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EDITED BY:
EIGIL REIMERS
ELDAR GAARE
SVEN SKJENNEBERG

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STATUS OF RANGIFER IN THE USA

J. L. Davis

Alaska Department of Fish and Game, 1300 College Road, Fairbanks, Alaska, 99701, USA

1. INTRODUCTION

Ranges within Alaska are presently grazed by indigenous and introduced members of the genus *Rangifer*. In this paper, "reindeer" (*Rangifer tarandus* L.) refers to all domesticated *Rangifer* and to their feral descendants on islands. Alaska reindeer are descendants of domesticated reindeer originally imported from Siberia beginning in 1891. Some genetic infusion of indigenous Alaska caribou (*R. t. granti*, Banfield) may have since occurred. "Caribou" refers to all wild, free-roaming members of the genus *Rangifer* on the USA mainland and to island populations which originated from caribou transplants. All Alaska caribou are barren-ground type (*R. t. granti*, Banfield) and the Idaho/Washington caribou are woodland type (*R. t. caribou*, Banfield). Zoo animals are not included in this status summary.

2. DISTRIBUTION

All 22 reindeer herds in the USA are in Alaska (Fig. 1). Caribou populations include one herd (Fig. 2) that occurs in Idaho, Washington, and adjacent British Columbia, Canada, and at least 25 herds in Alaska (Fig. 3).

3. HABITAT, FOOD HABITS, AND FEEDING LOCATIONS

Much of Alaska's total area of 1515150 km² is suitable *Rangifer* habitat, perhaps up to 1036000 km² (Skoog 1968). The better ranges include extensive areas altitudinally or latitudinally above tree line. These habitats are particularly valuable for spring, summer, and fall use. They offer high quality forage, terrain suitable for escape from insects and predators, and provide good calving and breeding areas. Winter habitat includes most areas having low to moderate snow cover with little or no crusting and adequate forage. Food habits and seasonal ranges of Alaska caribou were discussed in detail in Skoog (1968) and Hemming (1971). Calving areas were delineated in Hemming (1971) and Alaska Department of Fish and Game (1973). Pegau (1968) provided similar data for Alaska reindeer.

The Idaho/Washington caribou inhabit a heavily timbered mountainous area. During winter they rely heavily on arboreal lichens (*Alectoria* spp.) found on mature subalpine fir (*Abies lasiocarpa*, Nuttall) and Engelmann's spruce (*Picea engelmanni*, Engelmann) (Freddy and Erickson 1975). In summer they frequent the high meadows and alpine uplands where they select sedges, grasses, and forbs.

4. POPULATIONS AND SUBPOPULATIONS: SIZE AND CENSUSING METHODS

The present Alaska reindeer population consists of 22 herds that remain discrete by herding or insular isolation. The estimated size of each herd appears in Fig. 1. The total reindeer population in 1979 numbers about 25000.

Skoog (1968) postulated that caribou in Alaska and adjacent Yukon Territory, Canada comprise one population because of historic intermingling (and hence gene flow). However, this population consists of various subpopulations (or herds) that occur as entities for variable lengths of time (often several decades). Currently 25 herds are recognized in Alaska (Fig. 3) and they contained approximately 287000–303000 caribou in fall 1979. Herd sizes and their trends appear in Tab. 1. The Idaho/Washington population numbered about 30 caribou in 1979 (E. Bizeau, Idaho Cooperative Wildlife Research Unit, pers. comm.).

Reindeer herd sizes are estimated from direct tallies during roundups or from aerial surveys. Size estimates of small caribou herds are made by aerial surveys and involve either total counts or sampling and extrapolation. The larger herds are most frequently censused by an aerial photo-direct count-extrapolation technique. Because of monetary constraints, inclement weather, or other complications, some herds are censused infrequently.

For long-term reindeer population trends see Hemming (1971) and Skoog (1968).

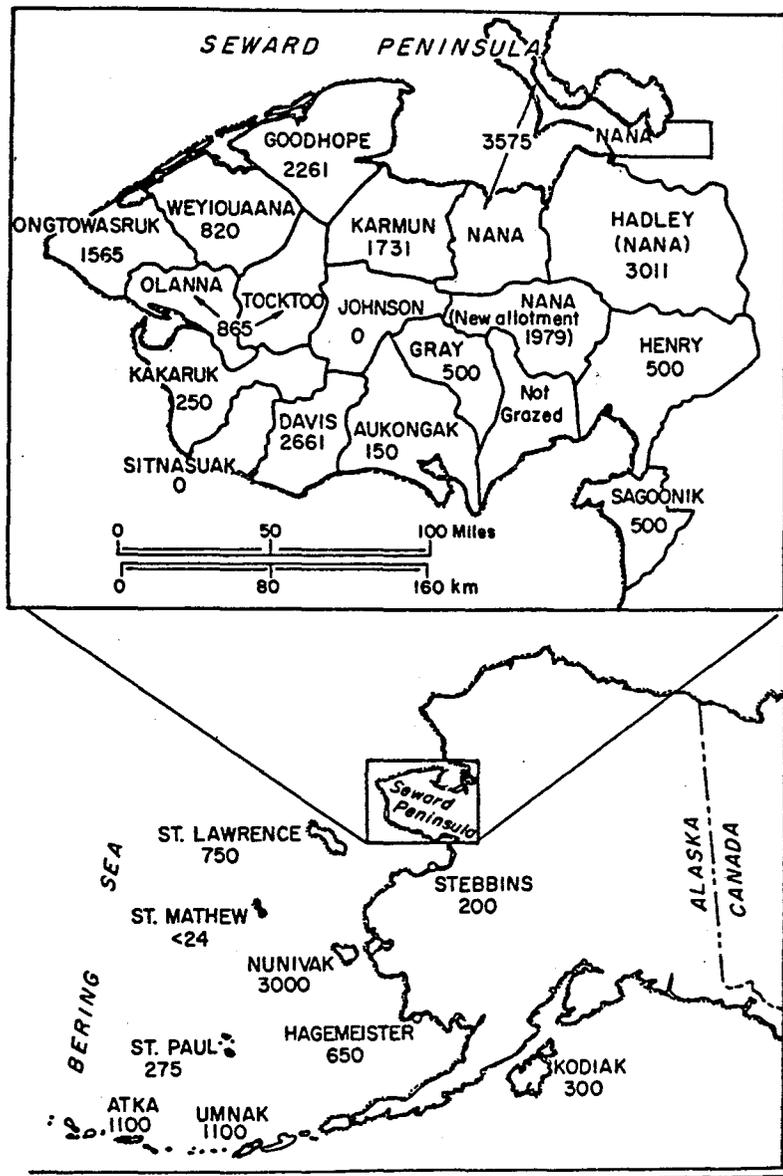


Fig. 1. Location of Alaska reindeer herds in 1979, their names and sizes.

and Hemming (1971); and for American woodland caribou, Banfield (1961) and Freddy and Erickson (1975).

Recent trends (1977 through 1979) of Alaska caribou herds are presented in Tab. 1 and trends from 1970 through 1977 are given in Davis (1978). The Idaho/Washington population and the Alaska reindeer herds in general have been stable for the past several years (for elaboration on reindeer, see Management and conservation, below).

5. MORTALITY AND REPRODUCTION

Harvest of reindeer varies greatly between the herds. Some island herds are rarely, if ever, harvested. Other herds are harvested at levels equal to annual increments, primarily for meat for local consumption, and others are being allowed to expand to increase antler production for foreign markets. Harvest of Alaska caribou is summarized in Tab. 1. The Idaho/Washington herd is legally protected from hunting.

Mortality and reproduction of Alaska reindeer vary considerably, but are generally similar to those commonly reported for herds that are loosely herded or extensively managed.

Bergerud (1978) recently reviewed the demography of caribou in North America, and his summary should be consulted for rates of predation, natural mortality, and reproductive parameters.

6. MANAGEMENT AND CONSERVATION

For the first time since the 1930's, there is significant interest in the reindeer industry. Much of the interest stems from recent settlement of Native Land Claims and the currently lucrative foreign markets for antlers. The interest in conservation and management of caribou is possibly at an all time high. Much of this stems from concern over the major population declines of the early 1970's, the rapidly increasing exploration and development in the North, and because of heightened environmental awareness. Conflicts between caribou and reindeer interests are imminent. Whether or not caribou populations will continue to occupy historic ranges (or perhaps even if these ranges will continue to sustain any *Rangifer* populations) depends on land use plans presently being formulated.

Current reindeer management reflects an awareness of past problems that occurred from range overstocking. Although some caribou ranges have been affected by grazing and industrial developments, habitat deterioration does not appear to be the proximate or ultimate cause of most major caribou declines in the early 1970's. Overexploitation by man and predation were in most cases the proximate if not ultimate cause. Thus it appears that short-term management must address harvest and predation while long-term welfare of caribou will relate to habitat protection. The Idaho/Washington caribou are the subject of a special International Multi-State Conservation program, but their perpetuation appears tenuous.

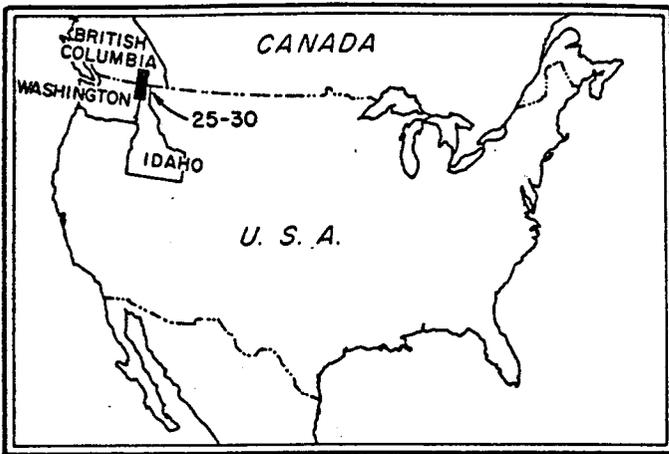


Fig. 2. Location and number of caribou (*R. t. caribou*) in the conterminous 48 states of the USA in 1979.

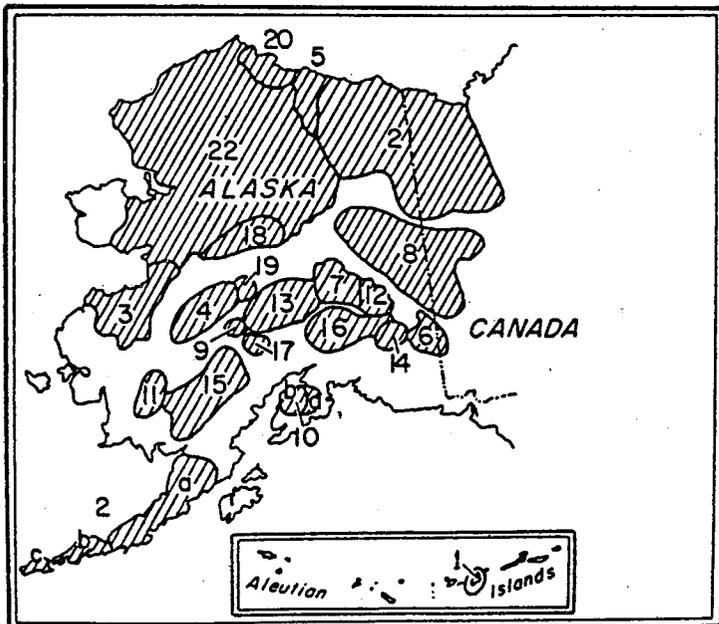


Fig. 3. Approximate ranges of caribou (*R. t. granti*) in Alaska (1979). For herd names corresponding to map numbers see Tab. 1

Tab. 1. Summary statistics of Alaska caribou herds for 1979.

Location ¹	Herd	Population Estimate ²	Population Trend (1977-79)	Average Harvest (1977-79)	Harvest as % of Herd
1	Adak	250	Stable	>50	20-30
2	Alaska Peninsula	15000-25000	Increase	817	3-5
2a	a) N. Port Moller	10400+	Increase		
2b	b) S. Port Moller	2600+	Increase		
2c	c) Unimak Island	5000±	Decline	100	2
3	Andreafsky	500-1500	Stable or decline	70	5-15
4	Beaver	1000	Decline	6	<1
5	Central Arctic	5000-6000	Increase		<1
6	Chisana	1000 or less	Stable or decline	42	4
7	Delta	3200	Stable or increase	0	0
8	Fortymile	4000-6000	Stable or decline	38	1
9	Granite Mountains	100	Stable	0	0
10	Kenai	330	Stable	28	8
10a	a) Kenai Mountains	250	Stable	28	11
10b	b) Kenai lowlands	65-80	Stable	0	0
11	Kilbuck Mountains	1000	Stable	<30	<3
12	Macomb	700-800	Stable	54	7
13	McKinley (Denali)	1200-1500	Stable	0	0
14	Mentasta	2500	Stable	100	4
15	Mulchatna	14000	Increase	348	2
16	Nelchina	19000	Increase	450	2
17	Rainy Pass/Farewell	3000	Stable	70-100	3
18	Ray Mountains	200	Stable	<5	<3
19	Sunshine-Cloudy Mtns	400	Stable	1	<1
20	Teshkepuk	3000-4000	Stable	<40	<1
21	Porcupine	100000+	Stable	2000-5000	<5
22	Western Arctic	113000	Increase	2000-4000	<4

1. See Fig. 3.

2. This is the best estimate available for 1979, but does not imply that all herds were censused in 1979.

Acknowledgements

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