Alaska Department of Fish and Game
Division of Wildlife Conservation

Federal Aid in Wildlife Restoration
Annual Performance Report of
Survey-Inventory Activities
1 July 1995- 30 June 1996

MUSKOX

Mary V Hicks, Editor

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STATE OF ALASKA
Tony Knowles, Governor

DEPARTMENT OF FISH AND GAME
Frank Rue, Commissioner

DIVISION OF WILDLIFE CONSERVATION
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Project Title: Interior (Eastern Northslope) Muskox Population and Habitat Management

Project Location: Units 26B and 26C (26,000 mi^2)

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 FWS on population size, composition, and dispersal of muskoxen. The FWS flew muskoxen surveys during April and late June 1996 and conducted ground composition counts in June. Numbers within ANWR have stabilized at about 400, but numbers and distribution to the east and west continue to slowly increase. The ADF&G did not conduct surveys during the report period. We issued five "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 that dispersal and population growth are not limited by hunting. The small number of permits ensures a fairly high level of compliance and provides opportunity to communicate with local users. Most muskoxen inhabit ANWR. FWS presently manages most of the hunting effort and conducts field research activities on the refuge. The ADF&G has no field activities related to muskoxen planned for FY97 but should consider a survey 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. A suggested revised project objective is to work with North Slope management agencies, landowners, and other interested persons to develop a management plan for muskoxen.

Segment Period Project Costs:

	Personnel	Operating	Total
Planned	2.5	0.5	3.0
Actual	2.4	0.0	2.4
Difference	0.1	0.5	0.6

Submitted by:
David James
Management Coordinator

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

Project Location: Unit 18 (42,000 mi^2)
Yukon-Kuskokwim Delta

Project Objectives and Activities:

1. Maintain a posthunt, precalving population size of 200-500 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. Develop a muskox comanagement plan with the community of Mekoryuk, the U. S. Fish and Wildlife Service (FWS) and the department.

Work Accomplished During the Project Segment Period: An aerial survey/census (fixed-wing) was completed on Nunivak Island during March 1995. We saw 469 muskoxen and 3246 reindeer during the census. We completed a composition count by helicopter during 27-31 August 1995. The composition for 498 animals was 103 calves, 44 yearlings, 20 males 2+ years, 37 females 2+ years, 27 males 3+ years, 34 females 3+ years, 100 mature bulls (males 4 years and older), and 133 mature cows (females 4 years and older). Results from the precalving survey indicate the Nunivak Island muskox herd is slightly below the goal of 500-550 muskoxen.

An aerial survey of Nelson Island completed on 29 June 1995 revealed a herd size of 217 muskoxen with the following composition: 54 calves, 28 yearlings, 5 males 2+ years, 11 females 2+ years, 16 males 3+ years, 18 females 3+ years, 16 mature bulls (males 4 years and older), and 74 mature cows (females 4 years and older). An aerial survey (fixed-wing) was completed in March 1996 to determine the survival of calves born in 1995. We counted 230 muskoxen, including 45 short-yearlings (a loss of 9 calves), and these results show 13 muskoxen were missed during the previous census. The Nelson Island population was below the population goal in 1994 but has rebounded to reach the management goal after closing the hunting season for 2 regulatory years.

We continued to monitor dispersal of muskoxen from Nelson Island to the mainland through periodic observations reported by the public and air taxi pilots. During the reporting period muskoxen were sighted near Dall Lake, Kusilvak Mountain, the Andreafsky Mountains, the Yukon delta, Cape Romanzof, and the tundra west and north of Bethel. Two mature bulls were observed on the top of Kusilvak Mountain during April 1994, and 1 was there in March 1995. Twenty-three muskoxen were seen in the mud volcanoes east of Chevak in March 1996. Five adult cows and 3 yearlings were observed on Cape Romanzof in May 1994, and this group increased to 11 muskoxen, including 2 calves and 2 yearlings, in late May 1996. Thirteen muskoxen were observed on Baird Inlet in April 1996. These observations show there are small, stable populations of muskoxen on the mainland of Unit 18, and we believe the population is

approximately 100-150 muskoxen. The population is held stable by natural mortality and poaching by nearby communities.

Drawing and registration permits for hunting muskoxen on Nunivak Island were issued during fall 1995 and spring 1996. The fall harvest on Nunivak Island was 5 cows taken by registration permit and 5 bulls by drawing permit. The spring harvest on Nunivak Island was 15 cows taken by registration permit and 15 bulls taken by drawing permit.

No hunting was permitted for the 1995-96 regulatory year on Nelson Island. The season was closed in response to low yearling recruitment for the last 2 years.

Two muskox comanagement meetings were held on Nunivak Island at the village of Mekoryuk. We discussed proposals from the IRA Council and the department to work together for the benefit of the muskoxen and the community. Also 2 meetings were held on Nelson Island, 1 in Toksook Ba and 1 in Tununak, to discuss the decline (since 1993) and options for recovery of the muskox herd.

Progress Meeting Project Objectives: The size of both populations on Nunivak and Nelson Island are within the minimum posthunt, precalving population goals. Reduced harvests of both bulls and cows occurred for 2 seasons on Nunivak Island, and no harvest of muskoxen was allowed on Nelson Island during the spring of 1995 and 1996. Since the numbers of muskox increased in response to these harvest restrictions, muskox harvest quotas will be increased for both Nunivak and Nelson Islands during the 1996-97 regulatory year.

The mainland population is estimated at 100-150 animals ranging in an area of approximately 20,000 mi^2. 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 FWS for Nunivak Island during November 1993, and all participating parties have commented on the plan. The final draft is currently being printed and should be available in the near future.

During the 1995-96 regulatory year, several individuals from the community of Mekoryuk attempted to gain ownership and unilateral management of the muskox herd on Nunivak Island. The department, FWS, and a state representative aide met with the village tribal council to begin a cooperative process to establish comanagement of the herd. This meeting ended in a deadlock and caused some correspondence from the Office of the Governor and the Mekoryuk IRA Council. Comanagement meetings and discussions may resume later in 1996.

The department received 2 letters (1 from Tununak IRA Council and 1 from a Toksook Bay resident) supporting the 2-year closure of the muskox season on Nelson Island. The season closure was supported to allow the herd to recover from poor recruitment in 1993 and 1994.

Project Location: Unit 22 (25,230 mi^2)
Seward Peninsula and eastern Norton Sound

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

Project Objectives and Activities:

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.
   - 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: We continued to radiolocate 9 radiocollared muskoxen at periodic intervals in Units 22C, 22D and Unit 23 (northern Seward Peninsula) to document seasonal distribution. In addition, during March and April 1996 we completed a census of the muskox population in Units 22B west of the Darby Mountains, 22C, 22D, 22E and Unit 23 south of Kotzebue Sound and the Selawik Hills. Staff and aircraft from the National Park Service (NPS) and the Bureau of Land Management (BLM) participated in the census. Results of the census are shown below:

Unit	Number of muskox groups	Number of muskox
22B	7	51
22C	11	87
22D	33	347
22E	18	256
23	15	210
Total	84	951

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

Progress Meeting Project Objectives: Meetings with local land managers, landowners, cooperating agencies, and the public 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. We held additional meetings in 1995 to plan cooperative population studies and surveys and discuss results of the first Seward Peninsula Federal subsistence hunt, which was 1 September 1995 through 31 January 1996.

Since 1988 we have been able to complete a muskox census of the Seward Peninsula every 2 years. The current population of 951 muskoxen has changed little since the 1994 census of 925 animals.

Project Location: Unit 23 (43,000 mi^2)
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 every 3 to 5 years.

Work Accomplished During the Project Segment Period: In March and April 1996, the department completed the cooperative muskox census of the Seward Peninsula. In the Unit 23 portion of the Seward Peninsula, we counted 210 muskox. This is a decrease of 36 animals from the count in 1994. We suspect the muskoxen moved out of Unit 23 and into Units 22B and 22E. Based on ground observations, the posthunt bull:cow ratio on the northern Seward Peninsula is 40 bulls:100 cows and 21 yearlings:100 cows.

We collected observations of muskoxen from staff and the public. These reports indicate bull muskoxen are continuing to disperse throughout Unit 23 and Unit 26A as single animals or groups of 2-3 animals. We believe calf production and early summer survival in 1995 was slightly above average for both the northern and southern Unit 23 populations.

We radiocollared 5 cows and 4 bulls near Deering in April 1996. The collars were distributed in 5 different groups. A University of Alaska-Fairbanks graduate student will use these collared animals to investigate muskox/reindeer interactions.

The department continued to work with federal agencies, the Board of Game, and Federal Subsistence Board to resolve differences between state and federal muskox hunting regulations in Unit 22 and Unit 23. Residents of Deering and Buckland harvested 7 bulls in the southern portion of Unit 23.

Progress Meeting Project Objectives: Given the mild winter conditions during 1995-96, we do not expect significant changes in the number of muskoxen in Unit 23. Muskox numbers in the Lisburne Hills and Tahinichok Mountains are probably increasing following high calf production in 1993 and 1994. Muskoxen on the Seward Peninsula have increased despite the limited harvest

of 24 bulls in 1995-96. Observations of animals in new locations indicate bulls are pioneering new range and habitat. Reproductive groups have been established at the headwaters of the Tagagawik River.

Segment Period Project Costs:

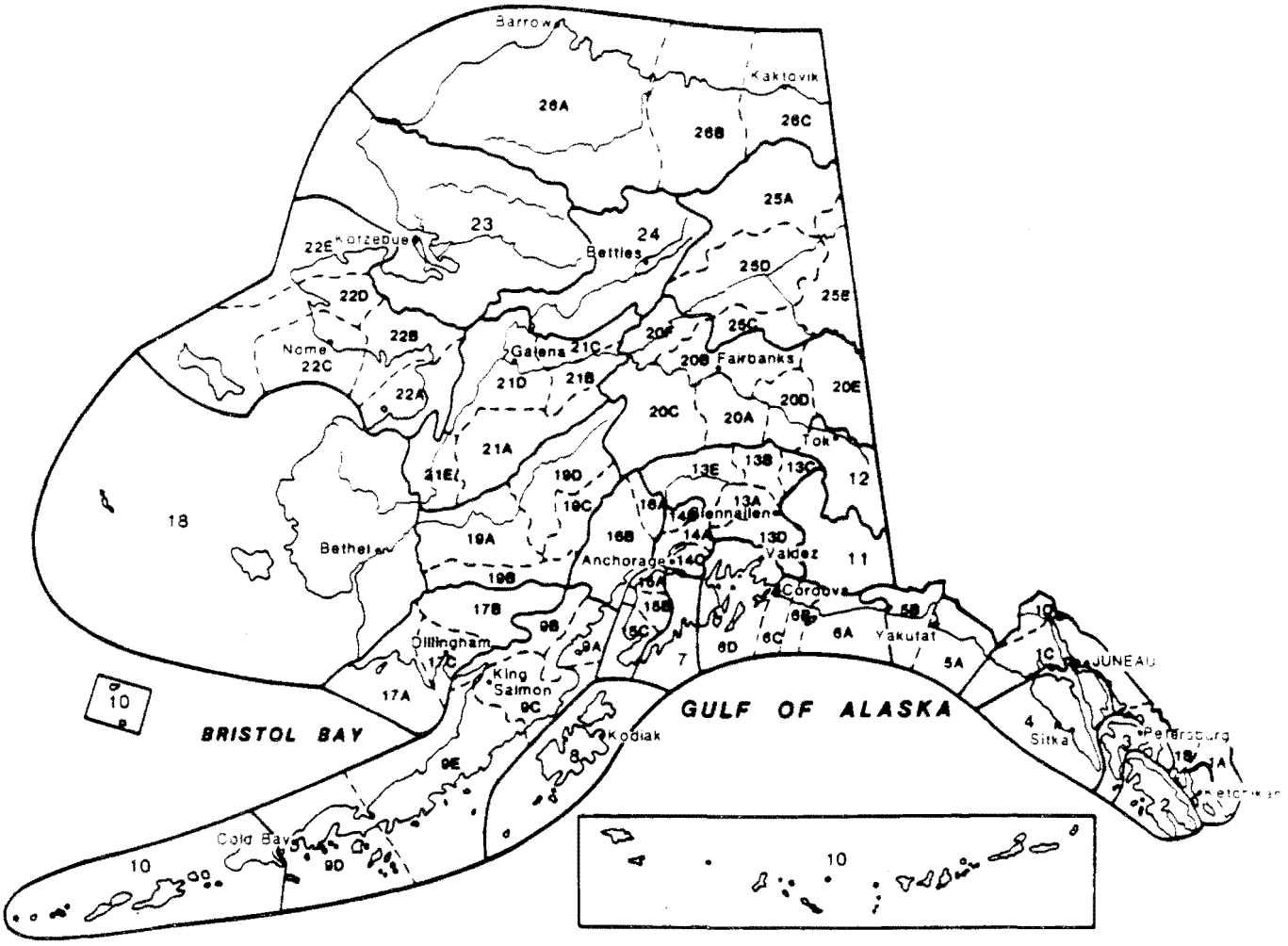
	Personnel	Operating	Total
Planned	14.6	37.5	52.1
Actual	26.3	23.4	49.7
Difference	-11.7	14.1	2.4

Explanation: We added a Technician I position this reporting period, resulting in the overexpenditure in personnel.

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.

LeeAnne Ayres