



COMMUNITY-BASED MUSKOX AND CARIBOU HEALTH MONITORING

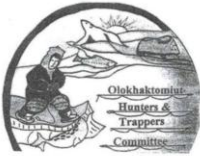
ACTIVITY UPDATE – JUNE 2025

INVESTIGATING TRACE MINERAL IMBALANCES

PARTNERS



Kugluktuk Angoniatit Association



Olokhaktomiut Hunters and Trappers Committee



Ekaluktutiak Hunters and Trappers Organization



Government of Nunavut



WHAT ARE WE DOING?

By testing hunter-harvested samples, we've found that muskoxen and caribou in the Kitikmeot are low in important trace minerals like copper and selenium (Fig. 1). Since animals get these nutrients through their diet, we've been investigating the availability of these nutrients on the landscape by testing plants and soil. In 2024, we sampled plants and soil near Cambridge Bay and Kugluktuk and are planning to conduct more sampling in 2025.



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WHAT ARE WE FINDING?

Copper and selenium in plants are extremely low and often below the minimum requirement needed by muskoxen (Fig. 2). While the amount of minerals in the soil seems ok, our results show that neither plants nor animals can absorb the soil minerals well, leaving the animals with no way to get the mineral nutrients they need to survive.

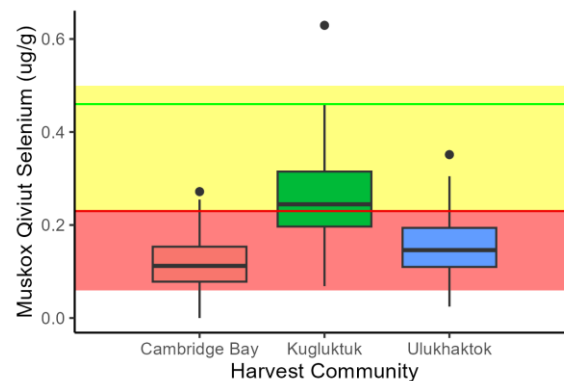


Fig. 1: Selenium status of muskoxen by harvest community. The red region indicates severe deficiency, while the yellow region indicates marginal deficiency. Muskox populations below the red line tend to decline, while populations above the green line tend to increase.

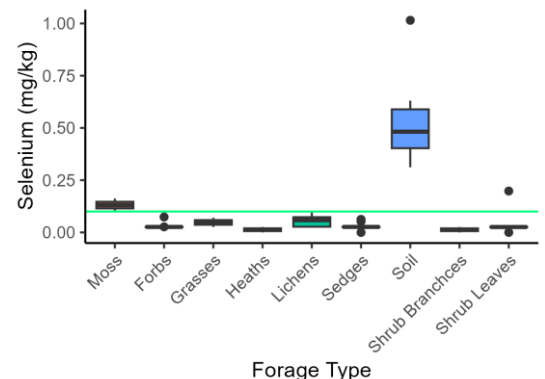


Fig. 2: Selenium concentrations of common forages on Victoria Island. The green line indicates the daily dietary requirement of beef cattle.

WHY DOES THIS WORK MATTER?

Animals can't survive without trace minerals. Low copper and selenium in muskoxen and caribou may cause disease, poor adult and calf survival, more parasites, and poor reproduction. Since our cooperative research has discovered these problems in muskoxen and caribou, it may be that poor trace mineral nutrition is seriously affecting the health of these animals. If that's the case, supplementing trace minerals by providing mineral licks may drastically improve the health of muskoxen and caribou.

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.