

Alaska Department of Fish and Game  
Division of Wildlife Conservation

Federal Aid in Wildlife Restoration  
Annual Performance Report of  
Survey - Inventory Activities  
1 July 1994 - 30 June 1995

# MUSKOX

Mary V. Hicks, Editor



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**Tony Knowles, Governor**

**DEPARTMENT OF FISH AND GAME**  
**Frank Rue, Commissioner**

**DIVISION OF WILDLIFE CONSERVATION**  
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**Project Title:**            **Region III Muskox Population and Habitat Management**

**Project Location:**    Units 26B and 26C

**Project Objectives and Activities:**

1.     Manage muskoxen harvest so that it does not appreciably restrict population growth or dispersal.
  - Review information from the FWS on population size, sex and age composition, and movements of radiocollared muskoxen.
2.     Maintain a bull:cow ratio of at least 50:100 and an adult bull:cow ratio of 35:100.
  - Monitor results of the muskoxen permit hunts.
3.     Maintain direct communication with local residents of Nuiqusut, Kaktovik, and Barrow about management decisions concerning the reintroduction, conservation, and hunting of muskoxen.

**Work Accomplished During the Project Segment Period:** The area biologist reviewed information collected by the USFWS on population size, composition, and dispersal of muskoxen. The USFWS flew muskoxen surveys during April and late June 1993 and conducted ground composition counts in June. Numbers within ANWR have stabilized at about 400, but numbers and distribution to the east and west are slowly increasing. The ADF&G did not conduct surveys during the report period.

We issued two "Tier II" subsistence permits for muskoxen hunters in Unit 26B and monitored the permit hunt for muskoxen in Unit 26C, administered by the USFWS. We also met with Nuiqusut residents regarding muskox management in Unit 26B and arranged to increase the total number of "Tier II" permits from 2 to 5.

**Progress Meeting Project Objectives:** The current strategy of limiting the harvest to less than 15 bull muskoxen per year ensures dispersal and population growth are not limited by hunting. The small number of permits and the fact virtually all are issued in Kaktovik ensure a high level of compliance and provide opportunity to communicate with local users. The majority of muskoxen inhabit ANWR. USFWS presently manages most of the hunting effort and conducts field management activities on the refuge. The ADF&G has no field activities related to muskoxen planned for FY96 but is considering a census in Unit 26B. Management objectives continue to be met.

When muskoxen abundance and distribution have changed significantly, an aerial survey in Unit 26B would be appropriate. However, that situation will probably take several years to develop. A suggested revised project objective is to work with North Slope management agencies and landowners to develop a management plan for muskoxen.

**Segment Period Project Costs:**

	<u>Personnel</u>	<u>Operating</u>	<u>Total</u>
Planned	2.3	0.0	2.3
Actual	3.8	0.7	4.5
Difference	-1.5	-0.7	-2.2

Explanation: A new staff person was assigned responsibility to work with the U.S. Fish and Wildlife Service on muskox issues during this period. Some additional time and survey expenditures were necessary to develop expertise and familiarization with current management

**Submitted by:**

Kenton P. Taylor  
Regional Management Coordinator

**Project Title:** Western Alaska Muskox Population Management

**Project Location:** Unit 18 (42,000 mi<sup>2</sup>)  
Yukon-Kuskokwim Delta

**Project Objectives and Activities:**

1. Maintain a posthunt, precalving population size of 200 or more muskoxen on Nelson Island and a posthunt, precalving population size of 500-550 muskoxen on Nunivak Island.
  - Conduct aerial and ground surveys on Nunivak and Nelson Island to estimate the population size and sex and age composition of the 2 muskox populations.
2. Monitor the population size, distribution, and dispersal of muskoxen onto the mainland of Unit 18.
3. Finalize development of a muskox management plan for the Nunivak Island population.

**Work Accomplished During the Project Segment Period:** An aerial fixed-wing census was conducted on Nunivak Island during March 1994. An aerial helicopter census was conducted during March 1994 on Nelson Island. Because the aerial census on Nunivak Island was not completed, a second census and composition survey by helicopter is planned for July 1994. Only 361 muskoxen were counted during the 6.5-hour census of Nunivak Island. The composition for these 361 animals was 58 yearlings, 39 mature bulls, and the remainder were not classified. During the March 1993 census of Nunivak Island, 435 muskoxen were found; however, we only classified 191 muskoxen. The 1993 composition was 34 yearlings, 7 2-year-old males, 13 2-year-old females, 18 3-year-old males, 26 3-year-old females, 45 4-year-old-and-older males, 48 4-year-old-and-older females, and 244 unclassified. Results from these 2 years of data collection indicate the muskoxen herd on Nunivak Island is now below our goal of 500-550 muskoxen.

An aerial survey of Nelson Island completed during March 1994 revealed a herd size of 123 muskoxen, of which 28 were yearlings. The Nelson Island population is also below the population goal of 200-250 animals. The composition of the Nelson Island herd was 28 yearlings, 8 2-year-old males, 12 2-year-old females, 7 3-year-old-and-older males, 22 3-year-old females, 40 females 4-year-old-and-older, 6 males 4-year-old-and-older. Another survey is planned for Nelson Island during July 1994 to determine if substantial movement of animals to the mainland has occurred. We also monitored dispersal of muskoxen from Nelson Island to the mainland through periodic observations reported by the public and reports from air taxi pilots.

We issued drawing and registration permits for hunting muskoxen on Nunivak and Nelson Island during fall 1993 and spring 1994. The fall harvest on Nunivak Island was 4 cows taken by registration permit and 5 bulls by drawing permit; 1 additional bull was taken by a registration permit holder with a cow permit. The spring harvest on Nunivak Island was 19 cows taken by

registration permit and 30 bulls taken by drawing permit. Only 26 of the 30 individuals issued registration permits for Nelson Island were successful in harvesting muskoxen. The harvest on Nelson Island was 5 cow muskoxen and 21 bull muskoxen.

The population size of the mainland herd is estimated at 100-150 animals ranging over an area of approximately 20,000 mi<sup>2</sup>. This estimate is based on groups of muskoxen reported by the public and aircraft pilots. Muskoxen were sighted near Dall Lake, Kusilvak Mountain, the Andreafsky Mountains, the Yukon Delta, and the delta lowland area west and north of Bethel. Two mature bulls were observed on the top of Kusilvak Mountain during April 1994.

**Progress Meeting Project Objectives:** The size of both populations on Nunivak and Nelson Island are below the minimum posthunt, precalving population goals. We have already reduced the harvest of both bulls and cows on Nunivak Island, and we initiated a reduced cow harvest on Nelson Island during the spring 1993 season, which continued through the 1994 season. Aerial censuses were conducted for sex and age composition on both Nelson Island and Nunivak Island during spring 1994. Aerial censuses will be repeated for both islands during July 1994 to corroborate the spring censuses and to gather additional composition information.

We expect reductions of muskox harvest quotas for both Nunivak Island and Nelson Island during the 1994-95 regulatory year. The use of satellite telemetry or a larger conventional collaring effort are recommended to monitor growth of the mainland muskox population.

A cooperative muskox/reindeer management plan has been drafted by the U. S. Fish and Wildlife Service (FWS) for Nunivak Island during November 1993, and all participating parties have commented on the plan. The final draft is being printed and should be available in the near future.

**Project Location:** Unit 22 (25,230 mi<sup>2</sup>)  
Seward Peninsula and that portion of the Nulato Hills draining west into Norton Sound.

Unit 23 (1,920 mi<sup>2</sup>)  
West of but not including the Kiwalik River Drainage.

**Project Objectives and Activities:**

1. Allow for continued natural increase in the size and distribution of the Seward Peninsula muskox population.
2. Provide for a limited hunting of muskoxen in a manner consistent with existing state and federal laws and regulations and management goals and objectives of the Seward Peninsula Cooperative Muskox Plan.

3. Manage muskoxen in Subunits 22B and 22C primarily for viewing, education, and other nonconsumptive uses.
4. Work with local reindeer herding interests to identify and minimize conflicts between reindeer and muskoxen.
5. Protect and maintain the habitat and other components of the ecosystem upon which muskoxen depend.
6. Encourage cooperation and information exchange among agencies and muskox user groups to develop and implement management and research programs.

**Work Accomplished During the Project Segment Period:** We continued to radiolocate 11 collared muskoxen at bimonthly intervals in Subunits 22C, 22D and Unit 23 (northern Seward Peninsula). Location coordinates were made with GPS equipment and plotted on 1:250,000 maps. In addition, we cooperated with the National Park Service (NPS) and completed a muskox survey in the portion of the Bering Land Bridge National Preserve located in Subunit 22D during April 1995. We counted 35 muskox on this survey.

Members of the public continued to provide information on muskox locations, particularly along the road corridors of Subunits 22B, 22C and 22D.

**Progress Meeting Project Objectives:** Numerous meetings with local land managers, landowners, and the public have resulted in the completion of a cooperative muskox management plan for Seward Peninsula muskoxen. This plan was submitted to the Alaska Board of Game and the Federal Subsistence Board during fall 1994.

**Project Location:** Unit 23 (43,000 mi<sup>2</sup>)  
Kotzebue Sound and Western Brooks Range

**Project Objectives:**

1. Allow for muskox population growth and dispersal into historic range in northwestern Alaska.
2. Estimate muskox numbers in Unit 23 on a 3- to 5-year basis.

**Work Accomplished During the Project Segment Period:** We observed muskox throughout Unit 23 during the reporting period. Calf production and early summer survival were high throughout the unit in 1994 and 1995. Observations of a small group of bulls at the head of the Wulik River indicate dispersal from established groups is continuing. No sightings of groups containing cows have been reported outside of the transplant areas. The final draft of a

Cooperative Interagency Management Plan for the Seward Peninsula was completed, and state regulatory proposals were submitted for a limited hunt in southern Unit 23.

**Progress Meeting Project Objectives:** We estimate there are 350 to 400 muskox in Unit 23. Muskox numbers in the Lisburne Hills and Tahinichok Mountains are probably increasing following high calf production in 1993 and 1994. Muskox on the northern Seward Peninsula have increased. As in past years, no data indicate new colonized areas. Before these can occur, muskoxen numbers may need to increase above current levels.

**Segment Period Project Costs:**

	<u>Personnel</u>	<u>Operating</u>	<u>Total</u>
Planned	23.7	15.8	39.5
Actual	23.7	21.3	45.0
Difference	0	-5.5	-5.5

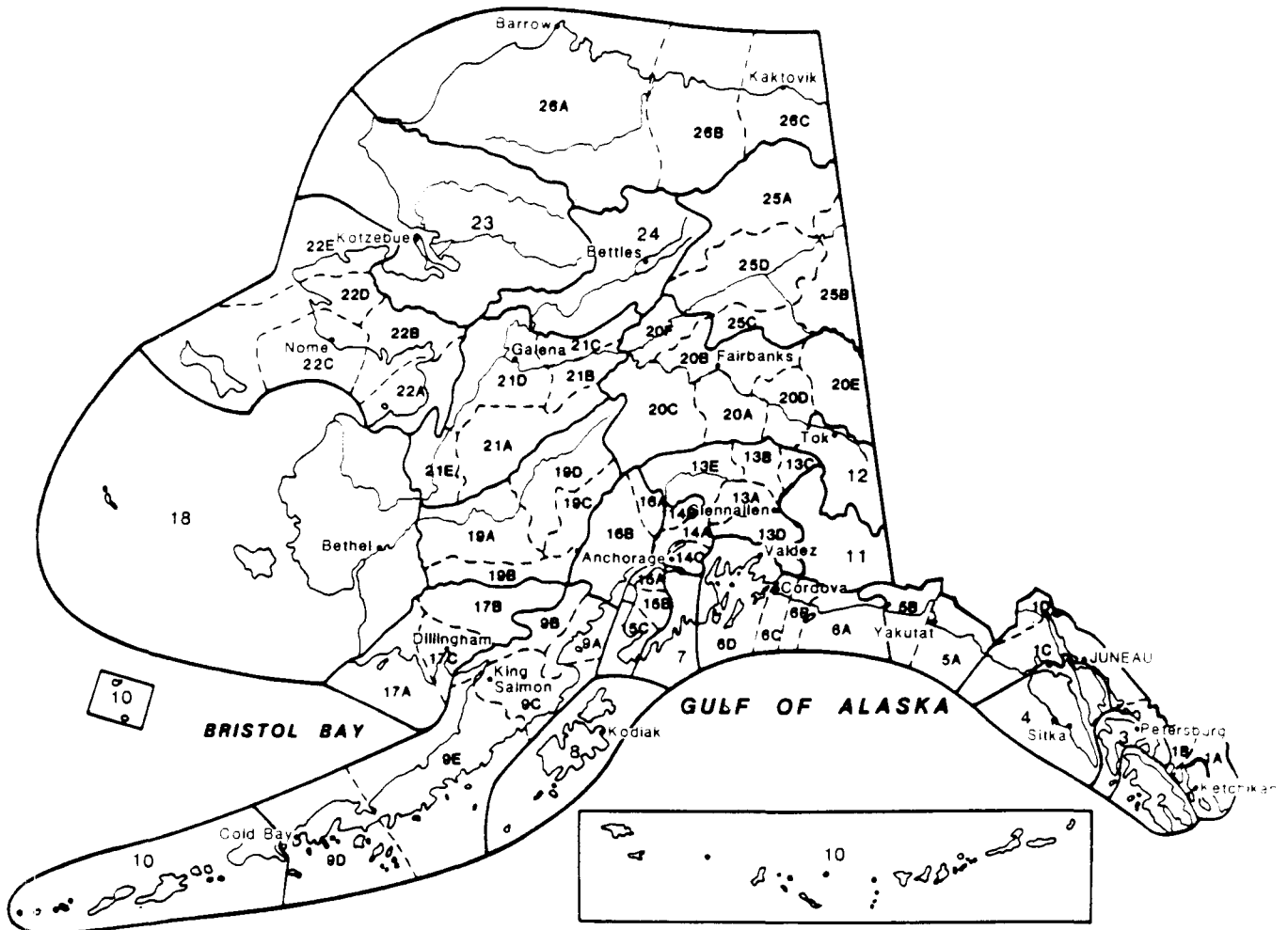
**Explanation:** Population declines in Unit 18 required that we complete an additional census.

**Submitted by:**

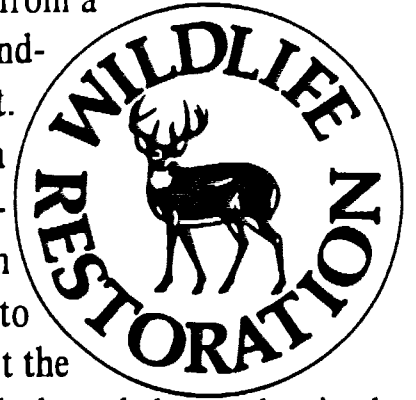
Steve Machida  
Survey-Inventory Coordinator



# Alaska's Game Management Units



The Federal Aid in Wildlife Restoration Program consists of funds from a 10% to 11% manufacturer's excise tax collected from the sales of handguns, sporting rifles, shotguns, ammunition, and archery equipment. The Federal Aid program allots funds back to states through a formula based on each state's geographic area and number of paid hunting license holders. Alaska receives a maximum 5% of revenues collected each year. The Alaska Department of Fish and Game uses federal aid funds to help restore, conserve, and manage wild birds and mammals to benefit the public. These funds are also used to educate hunters to develop the skills, knowledge, and attitudes for responsible hunting. Seventy-five percent of the funds for this report are from Federal Aid.



R.T. WALLEN