

Post-calving Counts of Northern Alaska Peninsula Caribou,
June 1998

Final Report

Cooperative Agreement 98-080

US Fish and Wildlife Service
and
Alaska Department of Fish and Game

by

RICHARD A. SELLERS, Alaska Department of Fish and Game, PO Box 37, King
Salmon, AK 99613-0037, USA

RONALD C. SQUIBB, US Fish and Wildlife Service, PO Box 277, King Salmon, AK
99613, USA

August 1998

RM	Copy	WB	SS
DM	Copy	SC	_____
AP	BS	MW	_____
RR	RT	MH	_____
RR	RT	AT	_____
RT	_____	OAC	_____
RT	_____	_____	_____
RT	_____	_____	_____
FILE #	W18.3.1	RT	CAN

CONTENTS

ACKNOWLEDGMENTS	1
INTRODUCTION	2
METHODS	3
RESULTS	3
DISCUSSION	4
LITERATURE CITED	4
TABLES	7

ACKNOWLEDGMENTS

We thank the U.S. Department of Interior, Fish and Wildlife Service for major funding support of this study and the Federal Aid in Wildlife Restoration program that provided a portion of the funding.

Abstract: Results of counts made by both authors were compared to exclude potential double counting of caribou. We accounted for all radiocollared caribou known to be alive as of spring 1998, and a total of 9,200 caribou were tallied. Calves composed 24% of caribou classified from weighted samples.

Key words: Alaska, caribou, calf production, *Rangifer tarandus*.

INTRODUCTION

The Northern Alaska Peninsula Caribou Herd (NAPCH) ranges throughout Units 9C and 9E on the Alaska Peninsula. Historically, herd size has fluctuated widely, reaching peaks at the turn of the century, the early 1940s, and during the 1980s and early 1990s.

Radiocollars were first deployed on female caribou in 1981 to facilitate post-calving photocounts of aggregated caribou. Since then 25-35 radiocollars have been maintained on females to help locate major herds, primarily on the traditional calving grounds of the Bristol Bay coast plain. During the early 1980s, the Department also searched the Pacific drainages, but found few radiocollared caribou and relatively small numbers of caribou.

During the late 1980s and early 1990s, liberal hunting regulations were maintained to reduce the herd to the lower limit of the population objective (15,000) because evidence suggested the traditional range could not sustain 20,000 caribou. During 1993–1994, the herd declined from about 15,000 to about 12,500 and then underwent a continued gradual decline to about 10,000 by 1997 (Sellers 1997). At its current size and productivity, the herd is only marginally able to meet the harvest demands of local hunters. There are indications that NAP caribou are chronically undernourished and may be more vulnerable to parasitism and predation than caribou in herds where nutrition is good. Since 1995 the

Alaska Department of Fish and Game (ADF&G) and US Fish and Wildlife Service (FWS) have been cooperating on expanded coverage during the post-calving counts.

METHODS

Surveys were flown with fixed-winged aircraft (Cessna 180 – ADF&G and Cessna 206 – FWS) during late June and early July 1998. Radiocollared caribou provided a means for locating major aggregations of caribou, particularly on the Bristol Bay coastal plain. We took photographs (35mm, oblique angle) of most major groups to both enumerate total numbers and classify caribou as calves or older animals. Classification samples were weighted according to herd size to estimate total calf production.

RESULTS

On 25, 27, and 28 June, 1998, ADG&G flew 14.7 hours to locate radiocollared caribou and count and photograph large herds of caribou. Deterioration of weather prevented continuation of surveys south of Port Heiden on 25 June. Surveys were resumed on 27 June, at which time we verified the continued presence of radiocollared caribou in the area north of Port Heiden and the absence of other radiocollared caribou not found on 25 June. We visually located (to the specific herd) 47 radiocollared caribou, including 3 on the Pacific side, and accounted for 9 others that were confirmed dead. Only 3 caribou known to be alive in fall 1997 were unaccounted for. One of these had been collared in 1994, and it is possible that the transmitter battery expired. We have no explanation for the other 2 missing caribou except to note three possible scenarios: occasionally collars malfunction, sometimes transmitters are damaged when the animals die (e.g. a hunter may shoot the transmitter or a bear might bite it), or they may have taken up residence outside the area we searched. Both frequencies were monitored during surveys of the Mulchatna herd, but were not detected.

On 30 June, ADF&G flew 9.3 hours in a Robinson R22 helicopter to obtain photographs for determining the percentage of calves in herds and to recover radiocollars from dead calves (Sellers et al. 1998).

On 22, 26, and 27 June, FWS flew 12.6 hours to count caribou in the Pacific Coast drainages of Becharof Refuge, the Ugashik Unit of Alaska Peninsula Refuge, and Aniakchak Preserve, and in the Island Arm of Becharof Lake (Becharof Refuge). Weather and aircraft availability delayed continuation of surveys until 13 and 14 July when FWS flew 10.1 hours to count caribou in the highlands of the Bristol Bay drainages of Becharof Refuge and the Ugashik Unit, and in the highlands of the Chignik Unit of Alaska Peninsula Refuge northeast of Stepovak Bay. On those two warm, calm days in July almost all caribou were seen on snow fields high on steep slopes; notably, the number of caribou observed per survey hour in Becharof Refuge and Ugashik Unit highlands (540) was much greater than that in the Chignik Unit highlands (51). Additionally, FWS flew 5.7 hours on 28 July to do an intensive survey of the lowlands and highlands of Stepovak Bay drainages southwest of Kupreanof Peninsula (Chignik Unit) during which no caribou were seen.

Photographs of representative samples from large herds and visual counts of calves and adults in small herds on the Bristol Bay coast plain provided a total sample of 4,461 caribou that we classified as calves or adults (i.e. > 1 year old). The samples were weighted by herd size to arrive at an estimate of 29.9% calves in this portion of the herd. Caribou within the Aleutian Mountains and on Pacific Ocean drainages were less productive and calves comprised only 13% of caribou counted. Overall, calves made up 24% of the combined count.

DISCUSSION

Results of the 1998 cooperative surveys show that the NAPCH has continued to decline, but at a relatively slow rate. Productivity remains moderate for this herd. Based on the results of this project, immediate restrictions in harvest, especially of cows, are recommended to curtail further declines. If regulation changes are effective in redirecting harvests away from cows, close monitoring will be required to maintain an adequate bull:cow ratio.

LITERATURE CITED

- SELLERS, R.A. 1997. Northern Alaska Peninsula caribou management report. Management report of Survey-Inventory activities. *In* MV Hicks, editor. Alaska Department of Fish and Game. Federal Aid in Wildlife Restoration. Juneau. In press.
- SELLERS, R. A., P. VALKENBURG, R. L. ZARNKE, R. C. SQUIBB. 1998. Natality and Early Calf Mortality of Northern Alaska Peninsula Caribou, 1998. Final report. Cooperative Agreement 98-079. 11pp.