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PROJECT CHARIOT

TERRESTRIAL MAMMALS INVESTIGATION
OGOTORUK CREEK-CAPE THOMPSON AND VICINITY

MASTER

SUPPLEMENT TO FINAL REPORT

PART C.

CARIBOU INVESTIGATIONS, NORTHWEST ALASKA

MAY 21 to JULY 5, 1962

AEC CONTRACT NO. AT(04-3)-310

Peter C. Lent

Department of Biological Sciences

University of Alaska

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Field studies of caribou calving in Northwestern Alaska were continued in 1962 with the combined financial support of the Arctic Institute of North America (grant ONR 301), the University of Alaska (from the extension of Contract No. AT(04-3)-310 with U. S. Atomic Energy Commission), and the National Science Foundation (through grant G-23379 to Dr. William A. Fuller of the University of Alberta). Logistic support was supplied in part by the Arctic Research Laboratory, Barrow, Alaska.

I arrived in Kotzebue on May 19 and left there in a chartered Piper Cruiser on May 21 to establish camp. On the way a reconnaissance flight was made on the upper Utukok River and Driftwood Creek, over to No Luk Lake, across the head of the Colville River, and down Carbon Creek to the mouth of Elusive Creek, where the camp was established.

At this time very few caribou had crossed the De Long Mountains. The major movement that was observed consisted of caribou which had wintered on the coastal plains and were moving southwest through the Meade River and Utukok River drainages. The large scale movements through the Brooks Range which had been well underway by this date during the previous two years had hardly started this year.

This difference in the timing of the movements was caused by pronounced differences in the snow-cover in May 1962 compared with May 1960 and 1961. The winter of 1961-62 was one of exceptionally heavy snowfall, at least throughout the western end of the Brooks Range. In addition, the spring of 1962 was quite cool; the beginning of melting was delayed until the latter half of May. The

appearance of the snow-cover and the ice on the rivers in late May 1962 was similar to that of late April 1960. The Noatak Valley was still 90 per cent covered with snow on May 21. Snow-cover in the vicinity of Elusive Creek and lower Carbon Creek was about 80 per cent, compared with less than 20 per cent at the same date in 1960 and 1961. As in previous years the mid-Utukok River drainage had less snow than the areas surrounding it, at least to the east, west and south. The new buds of Eriophorum vaginatum, the most important food during calving, first appeared widely during the last week of May, about two weeks later than in the previous year. Although it had been a cold spring the weather during the calving season, itself, was not unusually severe. Weather records for May 22 through June 19 are shown in Table 1.

Plans to map the movements and distribution of caribou during the calving season and to record the progression of calving from the air were not fulfilled because of lack of aircraft support at the critical time and because of unfavorable weather conditions. The first airplane from the Arctic Research Laboratory was not received until June 7. At this time weather conditions were not suitable for extensive reconnaissance, also the landing gear on the airplane was not suitable for moving camp to another river bar. Dr. William A. Fuller and Mr. Howard Kantner arrived on this date. Dr. Fuller was forced to leave camp and return to Barrow on June 9 because of complications in his flight schedule. Mr. Kantner continued to assist me in the field until July 5.

Small groups of caribou cows and calves were passing through the Elusive Creek area throughout the period from May 21 to June

17. However, field work, particularly during the first half of this period, was hampered by the flooded state of even the smallest streams and by the presence of deep water-saturated snow (zabois) in every depression, all a result of the exceptionally heavy winter snowfall. Thus, the goal of tagging and following new born calves could not be carried out successfully. An attempt to use a folding boat and motor to increase mobility in the vicinity of camp was unsuccessful because of the swiftness of the flooded river.

In spite of the above difficulties some observations on the behavior of cows and calves were made nearly every day at the Elusive Creek camp and in addition composition counts were obtained from small samples of the population to give an approximation of the progression and rate of calving. Figure 1 shows the progression of calving as observed in the caribou going by Elusive Creek. Since the daily samples were quite small, it was necessary to lump samples together as shown on the graph. The presence of only four males out of 1,543 adult caribou tallied at Elusive Creek indicates that the data on calving were obtained from the central calving group.

The first calves were observed on May 29 and a newly born calf was seen as late as July 4 by Kantner. However the end of the measurable increase in the number of calves occurred about June 13 or 14. The samples obtained during calving this year were not large enough to establish a definite peak to calving however it seemed to occur at about the same time as in 1961 (June 5).

Throughout late May and the first half of June the caribou

that had wintered north of the mountains continued to move south along the Utukok River drainage. Only a few peripheral groups got as far west as the Kokolik River. It appeared that the individuals moving south were being joined continually by smaller numbers coming north and west after crossing the De Long Mountains.

According to reports and information received from residents of Kotzebue and adjacent villages many calves were born in the drainages of the Noatak and Kobuk rivers. The largest segment is reported to have calved in the hills from Desperation Lake to Howard Pass, after moving north up the Hunt and Ambler rivers in late May. This segment was observed moving north through Howard Pass in late June and then turning west. This year is the first time in this century that caribou have been known to calve as far south as the Kobuk River. Caribou, including cows with calves, continued to head north throughout the calving period and afterwards. They moved along the same pathways used in "normal" years, heading towards the Utukok River and joining up at the southern edge of the Utukok River calving grounds with those individuals that calved on the north side.

Infant mortality was probably high among those caribou that crossed through the mountains during and after calving. On June 28 a flight was made along the north side of the mountains and into the Noatak River drainage. At this time very few caribou remained in the Noatak drainage. In the groups which had just crossed through the mountains there appeared to be about one-third fewer calves than among those that had calved in the normal area.

The post-calving movement progressed westward along the same

route as in previous years, at least as long as it was under observation. However the main mass of caribou was a few days later in passing than in 1960 and 1961.

On June 22 Kantner and I were moved by an Arctic Research Laboratory airplane to Driftwood Air Strip. This placed us at the head of the southward movement from the calving grounds and permitted us to observe a large segment of the population as it moved through in the early part of its post-calving movement. The results of composition counts made at this camp are shown in Table 2.

On June 28 I moved camp to the upper Kugururok River, using a Piper Super Cub chartered out of Kotzebue. I remained at this camp until July 1. Kantner moved to the upper Kukpuk River on July 1, also using the Super Cub, and remained there until July 5. Composition counts obtained at these camps are also shown in Table 2.

An aerial photography flight was planned for the first few days of July during the few days that the caribou population reaches its maximum concentration. Due to unfavorable weather the flight could not be made at the necessary time. Aerial observation of the concentration indicated that slightly more caribou were present than had been observed and photographed in 1961 (Lent and ~~Lønd~~, 1962, Caribou Investigations, northwest Alaska. Proj. Chariot -- Final Report, Univ. Alaska). The population may presently number between 175,000 and 200,000 individuals.

Two successful births as well as three stillbirths were observed this year. Of more importance were four observations of

yearlings successfully suckling cows. I observed this three times and Kantner observed it once. I believe that the cows had lost their own calves; and yearlings, probably not their own calves of the previous year, were permitted to nurse. No mention of nursing by yearling caribou could be found in the literature. A considerable amount of information on behavior was obtained which will supplement that collected in 1960 and 1961.

Figure 1. Progression of Calving, Utukok River, 1962

TABLE 1

Weather Records, 1962
Precalving and Calving Periods, Elusive Creek, Utukok River, Alaska

Date	Temp. (F.)		Wind	Precipitation	Approximate Wind Chill*
	Min.	Max.		Cl. = cloudy	
<u>May</u>					
22	27	47	S 5-10	sunny	900
23	23	45	S 5-10	sunny	950
24	28	41	N 15-20 calm in evening	Cl., lt. rain in PM	950
25	29	50	N 5-10 occ. gusts 15-20	C.	950
26	30	38	N 5-10	Cl. snow squalls	850
27	29	33	N 8-10	Cl. snowing	900
28	24	31	N-NE under 5	Cl., snow and hail	750
29	21	42	NE 5	clear, sunny	900
30	29	52	NE 5-10, occ. gusts to 15	part Cl.	900
31	30	50	E 12-15	AM sunny, PM Cl.	900
<u>June</u>					
1	31	58	N-NE 10-15 calm in evening	Cl.	900
2	33	--	N-NE under 5	Cl., lt. rain	600
3	31	33	NW 5-10, gusts to 15	snow-ceiling zero	900
4	30	38	NE 12-15	snow and sleet	950
5	24	34	N 10-14, gusts to 20, even. under 5	occ. snow squalls	1000
6	27	45	SW AM calm, PM 12- 15, even. under 5	snow squalls in morn. & even.	950
7	32	46	N-E 5-10 calm in evening	snow flurries	800
8	32	60	S under 5	sunny	600
9	43	66	SW under 5	Cl., night rain	500
10	44	66	SSW 6-10	AM sun. PM Cl. 1 rain shower	600
11	43	--	----	Cl.	---
12	--	68	----	Cl.	---
13	47	--	----	Cl., rain	---
14	39	67	AM NW 10-12 PM under 3	sunny	700
15	35	66	W 10-15, night calm	Cl..	500
16	37	68	N-NE under 5	sunny	550
17	42	76	AM SW 7-12, PM W under 5	part Cl. 1 rain shower	600
18	39	73	AM W 5-8 PM under 5	clearing in PM	650
19	54	70	SW 15 gusts to 22 in PM	PM Cl. and rain	550

* During night. Based upon minimum temperature and average wind velocity.

Post-calving Composition Counts of Caribou, Northwest Alaska, 1962

Per cent of cows with calves = 53%

APPENDIX

Field Camps

Project Chariot Caribou Investigations

1960-1962

1960

1. Feb. 11-20	Elaypuk Creek, Wulik R.
2. April 24-29	De Long Pass
3. May 27-30	Carbon Cr.
4. May 31-June 5	Elusive Cr.
5. June 17-24	Driftwood Air Strip
6. July 2-3	East Fork Kelly R.
7. July 3-5	West Fork Kugururok R.
8. July 6	Nimiuktuk R.
9. July 7-8	West Fork Nimiuktuk R.
10. July 9-11	Anisak R.
11. July 16-27	Ukinyik Cr., Cape Dyer
12. Aug. 1-6	Isiak Lake, upper Noatak R.
13. Aug. 7-10	Cutler R.
14. Aug. 14-17	Tunook R.
15. Sept. 18-21	Eli R.
16. Sept. 25-28	Hunt R.
17. Oct. 4-7	Timber Cr.
18. Oct. 11-21	Wulik R.
19. Oct. 22-26	Timber Cr.
20. Nov. 5-9	Kelly R.

1961

21. Feb. 8-11	Squirrel R.
22. March 29-April 2	Kobuk R., Jake Cr.
23. May 15-31	Elusive Cr.
24. June 1-9	Avalik R.
25. June 11-12	Utukok R., near Carbon Cr.
26. June 12-21	Utukok R.--Meat Mtn.
27. June 22-26	upper Utukok R.
28. June 27-28	Driftwood Air Strip
29. July 5-7	Thunder Mtn.
30. July 8-10	upper Kugururok R.
31. July 11-13	Seagull Cr.
32. July 28-Aug. 1	Lower Utukok
33. Aug. 2-3	Elusive Cr.
34. Aug. 4-7	upper Noatak R.

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35. Aug. 12-14	Etivluk R.
36. Aug. 15-25	Etivluk R.
37. Sept. 14-18	Noatak R. near Anisak R.
38. Sept. 24-25	Noatak R. near Nimiuktuk R.
39. Sept. 26-Oct. 4	Noatak R. near Nimiuktuk R.
40. Oct. 8-11	Onion Portage, Kobuk R.
41. Oct. 16-23	Akillik R.
42. Oct. 24-27	Eli R.
43. Nov. 5-9	Rabbit R.
44. Nov. 18-22	Rabbit R.
45. Dec. 4-8	Rabbit R.
46. Dec. 13-17	Rabbit R.
47. Jan. 17-23	Squirrel R.