



AERIAL WOODLAND CARIBOU SURVEYS
IN GAME MANAGEMENT ZONE 12,
MACKENZIE MOUNTAINS, N.W.T.
FEBRUARY-MARCH, 1970

by

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Abstract

Winter range of woodland caribou was delineated between 62°30'N and 65°N, Mackenzie Mountains, in February and March, 1970. That range covered about 4,210 square miles and was characterized by relatively gentle terrain, fairly open spruce forest, and wide drainage valleys. The group sizes of the 840 caribou observed ranged from 2 to 80. There was no evidence of complete migration from one area to another, though the caribou were leaving some areas in large numbers. Caribou using mineral licks were in groups of from 2 to 50 individuals. The range included an area that has been hunted intensely by Indians from Fort Norman for caribou for at least the past 6 years. They killed between 60 and 100 caribou each year, mostly pregnant females. An effort is being made to determine whether they are hunting the same herd unit every year.

Introduction

Between 16 February and 6 March, 1970, flights were made over woodland caribou (Rangifer tarandus caribou) range in order to define areas occupied by caribou during the winter, and to learn about their movements at that time of year. A similar survey with the same objectives was conducted in March, 1969 (Simmons, N. 1969. Aerial Dall sheep and woodland caribou surveys in Game Management Zones 12 and 19, Mackenzie Mountains, N.W.T., March 7-15, 1969.)

The 1970 effort to delineate caribou winter range was more thorough than the previous year's, in as much as a large portion of the range between the North Redstone River and Little Dal Lake that was missed in 1969 was mapped. The other areas occupied by caribou were similar in both years.

Methods

The same aircraft, maps, tape recorder, pilot, assistant, and techniques used for the caribou winter range survey in 1969 were used this year (ibid.). This year we assumed that the tracks we saw were made no earlier than 1 January, 1970. Once again no attempt was made to estimate caribou numbers because caribou scattered in the timber stands are too hard to see and count.

Results

The caribou were found in groups ranging in size from 2 to 80. The larger groups were mostly made up of cows and juveniles, but adult bulls were with many of the groups.

There was no evidence of a classic migration during the late winter. Some caribou were found almost throughout the winter range, usually in rolling, sparsely timbered drainages, but occasionally on gentle alpine tundra plateaus. Along the North Redstone River Valley, most of the caribou had moved upstream (west) in early February or in January, and by mid-February they were concentrated about 5 miles east of the Keele River.

Apparently caribou seen on Godlin Lakes near the Ekwi River in mid-January, 1970, by pilot P. Linton had moved into the drainage valleys north of the Twitya River (Fig. 1).

Figure 1 shows the winter range of woodland caribou in the North and South Redstone-Keele-Twitya-Ekwi Rivers area and in the Little Keele-Carcajou Rivers area. The former range covered

Fig. 1 -- Map showing caribou winter range.

Numbers and locations of caribou seen are shown. The stipple-shaded area at the headwaters of the North Redstone River indicates the area which Fort Norman residents hunted in March, 1970. (From Dept. of Energy, Mines, and Resources maps; scale 1:1,000,000.)





about 3,770 square miles; the latter about 440 square miles. The range spread like a blanket over the gently rolling and sparsely-timbered Wrigley Lake area and was squeezed into a lacy pattern to the west and south by steep mountains and alpine tundra. The eastern boundary of caribou winter range was defined by the dense forest of the Mackenzie Valley. Almost everywhere the range was characterized by relatively open stands of spruce forest in stream valleys dotted with ponds and small lakes. Rarely did the caribou stray into open alpine tundra. The snow depth on the range varied from less than an inch to about a foot.

Many caribou congregated in groups of 2 to 50 at mineral licks along the Keele and North and South Redstone Rivers. At the licks inspected, the caribou were licking mineral laden ice. Specimens of that ice were collected for analysis of mineral content.

At least 840 caribou were seen during the survey. About half of these were in the headwaters of the North Redstone River. Between 11 and 19 March, 1970, 13 hunters from Fort Norman killed more than 80 caribou in that area (the area of the hunt is shaded in Fig. 1). I was able to determine the sex of, measure, and/or collect specimens from 34 of those caribou. Twenty four of the animals were cows, most of which were pregnant.

Indians from Fort Norman have been hunting caribou in the North Redstone River valley in March for at least the past six years. They have killed between 60 and 100 caribou each year.

Those winter hunts are part of the reason for our effort to learn more about the winter range and movements of the woodland caribou of the North Redstone herd.

Discussion

We have delineated the winter range of woodland caribou between 62°30'N and 65°N in the Mackenzie Mountains and no further work need be done on this phase of the project. However, we still have not identified distinct groups of caribou and the movements of those groups within their range. To achieve that goal, we hope to trap caribou and mark them with colored collars, eartags, and streamers, and to put radio transmitters on some of them. Hopefully, the caribou thus marked will be tracked during the summer, fall, and winter by aircraft. The results of that work will form the basis for recommendations on the management of woodland caribou in this area.

More flights are needed to define the winter ranges of caribou in the Mountain and South Nahanni River areas, lying to the north and south of the area discussed above. The caribou in those areas have been lightly hunted, but we anticipate a gradual increase in hunting pressure with time, and consequently a greater need for information that can be used in management plans for those caribou.