

Alaska Department of Fish and Game  
Division of Wildlife Conservation

Federal Aid in Wildlife Restoration  
Annual Performance Report  
Survey-Inventory Activities  
1 July 1999 - 30 June 2000

# MUSKOX

Mary U. Hicks, Editor



Jennings

defense stance

Grant W-27-3  
Study 16.0  
September 2000

**STATE OF ALASKA**

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**DEPARTMENT OF FISH AND GAME**

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**DIVISION OF WILDLIFE CONSERVATION**

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**Project Title:** Interior (Eastern Northslope) Muskox Population and Habitat Management

**Project Location:** Units 26B and 26C (25,788 mi<sup>2</sup>)  
Central and Eastern Arctic Slope

### Objectives

1. Maintain a stable population of 300–400 muskoxen.
2. Maintain a bull:cow ratio of at least 50:100 and an adult bull:cow ratio of 35:100.
3. Provide for a limited harvest of muskoxen.

### Activities Planned

1. Monitor the results of the permit hunts in Unit 26B (all objectives).
2. Review information obtained by the FWS on population size, and sex and age composition in Unit 26C, and on movements of radiocollared animals (all objectives).
3. Continue development and refinement of the management plan (all objectives).

### Activities Accomplished

1. Monitored the results of the permit hunts (all objectives).
2. Reviewed information for Unit 26C obtained by FWS (all objectives).
3. Revised objectives and finalized management plan (all objectives).
4. In spring 2000, completed an aerial survey in Unit 26B to estimate population size (objectives 1 and 3).
5. In summer 2000, completed composition surveys in Unit 26B (all objectives).

### Segment Period Costs

	<u>Personnel</u>	<u>Operating</u>	<u>Total</u>
<u>Planned</u>	7.4	10.5	17.9
<u>Actual</u>	5.7	7.6	13.3
<u>Difference</u>	1.7	2.9	4.6

*Explanation:* Surveys were accomplished at less than expected costs. Maternity leave reduced the amount of personnel expenditures.

**Submitted by**

Roy Nowlin

Regional Management Assistant

David James

Management Coordinator

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

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

### **Project Objectives**

1. Maintain a posthunt, precalving population of 250–300 muskoxen on Nelson Island and a posthunt, precalving population 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.

**Work Accomplished During the Project Segment Period:** A postcalving aerial census/composition count was completed by helicopter on Nunivak Island during October 1999. We counted 620 muskoxen including 113 calves, 39 males 1+ years, 48 females 1+ years, 69 males 2+ years, 58 females 2+ years, 158 mature bulls (males 3+ years and older), and 135 mature cows (females 3+ years and older). The Nunivak Island muskox population (503 animals excluding calves) is within the population goal of 500–550 muskoxen.

A postcalving population census of Nelson Island was completed using a fixed-wing aircraft during July 1999. We counted 297 muskoxen including 60 calves. The Nelson Island muskox population (237 animals excluding calves) is slightly below the population goal of 250–300 muskoxen.

This was the first year we surveyed transects by global positioning system technology. Navigation and coverage of the area were excellent, and we reduced survey costs because of the efficiency this method.

For hunts on Nunivak Island, 45 drawing permits for bull muskoxen and 45 registration permits for cow muskoxen were issued during fall 1999 and spring 2000. The fall harvest was 5 bulls and 2 cows; the spring harvest was 38 cows and 41 bulls. The total harvest for this reporting period was 46 bulls and 40 cows. Accidental illegal-take of animals caused the difference between permits offered and animals harvested.

Nelson Island muskoxen are hunted by registration permit. In 1999–2000, 15 bull and 15 cow permits were issued. Hunters harvested 15 bulls and 14 cows.

We continued to monitor dispersal of muskoxen from Nelson Island to the mainland through periodic observations and reports by the public. The number of muskoxen on the mainland is estimated to be less than 75–100 animals ranging within an area of approximately 20,000 mi<sup>2</sup>. For the first time, muskoxen were documented in the Kilbuck Mountains where at least 2 bulls wintered.

The number of animals on the mainland is limited by poaching (including both Kilbuck animals). Also, residents of Nelson Island reported that several muskoxen were taken without permits.

**Progress Meeting Project Objectives:** The population on Nunivak Island is within the population goal of 500–550 muskoxen. We plan to distribute 45 bull and 45 cow permits (the maximum number of permits authorized by the Board of Game) for the 2000–2001 hunting season.

The Nelson Island population was slightly below the posthunt, precalving population goal. If this situation persists, up to 30 permits will be distributed for Nelson Island muskoxen in 2000–2001.

The mainland population is poorly understood. We recommend the use of satellite telemetry or a larger conventional collaring effort to monitor the number and distribution of mainland muskoxen.

**Project Location:** Unit 22 (25,230 mi<sup>2</sup>)  
Seward Peninsula and eastern Norton Sound  
Unit 23 (ca 4000 mi<sup>2</sup>)  
West of and including the Buckland River Drainage

**Project Objectives:** The following project objectives were developed through a management planning process completed in cooperation with local landowners and managers, other agencies, and the public:

1. Allow for continued natural increase in the size and distribution of the Seward Peninsula muskox population.
  - a. Complete a census of the Seward Peninsula muskox population every 2 years.
2. Provide for a limited hunting of muskoxen in a manner consistent with existing state and federal laws and regulations and goals and management objectives of the Seward Peninsula Cooperative Muskox Plan.
3. Manage muskoxen in Units 22B and 22C primarily for viewing, education, and other non-consumptive uses.
4. Work with local reindeer herding interests to identify and minimize conflicts between reindeer and muskoxen.
5. Protect and maintain muskox habitat and other components of their ecosystem.
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:** A cooperative census was completed between 13 March and 18 April 2000 by ADF&G, BLM, FWS, and NPS staff in Units 22B, 22C, 22D, 22E and the Seward Peninsula portion of Unit 23 west of and including the Buckland River drainage (Unit 23SW). The results of the census are shown below:

	Nr groups	Nr adults	Nr yearlings	Nr Unclassified	Total muskox
22B	17	144	15	0	159
22C	13	120	19	9	148
22D	56	662	112	0	774
22E	26	301	71	89	461
3SW	20	222	33	0	255
Total	132	1449	250	98	1797

The population increased from 1432 muskoxen in 1998 to 1797 in 2000, a 12.5% annual increase. Since 1970 when muskoxen were reintroduced to the Seward Peninsula, population growth has averaged 14% annually. This growth rate has remained unchanged according to our 2000 estimate and an annual harvest rate of approximately 2%. Although the census occurred over a 5-week period, deep snow on much of the Seward Peninsula prevented significant movements of muskox, and we believe the accuracy of the count was not compromised.

The second year of a State Tier II muskox hunt on the Seward Peninsula occurred during this reporting period. The season was 1 Aug–15 Mar with a bag limit of 1 bull. Eleven of the 24 permits issued for hunting in Unit 22D (the portion north of Grantley Harbor, Imuruk Basin and the Pilgrim River drainage) were filled, 7 of 9 permits for Unit 22E were filled, and 1 of 2 permits issued for Unit 23SW was filled. The overall hunter success rate dropped from 74% in 1998–1999, the first year of the hunt, to 54% during this reporting period. Staff traveled to the villages within the hunt areas and were available in the Nome office to provide assistance with the Tier II application process. Staff also met in person with permit winners who had not previously hunted muskoxen to conduct muskox-hunting orientations. Aging of muskoxen teeth collected from hunters in the 1998–1999 hunt proved inaccurate, so lower jaws were not collected during the 1999–2000 hunt.

**Progress Meeting Project Objectives:** State and federal agencies are working well together to coordinate the state Tier II muskox hunts with federal subsistence hunts for federally qualified subsistence users on federal public lands. State and federal managers held joint public meetings about muskox management, issued state and federal permits together, and gave all muskox hunters the same hunting orientation.

The Tier II scoring system favors applicants from the villages where the cost of living is higher. Lack of hunting opportunity for Nome residents in the existing hunt areas is creating a demand for hunting opportunity in Unit 22C. Tourism and wildlife viewing interests are strongly opposed to hunting along the road system. Currently, as specified in the Seward Peninsula Cooperative Muskox Management Plan, Units 22B and 22C are managed for non-

consumptive uses. A review of the objectives in the management plan with a broad group of stakeholders is being planned for summer 2000.

**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 suitable habitat throughout Unit 23.
2. Estimate muskox numbers biennially in the southwestern portion of Unit 23 and annually in the northwestern portion.
3. Collect sex and age composition information in conjunction with population censuses.
4. Provide for hunting that is consistent with population goals and sustained yield.
5. Monitor radiocollared muskox monthly.

**Work Accomplished During the Project Segment Period:** The southwestern portion of Unit 23 was censused during March 2000 in conjunction with the Seward Peninsula muskox census. We observed 255 muskoxen, including 33 short yearlings, in Unit 23, and the total Seward Peninsula population was 1797 muskox (including 250 short yearlings). The total population continued to grow at an annual rate of 14%.

The northwestern portion of Unit 23 was also censused during late June through mid July 2000. We observed 424 muskoxen (including 97 neonates and 39 yearlings). Since 1970 when muskox was introduced to this portion of Unit 23, the population has grown approximately 8% annually. However, censuses conducted annually since 1997 indicate the population may have stabilized at about 300 adults during the last 4 years.

Opportunistic observations by department staff and the public indicate bulls continue to disperse throughout Unit 23 as single animals or in small groups. Although we have never observed females joining these lone males, we suspect males that emigrate from core reproductive areas are important for pioneering new habitat. Since 1988, only 1 mixed sex/age group (2 bulls, 2 cows, and a yearling) observed at the headwaters of Derby Creek has been outside a core reproductive area.

We monitored radiocollared muskoxen (3 cows and 1 bull) near Deering. All animals remained in their previously described ranges with no significant movements.

The 1999–2000 hunt was conducted jointly under federal and state management. Under the federal hunt 8 permits were issued, and 1 bull was harvested. Under the state hunt 2 Tier II permits were issued and 1 bull was harvested.



During its October 1999 meeting, the Board of Game established a new Tier II muskox hunt in that portion of Unit 23 north and west of the Noatak River. Season dates are August 1–March 15, the bag limit is 1 bull, use of aircraft is not permitted, and trophies will be devalued if they are removed from Unit 23. This hunt will become effective during the 2000–2001 regulatory year and 6 Tier II permits will be issued.

**Progress Meeting Project Objectives:** The Seward Peninsula muskox population continues to grow and provide hunting opportunity to subsistence hunters. The Cape Thompson muskox population is either stable or growing slowly and will provide limited hunting opportunity beginning in the 2000–2001 regulatory year.

**Segment Period Project Costs:**

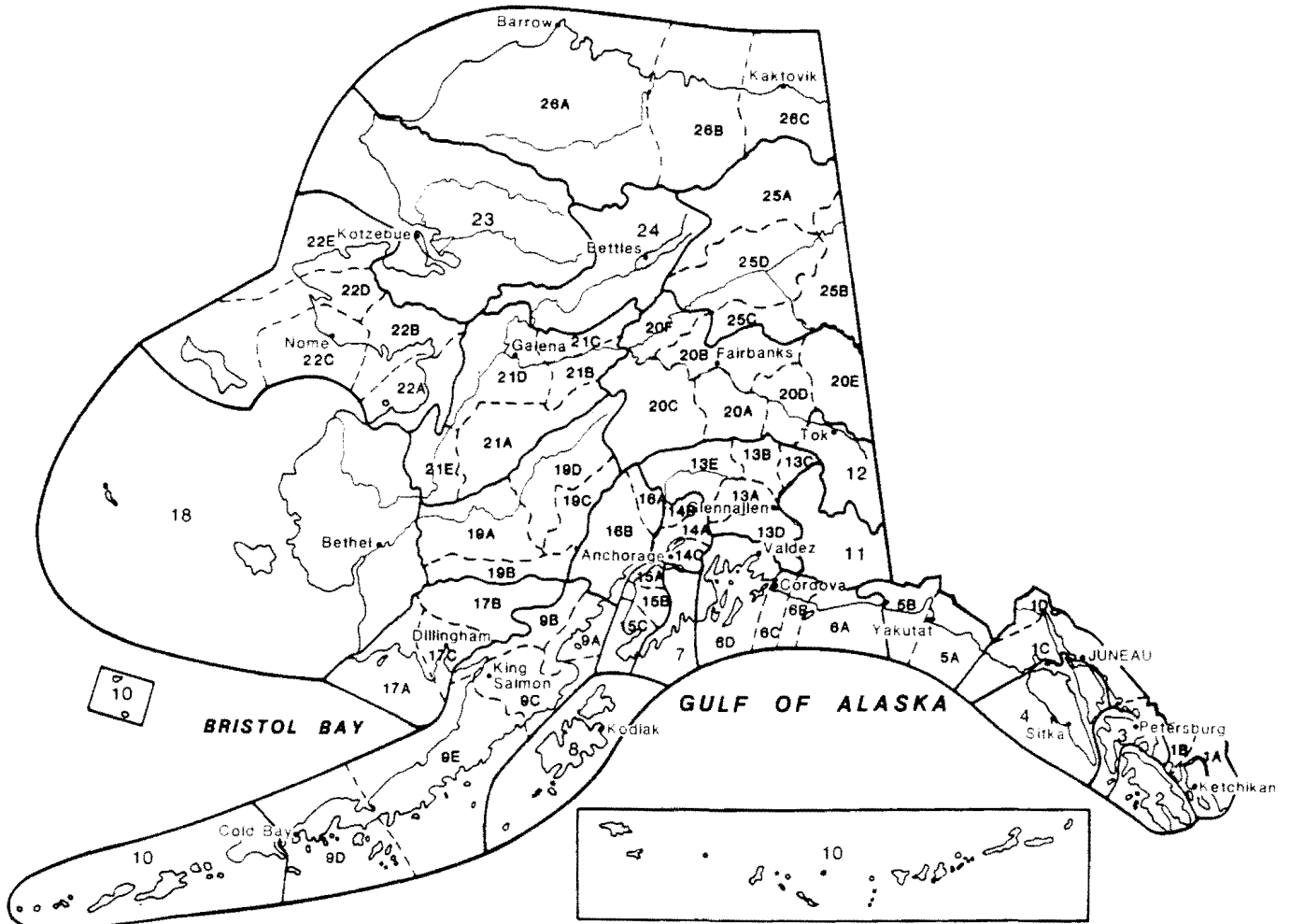
	<u>Personnel</u>	<u>Operating</u>	<u>Total</u>
Planned	20.7	58.0	78.7
Actual	48.2	43.1	91.3
Difference	-27.5	14.9	-12.6

*Explanation:* Personnel costs were higher than planned because of 1) the public process used for management planning, and 2) the continuation of expanded Tier II hunts in Units 22 and 23SW. Operating costs were lower than planned because of shared costs for the Seward Peninsula muskox census in Units 22 and 23SW.

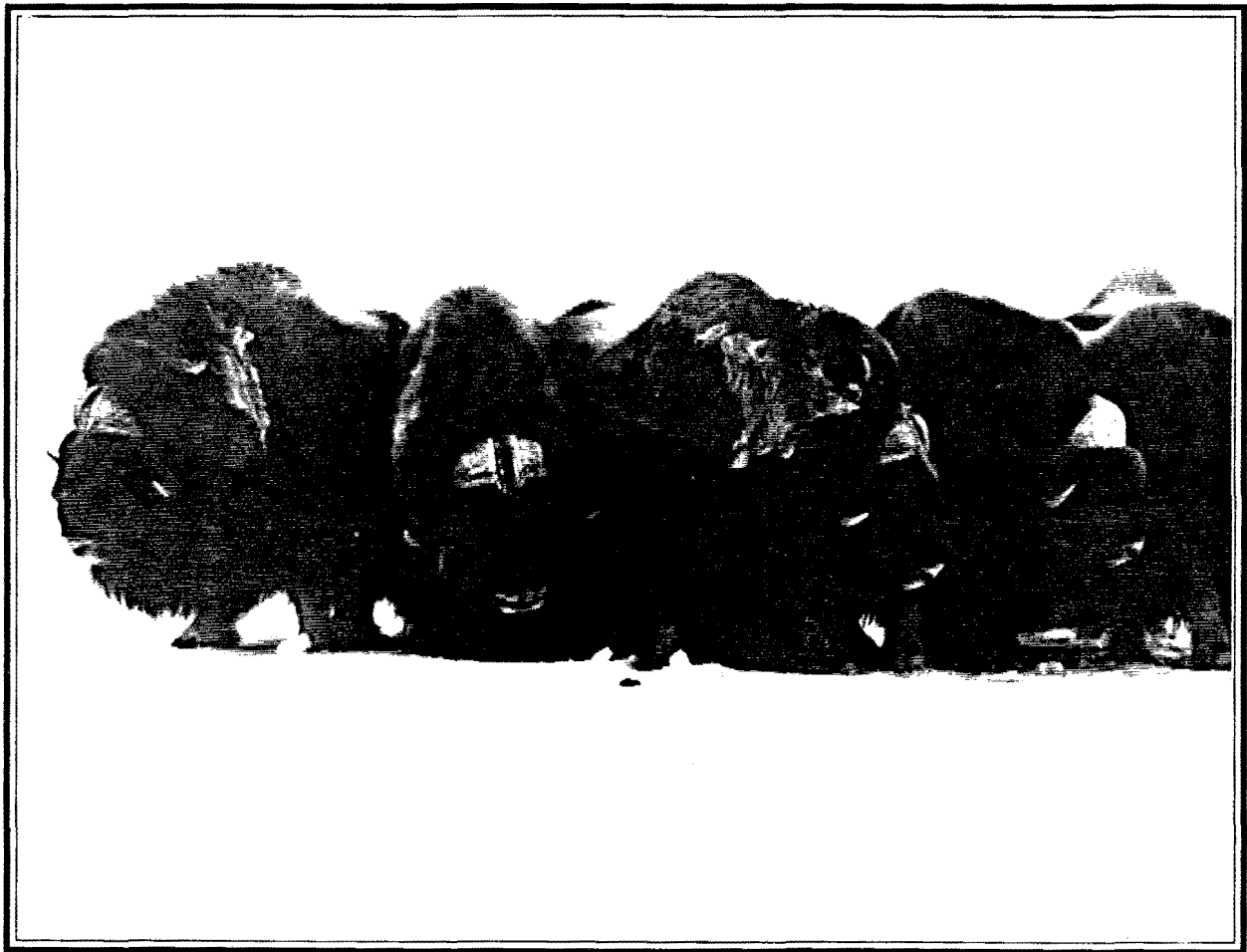
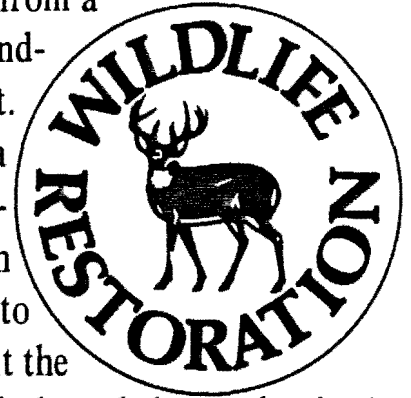
**Submitted by**

Peter Bente  
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.



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