

MERCURY IN SEAWEED, LICHENS AND MUSHROOMS FROM THE HOME RANGE OF THE QAMANIRJUAQ CARIBOU MAY 2018

The Qamanirjuaq caribou have higher mercury concentrations than some other caribou in the Arctic. Usually, caribou get most of the mercury they eat from lichens, but at community meetings in Kivalliq, elders described caribou eating seaweed. Since seaweed absorbs some metals, the caribou may be getting additional mercury from seaweed.



This project was designed to explore indigenous knowledge held by hunters and elders from the Kivalliq region about caribou consuming seaweed, and to use that knowledge to help us collect seaweed, lichens and mushrooms in Kivalliq communities to measure mercury in them.

WHAT DID WE DO?

Emma Kreuger and Keenan Lindell, from Arviat, interviewed hunters and elders in Arviat, Baker Lake, Chesterfield Inlet and Rankin to help them decide where to collect lichens, mushrooms and seaweed in each of the communities. (They couldn't get to Whale Cove due to bad weather).

Those samples were analyzed for mercury in a lab in Ontario.

WHAT DID WE FIND?



Interviews with elders told us that:

In the winter caribou eat mosses/lichens from the tundra and hilltops where the plants are more likely to be exposed.

In the summer caribou keep eating mosses and lichens, but also other kinds of plants, including seaweed.

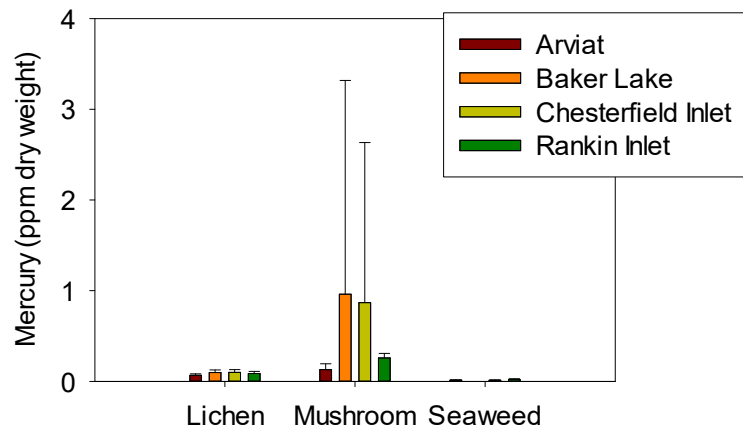
In the summer caribou are more likely to be found by lakes, rivers or the seashore.

Many thanks to all the hunters and elders who shared their valuable knowledge for this project. Also, thanks to those that helped with collections and to Bobby Suluk from Arviat, who kindly transcribed the recorded interviews.

IS THERE MERCURY IN SEAWEED?

Mercury levels were lower in seaweed than in lichens or mushrooms. Even if caribou ate as much seaweed as they do lichens (which is not likely), seaweed would still not be an important source of mercury for the Qamanirjuaq caribou.

The black bars on the graph show how different mercury levels were in mushrooms from a single community. In Baker Lake and Chesterfield Inlet, out of 6 mushrooms, only one from each community was high in mercury. Most of the mushrooms had very little mercury.



WHAT DID WE DO WITH THIS INFORMATION?

In the fall of 2017, Lars Qaqqaq (Baker Lake) and Mary Gamberg (Yukon) brought the results of this project to the HTOs in Arviat, Baker Lake, Chesterfield Inlet, Rankin Inlet and Whale Cove. Lars also presented the results at the Northern Contaminants Program Results Workshop in Yellowknife. Lars and Mary are now writing an article about this project to publish in a scientific journal.



Seaweed is not a significant source of mercury for the Qamanirjuaq caribou.

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