# Community Contaminants Testing Program

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*Assessing Environmental Contaminants in Traditional Foods of Chisasibi*

# Introduction

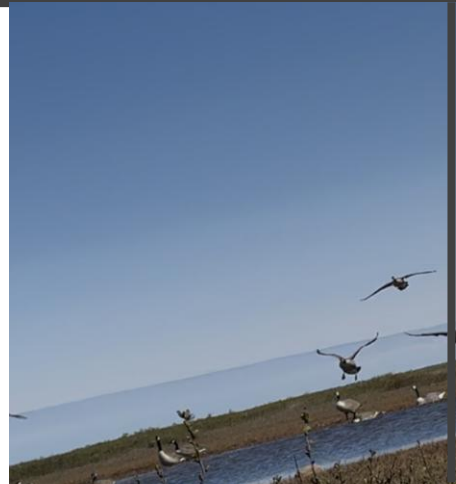
- The project aims to assess environmental contaminants, specifically methylmercury, in traditional foods such as fish and migratory waterfowl in Chisasibi.

- These foods are an important part of local culture, diet and identity of the Cree Nation of Chisasibi.

# Objectives:

Measure mercury in fish & waterfowl;
Establish safe portion sizes

Improve testing capacity and understand seasonal variation



# **Methods** : Sample Collection

- Sample collection was conducted in collaboration with Cree land users, elders, and youth.
- Collection efforts took place during relevant seasonal periods of spring and fall to align with traditional harvesting times.

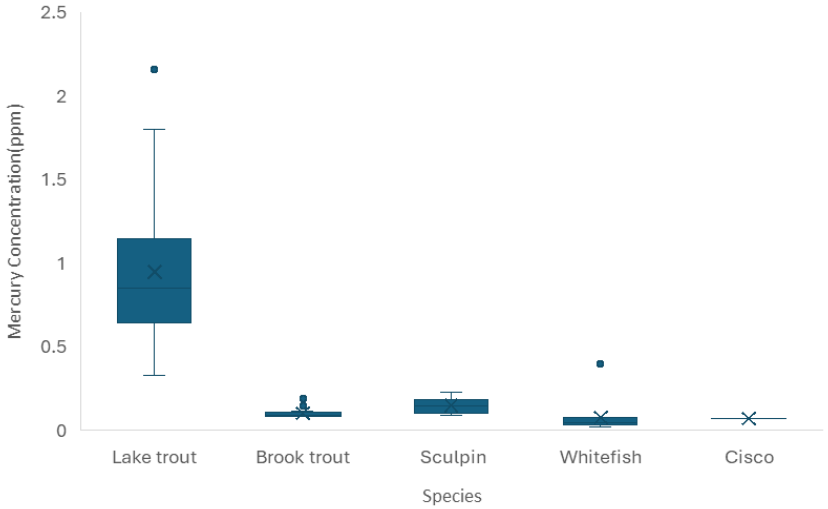
# Testing & Analysis

- **Fish:** Tested for total methylmercury (muscle tissue)
- **Waterfowl:** Mercury testing in muscle and liver tissue
- **Shellfish:** Mercury levels in whole flesh
- Analysis conducted at **RPC lab with high-precision standards**

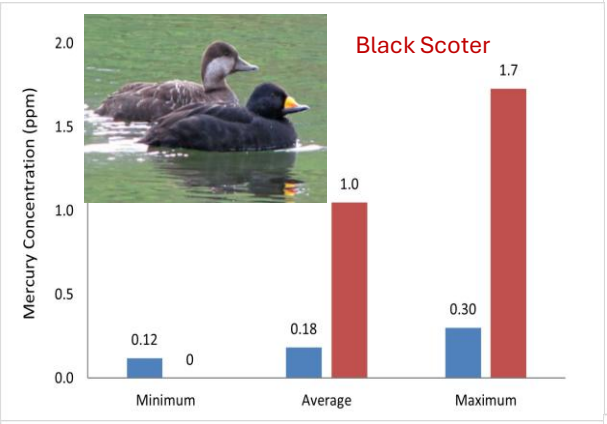


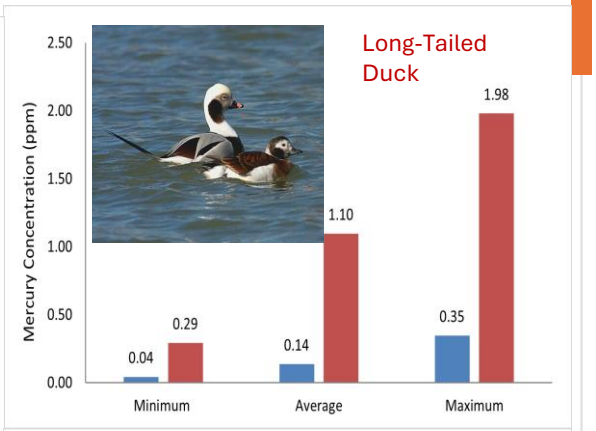
# **Results:** Fish

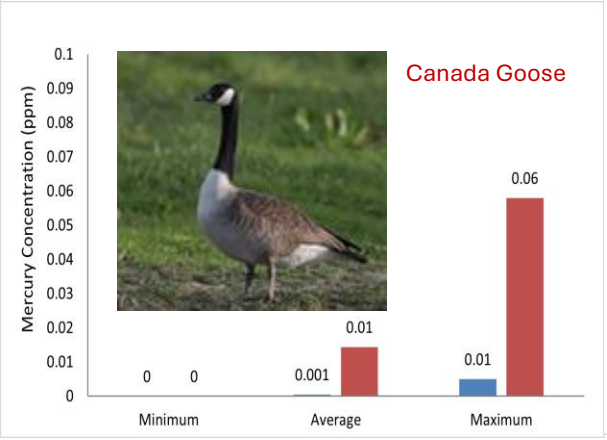
- **Brook Trout:** Low mercury levels, all below the health advisory limit 0.5 ppm.
- **Sculpin:** Low mercury, well within safe limits.
- **Whitefish:** Low concentrations, safely below the threshold.
- **Lake Trout:** High mercury levels, many samples above the advisory threshold.

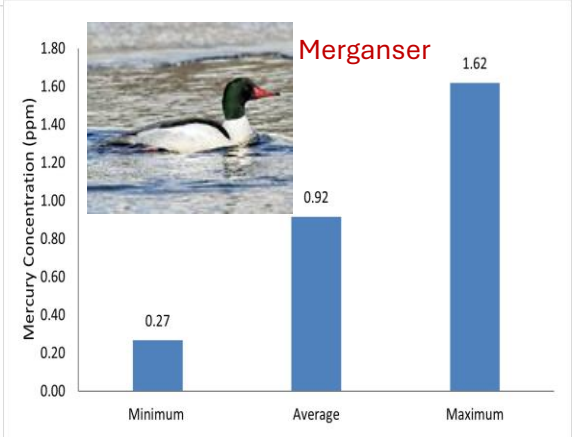



| Species | Maximum Mercury concentration (ppm) |
|---|---|
| Brooke Trout | 0.14 |
| Sculpin | 0.23 |
| Whitefish | 0.4 |
| Lake Trout | 2.16 |



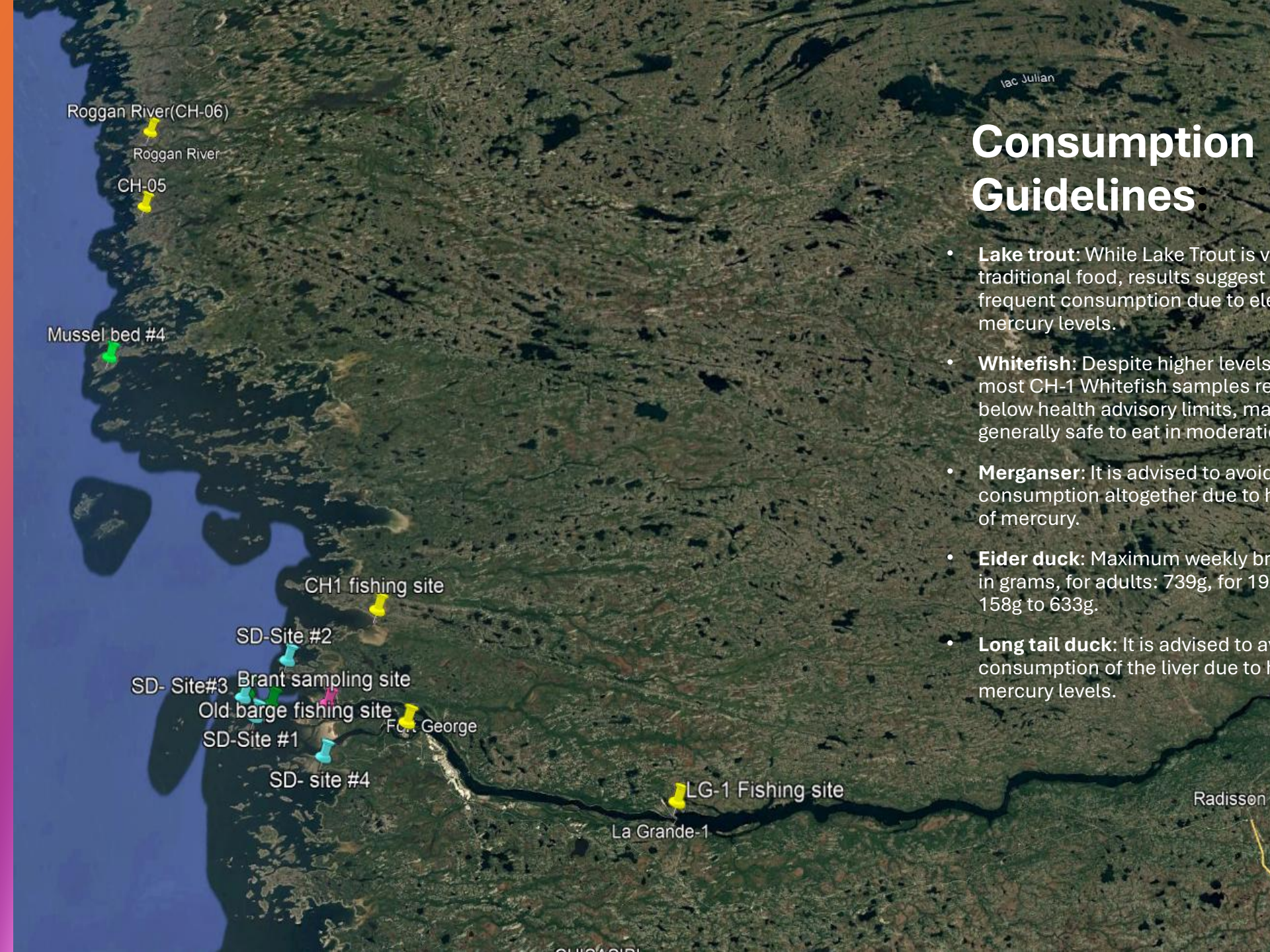




# **Results:** Waterfowl

- Canada Goose: While breast samples showed very low concentrations, the liver reached a maximum of 0.06 ppm.
- Across all three species, mercury levels were higher in the liver than in the breast, showing that the liver is the main site of accumulation.

# Recommendations:

- **Safe Consumption Guidelines:** Encourage moderate consumption of species with lower mercury concentrations, while limiting intake of species found to have higher levels..
- **Community Awareness**: Share results with community members to support informed decision-making about traditional food consumption.
- **Capacity Building**: Strengthen local capacity for contaminant testing so results can be produced more quickly and independently in the community.
- Pregnant women, young children, and elders are more vulnerable to mercury's effects, as it can impact brain and nervous system development or overall health.




# Consumption Guidelines:

- **Lake trout**: While Lake Trout is v traditional food, results suggest frequent consumption due to el mercury levels.
- **Whitefish**: Despite higher levels most CH-1 Whitefish samples re below health advisory limits, ma generally safe to eat in moderati
- **Merganser**: It is advised to avoi consumption altogether due to h of mercury.
- **Eider duck**: Maximum weekly br in grams, for adults: 739g, for 19 158g to 633g.
- **Long tail duck**: It is advised to a consumption of the liver due to h mercury levels.


Thank you!