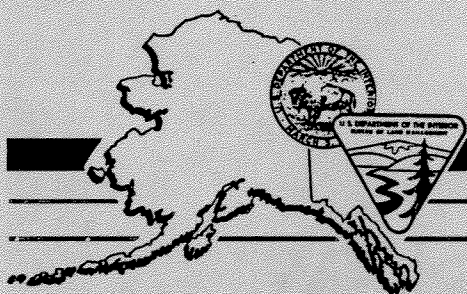


**Movements and Distribution of  
Western Arctic Caribou Herd Across  
Buckland Valley and Nulato Hills,  
Winter of 1986 - 87**

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and Larry W. Field



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MOVEMENTS AND DISTRIBUTION OF WESTERN ARCTIC CARIBOU HERD  
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WINTER OF 1986-87

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INTRODUCTION

Movements and distribution of Western Arctic Herd (WAH) caribou (Rangifer tarandus granti) were monitored in the Buckland Valley and Nulato Hills by personnel from Bureau of Land Management (BLM) and Alaska Department of Fish and Game (ADF&G) during the 1986-87 winter. This undertaking was part of a much larger multi-agency project, including participation by the U.S. Fish and Wildlife Service (USF&WS) and National Park Service (NPS). The BLM also conducted a complementary monitoring project of the Merlin Henry reindeer (R. t. tarandus) allotment during the same winter. This report will only summarize caribou movements across the Buckland Valley and Nulato Hills, and fulfills partial implementation of the Buckland Valley Habitat Management Plan (HMP) (Adams 1982). Results from previous caribou surveys on the Seward Peninsula were reported by Smith (1984, 1985) and Smith and Machida (1986). Funding was provided by each agency for its share of the accomplished work.

OBJECTIVES

Objectives of this project are (1) to document seasonal migration patterns and winter range of WAH caribou in the Buckland Valley and Nulato Hills, and (2) to provide timely information to reindeer herders of impending contact between reindeer and caribou.

STUDY AREA

The Buckland Valley and Nulato Hills encompass approximately 6,299,000 acres of BLM lands. This area is bounded on the north by the Selawik Hills and Purcell Mountains, on the east by the Koyukuk and Yukon Rivers, on the south by the Unalakleet River, and on the west by Norton Sound and the Seward Peninsula (Figure 1). A detailed description of the study area can be located in the Buckland Valley HMP, Northwest Unit Resource Analysis, and Central Yukon Resource Management Plan (Adams 1982, BLM 1982, BLM 1986).

METHODS

Locations of radio-collared caribou were determined during aerial surveys using a Cessna 206. Surveys were planned monthly from September through April, but inclement weather and conflicting time schedules with BLM personnel prevented surveys during November and February. ADF&G personnel maintains a computer file for data storage and retrieval, which is organized by individual radio frequencies. I also entered the habitat use data into a master wildlife computer file for the BLM Kobuk District.

## DISCUSSION

Smith (1984) reported thousands of animals had moved west of the Kiwalik River during the 1982-83 winter and again the following winter. More caribou had apparently moved onto the Seward Peninsula in 1983-84 than in 1982-83. Furthermore, they ranged farther (Koyuk River) and remained longer in 1983-84 than in previous years. Thousands of caribou moved southward to the upper Shaktoolik and upper Kateel Rivers in 1983-84. Smith (1985) reported small numbers of caribou in the Selawik Hills and Buckland Valley during the 1984-85 winter. Caribou ranged as far south as the Koyuk and Shaktoolik Rivers, but not along the north coast of the Seward Peninsula west of the Kiwalik River. Smith and Machida (1986) reported "substantial numbers of caribou" migrated southward to the upper Anvik River and "several thousand caribou" migrated westward to the Kiwalik and Koyuk watersheds during the 1985-86 winter.

Buckland Valley has been an important winter range of WAH caribou since the 1950's (Adams 1982). Tens of thousands of caribou have been known to occupy it in past winters. Data collected during the most recent five winters show expansion of their winter range to the Kiwalik River in 1982-83; to the Koyuk, Shaktoolik, and Kateel Rivers in 1983-84 and 1984-85; and to the Unalakleet River in 1985-86 and 1986-87. Caribou must first cross the Buckland Valley before reaching these new areas, and again during their return trip north. This range expansion parallels population growth of the herd from 75,000 animals in 1976 to 230,000 in 1986.

Buckland Valley has also been used for reindeer grazing in past years (Adams and Robus 1981). Where ranges of caribou and reindeer overlap, resident reindeer will link with transient caribou. NANA lost several thousand reindeer during the 1982-83 and 1983-84 winters, but none were reported lost during the 1984-85 winter (Smith 1984, 1985). During fiscal year 1986, NANA lost approximately \$375,000 in the value of their herd due to reindeer being lost to migrating caribou and have consequently disposed of their herd (NANA n.d.) This year, caribou moved within close range of Merlin Henry's reindeer for the second consecutive year. Some reindeer were apparently lost during the first year (Smith and Machida 1986), but none were reported lost during the second year. Caribou also moved within close range of Palmer Sagoonick's reindeer this year. Obviously, economic hardship to the reindeer herders can occur when their animals leave with migrating caribou.

As a means of resolving this conflict, BLM will accept a permit application for reindeer grazing in Buckland Valley only after five consecutive years of non-use by caribou (Adams 1982, BLM 1982). ADF&G (1984) will recommend against issuing additional reindeer permits on ranges currently occupied by caribou or with a high probability of being occupied by caribou in the future.

## CONCLUSIONS AND RECOMMENDATIONS

Western Arctic caribou have traditionally used the Buckland Valley as winter range. However, relocations of radio-collared animals have demonstrated for the past two years that caribou migrate across the valley to spend a major portion of the winter either in the Nulato Hills or on the Seward Peninsula. BLM should continue working with ADF&G, USF&WS, and NPS to monitor movements and distribution of WAH caribou in future years.



CHUKCHI SEA

KOTZEBUE

KOBUK RIVER

ONION PORTAGE

SEWARD

PENINSULA

TRACKS

SELAWIK HILLS

PURCELL MOUNTAINS

RIVER

KOYUKUK

GALENA

NOME

NORTON SOUND

UNALAKLEET

YUKON RIVER

FIGURE 1. Southward migration of WAH caribou, 1986–1987 winter.  
Flight numbers: (1) 9/25–26/86, (2) 10/20/86, (3) 10/28–29/86.

CHUKCHI SEA

KOTZEBUE

KOBUK RIVER

ONION PORTAGE

SEWARD

PENINSULA

SELAWIK HILLS

PURCELL MOUNTAINS

RIVER

KOYUKUK

GALENA

NORTON SOUND

UNALAKLEET

NOME

6

5

4

YUKON RIVER

FIGURE 2. Northward migration of WAH caribou, 1986–1987 winter.  
Flight numbers: (4) 12/23–24/86, (5) 1/26–28/87, (6) 3/16–17/87.

CHUKCHI SEA

KOTZEBUE

KOBUK RIVER

ONION PORTAGE

SEWARD

PENINSULA

SHELDON

HENRY

HADLEY

SELAWIK HILLS

PURCELL MOUNTAINS

RIVER

KOYUKUK

NOME

NORTON SOUND

SAGOONICK

UNALAKLEET

GALENA

YUKON RIVER

FIGURE 3. Reindeer grazing allotments on the eastern portion of the Seward Peninsula.

