

MUSKOX (*Ovibos moschatus*) DISTRIBUTION AND ABUNDANCE, MUSKOX MANAGEMENT UNITS MX-08, BOOTHIA PENINSULA, AUGUST 2017.



# REPORT ON MUSKOX DISTRIBUTION AND ABUNDANCE, MUSKOX MANAGEMENT UNITS, MX-08, AUGUST 2017

# **Summary**

This short document is a summary of the information provided in the report entitled: "Muskox (*Ovibos moschatus*) distribution and abundance, muskox management units MX08, Boothia Peninsula, August 2017."

This report is a document that puts the research into context, identifies the research methodology used, describes the results, and provides future monitoring and management recommendations

The Government of Nunavut has jurisdiction for the management of muskox in Nunavut and along with consultations with comanagement partners, is responsible for conducting research and monitoring (population surveys), inform to management process. This report provides scientific information and recommendations to help decision-makers manage muskox in this management unit.



This summary is based on the information in the full English version of the research report on the muskox of the Boothia Peninsula done in August 2017. The original English copy of the report has been provided for reference.



## **Information**

The Boothia Peninsula is an example of a location where muskoxen are re-colonizing their historical range. In 1985, the Boothia Peninsula was known to be devoid of muskox. A decade later, 61 muskoxen were seen on transect during surveys that provided an estimate of 544 animals, and they seems to have continued to increase in number. Thus, the environmental conditions on the Boothia Peninsula seem to be optimal to promote muskox population growth.

The community of Taloyoak is the only community harvesting this population. Taloyoak Hunters have commented on the higher numbers of muskoxen sightings. They are concerned that muskox will start negatively impacting the caribou calving ground on the Boothia Peninsula. Inuit traditional knowledge for the area indicates that muskoxen displace caribou from their habitat.

Based on local knowledge, there is a need to re-evaluate the existing Total Allowable Harvest (TAH) of 66, relative to current management goals. Taloyoak hunters are requesting an increase in harvesting opportunities to keep the muskox numbers relatively low and preserve the caribou calving grounds. A reassessment of the muskox population in MX-08 was necessary to reassess the TAH.

# **Objectives**

This project aims to address concerns of Inuit, as well as to provide new scientific information for 2017. Therefore, the main objectives of this study of MX-09 are to:

- Determine the total estimated number of muskox
- 2. Determine muskox distribution and density; and
- 3. Determine calf:adult ratio and group size.

## **Methods**

#### Study Area

The study area is the muskox management unit MX-08, which includes the Boothia Peninsula and a portion of the mainland. The area lies between M'Clintock Channel to the west and the Gulf of Boothia to the east, and is separated from MX-06 to the north by Bellot Straight. The southern boundary of MX-08 is shared with muskox management unit MX-11.

#### Survey area

To maximize the coverage area investigated, anticipated muskox distribution patterns were obtained from past ground surveys, hunter observation, and Inuit Traditional Knowledge. According to Traditional Knowledge, muskoxen have increased in numbers and they are now uniformly distributed over the entire Boothia

Peninsula. Based on this change, the whole management unit was surveyed at 20% coverage, with 8 km spacing between transect lines, with no strata of different effort allocation (Figure 1).

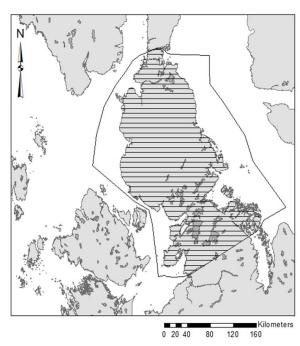


Figure 1: Transect lines flown in August 2017, representing 20% coverage, of the muskox management unit MX-08.

#### Aircraft configuration

A systematic transects line survey was flow with a fixed-wing single engine turbine aircraft; a grand caravan. The transect lines were surveyed at a speed of 160 km/hr at an altitude of about 121 meters above ground level (AGL). The strip transects included 800 meters on each side of the aircraft. Observers on both side of the plane were responsible for continuously searching for, spotting, and counting muskox including the number of calves. Incidental sightings of

caribou, polar bear, wolverine, and wolf were also recorded.

# Results

#### Distribution

The survey was conducted from the community of Taloyoak from August 7 to August 12, 2017. During the survey, 170 groups of muskoxen were seen, both on off-transect. Larger groups muskoxen, 16-19 adult animals, were mainly distributed from Cape Farrand to Abernethy Bay within 40 km from coast. It was the first time that muskoxen were recorded south of Cape Cambridge, close to Acland Point at their southernmost distribution (Figure 2).

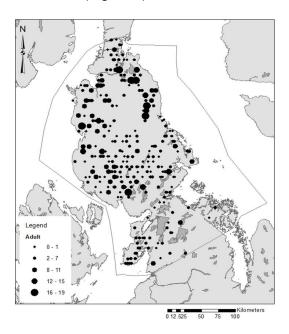


Figure 2: Muskox distribution, on and off transect, in the management unit MX-08 during the survey, where the number of animals per group was classified into groups of 0-1, 2-7, 8-11, 12-15, and 16-19 animals.

#### Group Characteristic and estimate

The majority of groups observed were small groups of 2 to 7 adults. The average number of adults (+1 year and older) per group was  $5 \pm 4.45$  (S.D.). During the visual survey 702 adult muskoxen were counted on transect. Overall, the muskox density of the study area was low at 0.084 muskox / km². The estimated number of muskox in the management unit MX-08 is  $3,649 \pm 316$  (S.E.) (Figure3). This shows that this population has increased considerably since the last estimate. Thus, the observations of local hunters are supported by the population status identified in this survey.

## Recommendations

Based on these results and consultations with the community of Taloyoak and the Taloyoak HTO, the DOE makes the following recommendation: the Nunavut Wildlife Management Board increase the TAH of 66 to 275 muskoxen for the Muskox Management Unit MX-08.

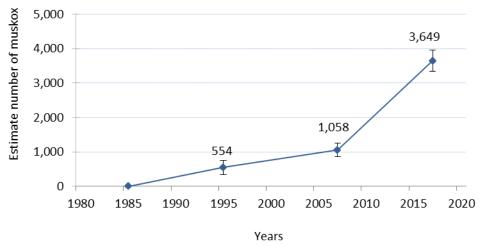


Figure 3: Muskox population estimate for MX-08 over time, estimated from aerial surveys from 1985 through 2017