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Division of Wildlife Conservation
Federal Aid in Wildlife Restoration
Annual Performance Report of
Survey-Inventory Activities
1 July 1989-30 June 1990

MUSKOX



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DEPARTMENT OF FISH AND GAME
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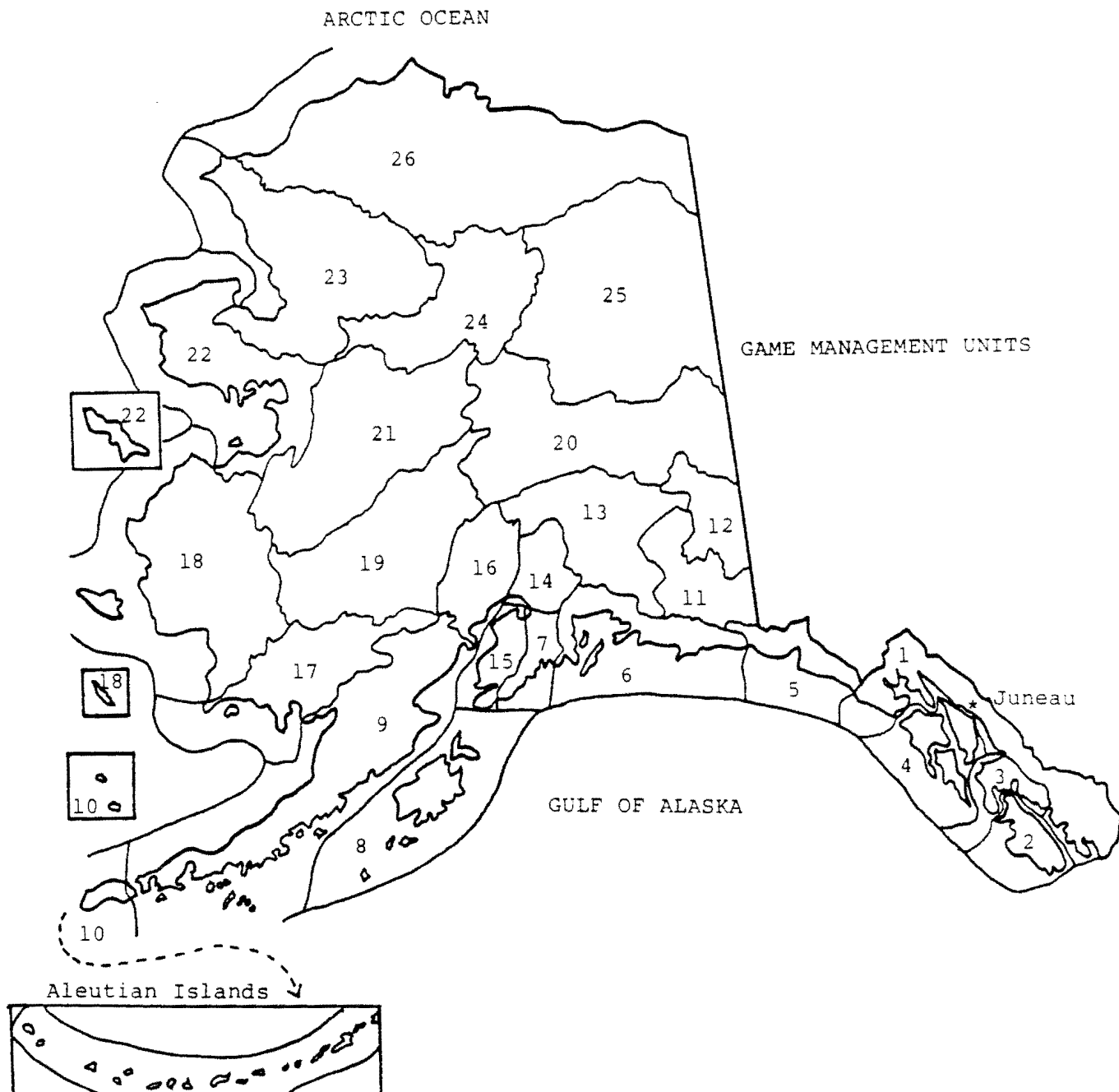
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PROJECT TITLE: Interior Muskox Population And Habitat Management

PROJECT LOCATION: Units 26B and 26C (25,800 mi²)
Upper Yukon River drainage

PROJECT OBJECTIVES:

Management objectives were developed during the reporting period and will be incorporated into a revised study plan.

WORK ACCOMPLISHED DURING THE PROJECT SEGMENT PERIOD:

Surveys conducted by USFWS in and near the Arctic National Wildlife Refuge (ANWR) resulted in counts of 359, 130, and 29 muskoxen on the coastal plain of the refuge in Unit 26C, west of ANWR in Unit 26B, and east of the refuge in Canada, respectively. This represented increases of 99 overall and 75 in Unit 26B. Composition surveys found 50 bulls:100 cows, 40 adult bulls:100 cows, 30 yearlings:100 cows, and 34 calves:100 cows. Yearlings and calves composed 14% and 16% of the population, respectively. At 54%, calf survival was the lowest it has been since 1983.

Ten hunters received registration permits, harvesting 10 bull muskoxen in Unit 26C. All but one of the hunters used aircraft for access, and they spent an average of 4.7 days afield. Most of the muskoxen were taken in the vicinity of the Sadlerochit Mountains and the Canning and Jago Rivers.

PROGRESS TOWARDS MEETING PROJECT OBJECTIVES:

Because no prior objectives had been identified, it is not possible to assess progress relative to any objective. However, the following objectives were drafted in FY90 and will be the basis for future management activities:

(1) To manage harvest so that it does not appreciably restrict population growth or the dispersal of muskoxen; (2) maintain a bull:cow ratio of at least 50:100 and an adult bull:cow ratio of 35:100; and (3) maintain direct communication with local residents of Nuiqsut, Kaktovik, and Barrow about management decisions concerning the reintroduction, conservation, and hunting of muskoxen.

SEGMENT PERIOD PROJECT COSTS:

	<u>Personnel</u>	<u>Operating</u>	<u>Total</u>
Planned	5.1	3.0	8.1
Actual	5.1	3.0	8.1
Difference	0.0	0.0	0.0

SUBMITTED BY:

Kenton P. Taylor
Regional Management Coordinator

PROJECT TITLE: Arctic Muskox Survey and Inventory

PROJECT LOCATION: Unit 18 (42,000 mi²)
Yukon-Kuskokwim Delta

PROJECT OBJECTIVES:

To maintain a posthunting, precalving population of 200-250 muskoxen on Nelson Island, and a posthunting, precalving population of 500-550 muskoxen on Nunivak Island.

To monitor the population size, distribution, and dispersal of muskoxen onto the mainland.

To initiate development of a muskox management plan for the Nunivak Island population.

WORK ACCOMPLISHED DURING THE PROJECT SEGMENT PERIOD:

In cooperation with staff from the Yukon Delta National Wildlife Refuge, aerial and ground surveys were completed on Nunivak Island during March 1990; 568 muskoxen were counted. The sex and age composition follows: 156 $\geq$ 4-year-old males, 100 $\geq$ 4-year-old females, 50 three-year-old males, 77 three-year-old females, 36 two-year-old males, 42 two-year-old females, 71 yearlings, and 36 unclassifieds. An aerial survey was completed on Nelson Island during February 1990. The prehunting and posthunting populations were 239 and 209 muskoxen, respectively.

We continued monitoring the dispersal of muskoxen from Nelson Island to the mainland through periodic aerial reconnaissance flights and observations reported by the public. In addition, 5 radio-collared muskoxen were used to keep track of the different mainland groups. Of the 5 collared muskoxen, 1 bull has not been located since August 1989, 1 cow dropped its collar, 1 cow died of natural causes, 1 cow was killed by a hunter, and 1 cow remained active near Dall Lake.

Drawing and registration permits for hunting muskoxen on Nelson and Nunivak Islands were issued during fall and spring of 1990. The fall harvest on Nunivak Island was 4 cows (registration permit) and 4 bulls (drawing permit). The spring harvest on Nunivak Island was 27 cows (registration permit) and 37 bulls (drawing permit). All 30 individuals issued registration permits for Nelson Island were successful in harvesting a muskoxen.

PROGRESS TOWARDS MEETING PROJECT OBJECTIVES:

Minimum posthunting, precalving populations on Nunivak and Nelson Islands (500-550 and 200-250, respectively) are being maintained. Ground surveys for sex and age composition have not been completed on Nelson Island in recent years, but will be done during 1990-91. Aerial surveys for sex and age composition have not proven feasible.

The population size of the mainland population is estimated at 75 to 100 animals ranging over an area of approximately 38,000 mi². This estimate is based on groups of muskoxen observed during periodic radio-tracking and reconnaissance flights and sightings reported by the public and aircraft pilots. Muskoxen were sighted near Dall Lake, Kusilvak Mountain, the Andreafsky Mountains, and the Portage Lakes near Kalskag during the reporting period.

During March 1989, 5 muskoxen were radio-collared on the mainland of Unit 18 to assist in the monitoring of the various groups. Tracking flights were attempted at 2-month intervals, and some unique movements have been documented. One 4-year-old female was collared near Pilot Station on the Yukon River during March 1989, sighted 160 miles to the east near Kalskag during August 1989, and shot on Nelson Island during March 1989, 140 miles to the southwest. Because such long-range movements are more common than originally believed, the use of satellite telemetry is recommended in the future.

Public meetings have been held biannually in Bethel and Mekoryuk to begin development of a muskox-reindeer management plan for Nunivak Island. This planning effort is being conducted cooperatively with the local public and staff from the Yukon Delta National Wildlife Refuge, U.S. Soil Conservation Service, Bureau of Indian Affairs, Bering Sea Reindeer Products, Alaska Soil and Water Commission, and the local Mekoryuk corporation (NIMA). Most of these meetings have dealt primarily with the management of the 6,000-8,000 reindeer occupying the Island. Proper management of the reindeer affects the carrying capacity for muskoxen as well. Possible overgrazing of available habitat on the island by reindeer concern all parties, and it could potentially affect the future management of muskoxen.

PROJECT LOCATION: Unit 22 (23,000 mi²)
Seward Peninsula and that portion of the
Nulato Hills draining west into Norton Sound

PROJECT OBJECTIVES:

To reintroduce muskoxen onto suitable ranges and provide for their use and enjoyment by members of the public.

To monitor population size, herd growth, and range expansion.

To develop a management plan in consultation with the public, interested local organizations, and other agencies.

WORK ACCOMPLISHED DURING THE PROJECT SEGMENT PERIOD:

During October 1989, 5 muskoxen (2 males and 3 females) were radio-collared in the western portion of Unit 22D. In addition,

two (1 male, 1 female) were recollared from a herd located in Unit 22C. Several aerial surveys were conducted to monitor movement of muskoxen. Additional data were also gathered while radio-tracking other species. Members of the public continued to provide information on muskoxen. Meetings were held with reindeer herders and others to discuss ways of dealing with perceived conflicts between muskoxen and reindeer, the need for a management plan, and the steps that need to be taken prior to development it.

PROGRESS TOWARDS MEETING PROJECT OBJECTIVES:

Since their reintroduction in the early 1970's, numbers of muskoxen on the Seward Peninsula have increased significantly. The herd is now one of the largest in Alaska.

Much of the previous operating funds for survey-inventory activities and research for muskoxen on the Seward Peninsula were provided by the National Park Service (NPS). During the reporting period, NPS monies were not made available, resulting in a significant decrease in efforts to monitor population size, herd growth, and range expansion. In keeping with our objective of conducting a photocensus at 5-year intervals, additional funds will be available in the spring of 1993.

As numbers of muskoxen increase on the Seward Peninsula, so does the interest by local residents and others in hunting them. Proposals from the public and interested local organizations requesting hunting seasons in the Seward Peninsula will almost certainly be submitted to the Board of Game during their spring 1992 meeting, when changes in seasons and bag limits will again be considered. Concern over feeding competition between muskoxen and reindeer continues to be voiced by reindeer herders. In addition, subsistence berry pickers occasionally complain of harassment or intimidation by muskoxen. All these concerns need to be dealt with. Development of a muskoxen management plan is essential to the implementation of hunting seasons or long-term population goals. Efforts to develop such a plan are underway.

PROJECT LOCATION: Unit 23 (43,000 mi²)
Kotzebue Sound/Western Brooks Range

PROJECT OBJECTIVES:

To establish and maintain viable populations of muskoxen.

To initiate development of a muskox management plan in cooperation with local residents and organizations and other agencies.

WORK ACCOMPLISHED DURING THE PROJECT SEGMENT PERIOD:

On 3 September 1989, 1 bull and 4 cow muskoxen were radio-collared near the mouth of Kisimilok Creek between the villages of Kivalina and Point Hope. The bull was 12 years old and the cows ranged in age from 3 to 12 years old.

Five radio-tracking surveys were conducted during the reporting period. Three aerial surveys were conducted during the fall of 1989; the percentage of calves observed ranged from 6% to 11%. During May, 2 aerial surveys were conducted; the percentage of short yearlings observed ranged from 10% to 50%. Discussions concerning the future of management of muskoxen were initiated on an opportunistic basis with local residents during the reporting period; however, the formalized planning process has not begun.

PROGRESS TOWARDS MEETING PROJECT OBJECTIVES:

On 11 May 1990, 127-129 muskoxen were observed during a radio-tracking flight conducted in the northwestern portion of Unit 23. Calves constituted 10-12% of the observed animals. At least 3 additional bulls were spotted on Ikalukrok Creek and the Kugururok River at other times during the year, yielding a minimum population estimate of 130-132 muskoxen. Because an intensive census conducted during May 1988 yielded an estimate of 123 muskoxen, we believe the population was probably stable or had increased slightly.

The slow growth rate may have been due, in part, to some illegal harvests of muskoxen. There have been 2 unverified reports of muskoxen harvested illegally during 1989-90. Discussions with local residents concerning the importance of allowing the population to continue to grow should remain a high priority. Scheduling special public meetings in villages located near resident muskoxen herds may be needed to address this problem.

SEGMENT PERIOD PROJECT COSTS:

	<u>Personnel</u>	<u>Operating</u>	<u>Total</u>
Planned	29.5	11.0	40.5
Actual	29.5	14.9	44.4
Difference	0.0	3.9	3.9

Because NPS funding was not available our operating costs for radio-tracking and collaring were higher than anticipated.

SUBMITTED BY:

Steve Machida
Regional Management Coordinator



Federal Aid Project
funded by your purchase of
hunting equipment