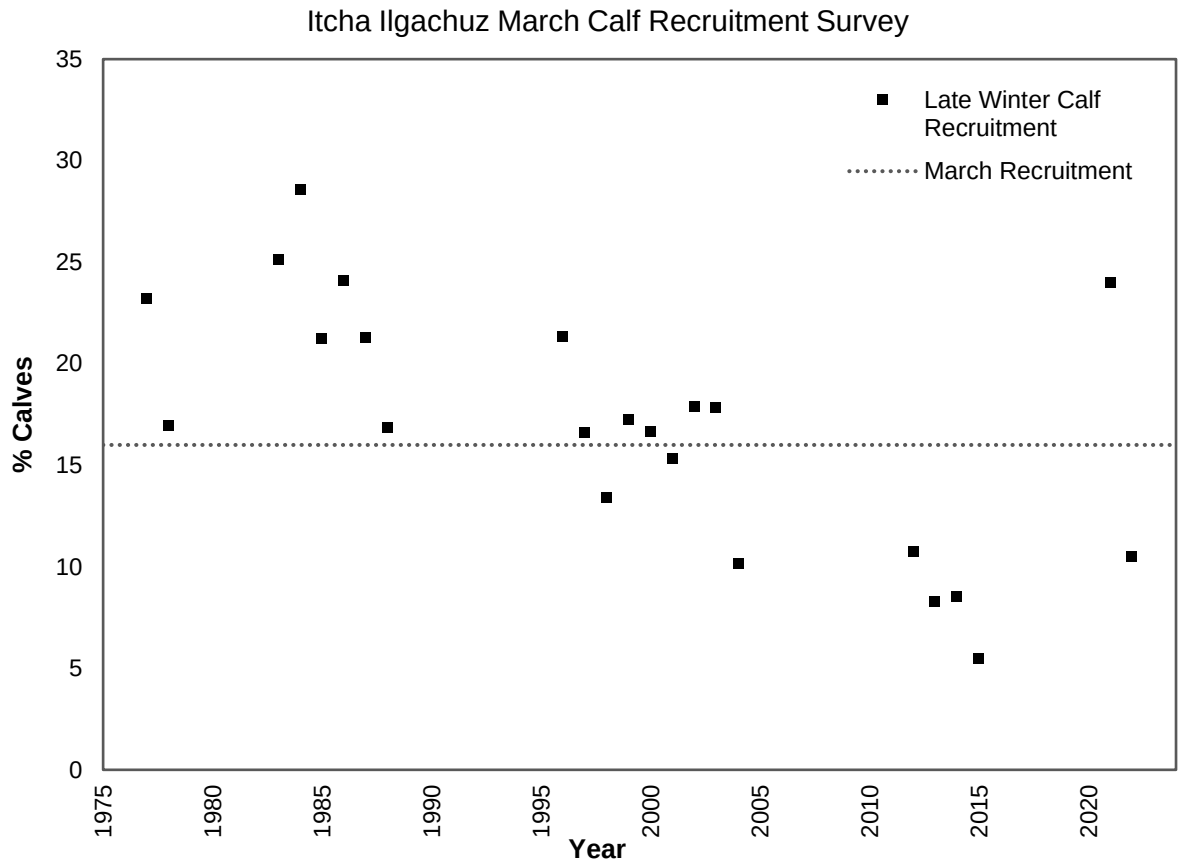

Figure 1. Itcha-Ilgachuz March caribou calf recruitment surveys from 1977-2022. The dashed line indicates the recruitment level of 15% needed to maintain a stable population (Bergerud 1980). Recruitment above 15% indicates population growth, while recruitment below this level indicates possible decline.

Survey Cost

The March 2022 recruitment survey cost was $11,220.53 ($534.30 GST), at a dry (not including fuel) rate of $1260/hr. The total flight time was 8.1 hours.

Discussion

The 2022 calf recruitment level of 10% is below the stabilizing recruitment level of 16% needed to maintain a stable caribou population (Bergerud 1980). The year prior, March 2021 calf recruitment was 24%. Although it is not possible to say with certainty why the March 2022 recruitment levels were lower, the number of wolves removed in Feb 2021 (n=19) was much lower than the year before (n=94 in Feb 2020). The lower number of wolves removed may have contributed to lower calf survival and recruitment through increased wolf predation. However, the Itcha-Ilgachuz herd population, estimated from mark-resight aerial surveys, has increased after the initiation of wolf removal in 2020 from 385 to 550 (Fig 2). Wolf removal is an emergency measure to prevent the loss of caribou in the Chilcotin and the long-term solution for caribou recovery requires a reduction in habitat disturbance and extensive habitat restoration.

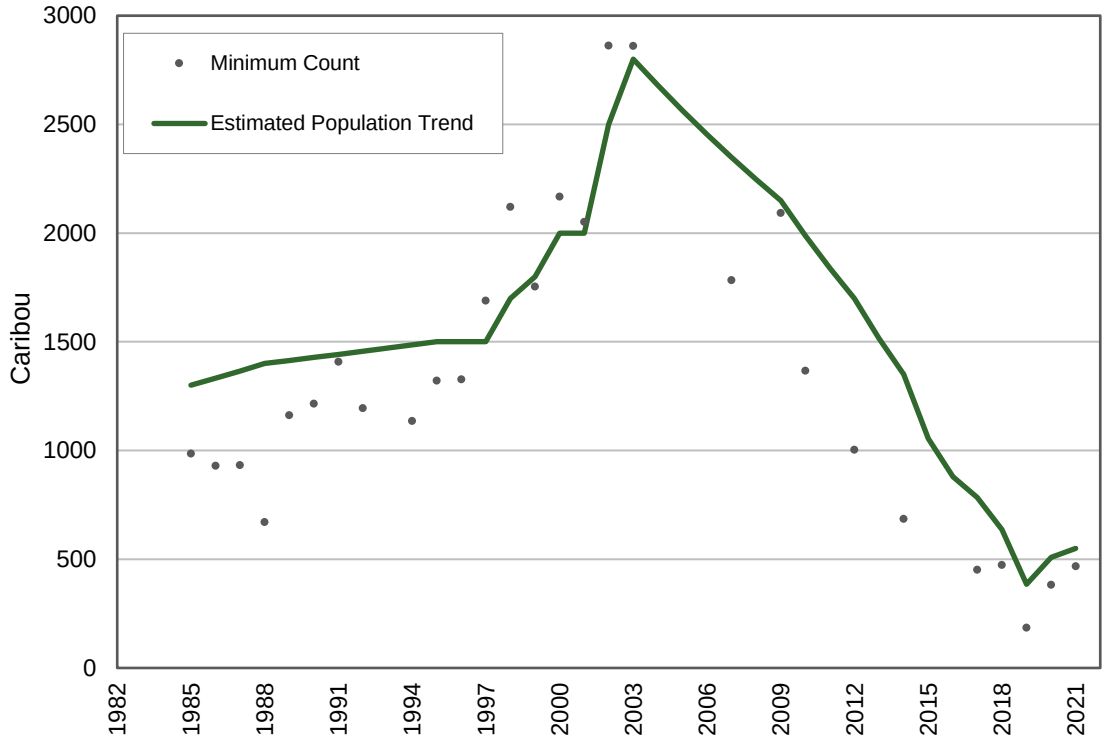

Figure 2. Itcha-Ilgachuz herd population estimates and minimum counts from 1985 – 2021 June post-calving surveys.

Acknowledgements

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