Alaska Department of Fish and Game
Division of Wildlife Conservation

Federal Aid in Wildlife Restoration
Annual Performance Report of
Survey - Inventory Activities
1 July 1993 - 30 June 1994

# Muskox

Mary V. Hicks, Editor


Q.T. Wallen

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Study 16.0
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STATE OF ALASKA
Tony Knowles, Governor

DEPARTMENT OF FISH AND GAME
Carl L. Rosier, 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.
   a. Review information from the USFWS on population size, sex-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.
   a. Monitor results of the muskoxen registration permit hunt.
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 increasing slowly. 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.

**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 FY 95. 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.

**Segment Period Project Costs:**

| | Personnel | Operating | Total |
|---|---|---|---|
| Planned | 3.2 | 0.5 | 3.7 |
| Actual | 4.9 | 0.0 | 4.9 |
| Difference | -1.7 | 0.5 | -1.2 |

Explanation: Salary costs expended coordinating with FWS were higher than anticipated.

**Submitted by:**

Kenton P. Taylor
Regional Management Coordinator

**Project Title: Western Alaska Muskox Survey and Inventory**

**Project Location:** Unit 18 (42,000 $mi^2$)
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.
   a. 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:** We conducted an aerial fixed-wing census on Nunivak Island during March 1994 and an aerial helicopter census during March 1994 on Nelson Island. Because we did not complete the aerial census on Nunivak Island, we plan a second census and composition survey by helicopter 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 264 unclassified. During the March 1993 census of Nunivak Island, we found 435 muskoxen; 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 2 years of data indicate the muskoxen herd on Nunivak Island is below our goal of 500-550 muskoxen.

An aerial survey of Nelson Island completed during March 1994 revealed a herd size of 123 muskoxen, including 28 yearlings. The Nelson Island population is also below the population goal of 200-500 animals. The composition of the Nelson Island herd was 6 males 4-year-old-and-older, 40 females 4-year-old-and-older, 7 3-year-old-and-older males, 22 3-year-old females, 8 2-year-old males, 12 2-year-old females, and 28 yearlings. Another survey is also planned for Nelson Island during July 1994 to determine if substantial immigration or emigration had taken place on the mainland of Unit 18. We continued to monitor the dispersal of muskoxen from Nelson Island to the mainland through periodic observations 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.

**Progress Meeting Project Objectives:** The size of both populations on Nunivak and Nelson Island is below the minimum posthunt, precalving population goals. However, reduced harvest of both bulls and cows has already been initiated on Nunivak Island, and reduced cow harvest of muskoxen on Nelson Island was initiated during the spring 1993 season and continued during the 1994 season. We conducted aerial censuses for sex and age composition on both Nelson Island and Nunivak Island during spring 1994. Aerial censuses will be reflown for both islands during July 1994 to determine composition and accuracy of our spring censuses.

Muskox harvest quotas for both Nunivak Island and Nelson Island will probably be reduced during the 1994-95 regulatory year as well.

We estimate the population of the mainland herd at 100-150 animals ranging over an area of approximately 20,000 $mi^2$. 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 during the segment period. Two mature bulls were observed on the top of Kusilvak Mountain during April 1994.

In the future we recommend using satellite telemetry or a larger conventional collaring effort to monitor growth of the mainland muskox population.

In November 1993 the U.S. Fish and Wildlife Service finalized a cooperative muskox/reindeer management plan for Nunivak Island, and all participating parties have commented. The final draft is being printed and should be available in the near future.

**Project Location:** Unit 22 (25,230 $mi^2$)
Seward Peninsula and that portion of the Nulato Hills draining west into Norton Sound

Unit 23 (1,920 $mi^2$)
West of but not including the Kiwalik River Drainage

**Project Objectives and Activities:**

1. Allow continued natural increase in the size and distribution of the Seward Peninsula muskox population.

2. Provide limited hunting of muskoxen in a manner consistent with existing state and federal laws and regulations and the other goals and management 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 muskoxen ecosystem.

6. Encourage cooperation and information sharing among agencies and users of the resource in developing and carrying out management and research programs.

**Work Accomplished During the Project Segment Period:** Department staff, with assistance from U. S. Bureau of Land Management personnel, conducted a muskox survey throughout the western half of Unit 22 during spring 1994. That portion of Unit 23 west of the Kiwalik River was surveyed as well. We observed 925 muskoxen in 75 different groups. A breakdown by subunit of those muskoxen found in Unit 22 is as follows: 22B - 11 muskoxen, 22C - 79 muskoxen, 22D - 405 muskoxen, and 22E - 184 muskoxen. In addition, 246 muskoxen were located in 14 groups in the surveyed portion of Unit 23.

Members of the public provided information on muskox locations particularly along the road corridors of Subunit 22C.

**Progress Meeting Project Objectives:** Meeting with local land managers, landowners, and the public, we completed a cooperative muskox management plan for Seward Peninsula muskoxen. During fall 1994 we will submit this plan to the Alaska Board of Game and the Federal Subsistence Board for approval.

**Project Location:** Unit 23 (43,000 $mi^2$)
Kotzebue Sound and Western Brooks Range

**Project Objectives and Activities:**

1. Allow muskox population growth and dispersal into historic range in northwestern Alaska.

2. Estimate muskox numbers in Unit 23 on a 3- to 5-year cycle.

**Work Accomplished During the Project Segment Period:** We counted 246 muskoxen between the Goodhope and Buckland River drainages during April 1994. These muskoxen originated from the Seward Peninsula transplants.

During April 1994 muskoxen were also censused in the northwestern portion of Unit 23. Fifty-eight muskoxen were counted in the Tachinichok Mountains, and 36 muskox in the Lisburne Hills and Cape Thompson area. Due to poor weather, many muskoxen may have been missed in the Cape Thompson portion of the census. This is based on the 4 June 1993 observation of 80 adults and 23 calves in that location. We continued to receive reports of observations of muskoxen outside the census areas.

After extensive public review, the final draft of the Cooperative Seward Peninsula Management Plan for muskox was completed. This plan includes the southern portion of Unit 23. We completed a first draft of a Cape Thompson Herd Management Plan, encompassing Units 23 and 26A.

**Progress Meeting Project Objectives:** We estimate 350 to 400 muskox inhabit Unit 23. Muskox numbers in the Lisburne Hills and Tachinichok Mountains are probably stable or increasing, following high calf production in 1993. Muskox numbers on the northern Seward Peninsula have increased. As in past years, no data indicate new colonized areas. Muskoxen numbers may need to increase above current levels before new colonizaton occurs.

**Segment Period Project Costs:**

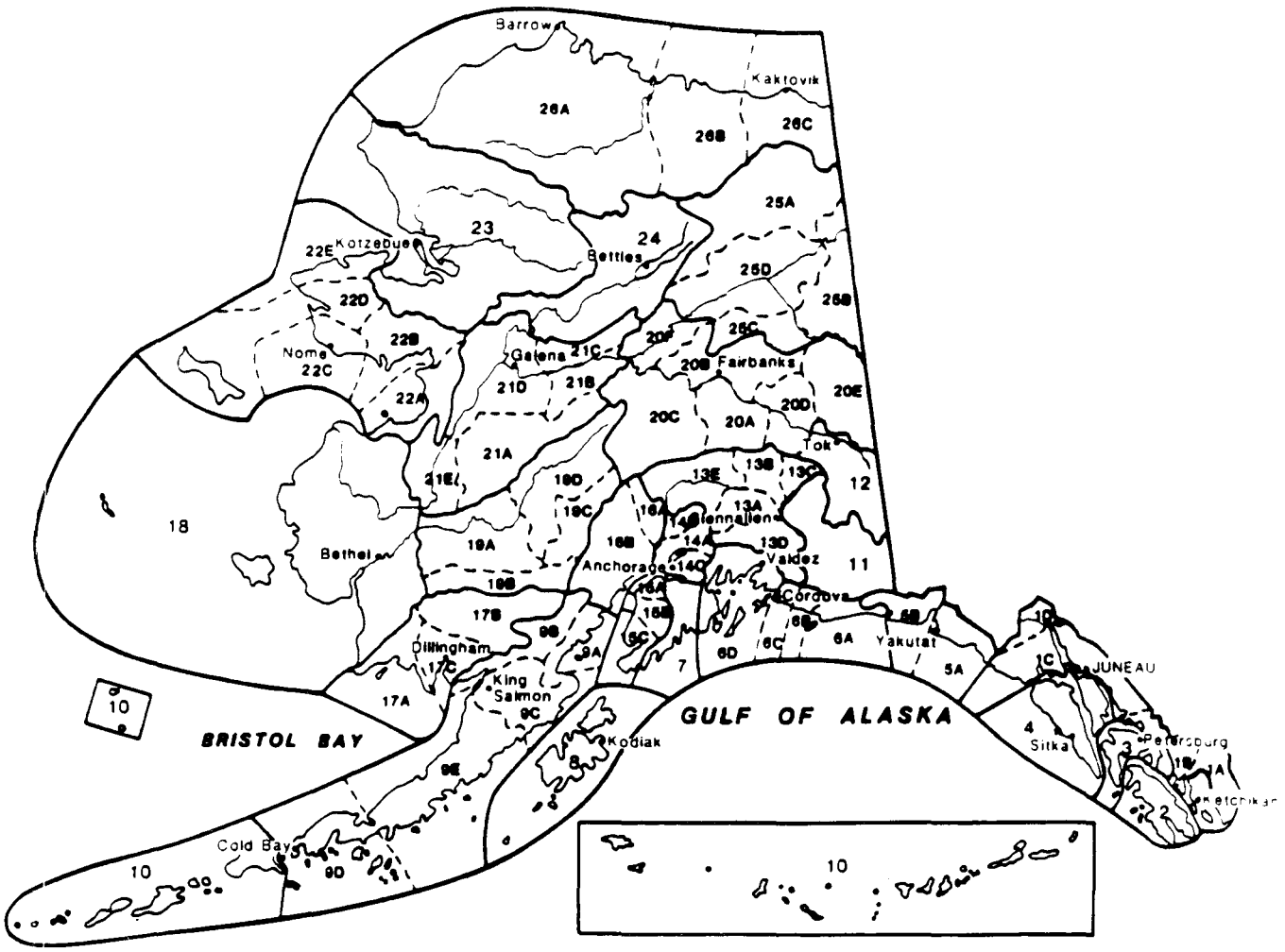
| | Personnel | Operating | Total |
|---|---|---|---|
| Planned | 23.7 | 15.8 | 39.5 |
| Actual | 23.7 | 37.3 | 61.0 |
| Difference | 0.0 | 21.5 | 21.5 |

Explanation: Costs of completing censuses in Units 22, 23, and 26A were higher than anticipated. Completion of a second aerial census on Nunivak Island and Nelson Island was not a planned expense.

**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% manfacturer's excise tax collected from the sales of handguns, sporting rifles, shotguns, ammunition, and archery equipment. The Federal Aid program distributes funds to states using a formula based on each state's geographic area and number of paid hunting license holders. Alaska receives a maximum of 5% of revenues collected each year. The Alaska Department of Fish and Game uses its funds to help restore, conserve, and manage wild birds and mammals. These funds are also used to educate hunters to develop skills and attitudes for responsible hunting. Federal Aid funds paid for 75% of this study.


Larry Jennings