

Taku River Tlingit First Nation

Traditional Foods Contaminant Monitoring Program

Background

Moose and fish are an important source of nutrition and have spiritual, social, and cultural significance. However, these species can contain contaminants that may pose a risk to human health, such as mercury, lead, cadmium, flame retardants, pesticides, or other chemicals. This project aimed to measure contaminants in moose, grayling, and lake trout so that community members can make informed choices about consuming those foods.

Methods

In fall 2018, Land Guardians collaborated with hunters to obtain 10 moose samples. In the summer of 2019, Land Guardians collected 36 fish from three lakes in the area. The samples were then analyzed in a lab for a suite of 38 elements, stable isotope ratios, PBDEs, PFAS, polychlorinated biphenyls, and organochlorine pesticides.

Results

In general, contaminants were low in both moose and fish from the Atlin area.

Contaminant levels in moose were low except for cadmium in kidneys, though this is likely of natural origin from willows growing in cadmium-rich soil. Those concerned about cadmium intake should limit intake of moose kidneys to one kidney/person/year.

Contaminant levels in fish from the Atlin area were generally low and not of concern, although sample sizes were low for some fish. Mercury increased with fish length, but levels in lake trout from Atlin Lake were lower than those previously found in Kusawa Lake and Lake Laberge.

Project Team

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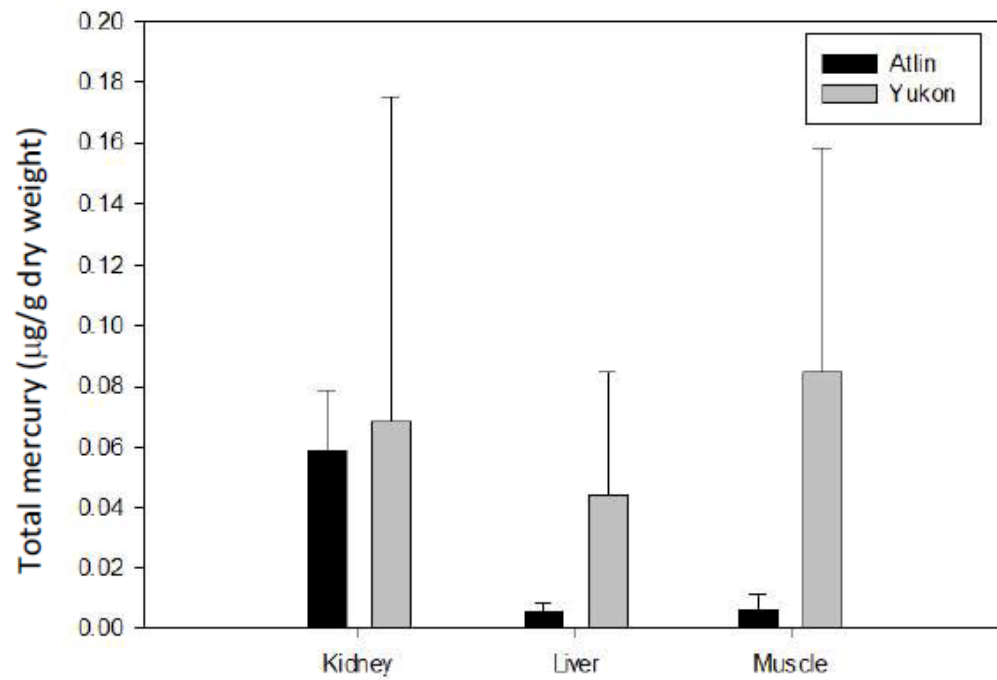


Figure 1. Total mercury concentrations in moose collected from Atlin, BC in the fall of 2018 compared with moose collected from the Yukon from 1994-2008.

Table 1. Fish collections from the Atlin area in 2019

Species	Atlin Lake	Surprise Lake	MacDonald Lake	Total
Grayling	2	10	0	12
Lake trout	10	0	3	13
Whitefish	6	0	5	11
Total	18	10	8	36

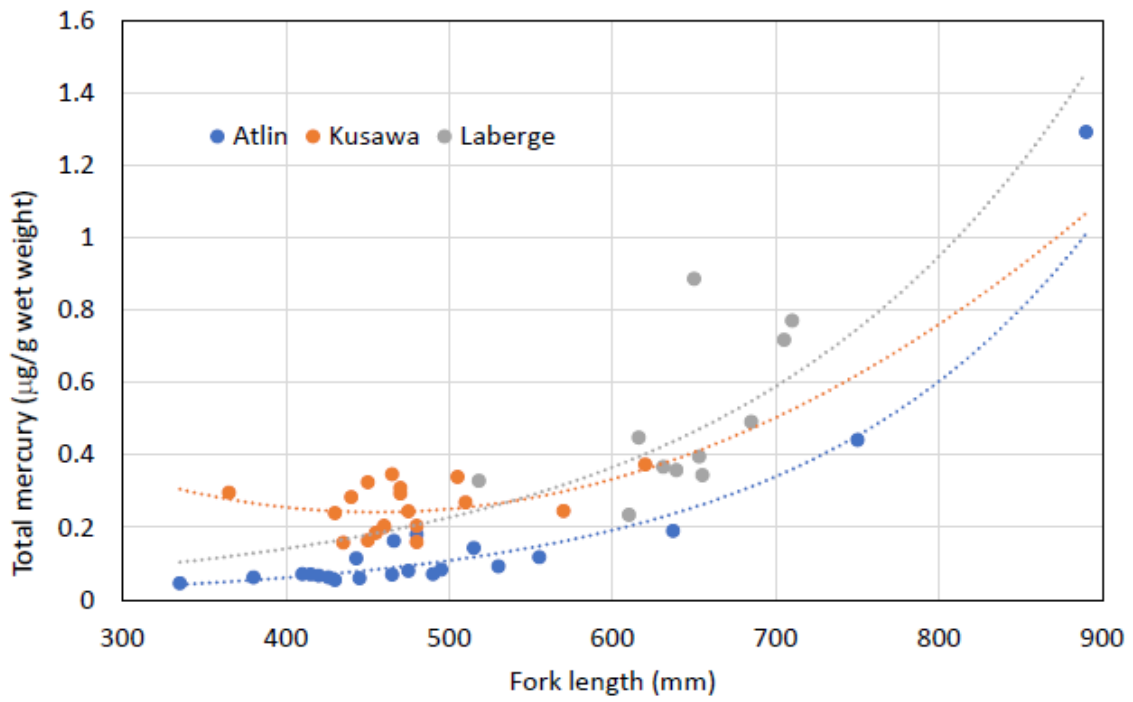


Figure 2. Total mercury in fish muscle from Atlin and Kusawa Lakes and Lake Laberge collected in 2019.