



COMMUNITY-BASED MUSKOX AND CARIBOU HEALTH MONITORING

BRUCELLOSIS IN THE ARCTIC

JUNE 2023

PARTNERS



Kugluktuk Angoniatit Association



Olokhaktomiut Hunters and Trappers Committee



Ekaluktutiak Hunters and Trappers Organization





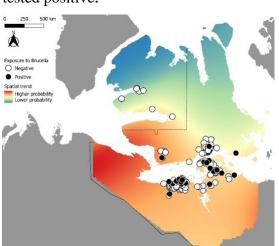


WHAT ARE WE DOING?

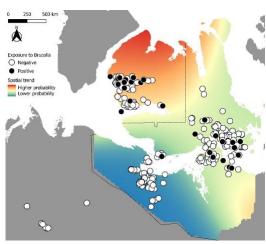
Brucellosis is a disease found in caribou and muskoxen and is caused by the bacterium *Brucella suis* biovar 4. People may also get infected with *Brucella* by butchering infected animals or eating uncooked infected meat. We are testing filter paper blood samples from the harvester kits, and abnormal tissues, to determine how common *Brucella* is in muskoxen and Dolphin and Union caribou.

WHAT ARE WE FINDING?

In muskoxen, our results from testing the blood on filter paper between 2011-2022 show that *Brucella* seropositivity (exposure) is increasing in muskoxen on Victoria Island. In recent years, near Ulukhaktok, **one of every three** adult muskoxen harvested are seropositive. We have also detected exposure in **mainland** muskoxen on Kent Peninsula in recent years. In total, 34/427 (8%) muskoxen have tested positive.



Brucella exposure in Caribou.



Brucella exposure in Muskoxen.

In the Dolphin and Union caribou herd, 46/298 (15%) caribou tested between 2015 and 2022 were positive for exposure to *Brucella*.

HOW TO RECOGNIZE BRUCELLOSIS IN ANIMALS?

Infected animals may have swollen joints and limp. Other signs of brucellosis are swollen, bigger than usual testicles and udders. In muskoxen, we often see abscesses that will appear as yellow-white lumps in tissues or organs. If you suspect brucellosis report it to your wildlife officer and wash all your hunting tools well. Cooking well will kill brucellosis.

ATYPICAL SIGNS OF BRUCELLA IN MUSKOXEN

Signs of brucellosis in muskoxen may differ from those seen in caribou. Below we show some muskox abnormal tissues with brucellosis that harvesters have submitted.



Brucella in the skin: View of a muskox leg cut in half. The horn-like overgrowth on the leg contains a cyst filled with yellowish fluid (hygroma).



Brucella in muscle: Yellowish pus-filled abscess inside the muscle found in a muskox.



Brucellosis in abnormal lymph nodes from the abdomen of a muskox. The lymph nodes are larger than usual and have many abscesses/white lumps.



Brucellosis in a muskox kidney. The kidney is cut in half, and we can see small yellow-white lumps of *Brucella* infection.

WHAT ARE SIGNS OF INFECTION IN PEOPLE?

In people, signs of brucellosis are not specific. Typically, it feels like a flu, but stronger, with fever, muscle and joint pain, tiredness, or swollen glands. Sometimes infected people have a skin rash. Signs of illness start between one week and two months after handling or eating infected meat. Contact your health centre if you think you may have signs brucellosis. Brucellosis can be treated with medications.

Additional information on Brucellosis and other diseases of wildlife can be found at: https://www.enr.gov.nt.ca/sites/enr/files/field_guide_wildlife_diseases.pdf

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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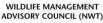














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Programme de lutte contre les contaminants dans le Nord

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