



July 29, 2024

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2024 Muskox Population Survey – North Slave Region

Environment and Climate Change staff, along with observers from Łutsel K'e, Yellowknives Dene First Nation (YKDFN), Thłchq Government and North Slave Métis Alliance (NSMA), completed an aerial survey to estimate the number of muskoxen in the eastern part of the North Slave region (Figure 1). This work was conducted under GNWT Wildlife Research Permit WL501252 and Parks Canada Agency Research and Collection Permit TDNNPR-2024-45704. The survey followed the same study design and distance-based sampling method as the previous muskox survey conducted in 2018; however, additional transects were added to the west to cover the area of the proposed Lockhart All-Season Road project and to the south of Łutsel K'e to ensure the entirety of the Thaidene Nënë National Park Reserve and Territorial Protected Area were covered.

The aerial survey mainly occurred from March 2-13, 2024, and involved two aircraft (a Cessna 180 from Goose Flying Service and a Cessna 185 from Nahoni Air). We had three weather days (March 6, 10 and 12) where we could not fly transects, and one plane that had mechanical issues and was unavailable between March 4-7. Consequently, a few lines in the northeastern portion of the study could not be completed during early March and were later completed between March 25-27 using a Husky (Hoarfrost River Huskies Ltd.). In total we flew 52 lines, each separated 10 km apart, totaling 9114 km surveyed (plus 50 km flown over Pethei Peninsula), which took approximately 76 hours to fly (not including ferrying time).

In total we saw an estimated 2429 muskoxen in 136 groups that ranged in size from 1 to 100 muskoxen (including 15 groups seen incidentally off-transect; Figure 1). A more precise count will be obtained once photos of muskox groups taken during the survey are reviewed. A more detailed analysis of the survey data will occur in summer 2024 to obtain an estimate of the population within the study area and measure of uncertainty around that estimate.

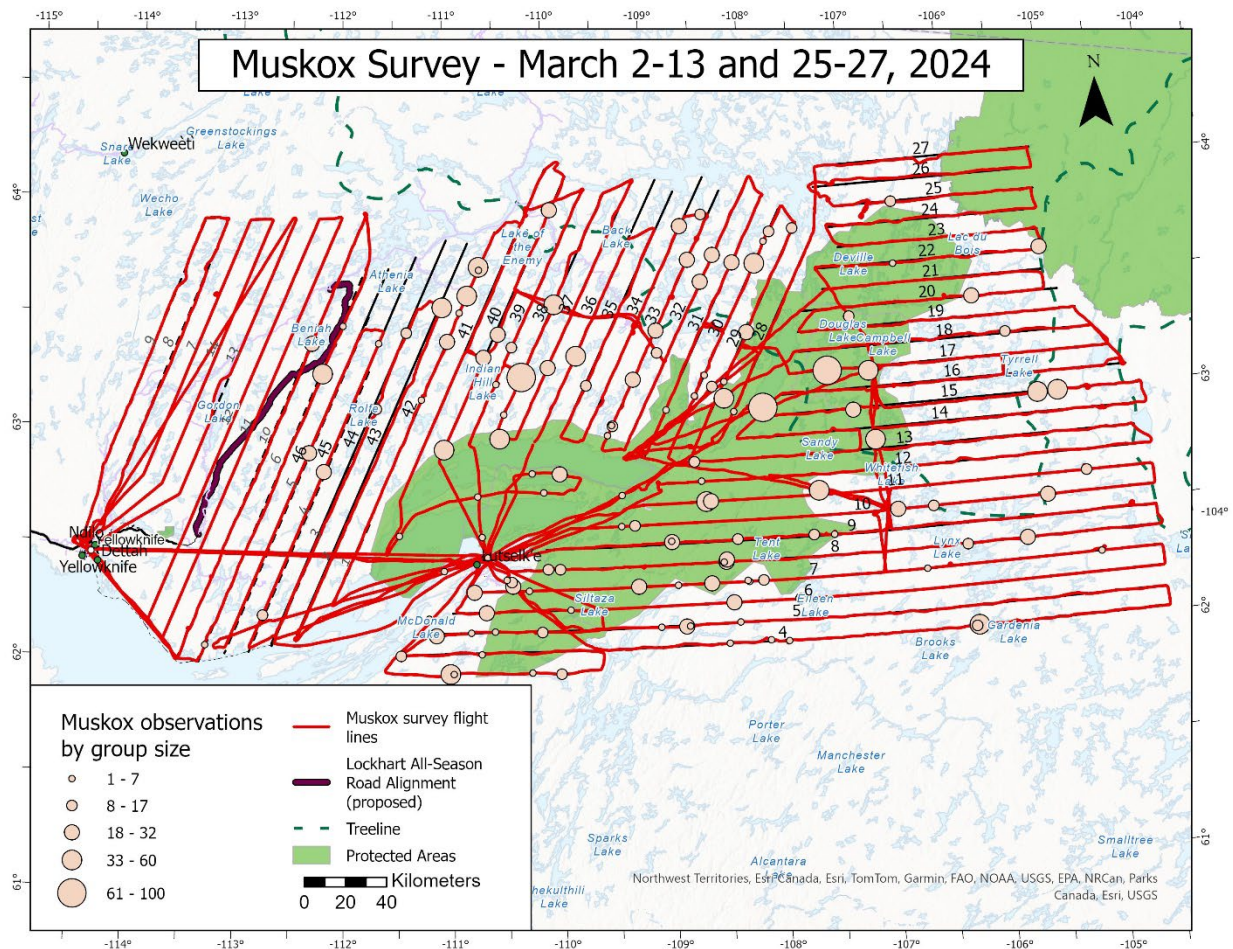


Figure 01. Muskoxen sightings categorized by group size observed during a fixed-wing aerial survey conducted by GNWT-ECC between March 2-13 and 25-27, 2024. Please note that group sizes are preliminary estimates and will be confirmed or refined subject to review of photos taken of each group.

Previous Surveys

A survey in 2018 to estimate muskoxen numbers in this area was done from February 26 to March 02. Forty-three (43) lines were flown totaling 8,246 km within an area of 79,740 km². In total, 1,656 muskoxen were seen in 88 groups that ranged from 1 to 95 muskoxen (Figure 2). The population estimate was 8,098 muskoxen (range 5,230 to 12,540 muskoxen), which was about 6 times as many muskoxen in the area as estimated from a 2010 survey (estimate: 957 muskoxen, range 348-2631 muskoxen).

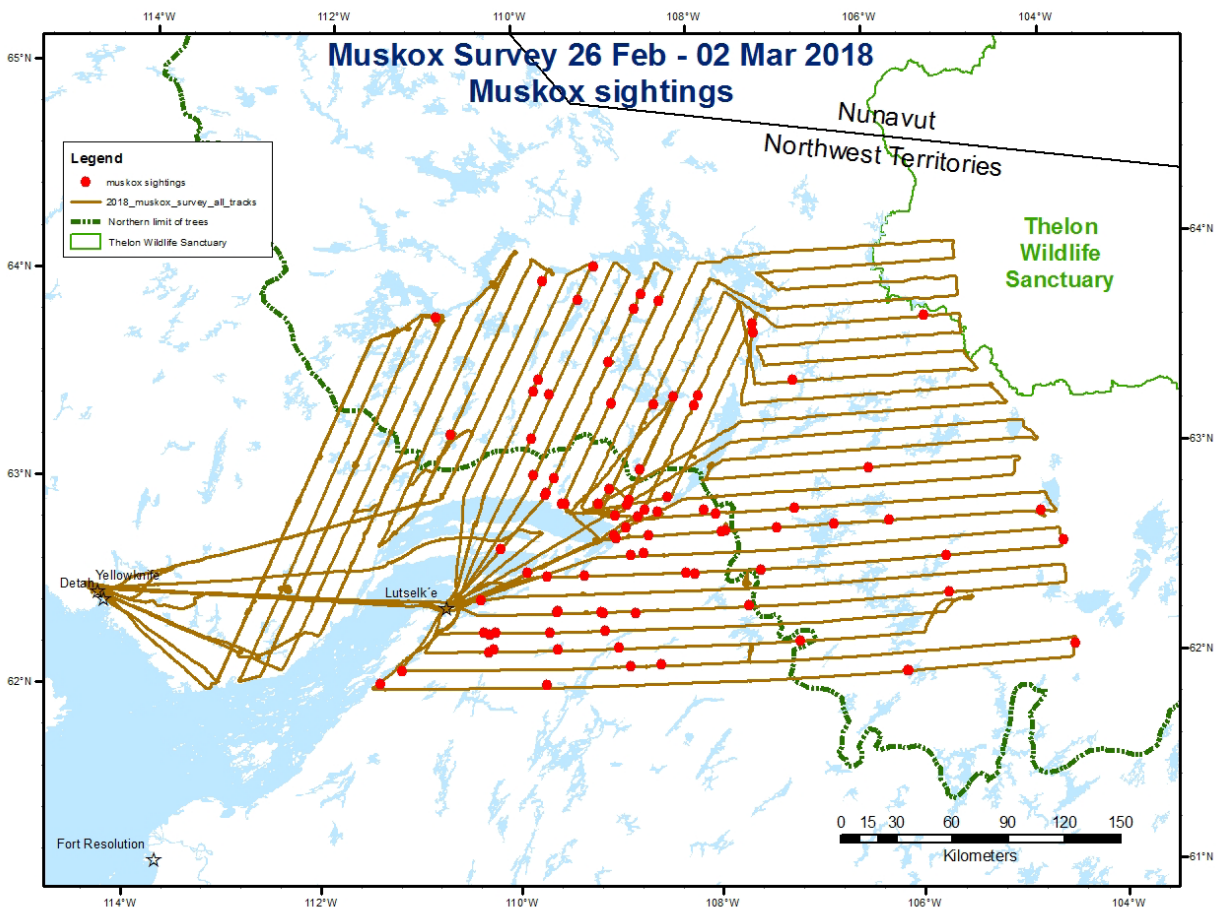


Figure 2. Map of the 2018 muskox survey area (79,740 km²) with flight lines and sighting locations of muskoxen.

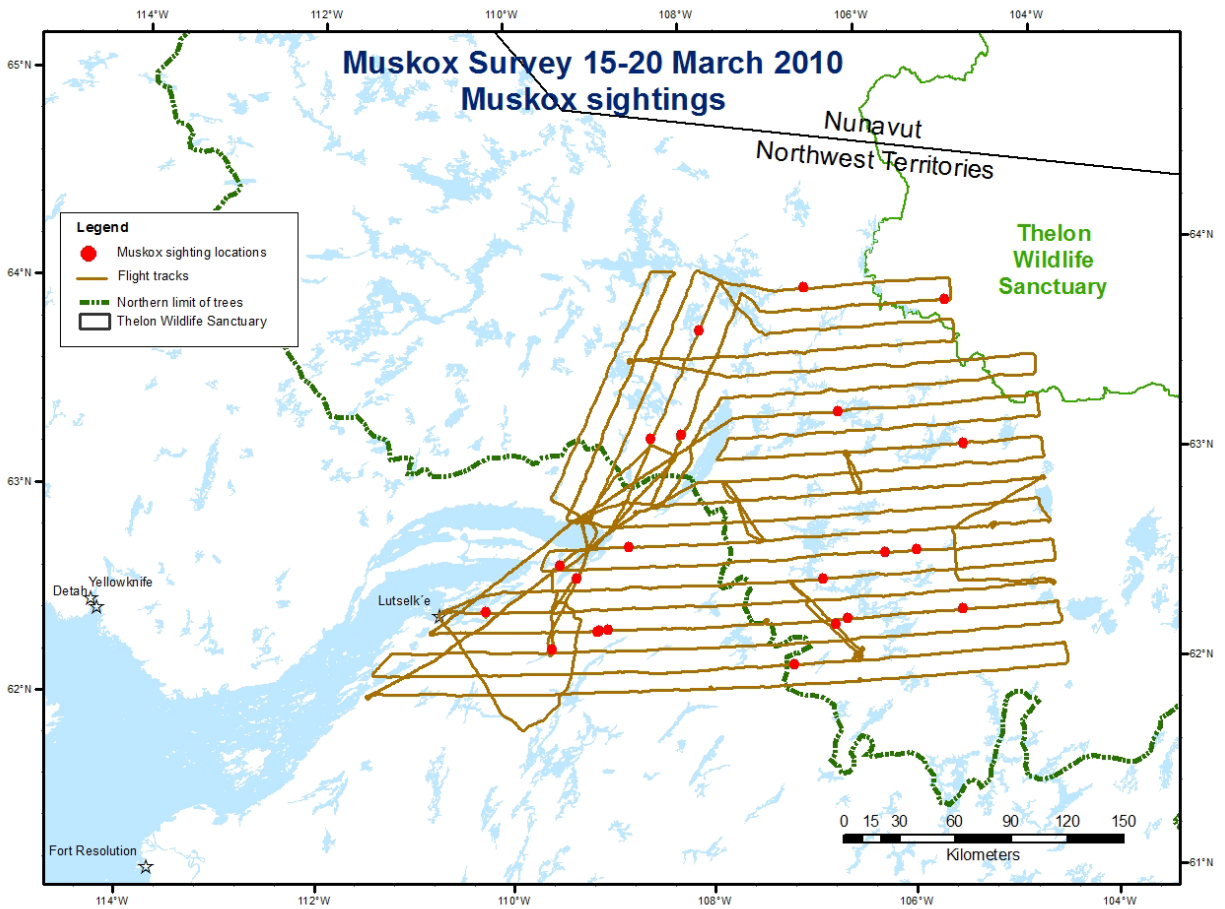


Figure 3. Map of the 2010 muskox survey area (59,201 km²) with flight lines and sighting locations of muskoxen.

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James Hodson

Regional Biologist
North Slave Region
Department of Environment and Climate Change
Government of the Northwest Territories

Wildlife Lab Building
PO Box 2668
3803 Bretzlaff Drive
Yellowknife, NT X1A 2P9

Phone: 867-767-9238 ext. 53254
Cell: 867-445-3793

c.

Stefan Goodman
Wildlife Technician, North Slave Region
Environment and Climate Change

Lawrence Lewis
A/ Superintendent, North Slave Region
Environment and Climate Change

Jan Adamczewski
Ungulate Biologist, Wildlife Management Division

Environment and Climate Change

Heather Sayine-Crawford
Director, Wildlife Management Division
Environment and Climate Change

Kelly Fischer
Senior Environmental Analyst
Infrastructure

Aidan Healy
Environmental Analyst
Infrastructure

David-Scott McQuinn
Manager, Slave Geological Province Corridor
Infrastructure

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Tas-Tsi Catholique
Manager, Wildlife Lands and Environment
Łutsel K'e Dene First Nation

Jared Ellenor
Ecosystem Scientist, SWNWT Field Unit
Parks Canada / Government of Canada

Iris Catholique
Thaidene Nënë Manager
Łutsël K'é Dene First Nation

Jody Pellissey
Executive Director
Wek'èezhì Renewable Resources Board

Orna Phelan
Wildlife Biologist
North Slave Métis Alliance

Joanne Black
Director, Department of Environment
Yellowknives Dene First Nation

Danielle Thompson
Manager
Conservation, Planning and Implementation Unit
Conservation and Sustainable Livelihoods Division
Department of Environment and Climate Change
Government of Northwest Territories