

# SUMMER CARIBOU CENSUS - July 29 and 30, 1982

R.W. Ritcey

September 28, 1982

## INTRODUCTION:

This was the sixth summer census of caribou covering Wells Gray Park and some adjacent areas. The objective of the survey was to contribute to a complete census of caribou in the study area defined by the Caribou Task Force.

Regions 3, 5, and 7 were to participate and the study area was divided into 3 segments to allow efficient use of helicopter time and to divide labour between three regions. In addition, Parks Branch had originally indicated that they would be undertaking a survey of Wells Gray Park in the 1982 summer.

The original objective had to be abandoned when weather conditions deteriorated after two days of the Region 3 survey were completed. Clear, hot weather over several days is necessary for the success of the survey and this condition was not met throughout the rest of the summer. Part of the study area in Region 3 and all of Regions 5 and 7 were not censused because the required weather conditions were not met.

## METHODS:

A Bell 206 Jet Ranger, chartered from Okanagan Helicopters and piloted by Lloyd Siver was used for the survey. Siver has about 20 years experience in flying game surveys and acted as an observer as well as pilot. In addition to the pilot, there were three experienced observers on all flights. Doug Jury plotted the flight route and location of animals on 1:250,000 maps. Ralph Ritcey classified caribou as to bulls, cows, yearlings, calves, and small antlered adults, and recorded whether they were on snow or not. Kurt Kier kept a running tally of classifications in the event of a tape recorder failure.

The helicopter was flown at 110 to 140 km/hr, usually 120 km/hr, at an elevation slightly above 1,900 metres. We were able to search in one pass at an elevational range from 1,800 metres to 2,100 metres, depending on the slope and ground cover.

When caribou tracks were found in the snow, we circled to locate the animals. If we failed, we recorded the numbers of animals indicated by the tracks.

## RESULTS:

We observed 74 caribou in 7.9 search hours, mostly in Wells Gray Park. Only 10 caribou were seen outside the park; all of these were within 10 km of the park's border. The results (Table I) are not strictly comparable to those of other surveys because, as mentioned previously, part of the park was not flown.

Table I: Caribou sex and age ratios - Wells Gray Park - summer surveys

Year	Total observed Wells Gray	Bulls	Cows	Calves	Small antlered Adults	% Calves	Calves :100 Cows
1964	148	23	31	28	66	19	n/a
1965	61	16	34	11	--	18	32
1970	308	35	68	58	147	19	n/a
1975	97	23	52	16	6	16	31
1975	123*	28	65	24	6	20	37
1980	69	14	29	17	9	25	n/a
1980	79**	14	34	21	10	27	n/a
1982	74***	12	32	15, 9 yrl.	6	20	n/a

\* plus adjoining M.U. 3-40

\*\* plus adjoining M.U. 3-43

\*\*\* plus adjoining M.U. 3-40, 3-44, 5-15

Weather conditions at the time of the survey were almost ideal although July temperatures were low in comparison to previous years (Table II). My impression is that the timing and weather conditions were better for this survey than for the previous two, but not equal to the 1970 survey.

Table II: Temperature comparisons for years of summer census from Blue River weather station

Year	Mean Monthly Temperatures		Maximum Temperature on Census Days
	June	July	
1964	13.2	16.2	26.1
1965	13.6	17.5	20.6, 17.2, 22.8
1970	16.7	18.3	30.6, 33.9
1975	12.2	18.1	27.8, 22.2
1980	14.3	16.0	27.0, 26.5
1982	15.6	15.4	31.5, n/a

Note: all temperatures in the table are in degrees Celsius. °C

More caribou were seen than in 1980 in 8 of 10 locations (Table III) but compared with 1975 there was a decline in 7 of 10 locations. Of eight areas flown in both 1982 and 1970, there was none

that showed an increase in numbers. The area showing the best recovery was Azure Mountain - Goat Peaks, where 27 animals were seen, or approximately 60% of the 1970 count.

Table III: Comparison of counts by areas

Year	Mt. Perseus	Isosceles Mtn.	Headwaters of Clearwater River	Azure Mtn Goat Peaks	Mobely-Anderson	Vimy Ridge
1970	23	42	12	49	18	20
1975	3	20	7	4	2	14
1980	0	4	21	12	0	7
1982	n.f.	n.f.	n.f.	27	11	9

  

North Year	Battle/				Strait Lk	Thunder	Upper
	Hogue Mtn.	Raft	Center Mtn.	McCrae	North	River	Thompson
1970	28	19	1	27	30	n.f	n.f.
1975	6	16	0	4	0	15	7
1980	0	4	1	3	0	0	0
1982	3	8	0	2	1	1	1

The percentage of calves declined from the 1980 and 1975 surveys and is comparable to the three flights 1964, 1965, and 1970. This is to be expected in the light of past severe winter weather.

It is difficult to separate cows from yearling bulls, so we have used the category “small antlered adults” to include both yearling bulls and cows which could not be segregated by antler size. In this year’s survey, we attempted to separate yearlings by body size, and 9 of 15 small-antlered adults were believed to be yearlings.

**DISCUSSION:**

It is difficult to estimate how many caribou are missed on a census where only a portion of the range is covered, and where some animals may go undetected in the surveyed area. Because recent tracks were readily visible where present on snow patches, we were able to locate many caribou after first seeing their sign. On the few occasions where we could not find caribou after seeing their tracks, the animals had apparently descended to lower elevations where they would not be seen in heavy cover. These animals may have later ascended to open country on adjoining mountains where they would be counted. My best estimate is that we missed 16 to 24 caribou because they had left the open area prior to the flight.

As mentioned previously, we only covered part of the park area flown in the 1980 survey. The comparative figures for caribou seen in areas common to both years are: 1980 - 40; 1982 - 73.

Using very high (25%) recruitment rate of the 1980 survey and assuming negligible mortality, the population could have increased almost as rapidly as indicated by the figures. However, because of the many variables involved in the census methods, it is only safe to say that apparently there has been a significant increase in the park caribou population between the 1980 and 1982 census years.

To speculate on the numbers of caribou summering in and immediately adjacent to the park: add 16 to 24 caribou that we suspect were missed from our interpretation of tracks, or 90 to 108 in the area covered; in 1980, only 70% of the caribou were seen in the areas covered this year, so the estimates become 129 ( $90/0.7$ ) and 154 ( $108/0.7$ ).

In summary, although numbers have apparently increased since the 1980 census, the park population still remains at a level of about 1/2 of that recorded in 1970.