



**SUBMISSION TO THE**  
**NUNAVUT WILDLIFE MANAGEMENT BOARD**  
**FOR**

**Information:**

**Decision: X**

**Issue: Kivalliq Muskox distribution and abundance within muskox management  
MX-10 (Northern Kivalliq Muskox Subpopulation)**

**Background**

- Since their near extirpation in the early 20<sup>th</sup> century, muskox have been re-colonizing much of their former range.
- The first survey of muskoxen in the Kivalliq region occurred in 1999, giving an estimate of 1,522 (Figure 1).
- The second survey was completed in 2012 and the resulting population estimate was 2,341 adult and yearling muskoxen (Figure 1).
- Muskox populations in the Kivalliq region have expanded their range to the northeast, east, north, and south over the past 20 years, according to population monitoring.
- Hunters in communities that harvest from MX-10 have reported increased abundance of muskox and continued range expansion in this management unit.
- By 2008, seasonal Non-Quota Limitations (NQLs) had been removed and proportions used to set a Total Allowable Harvest (TAH) on Kivalliq muskox populations was increased from 3% to 5%.
- The Department of Environment (DOE) has engaged and will work closely with all Hunters and Trappers Organizations (HTOs) and respective co-management partners (Nunavut Tunngavik Inc., Kivalliq Wildlife Board) on sustainably managing the muskox population of MX-10.

**Current Status**

- Local knowledge and Inuit Qaujimajatuqangit (IQ) on the MX-10 subpopulation was gathered during consultations in February 2017 with all Kivalliq HTOs and used to prepare for and conduct an abundance survey of the population in July 2017.
- Traditional knowledge pointed to a continued range expansion for MX-10 (Northern) and MX-13 (Central) subpopulations. All HTOs identified the need to reassess the populations regularly and supported the determination of subpopulation boundaries and the study areas for both abundance surveys.
- A population survey of a portion of MX-10 was flown out of Baker Lake in July 2017.

- The abundance survey resulted in an estimated  $3,239 \pm 1,050$  (95% CI; CV=0.16) adult and yearling muskox in July 2017 (Figure 1). The survey results suggest that the population is likely stable to increasing.
- The distribution of muskox in MX-10 has expanded eastward by an estimated 41% between 1999 and 2017.
- The proportion of calves in the population was 17.0% in 2017, which suggests the population is likely stable to increasing. This was an increase from 13.2% observed in the 2012 survey.
- There have been stable to increasing trends observed in the neighbouring management units of MX-08 and MX-13. MX-08 was also surveyed in 2017 and showed an increase in the population estimate from 1058 muskoxen in 2006 to 3649 muskoxen in 2017.

### **Consultations:**

- In October 2018, the DOE met with the Kivalliq Wildlife Board (KWB) and its representatives from the communities of Arviat, Whale Cove, Rankin Inlet, Baker Lake, Chesterfield Inlet, Repulse Bay, and Coral Harbour, to discuss all preliminary results and draft population estimates for muskox in MX-10.
- The DOE further consulted on the results of these surveys, and an initial recommendation increase in the TAH. A face-to-face meeting was held in Arviat and conference calls were held with the HTOs in Rankin Inlet, Nauyasat, and Coral Harbour. Whale Cove and Baker Lake calls were not possible but the HTOs indicated their support for the results and recommendation. It was not possible to reach the Chesterfield Inlet HTO.
- A letter outlining the recommended increase to the TAH and the rationale for the recommendation was shared with all relevant HTOs that harvest from the MX-10 management unit in early August 2021.
  - Responses from HTOs will be shared at the time of the regular meeting.

### **Recommendation:**

- The Department of Environment recommends an increase in TAH of 50 muskox (from 190 to 240 muskox) for the MX-10 subpopulation.

### **Rationale:**

- The 2017 survey results were not significantly higher than the 2012 results, but the percent calves showed an increase to 17% from 13.2% in 2012 and 12.5% in 1999.
- MX-10 muskoxen appear healthy and there have not been signs of disease among animals in that management unit

- There are stable to increasing trends observed in the neighbouring muskox management units of MX-08 and MX-13.
- Muskox can provide an alternative harvesting option in light of declining mainland barren-ground caribou herds.
- Local Inuit Knowledge and IQ have been successful in observing population changes and trends in this muskox management unit, including the expansion of the distribution of muskox in MX-10 to the east
- DOE is committed to mitigate the risk associated with this higher TAH by increasing monitoring efforts and continuing use of Local Inuit Knowledge in the coming years
- With increased monitoring, some risk can be accepted in order to balance the harvest pressure on declining mainland caribou herds, increases reported by IQ and health conditions of muskox in MX-10

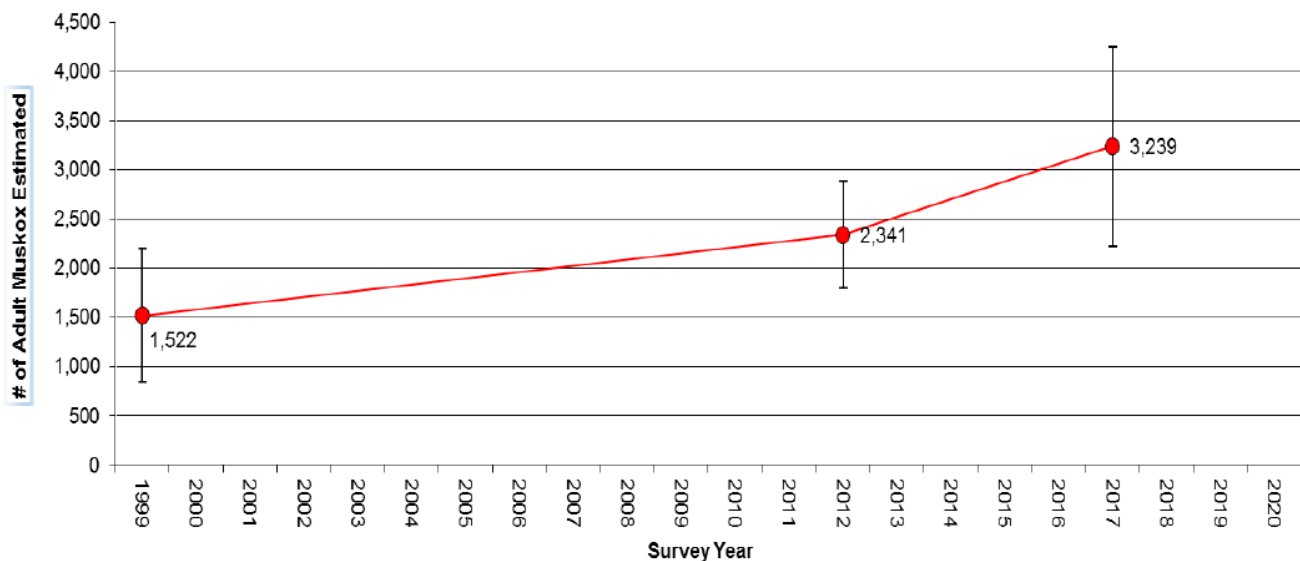


Figure 1: Northern Kivalliq muskox population trend in the Muskox Management Unit MX-10 for 1999, 2012, and 2017 from aerial surveys