



COMMUNITY-BASED MUSKOX AND CARIBOU HEALTH MONITORING

BRUCELLOSIS IN THE ARCTIC

JUNE 2023



PARTNERS



Kugluktuk Angoniatit Association



Olokhtomiut Hunters and Trappers Committee



Ekaluksi Hunters and Trappers Organization



Government of Nunavut



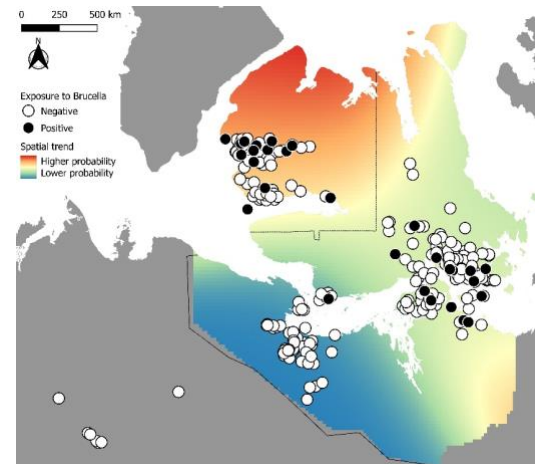
Government of Northwest Territories

WHAT ARE WE DOING?

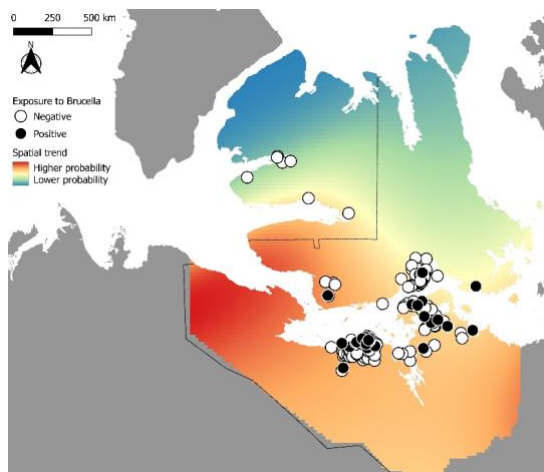
Brucellosis is a disease found in caribou and muskoxen and is caused by the bacterium *Brucella suis* biovar 4. People may also get infected with *Brucella* by butchering infected animals or eating uncooked infected meat. We are testing filter paper blood samples from the harvester kits, and abnormal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



Brucella exposure in Caribou.

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

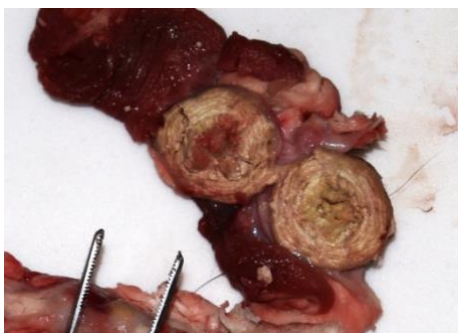
Signs of brucellosis in muskoxen may differ from those seen in caribou. Below we show some muskox abnormal tissues with brucellosis that harvesters have submitted.



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).



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



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



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

