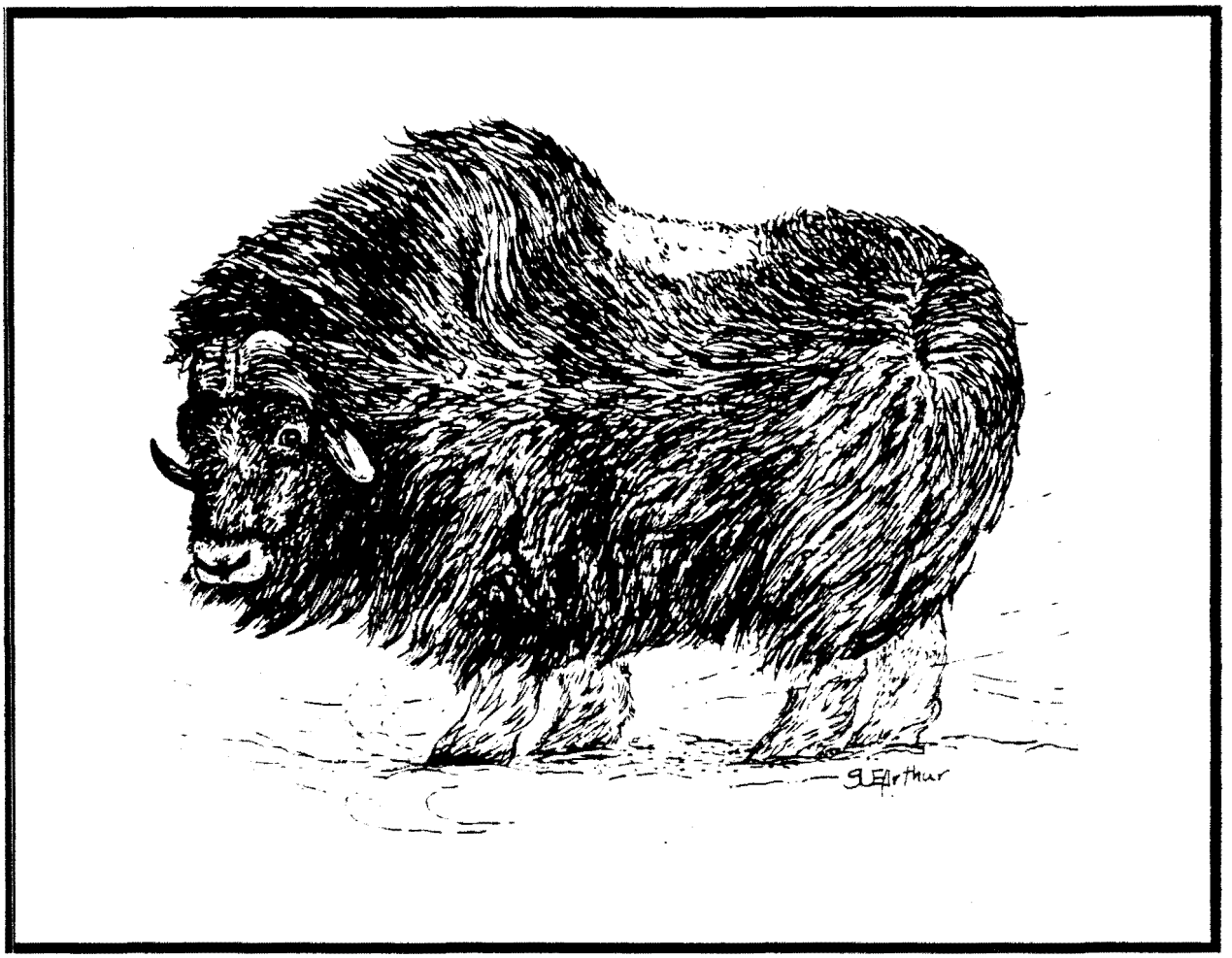
Alaska Department of Fish and Game
Division of Wildlife Conservation

Federal Aid in Wildlife Restoration
Annual Performance Report of
Survey-Inventory Activities
1 July 1992 - 30 June 1993

MUSKOX

Susan M. Abbott, Editor



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Project Title: **Region III Muskox Population and Habitat Management**

Project Location: Subunits 26B and 26C

Project Objectives and Activities:

1. Manage muskoxen harvest so that it does not appreciably restrict population growth or dispersal.

    1a. Review information obtained by the USFWS on population size, sex-age composition, and movements of radio-collared muskoxen.

2. Maintain a bull:cow ratio of at least 50:100 and an adult bull:cow ratio of 35:100.

    2a. Monitor results of the muskoxen registration permit hunt.

    2b. Conduct aerial surveys to determine distribution of muskoxen in Subunit 26B.

3. Maintain direct communication with local residents of Nuiqsut, Kaktovik, and Barrow about management decisions concerning the reintroduction, conservation, and hunting of muskoxen.

Work Accomplished During the Project Segment Period:

1a. The area biologist reviewed information on population size, composition, and dispersal of muskoxen collected by the USFWS.

2a. The ADF&G issued two "Tier II" subsistence permits for muskoxen hunters in Subunit 26B and monitored the permit hunt for muskoxen in Subunit 26C administered by the USFWS.

2b. The USFWS flew muskoxen surveys during late June and September 1992 and conducted ground composition counts in early July. 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.

Progress Toward 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 and the fact that virtually all are issued in Kaktovik ensures a high level of compliance and provides an opportunity to communicate with local users. Most muskoxen inhabit the Arctic National Wildlife Refuge. The 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 FY94. Management objectives continue to be met.

Existing management objectives are generally suitable. However, Objective 2b relating to the aerial surveys in Subunit 26B should be discontinued. In view of other priorities and the small number of muskoxen in the area, aerial surveys would not be cost-effective or yield meaningful results. Observations during other wildlife surveys and by the public will continue to provide adequate information. When it appears muskoxen abundance and distribution have changed significantly a survey would be appropriate. However, that situation will probably take several years to develop.

Segment Period Project Costs:

	Personnel	Operating	Total
Planned	5.4	1.0	6.4
Actual	6.4	0.0	6.4
Difference	-1.0	1.0	0.0

Submitted by:

Kenton P. Taylor
Regional Management Coordinator

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

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

Project Objectives:

1. Maintain a post-hunt, pre-calving population size of 200-500 muskoxen on Nelson Island, and a post-hunt, pre-calving population size of 500-550 muskoxen on Nunivak Island.

    1a. 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 completed aerial and ground surveys on Nunivak Island during March 1992. During March 1993, only aerial surveys were conducted on Nunivak. During March 1992, the aerial census was incomplete, and the ground count sampled most of the herd (407 muskoxen). The composition for these 407 animals was: 60 yearlings, 27 2 year-old males, 26 2 year-old females, 45 3 year-old males, 45 3 year-old females 117 4+ year-old males, 68 4+ year-old females, and 19 unclassified. During the March 1993 census, we found 435 muskoxen, however, the composition count was only able to classify 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 males, 48 4+ year-old females, and 244 unclassified. Results from these 2 years of data collection indicate that the muskoxen herd on Nunivak Island is now below our goal of 500-550 muskoxen.

We conducted an aerial survey of Nelson Island during January 1993, and counted 198 muskoxen, of which 28 were yearlings. The Nelson Island population is also below the population goal of 200 to 500 animals.

We continued to monitor the 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 islands during fall 1992 and spring 1993. The fall harvest on Nunivak Island was 10 bulls

taken by drawing permit. The spring harvest on Nunivak Island was 25 cows taken by registration permit and 36 bulls taken by drawing permit. All 30 individuals issued registration permits for Nelson Island were successful in harvesting 30 bull muskoxen.

Progress Towards Meeting Project Objectives: Populations of both muskox herds on Nunivak and Nelson islands are slightly below the minimum post-hunt, pre-calving 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 began during the spring 1993 season. We conducted ground surveys for sex and age composition on both Nelson and Nunivak islands during spring 1992, and aerial surveys were completed for both islands during 1993.

The population size of the mainland herd is estimated at 100-150 animals ranging over an area of approximately 20,000 mi^2. This estimate is based on sightings made by the public and aircraft pilots. Muskoxen were sighted near Dall Lake, Kusilvak Mountain, the Andreafsky Mountains, the Yukon Delta, and the tundra area west and north of Bethel during the report period.

The use of satellite telemetry or a larger conventional collaring effort is recommended in the future to monitor the mainland muskox population.

A muskox/reindeer management plan has been drafted by the USFWS for Nunivak Island, and all participating parties have provided comments. The final draft is currently being printed and should be available in the near future.

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

Project Objectives and Activities:

1. To allow for continued increase in the size and distribution of the Seward Peninsula muskox population.

2. To provide for a limited harvest in a manner consistent with existing state and federal laws and regulations, and the other goals and management objectives of this plan.

3. To manage muskoxen along the Nome road systems of Subunit 22C for viewing, education, and other non-consumptive uses.

4. To work with local reindeer herding interests to minimize any conflicts which may occur between reindeer and muskoxen.

5. To protect and maintain the habitat and other components of the ecosystem upon which muskoxen depend.

6. To encourage cooperation and sharing of information 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 conducted several radiotelemetry flights to determine the location and number of active radios on muskoxen. At least 21 radios remain active.

As in past years, members of the public continued to provide staff with information on muskoxen locations, particularly along the road corridors of Subunit 22C.

Several meetings took place with reindeer herders and others to discuss ways to deal with perceived conflicts between muskoxen and reindeer. We also discussed the need for a muskoxen management plan and as well as the steps we need to take before developing and implementing a plan.

Progress Toward Meeting Project Objectives: Development of a muskox management plan is underway. Land owners and agencies have met several times to discuss the contents of a cooperative muskox management plan. We intend to have this plan ready for submission to the Board of Game and the Federal Subsistence Board by spring 1994.

Bureau of Land Management and ADF&G staffs drafted and distributed a muskoxen fact sheet which was made available to all village residents of the northern region and Seward Peninsula.

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

Project Objectives:

1. Allow for population growth and dispersal into historic muskox range in Unit 23.

2. Obtain an estimate of the numbers of muskoxen in Unit 23 on a 3-5 year basis.

Work Accomplished During the Project Segment Period: We located 6 radio-collared muskox a total of 25 times during survey and telemetry flights. One female muskox had her collar removed after it had flipped over her horns. We also collared a bull in the same group. Composition data collected during these flights indicated the percentage of calves in the population ranged from 12 to 22% (calves/adults).

A high number of muskox mortalities occurred during this report period. One radio-collared muskox died of unknown causes. Four muskox were shot near Kivalina and 1 was shot on the Wulik River.

We believe that 245-275 muskox reside in Unit 23. We counted 8 groups of muskox totaling 134 in the southern portion of Unit 23 during a census in April 1992. Based on a 1988 census, we estimate that 110-140 animals inhabit the coastal hills between Cape Lisburne and Cape Krusenstern.

Progress Toward Meeting Project Objectives: Staff biologists believe muskox numbers in Unit 23 are stable in the Lisburne Hills and Port Site area, and increasing in the northern Seward Peninsula. Observations of dispersing individuals, primarily older males, increased during this report period. There is no indication that new herds have been established. Illegal harvest of muskox continues to be a problem in Unit 23. A public service announcement addressing the illegal killing and waste of muskox was aired on the local radio station during June 1992.

The census conducted on the Seward Peninsula during this report period provided data on muskox numbers in the southern portion of the unit. A census of the Lisburne Hills and Cape Krusenstern area is scheduled for spring 1994.

Segment Period Project Costs:

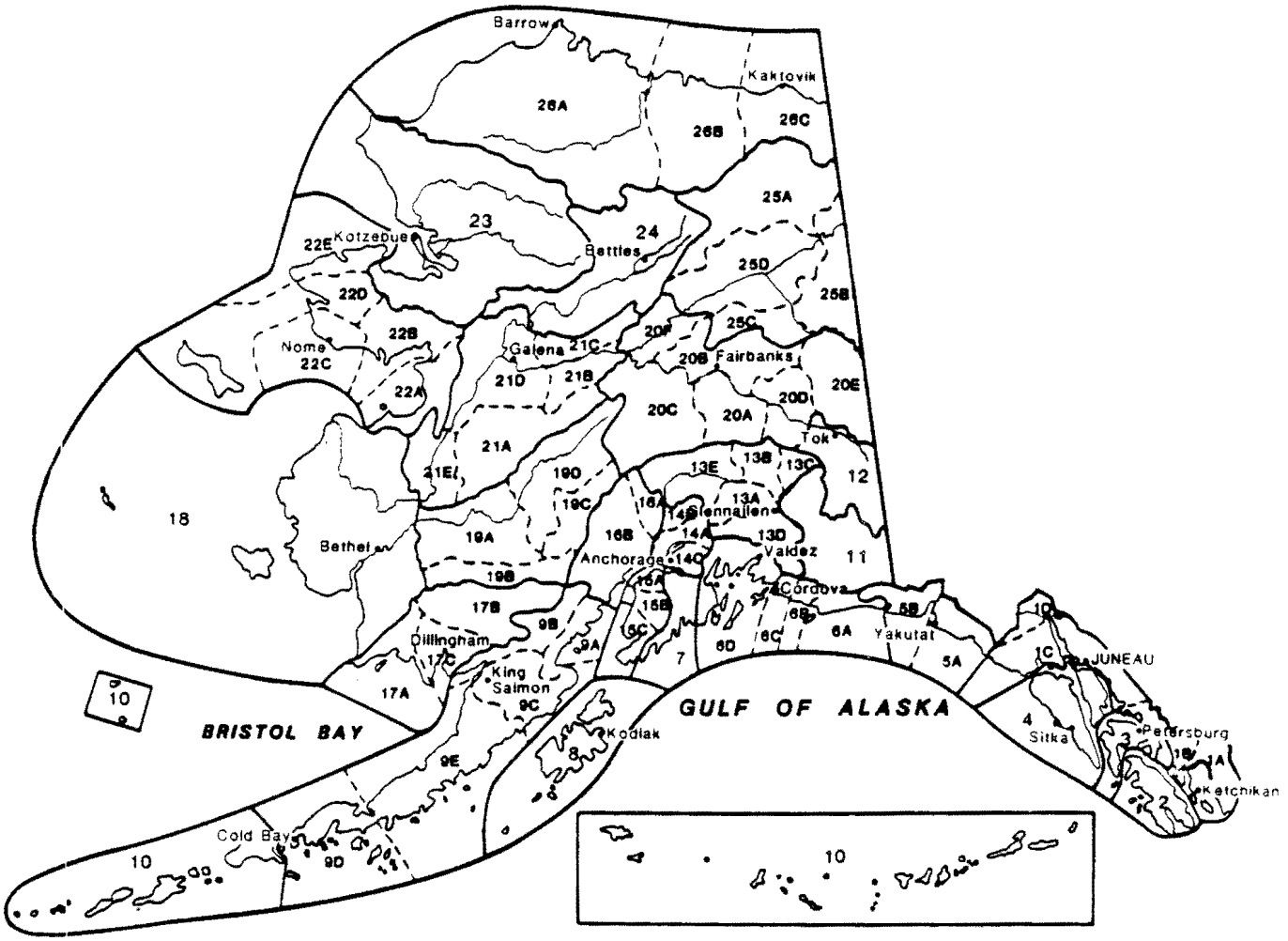
	Personnel	Operating	Total
Planned	14.2	38.1	52.3
Actual	14.2	8.0	22.2
Difference	0	30.1	30.1

Explanation: Declining moose populations in Unit 22 and 23 required funds for additional survey work. Most of the cost of the Unit 18 work was borne by the USFWS. Planned work in Unit 22 was not conducted. Use of state-owned aircraft resulted in significant cost savings for work in Unit 23.

Submitted by:

Steve Machida
Survey-Inventory Coordinator

Alaska's Game Management Units



Federal Aid in Wildlife Restoration

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 then allots the funds back to states through a formula based on each state's geographic area and the number of paid hunting license holders in the state. Alaska receives 5% of the revenues collected each year, the maximum allowed. The Alaska Department of Fish and Game uses the funds to help restore, conserve, manage, and enhance wild birds and mammals for the public benefit. These funds are also used to educate hunters to develop the skills, knowledge, and attitudes necessary to be reponsible hunters. Seventy-five percent of the funds for this project are from Federal Aid.