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MUSKOX

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Project Title: Western Alaska Muskox Population Management

Project Location: Unit 18 (42,000 mi²)
Yukon-Kuskokwim Delta

Project Objectives:

1. Maintain a posthunt, precalving population size of 200–250 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: A postcalving aerial (helicopter) census–composition count was completed on Nunivak Island during August 1998. We saw 634 muskoxen during the census which included 14 of the 15 count areas. The composition for these animals was 98 calves, 50 males 1+ years, 75 females 1+ years, 45 males 2+ years, 55 females 2+ years, 164 mature bulls (males 3+ years and older), and 147 mature cows (females 3+ years and older). By comparing the precalving population objective with the postcalving census results, we conclude the Nunivak Island muskox herd is above the population goal of 500–550 muskoxen.

A postcalving aerial survey–composition count of Nelson Island completed during August 1998 revealed a herd size of 293 muskoxen with the following composition: 68 calves, 27 males 1+ years, 32 females 1+ years, 32 males 2+ years, 34 females 2+ years, 34 mature bulls (males 3+ years and older), and 66 mature cows (females 3+ years and older). By comparing the precalving population objective with the postcalving census results, the Nelson Island muskox population is within or slightly above the population goal of 200–250 muskoxen.

We continued to monitor dispersal of muskoxen from Nelson Island to the mainland through periodic observations by the public and air taxi pilots. Their observations show small, stable populations of muskoxen are on the mainland of Unit 18, and we believe the population is approximately 75–100 muskoxen. The population is regulated by natural mortality and poaching by nearby communities.

We issued drawing and registration permits for hunting muskoxen on Nunivak Island during fall 1997 and spring 1998. The fall harvest on Nunivak Island was 5 bulls by drawing permit and 5 cows taken by registration permit. The spring harvest on Nunivak Island was 25 cows taken by registration permit and 20 bulls taken by drawing permit. The total harvest for this reporting period was 30 bulls and 30 cows.

After a two-year hiatus, hunting of muskoxen on Nelson Island by registration permit resumed in 1996–1997. Ten bull and 10 cow permits were issued with a resulting harvest of 10 bulls and 10 cows.

Progress Meeting Project Objectives: The size of the population on Nelson Island is within or just above the posthunt, precalving population goal. The population on Nunivak exceeds the goal of 500–550. Harvest targets were set after the August 1997 survey and 80 permits will be issued for Nunivak Island muskoxen. There were also 20 permits scheduled to be distributed for Nelson Island. Both populations are being harvested to maintain a 50:50 ratio of bulls to cows. In light of the most recent surveys, these harvest targets are being reevaluated.

The mainland population is estimated at 75–100 animals, ranging in a 20,000 mi² area. The use of satellite telemetry or a larger conventional collaring effort are recommended to monitor mainland muskoxen.

Project Location: Unit 22 (25,230 mi²)
Seward Peninsula and eastern Norton Sound
Unit 23 (ca 4,000 mi²)
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 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.
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: Aerial surveys were conducted periodically to document the seasonal distribution of 9 radiocollared muskox in Units 22C, 22D and Unit 23 (northern Seward Peninsula). A cooperative census was completed during 10–13 March 1998 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.

Unit	Number of groups	Number of adults	Number of yearlings	Total muskox
22B	3	26	1	27
22C	12	104	20	124
22D	53	617	97	714
22E	26	343	19	362
23	15	182	23	205
Total	109	1272	160	1432

The population increased from 951 animals in 1996 (51%); however, the substantial increase can be attributed to poor census conditions in 1996 rather than to a dramatic increase in productivity during the last 2 years. During 1998, survey conditions were ideal and search effort was higher than during 1996. Also, the apparent increase may be attributed partially to counting a higher proportion of the population during 1998 than 1996. Since this population was introduced to the Seward Peninsula, it has grown an average of 14% annually.

We monitored 6 radiocollared muskox (4 cows and 2 bulls) near Deering on a monthly basis. These locations were provided to a University of Alaska-Fairbanks graduate student investigating muskoxen–reindeer interactions in this area. Fieldwork for this graduate project was completed during August 1997 and analyses are in progress.

We participated in the Seward Peninsula Cooperative Muskox Management Planning process. The department also worked 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.

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: During this report period, muskox management efforts centered on attempts to improve interagency coordination and increase public involvement. Public opinion about the future of this muskox population may be changing, and we are planning to review objectives in the management plan with a broad group of stakeholders.

In October 1997, the Board of Game reached a positive finding for customary and traditional use of muskox on the Seward Peninsula. The Board asked the Seward Peninsula Muskox Cooperators Group to identify the amount necessary to meet subsistence needs and to develop recommendations for a state hunt for consideration at the March 1998 Board of Game meeting.

The cooperators group met 21–23 January 1998 in Nome. The majority of Cooperators supported continued muskox population growth and range expansion, a slightly increased harvest rate, and combined federal–state hunts in Units 22D, 22E and Unit 23SW. Following the cooperators meeting, ADF&G and NPS staff held teleconferences and meetings with the villagers in the hunt area. Each community estimated its subsistence need for muskox, recommended a harvest rate and an allocation of permits between the state and federal hunts and submitted those recommendations to the Board of Game and the Federal Subsistence Board.

In accordance with village and cooperators' recommendations, the Board of Game adopted regulations for Tier II subsistence hunts in Units 22D (that portion north and west of Grantley Harbor, Imuruk Basin, and the Pilgrim River drainage), 22E, and Unit 23SW. State Tier II hunts will be conducted in combination with Federal subsistence hunts for federally qualified subsistence users on federal public land. A 5% harvest rate based on the 1998 population estimate of 1432 muskox will be allowed. The season for all hunts will be August 1–March 15 with a bag limit of 1 bull. The number and distribution of permits allocated for the 1998–1999 season are shown below.

Unit	Number state Tier II permits	Number federal permits
22D	24	12
22E	9	9
23	2	8
Total	35	29

Tourism and wildlife viewing interests are strongly opposed to hunting along the road system. Units 22B, 22C, and the portion of 22D south of Grantley Harbor, Imuruk Basin, and the Pilgrim River will continue to be managed primarily for nonconsumptive uses.

Project Location: Unit 23 (39,000 mi²)
Kotzebue Sound and Western Brooks Range, excluding that portion west of and including the Buckland River drainage

Project Objectives:

1. Allow for muskox population growth and dispersal into historic range in northwestern Alaska.
2. Estimate muskox numbers in Unit 23 annually.

Work Accomplished During the Project Segment Period: In June and early July 1998, ADF&G and NPS cooperatively censused muskoxen in that portion of Unit 23 between Cape Krusenstern and Cape Lisburne within approximately 20 miles of the Chuckchi Sea. We counted 387 muskoxen (322 adults and 65 calves). This is the highest count observed since the original transplant in 1970.

Progress Meeting Project Objectives: The Cape Thompson muskox population grew approximately 8% annually since its reintroduction in 1970. This population extended its winter distribution by using the Cape Krusenstern area during the winters of 1996–1997 and 1997–1998. In addition, small groups of bulls, presumably from this population, have been seen in the western portion of Unit 26A and in the Noatak River drainage.

Public meetings were held in Noatak (summer 1997), Point Hope (summer 1997 and 1998), Kivalina (summer 1998), and Kotzebue (summer 1998) to discuss the prospect of administering state and/or federal hunts (no muskoxen hunt has ever been administered for this area). Although local subsistence hunters are interested in harvesting muskoxen from this population, concerns about allocation, state vs. federal management, and contamination of meat with radioactive isotopes have discouraged proposals to the Board of Game or Federal Subsistence Board for hunts in this area. In anticipation of a proposal to hunt muskoxen in this area, the Alaska Board of Game made a positive customary and traditional use determination for this muskox population during its October 1997 meeting.

Segment Period Project Costs:

	<u>Personnel</u>	<u>Operating</u>	<u>Total</u>
Planned	48.8	15.8	64.4
Actual	24.9	15.2	40.1
Difference	23.9	0.6	24.3

Submitted by:

Peter Bente
Survey-Inventory Coordinator

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

Project Location: Units 26B and 26C (26,000 mi²)

East of Unit 26A, west of the west bank of the Canning River and west of the west bank of the Marsh Fork of the Canning River and that portion east to the Alaskan–Canadian Border, north of the Continental Divide

Project Objectives and Activities:

1. Manage muskoxen harvest so that it does not appreciably restrict population growth or dispersal.
 - Review information from the U.S. Fish and Wildlife Service (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 Nuiqsut, Kaktovik, and Barrow about management decisions concerning the reintroduction, conservation, and hunting of muskoxen.

Work Accomplished During the Project Segment Period: The FWS and Alaska Department of Fish and Game (ADF&G) conducted a composition survey during the last few days of June 1997. We classified 247 muskoxen in Unit 26B, with 32 calves:100 adult females. We classified 213 muskoxen in 26C, with 21 calves:100 adult females. In April 1998 ADF&G and FWS conducted a population count in Units 26B and 26C and found 232 and 306 muskoxen, respectively. The area biologist reviewed information collected by the FWS on population size, composition, and dispersal of muskoxen. Productivity in 1997 was lower than average. In addition, number of muskoxen observed during the population count was lower than expected. We issued 5 "Tier II" subsistence permits for muskoxen hunters in Unit 26B with a harvest of 4 animals. We also monitored the permit hunt for muskoxen in Unit 26C, which was administered by FWS. For the 1998–1999 hunting season, the Board of Game allocated 9 Tier II permits for 26B West, 3 drawing permits for 26B East, and specified that up to 4 muskoxen may be taken under a Tier I permit for 26B East.

Progress Meeting Project Objectives: The current strategy of limiting the harvest to less than 20 bull muskoxen per year ensures that dispersal and population growth are not limited by hunting. The small number of hunting permits ensures a fairly high level of compliance and provides opportunity to communicate with local users. Most muskoxen inhabit the Arctic National Wildlife Refuge. FWS manages most of the hunting effort and conducts research on the refuge. ADF&G plans a population count and composition survey for FY99. Management

objectives continue to be met. We are developing a Muskox Harvest Plan with the North Slope residents.

Segment Period Project Costs:

	<u>Personnel</u>	<u>Operating</u>	<u>Total</u>
Planned	2.6	2.0	4.6
Actual	4.9	0.8	5.7
Difference	-2.3	1.2	-1.1

Personnel: Additional personnel costs were the result of the need for additional staff time to deal with the ongoing development of the "Muskox Harvest Plan" as well as the need for additional survey data to implement the new regulations.

Operating: Costs were lower than expected because Region III staff were able to rely on Region V logistic support.

Submitted by:

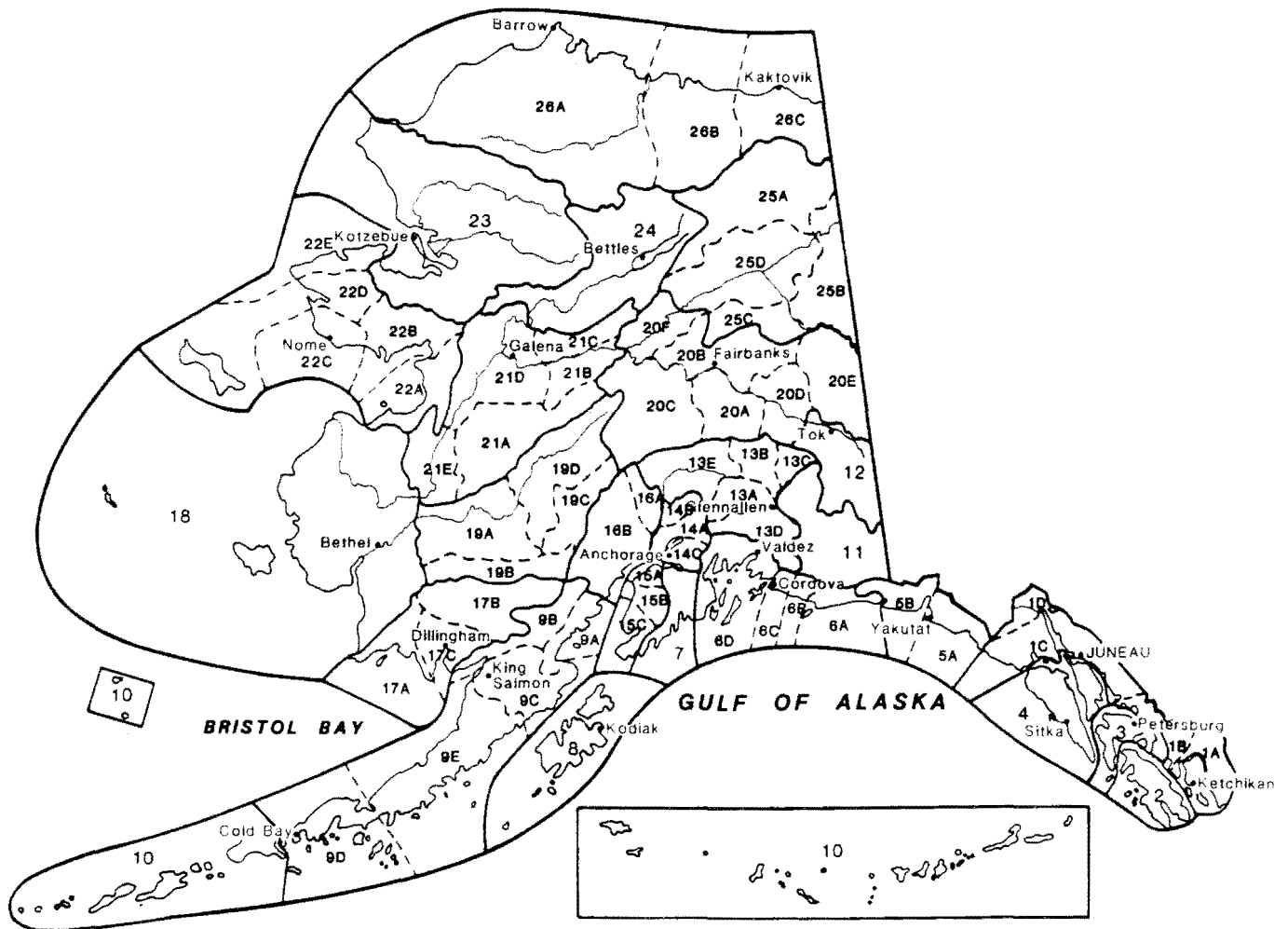
Roy A. Nowlin

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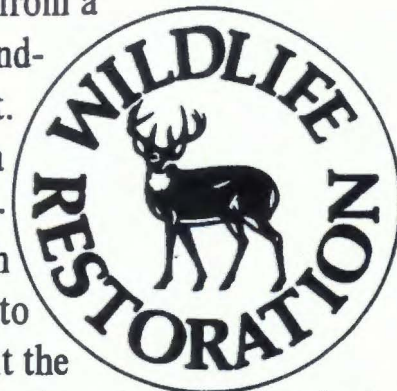
David D. James

Management Coordinator

Alaska's Game Management Units



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LeeAnne Ayres