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SPRING STUDIES OF CARIBOU ALONG THE NORTHWEST ALASKAN PIPELINE ROUTE

Final Report

Prepared for and Funded by

Northwest Alaskan Pipeline Company

under

Contract No. 478085-9-K071

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INTRODUCTION

Caribou are widely distributed in Alaska and are renowned for their vast migrations. The ranges of 10 herds overlap or come near the proposed Northwest Alaskan Pipeline (NWA) route (Davis 1980), though substantial numbers of only the Central Arctic (Cameron and Whitten 1979), Western Arctic (Skoog 1968, Hemming 1971, Davis and Valkenburg 1979), Porcupine (Foothills Pipe Lines (Yukon) 1978), and Fortymile (Alaska Department of Fish and Game (ADF&G) files, Tok) herds have been documented crossing or closely approaching the proposed route in recent years.

This paper reports on Spring 1980 distributional surveys of caribou conducted between Alyeska Pump Station 4 and the Yukon River, and between Delta Junction and the Alaska-Yukon border. On-going ADF&G studies of the Central Arctic Herd in the area north of Alyeska Pump Station 4 will be reported separately.

METHODS

Aerial surveys were flown in a Cessna 185 in late March. Two observers, a navigator/observer, and the pilot searched transects paralleling the proposed NWA route from an altitude of ca. 150 m agl. Three transects, 0.5 and 10 km south and 0.5 km north of the proposed NWA route, were flown on 26 March between the Little Gerstle River and the Robertson River in the vicinity of the Macomb Caribou Herd. Between Tok and the Alaska-Yukon border, 4 transects (0.5 and 10 km on each side of the proposed NWA route) were flown on 26 March 1980. Six transects were flown between Alyeska Pump Station 4 and the Yukon River between 27 and 29 March 1980. Transects were spaced 0.5, 10 and 20 km distant from the proposed NWA route except in the Brooks Range, where flight lines followed river drainages paralleling the route (Figure 1).

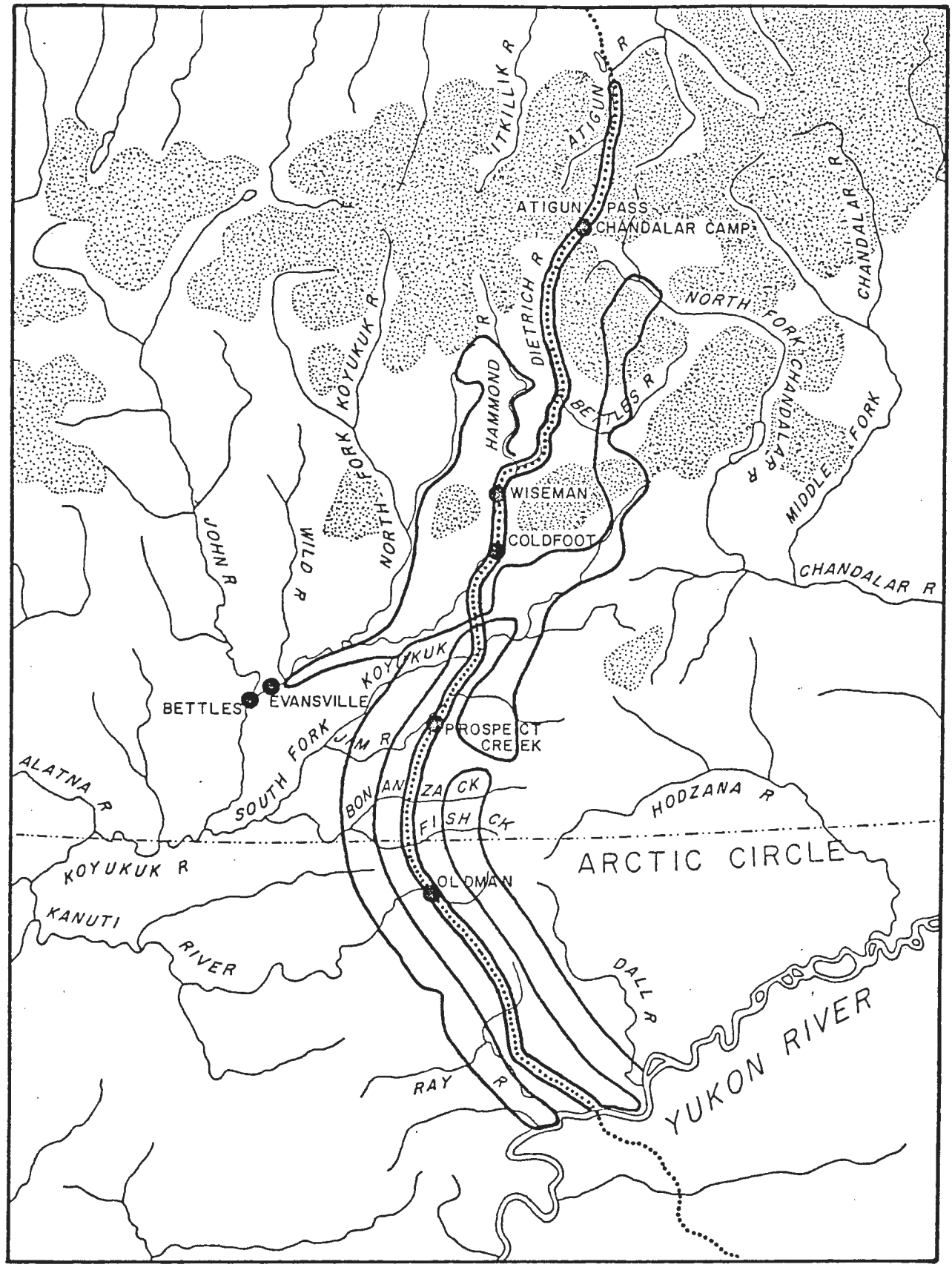

Figure 1. Flight paths of surveys flown in Cessna 185 between 27 and 29 March 1980 (stippling represents areas with mountains exceeding 5,000 ft).

On 29 April 1980, the major mountain passes crossing the continental divide in the Brooks Range adjacent to the proposed NWA route were searched in a Bell 206 helicopter (Figure 2). Two observers, a navigator/observer, and the pilot participated in this survey.

Caribou sightings and observations of caribou sign (tracks, fecal pellets, etc.) were also recorded during road surveys. The Alaska Highway between Tetlin Junction and Northway Junction was driven on 2 April 1980. In addition, about 6.5 km of the Haines Pipeline right-of-way, between Alaska Highway mile #1293 and 1297, was surveyed on snow machine on 2 April. Surveys along the Haul Road between the Yukon River and Alyeska Pump Station 4 were conducted on 7 to 11 April, 22 April to 3 May, and 19 to 25 May 1980. Two observers participated in each of these surveys.

RESULTS and DISCUSSION

TOK to the ALASKA-YUKON BORDER

Caribou and caribou sign were observed in the Midway Lake area in late March and early April (date, type of survey, type of observation, number of caribou, and location are presented in Appendix A). Five sets of caribou tracks were found crossing the Alaska Highway or the Haines Pipeline right-of-way between Alaska Highway mile #1296 and 1300. A Tok resident who traps in the drainage of the South Fork of the Ladue River and the area north to the Main Fork of the Ladue River, east of the Alaska Highway, saw approximately 50 caribou while travelling along his trap line during the last week of March (Willard Grammont, 1980, pers. comm.). During the winter of 1979-1980, caribou were also observed 3 to 5 miles north of Tetlin Junction along the Taylor Highway (D. Kellyhouse, 1980, ADF&G, Tok, pers. comm.). In the course of ADF&G aerial surveys of wolves, conducted 27 February to 7 March 1980 in the Tok area, caribou were noted in the Mosquito Flats-Billy Creek-Mansfield Creek area, north

Figure 2. Flight path of survey flown in Bell 206 on 29 april 1980.

of Tok and Tanacross (D. Kellyhouse, 1980, pers. comm.).

The Ladue and Fortymile river drainages are the traditional wintering areas used by the majority of the Fortymile Caribou Herd (Davis *et al.* 1978). Grammont (1980, pers. comm.) has seen caribou in his trapping area each winter since he began trapping there in 1967. Most of the caribou crossings of the Alaska Highway Grammont has witnessed have occurred between Tetlin Junction and Bitters Creek. Caribou have been observed on the Tanana-Nabesna-Chisana river flats about every other year since 1963, though surveys have not been systematically conducted each year (ADF&G files, Tok; L. Jennings, 1980, ADF&G, Fairbanks, pers. comm.). In 1970, approximately 500 caribou moved west across the Alaska Highway, reaching the foothills of the Wrangell Mountains in March (L. Jennings, in Davis *et al.* 1978).

In recent years the number of caribou in the Fortymile Caribou Herd has fallen to about 4,000 (1975 census, Davis *et al.* 1978), though preliminary results of a 1980 census suggest that the herd may presently include 8,000 caribou and be increasing in size (K. Whitten, 1980, ADF&G, Fairbanks, pers. comm.). Historically, the Fortymile Caribou Herd was one of Alaska's largest, numbering in the hundreds of thousands in the 1920's (Murie 1935). Through the 1950's and early 1960's the herd numbered 40,000 to 50,000 (Skoog 1956, Davis *et al.* 1978). It is generally accepted among biologists having vast experience with caribou (e.g. Banfield 1951, Kelsall 1968, Skoog 1968, Bergerud 1974) that the extent of a herd's movements (i.e. amount of range used) is positively correlated with the number of caribou in the herd. When the Fortymile Caribou Herd was extremely large, in the 1920's and early 1930's, it commonly wintered along the north slope of the Alaska Range east from Paxson, occasionally using the south side of the Alaska Range (Skoog 1956). If the herd increases from its current low numbers it may be expected to increase its range, and crossings of the Alaska Highway in the Tok to Alaskan-Yukon border area will probably occur more frequently.

LITTLE GERSTLE RIVER to the ROBERTSON RIVER

No caribou or unequivocal caribou sign were noted during aerial surveys on 26 March 1980. Two sightings of caribou, likely of the same individuals, on Sam Creek (about 5 miles WNW of Dot Lake) were recorded on 3 and 6 May 1980 during aerial surveys of waterfowl (B. Ritchie, 1980, Alaska Biological Research, Fairbanks, pers. comm.). Five caribou were observed along the Alaska Highway (Mile #1369) on 28 April 1978 (S. MacDonald, 1980, Vertebrate Collection, University of Alaska Museum, Fairbanks, pers. comm.). Caribou of the Macomb herd infrequently and unpredictably cross the Alaska Highway in small numbers (B. Larson, 1980, ADF&G, Delta, pers. comm.).

OLD MAN CAMP to the YUKON RIVER

Caribou tracks were seen in crusted snow on the open, alpine tundra ridges 5 to 15 miles south of Old Man Camp during aerial surveys on 24 March (E. Folleman, 1980, University of Alaska, Fairbanks, pers. comm.) and 28 March. No tracks were found in the snow in this area during road surveys. Tracking conditions were usually poor. On 19 May, 3 caribou bulls (in two groups) were observed in shrub tundra just west of the Haul Road, 8 to 12 miles south of Old Man Camp, and tracks indicated they had crossed from east to west.

During construction of the Alyeska oil pipeline, caribou were repeatedly seen atop tundra-vegetated hills near Old Man Camp in the winter of 1975-1976 (JFWAT files). Highway maintenance personnel of the State of Alaska Department of Transportation (interviewed at Seven-mile Camp) observed 50 to 75 caribou about 10 miles south of Old Man Camp for 3 months during the winter of 1978-1979 and reported that truckers saw groups as large as 300 to 400 caribou in that area the same year. In the winter of 1979-1980, highway maintenance personnel saw about 30 caribou in the area 10 to 15 miles south of Old Man Camp for approximately

2 weeks in late November and early December. The herd identity of these caribou is uncertain; they may belong to the Western Arctic, Porcupine and/or Ray Mountain herds (J. Davis, 1980, AD&G, Fairbanks, pers. comm.).

ALYESKA PUMP STATION 4 to OLD MAN CAMP

Caribou and/or caribou sign were seen during each survey on the north side of the crest of the Brooks Range. No caribou sign was seen on the south side in this area. All observations were apparently of caribou wintering on the north side, not of migrating caribou. In the winter of 1979-1980, both Western Arctic and Central Arctic herd members were radio-located within 15 miles west of the Haul Road in the Brooks Range, north of the continental divide (K. Whitten, 1980, pers. comm.).

Caribou frequently use the Dietrich, Chandalar, Itkillik, Atigun, and Sagavanirktok rivers during migration, but the number using these routes varies greatly from year to year (Hemming 1971, Sage 1971, LeResche 1972, Gavin 1974, Roseneau and Stern 1974, Roseneau *et al.* 1974, JFWAT files). Apparently, members of both the Western Arctic and Porcupine Herds move through this area (Hemming 1971, LeResche 1972). No evidence of use by migrating caribou was observed during a helicopter survey on 29 April 1980 or during road surveys along the Haul Road conducted 22 April to 3 May and 19 to 25 May 1980.

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APPENDIX A

SURVEY OBSERVATIONS

(A = aerial survey; R = road survey; SM = snow machine surveys;
T = tracks; C = caribou seen; * = road or pipeline right-of-way crossing)

DATE	TYPE OF SURVEY	SIGHTING OR SIGN?	NUMBER OF CARIBOU, SEX	LOCATION: ALASKA COORDINATES	
				NORTH	EAST
26 March	A	T	Few hundred	3,370,000 to 3,450,000	402,000 to 470,000
26 March	A	C	6 to 8, unkwn	3,420,000	405,000
26 March	A	C	12, unkwn	3,398,500	476,000
2 April	SM	T*	4 (including 1 calf)	3,385,000	424,000
2 April	R	T*	2, unkwn	3,387,000	422,000
2 April	R	T*	1, unkwn	3,394,000	416,000
2 April	R	T*	1, unkwn	3,398,000	418,000
2 April	R	T*	1, unkwn	3,397,500	410,000

LITTLE GERSTLE RIVER to ROBERTSON RIVER
(Macomb Caribou Herd)

DATE	TYPE OF SURVEY	SIGHTING OR SIGN?	NUMBER OF CARIBOU, SEX	LOCATION: ALASKA COORDINATES NORTH	EAST
26 March	A	T	Few, possibly moose	3,532,000	795,000
3 May	A	C	4, bulls	3,550,000	792,000
6 May	A	C	2, unkwn	3,550,000	792,000

FAIRBANKS to DELTA JUNCTION
(DELTA CARIBOU HERD)

DATE	TYPE OF SURVEY	SIGHTING OR SIGN?	NUMBER OF CARIBOU, SEX	LOCATION: ALASKA COORDINATES NORTH	EAST
13 May	A	C	1, adult	3,915,000	373,000 (zone 3)
14 May	A	C	1, bull	3,755,000	385,000 (zone 3)
14 May	A	C	1, cow	3,755,000	385,000 (zone 3)

OLD MAN CAMP to YUKON RIVER

(? Western arctic, Porcupine, or Ray Mountain herds)

DATE	TYPE OF SURVEY	SIGHTING OR SIGN?	NUMBER OF CARIBOU, SEX	LOCATION: ALASKA COORDINATES NORTH	EAST
24 March	A	T	?	4,515,000	425,000 (zOne 4)
28 March	A	T	?	4,530,000	415,000
19 May	R	C*	2, bulls	4,494,500	443,000
19 May	R	C*	1, bull	4,520,000	430,000

DATE	TYPE OF SURVEY	SIGHTING OR SIGN?	NUMBER OF CARIBOU, SEX	LOCATION: ALASKA COORDINATES NORTH	EAST
27 March	A	T	5 to 12, unkwn	5,269,000	588,000
27 March	A	T	2, unkwn	5,273,000	588,000
9 April	R	C	4, bulls	5,273,000	590,000
9 April	R	T*	1, unkwn	5,273,000	588,000
10 April	R	T*	4, unkwn	5,273,000	589,000
10 April	R	S	4, bulls	5,267,000	591,000
10 April	R	S	12, bulls	5,267,000	588,000
10 April	R	T*	8-15, unkwn	5,263,000	592,000
10 April	R	T	few, unkwn	5,257,500	593,000
29 April	A	C	23, bulls	5,290,000	200,000 (zone 4)
29 April	A	C	8, bulls	5,230,000	250,000 (zone 4)
29 April	A	C	19, bulls	5,232,000	250,000 (zone 4)
29 April	A	C	31, bulls	5,180,000	950,000 (zone 5)
29 April	A	C	5, bulls	5,175,000	1,000,000 (zone 5)
29 April	A	C	7, bulls	5,178,000	1,000,000 (zone 5)
29 April	A	C	35, bulls	5,150,000	990,000 (zone 5)
30 April	R	C	13, bulls	5,245,000	587,000
1 May	R	C	12, bulls	5,260,000	593,000