UNIVERSITY OF CALGARY

Kutz Research

COMMUNITY-BASED MUSKOX AND CARIBOU HEALTH MONITORING

ACTIVITY UPDATE – JUNE 2023

USING FILTER PAPER SAMPLES TO DETERMINE PREGNANCY IN MUSKOXEN

PARTNERS

Kugluktuk Angoniatit Association

Olokhaktomiut Hunters and Trappers Committee

Ekaluktutiak Hunters and Trappers Organization

CANADA NORTH OUTFITTING

Nunavut Government of Nunavut

Government of Northwest Territories

WHAT ARE WE DOING?

Olivia Hee, MSc Student
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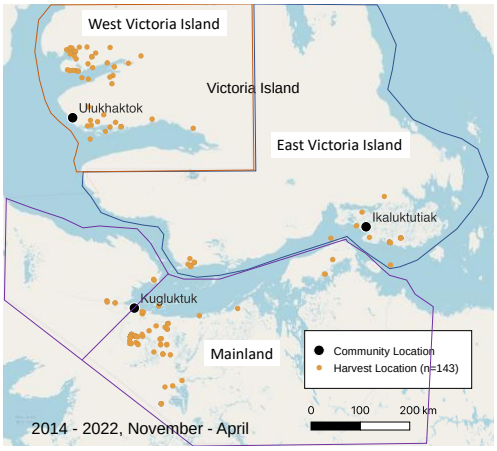
Olivia's work focuses on pregnancy diagnosis methods and on the mechanism behind population declines of muskoxen. With the samples and data from the harvester-based health monitoring program, she has been exploring the importance of disease and nutrition in pregnancy.

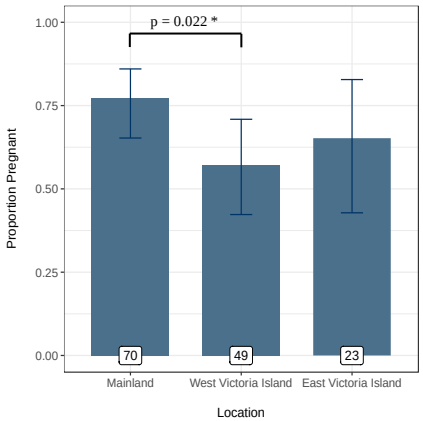
WHAT ARE WE FINDING?

Blood on filter paper

The current method of diagnosing pregnancy, measuring a hormone in feces, is not very accurate in muskoxen. Olivia trialed the use of dried blood on filter paper as a sample to measure a pregnancy-specific protein in captive pregnant muskoxen; this has proven to be an accurate method that can now be used with the harvester-based sampling program.

Muskox populations on Victoria Island have experienced recent declines, whereas the population on the adjacent mainland in Kugluktuk appears to be stable. The pregnancy rates measured from the harvester-based samples received over the past 8 years reflect this. We also found that younger animals and animals exposed to *Brucella* were less likely to be pregnant.





The proportion of pregnant animals from each location. Sample size is shown at the bottom of each bar.

WHY DOES THIS WORK MATTER?

Adapting our method of pregnancy diagnosis allowed us to test for pregnancy earlier and more accurately with a sample type that can be collected by hunters. From this, we can gain a better understanding of the drivers of pregnancy, which will contribute to long-term conservation efforts of muskoxen.

THANK YOU TO ALL THOSE WHO MAKE OUR RESEARCH IN THE ARCTIC POSSIBLE

For over 10 years the Kutz Research Group, the communities of Ulukhaktok, Kugluktuk and Cambridge Bay (Ekaluktutiak), the Government of Nunavut, the Government of the Northwest Territories, and Canada North Outfitting, have been partnering to investigate and monitor wildlife health on Victoria Island and the adjacent mainland. The results presented here are a direct result of this program. We thank all our collaborators and funders. Please contact Susan Kutz skutz@ucalgary.ca if you have any questions about this program.

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NWT CIMP
Northwest Territories Cumulative Impact Monitoring Program

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