

ANNUAL SURVEY AND INVENTORY

STATE: Alaska

GRANT AND SEGMENT NO. W-33-11

PROJECT NO. 16.0 Musk Ox

PERIOD: 1 July 2012 – 30 June 2013

PROJECT LOCATION: Statewide: Activities in Regions III and V.

PROJECT TITLE: The Status of Alaska Musk Ox and Factors Influencing their Populations

REPORT DESCRIPTION: This performance report describes muskox survey and inventory activities. Activities are listed by region and game management unit.

Region III—Interior Alaska

Regionwide Activities:

ACTIVITY 1: Prepare a muskox management report.

Prepared muskox management report.

ACTIVITY 2: Monitor natural mortality and analyze natural mortality data.

Monitored and analyzed natural mortality including 5 muskoxen killed by brown bears and 21 found dead.

ACTIVITY 3: Provide muskox management information to State and Federal regulatory processes

Provided information to 1 State fish and game advisory committee, the Alaska Board of Game, and 1 Federal regional advisory councils.

Activities by Unit:

Unit 26B and 26C:

ACTIVITY 1: Determine distribution and percent calves in Unit 26B during June.

Determined distribution of muskoxen in early and late June via radiotracking. Percent calves was 13% (n=181) on June 26, 2013.

ACTIVITY 2: Capture approximately 5 muskox to deploy radiocollars and maintain an adequate sample size of collared animals for surveys

Deployed VHF radiocollars on 9 adult female muskoxen in September 2012 with no capture mortalities.

ACTIVITY 3: Conduct a census.

Conducted a census in April 2013 and observed 187 muskoxen with 41 bulls > 3 years old:100 cows > 2 years old, and 40 yearlings:100 cows > 2 years old.

Submitted by: Roy A. Nowlin, Region III Management Coordinator

Region V—Western and Northern Alaska

Regionwide:

ACTIVITY 1: Prepare biennial regional musk ox management reports.

A muskox management report was prepared during this reporting period.

ACTIVITY 2: Provide information to State and Federal regulatory processes on muskox management.

Area management staff reviewed State and Federal regulatory proposals, attended regulatory process meetings, and presented muskox information to the State Board of Game, State Fish and Game Advisory Committees, Federal Subsistence Board, and Federal Subsistence Regional Advisory Councils.

Activities by Unit:

Unit 18:

ACTIVITY 1: Conduct annual aerial censuses of the Nunivak and Nelson Island populations to estimate population size and determine age-sex composition.

In October 2011, we counted 452 musk ox on Nunivak Island using fixed-wing aircraft. No survey was conducted on Nelson Island during this reporting period. This census were flown using a fixed-winged aircraft so the animals were classified as mature bulls, cows, long yearlings or calves.

ACTIVITY 2: Capture muskox to attach radio collars. (All animal capture activities will follow the protocols established in the ADF&G Division of Wildlife Conservation “Animal Welfare Policy” and its wildlife capture and restraint manual.)

On 1 April 2013, one mature cow muskox was captured and fitted with a radio collar. She was collared at a mainland location on the east side of Dall Lake in Unit 18.

ACTIVITY 3: Monitor the population size, distribution, and dispersal of musk ox onto the mainland through location of radio-collared animals, harvest reporting, contacts with the public, and field observations.

We talked with residents, local pilots, and USFWS personnel about incidental sightings of muskox on the mainland for this reporting period. A log of these sighting including group size and locations is being maintained.

ACTIVITY 4: Monitor hunting and other mortality factors through harvest reporting, contacts with the public, and field observations.

Thirty-six muskox were harvested on Nelson Island during the report period; 21 were bulls and 15 were cows. Thirty-four musk ox were harvested on Nunivak Island during this period; 28 bulls and 6 cows.

ACTIVITY 5: Work with local Advisory Committees, village representatives, and other agencies to promote the establishment of a huntable muskox population on the mainland.

We discussed when a muskox hunt might take place for mainland muskox in Unit 18 at the 2012 fall Regional Advisory Council meetings in Bethel.

ACTIVITY 6: Work with local residents to rescue stranded muskoxen as needed and reduce kills of nuisance animals.

No work was completed toward this activity during this reporting period because the discussion on stranded muskox was not brought up during the meetings.

ACTIVITY 7: Continue to develop and utilize the ongoing cooperative muskox management plans (such as the *Nelson Island Musk ox Herd Cooperative Management Plan*) in cooperation with the public and other agencies.

Except for Advisory Committee meetings, during the reporting period we did not hold any public meetings where muskoxen were discussed.

Units 22 and 23SW (the portion of Unit 23 west of and including the Buckland River drainage):

ACTIVITY 1: Census muskox during March and April to estimate population size on a: projected schedule: 2007, 2010, 2012, 2014, etc.

There wasn't a muskox population survey scheduled during the reporting period. The next scheduled population survey is March 2014.

ACTIVITY 2: Conduct on-ground age/sex composition surveys during March and April to determine population structure and yearling recruitment

March and April 2012. We used an R-44 helicopter to conduct an age/sex composition survey in Units 22B and 22C to supplement range wide composition surveys completed after biennial population surveys.

We observed 199 muskox and classified 38 bulls 4-years-old or older (19%), 4 3-year-old bulls (2%), 7 2-year-old bulls (4%), 80 cows 4-years-old or older (40%), 19 3-year-old cows (10%), 7 2-year-old cows (4%), 36 yearlings (18%) and 8 muskoxen were unclassified (4%).

ACTIVITY 3: Capture muskox to attach radio collars. (All animal capture activities will follow the protocols established in the ADF&G Division of Wildlife Conservation "Animal Welfare Policy" and its wildlife capture and restraint manual.)

We captured 8 female muskox ≥ 3 years old in Unit 22C and attached VHF radio collars.

ACTIVITY 4: Monitor distribution, and movements of musk ox through location of radio-collared animals, aerial surveys, harvest reporting, contacts with the public, and field observations.

Seasonal movements of previously collared muskoxen were monitored using weekly fixed-wing aircraft telemetry flights; however several flights were missed due to poor flying weather common along the southern Seward Peninsula coast. During winter, collar locations were associated with wind-swept ridge-tops free of deep snow. After snow-melt and during calving, muskoxen were observed at down-slope locations in proximity to lush, and more fertile, river bottoms where browse included grasses and

willows exposed from melting snow and ice. Telemetry flights found that radiocollared muskoxen increased their movements throughout the summer as collared muskoxen moved seasonally between Units 22DSW, 22C, 22B, and 22D Remainder. These movements support census results that suggest muskoxen groups make annual movements between subunits and managers should consider a broader based geographical approach to hunt management if human harvest patterns allow.

Four adult female muskox died during the 2012 calendar year, and no collars failed or were missing during the radio-tracking interval yielding an estimated 21% annual mortality rate 95% C.L. (6.05% to 45.57% n=22). Mortality estimates of adults are likely conservative from the perspective of the population because the collared cohort, adult females, is likely to have higher survival rate than any other age-sex grouping.

This small sample of collared muskoxen represents approximately 1% of the Seward Peninsula population as of 2012, and is not randomly distributed throughout the population, so localized events such as icing, or different predator regimes may preclude the use of this mortality rate as representative of the entire population. Lastly, the selection of animals for capture is not truly random, as obviously injured or diseased animals were intentionally not selected.

ACTIVITY 5: Examine dead muskoxen to look for causes of death, disease, mineral deficiencies, and contaminants.

Staff visited both radio collared and non-collared muskox and collected samples to look for causes of death. Muskox carcasses are quickly scavenged on the Seward Peninsula so samples are not always possible to collect. Staff determined that one radio collared muskox in Unit 22C died from brown bear predation.

ACTIVITY 6: Participate in the Seward Peninsula Musk ox Cooperators Group meetings and facilitate exchange of information and ideas between agencies and user groups.

The Seward Peninsula Muskox Cooperators Group has not met since January 2008. Information related to on-going hunt management has been made available to the Cooperators Group (through the Chair) and another meeting will likely occur in the future.

ACTIVITY 7: Monitor hunting and other mortality factors through harvest reporting, contacts with the public, and field observations.

Hunting was by Tier II subsistence permits in Units 22B, 22C, 22D, and 23SW, and by Tier I subsistence permit in Unit 22E.

The 2012 harvest quota for Seward Peninsula muskox hunts was 39 muskox and hunters harvested 24 muskox or 62% of the quota.

ACTIVITY 8: Work with local reindeer herders to identify and minimize conflicts between reindeer and muskoxen in an effort to conserve muskoxen and allow for population growth and expansion.

Activities related to reindeer herding occurred in Units 22 and 23SW. Nome staff provided information for the annual Reindeer Herders Association meeting.

ACTIVITY 9: Encourage cooperation and sharing of information among agencies and users of the resource in developing and executing management and research programs.

Nome staff works closely with BLM and NPS staff to coordinate management activities. Staff attended Seward Peninsula Regional Advisory meetings and reported on muskox population status and hunt administration.

ACTIVITY 10: Provide orientation for registration and drawing permit muskox hunters in Units 22 and 23.

Department staff used in-person and telephone interviews and web-based orientation information on the ADF&G website to provide hunters and the public with muskox identification, sex and age classification and hunting information. Staff distributed a previously completed hard copy muskox identification booklet for use by hunters and wildlife viewers during the reporting period; it is available to public from ADF&G offices.

ACTIVITY 11: Investigate causes of declining recruitment in portions of the Seward Peninsula using calving surveys.

No work was completed during the reporting period because of poor flying weather during the month of May.

ACTIVITY 10: Continue to develop and utilize the ongoing cooperative muskox management plans (such as the *Seward Peninsula Musk ox Cooperative Management Plan*) in cooperation with the public and other agencies.

The cooperative muskox management is in the process of being updated and reviewed by cooperating agencies.

Units 23NW, and 26A:

ACTIVITY 1: Survey muskox and evaluate population sex/age composition at least once every 3 years in Unit 23NW and southwestern Unit 26A (Cape Thompson population).

The Cape Thompson population (Unit 23 NW) was not completely surveyed during this sampling period. However, the traditional sampling area was sampled by ADF&G and NPS using distance sampling techniques slightly modified from the Seward Peninsula survey of 2012 and the Cape Thompson population estimate of 2011. The traditional count area estimate was 227 (95% CI 178-367) muskoxen.

ACTIVITY 2: Assist with census projects and conduct muskox composition surveys in eastern Unit 26A (ANWR population).

Biologists from the Fairbanks ADFG office are continuing to look at total numbers, mortality, composition, and health of the ANWR population in Units 26A, 26B, and 26C. The population has virtually disappeared in Unit 26C and has declined in Units 26A and 26B due of bear predation and other causes. The department has instituted a bear control program to try to arrest this decline. In Unit 26A there were a small and varying number of groups along the Colville River. A group of muskoxen that had been seen northwest of Teshekpuk Lake for several years was observed in Sept. 2012 and 21 adults and 6 calves were counted. However, most of the group apparently broke through thin ice on a lake during the fall or winter and drowned northeast of Teshekpuk Lake. At least 20 animals were found dead in the lake.

ACTIVITY 3: Record muskox observations during surveys of other types of wildlife in Units 23 and 26A to document range expansion of the population.

Moose surveys in Unit 23 revealed muskox expanding their range eastward in the unit. Numerous muskox observations were recorded during surveys for other species, particularly during caribou surveys in southwestern Unit 26A.

ACTIVITY 4: Monitor hunting and other mortality factors through harvest reporting, contacts with the public, and field observations.

Five illegally taken cow muskoxen were discovered in Unit 23 NW in RY12. As a result, the hunt was closed for the 2013-2014 regulatory year.

Unit 26A: All muskox hunts were closed in 2006 in Units 26A and 26B due to declining numbers and remained closed during RY12. A sizable accidental mortality event occurred in Unit 26A when approximately 20 muskoxen were found dead at a lake northeast of Teshekpuk Lake.

ACTIVITY 5: Examine dead muskoxen to look for causes of death, disease, mineral deficiencies, and contaminants.

Unit 26A: Dead muskoxen from the group found northeast of Teshekpuk Lake were examined during June of 2013 by staff from the Fairbanks office. Preliminary results indicated that 20 animals had died and that they had drowned.

ACTIVITY 6: Use public education to improve understanding of the conservation value of hunting regulations and obtain better harvest data through increased harvest reporting.

We talked to students, hunters and other individuals regarding hunting, wildlife management, and conservation of muskoxen in Units 23 and 26A.

ACTIVITY 7: Encourage cooperation and information exchange among agencies and musk ox user groups to develop and implement management objectives.

Unit 23: ADF&G and NPS conducted cooperative composition surveys in August 2012 finding 25 bulls (4 year and older):100 cows (3 year and older) and again in April 2013 finding 25 bulls(4 year and older):100 cows(3 year and older). Composition surveys will be conducted only in the spring in the future.

Unit 26A: We assisted staff from ADF&G Region 3 to conduct the muskox study in Units 26A and 26B. We worked with the North Slope Borough Fish and Game Management Committee to make recommendations for management decisions.

ACTIVITY 8: Record sightings of muskoxen to monitor range use and expansion.

Numerous observations of muskoxen, including latitude and longitude as well as group size, were recorded during wildlife surveys and by other biologists, pilots and tourists in Units 23 and 26A. Widely scattered mixed sex/age groups of muskox observed far from their 'core' range suggest muskox are slowly expanding into previously unused range, particularly into southwestern Unit 26A.

ACTIVITY 9: Evaluate whether musk ox population growth will adversely affect resident reindeer and caribou populations in Unit 26A.

Reindeer are no longer present in Unit 26A, although reports from villages indicate people believe muskox displace caribou. Seasonal movements of caribou indicate frequent overlap with locations where muskox occur.

Project 16.0 – Muskox S&I
FY13 Annual Performance Report

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Date: 1 September 2013