Hudson Bay Consortium Roundtable

25-27 Feb 2025

Wildlife research priorities, activities and progress in the Eeyou Marine Region

Manon Sorais PhD

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EEYOU MARINE REGION WILDLIFE BOARD

CONSEIL DE GESTION DES RESSOURCES FAUNIQUES DE LA RÉGION MARINE D'EEYOU

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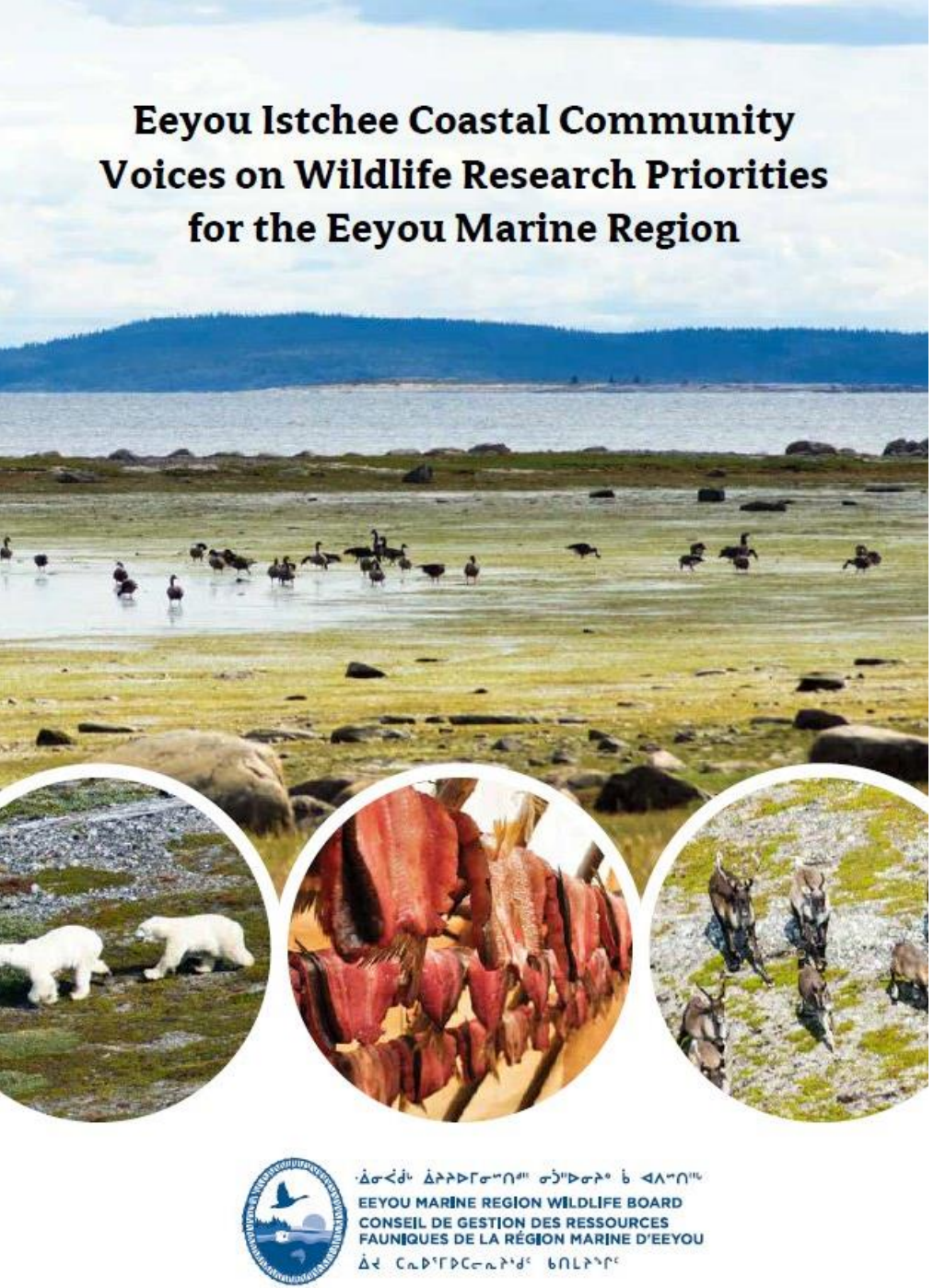
Eeyou Marine Region Wildlife Board

Responsible for **wildlife management** and regulator of access to wildlife in the EMR - *Eeyou Marine Region Land Claim Agreement (EMRCLA)*

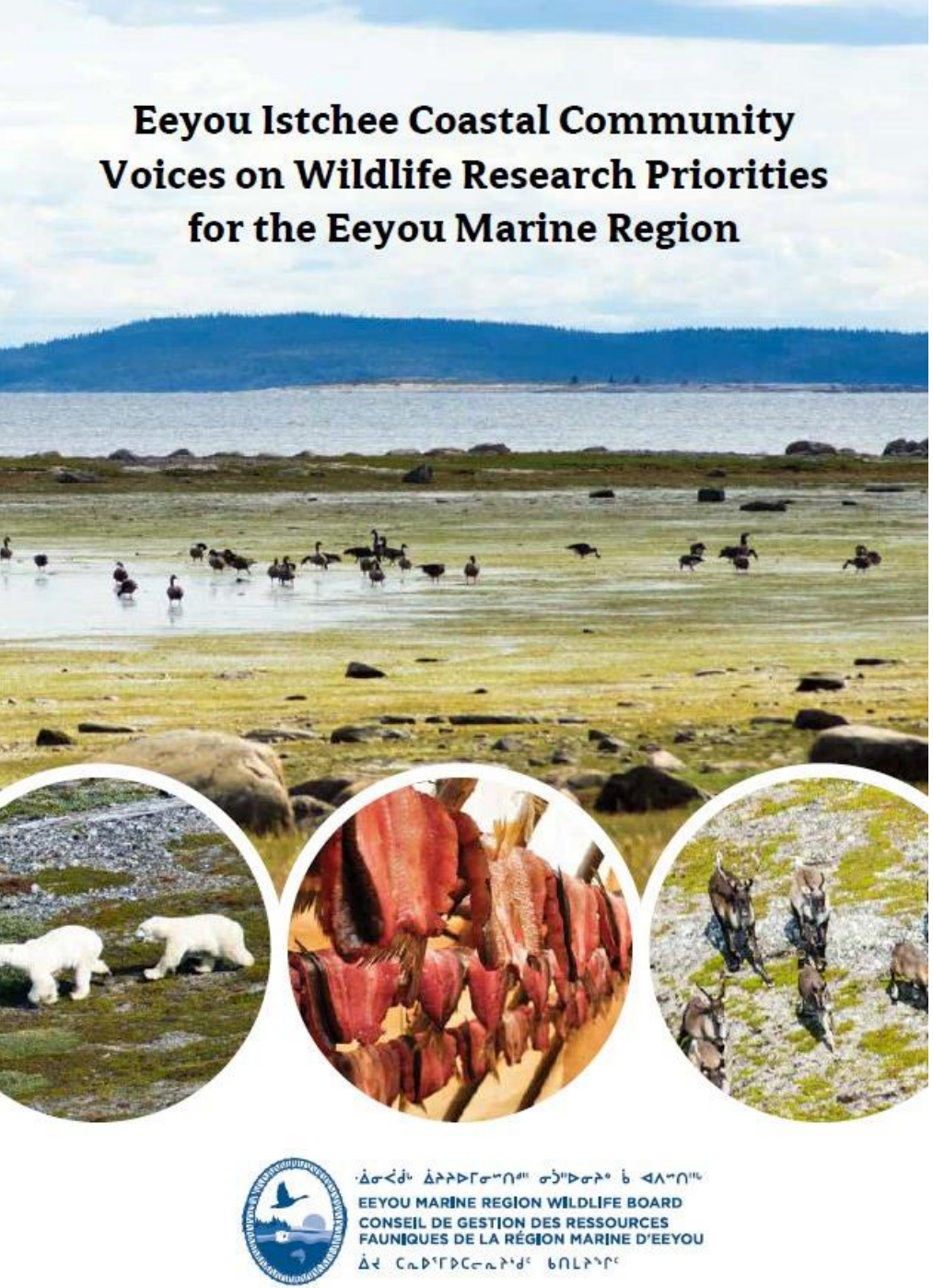
- Wildlife management decisions
  - Basic need levels, quota and non-quota limitations
  - Public hearing on polar bear harvest
  - Public hearing on listing the horned grebe under the Species At Risk Act
- Leading & supporting wildlife research that aligns with priorities identified by the Coastal Cree communities



Research priorities

The EMRWB must **identify research requirements and deficiencies** - *EMRCLA*

- **Relevant to wildlife management** in the EMR
- Symposium on Sciences and Traditional Knowledge (2014)
- Community research consultations (2016-2018)



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Research priorities

Waterfowl
Coastal birds

Fish
Commercial fisheries

Coastal habitats
Eelgrass

Large terrestrial mammals

Birds and coastal habitats

- What are the factors driving environmental changes in the EMR?
- How does waterfowl/shorebirds cope with these changes and use coastal habitats?
- What are the current migration patterns?
- How do environmental changes impact the avian health?

Canada geese in Eastern James Bay

- Coastal Habitat Comprehensive Research Project – Phase 2 (Waskaganish, Eastmain, Wemindji, and Chisasibi)
- Local concerns about changes in coastal ecosystems
- Main factors affecting eelgrass?
- Interactions between current eelgrass beds, waterfowl, and Cree hunting activities ?

University of Manitoba · UQAR ISMER · Cree Trappers' Association · Cree Nation of Wemindji · Cree Nation of Waskaganish · UNB · UBC · UQÀM · McGill · Iskamoon Corporation · Cree Nation of Chisasibi · Cree Nation of Eastmain · Hydro Québec · Environment and Climate Change Canada

Coastal birds surveys in Eastern James Bay

- Objectives
  - Distribution, abundance, migration routes of breeding birds, waterfowl, shorebirds, species at risk
  - Developing a long-term monitoring program
  - Informing the establishment of protected areas
- 2016-2022 ground surveys → Important Bird Area in Boatswain Bay

Remote sensing in Eastern James Bay

- Objectives
  - Distribution, abundance, migration routes of breeding birds, waterfowl, shorebirds, species at risk
  - Developing a long-term monitoring program
  - Informing the establishment of protected areas
- MOTUS network + Autonomous Recording Units

Environment and Climate Change Canada

Audubon

BIRDS CANADA OISEAUX CANADA

FaunENord

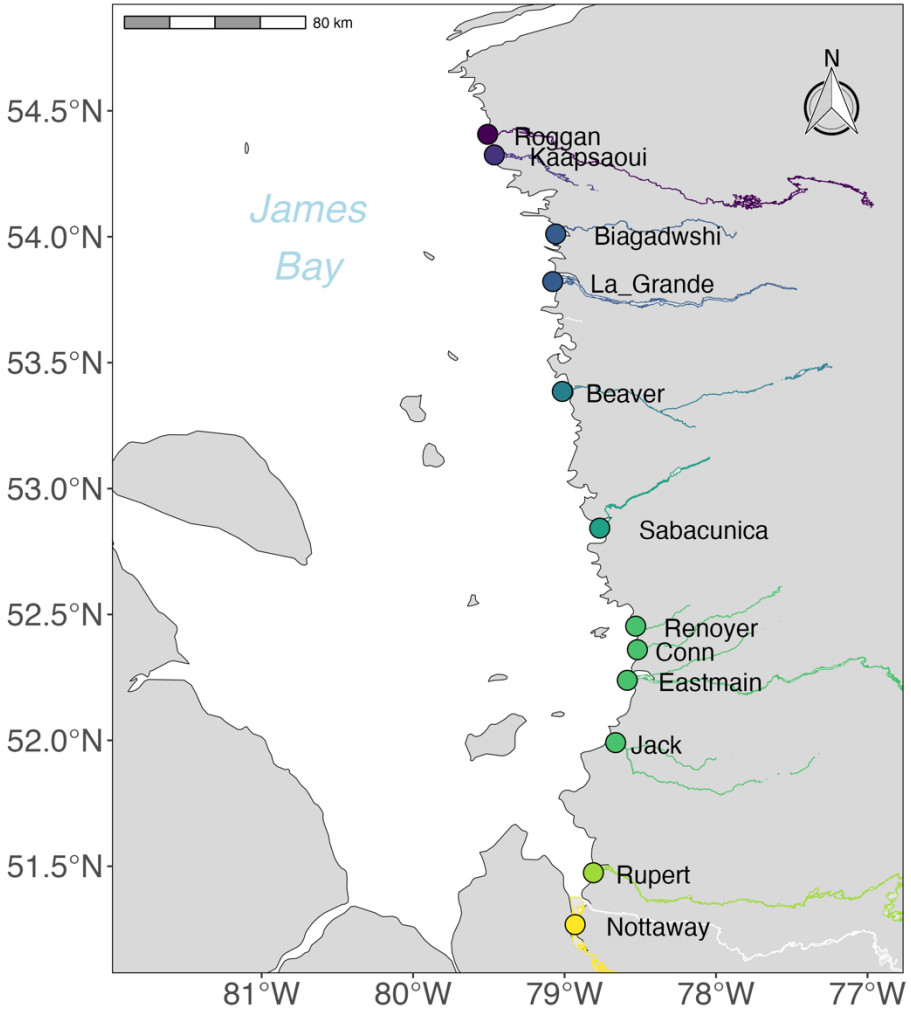
A/Vian Eco

Fondation de la faune du Québec

Fish and their coastal habitats

- What are the factors driving the changes to the size, the abundance, and the taste of fish?
- What is the current state of fish coastal habitats?
- What are the current distribution and migration patterns of different fish species?
- Genetic identification of fish stocks
- Are fish exposed to environmental contaminants?

Whitefish



Courtesy of Raphaël Bouchard

Fostering Indigenous Small-scale fisheries for Health, Economy, and Food Security (FISHES)

- Objectives
  - Integrating genomic and fisheries science with indigenous knowledge
  - Addressing socio-economic and cultural challenges related to food security
  - Identifying fisheries stocks

Iskamoon Corporation

Chisasibi Eeyou Resource and Research Institute

IBIS

Université Laval

Université Concordia

GenomeCanada

Contaminants in traditional fisheries in the EMR

- Objective: determining what contaminants bioaccumulate in fish species traditionally harvested in Eeyou Istchee (i.e. brook trout, whitefish, cisco)
- Sample collection through local harvesting programs: contaminants, stable isotopes
- Overall body condition
- Whitefish: contaminant (e.g. Mercury, PFAS) levels very low

Exploring Contaminants in Coastal Fisheries of Eeyou Istchee

What We Heard

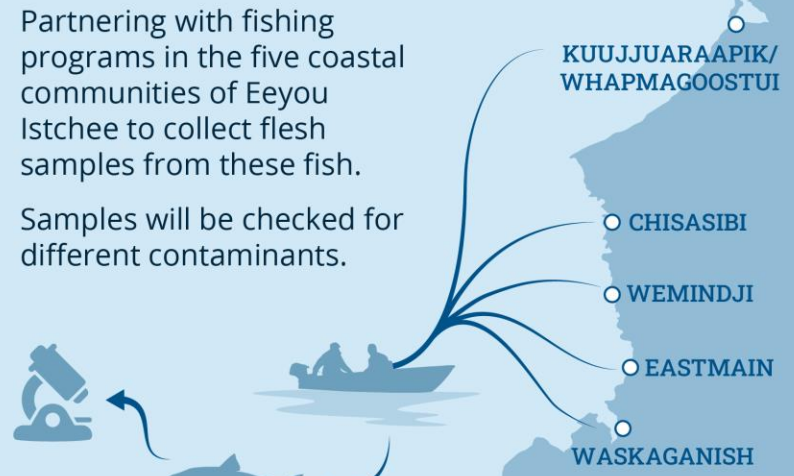
Through community consultations, we learned that contaminants in harvested fish, including Cisco, Whitefish and Brook Trout, are a concern for the coastal communities of Eeyou Istchee.

"I want to know that the fish we are eating are healthy and not full of environmental pollutants."

What We Are Doing

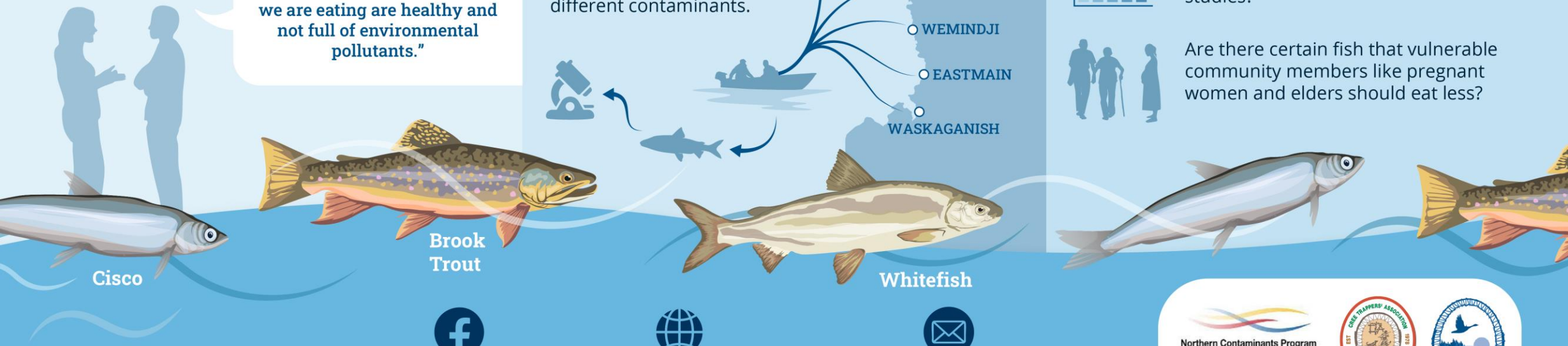
Partnering with fishing programs in the five coastal communities of Eeyou Istchee to collect flesh samples from these fish.

Samples will be checked for different contaminants.



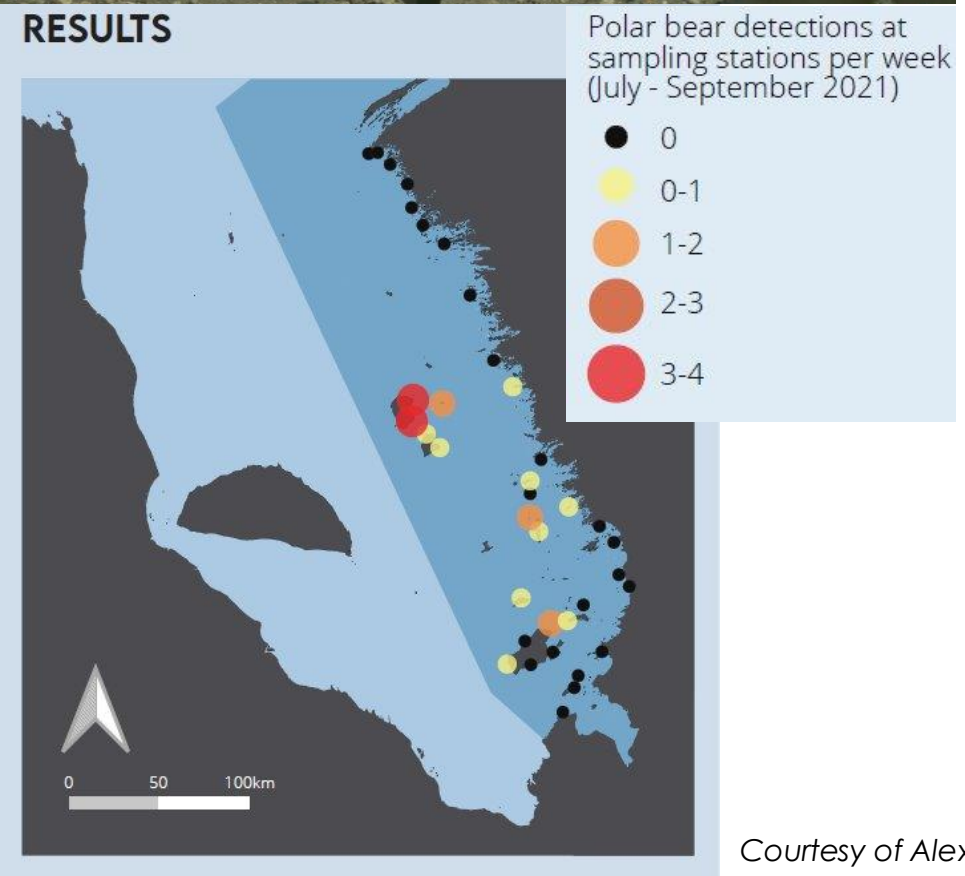
What We Will Learn

- What kinds of contaminants are found?
- Are contaminant levels high enough anywhere that we should do further studies?
- Are there certain fish that vulnerable community members like pregnant women and elders should eat less?



Eeyou Marine Region
www.emrwb.ca
wildlife@eeyoumarineregion.ca

Northern Contaminants Program
Programme de lutte contre les contaminants dans le Nord



Polar bears in the EMR

- Safety concern about more frequent encounters and human/bear conflicts
- Started in 2021
- Objectives
  - Characterizing polar bear distribution, habitat use, diet, body condition, and genetics in the EMR
  - Developing a long-term monitoring program based on minimally invasive methods, i.e. hair snares, camera traps, and aerial survey

Courtesy of Alexandra Langweidwer

Other ongoing projects

- Canada geese on Long Island – *Niskamoon*
- Brant geese in Eastern James Bay – *USask, Niskamoon*
- Yellow rail project – *Canadian wildlife service, ECCC*
- Polar bear biopsy darting – *MELCCFP*
- Fish telemetry – Concordia U.
- Herpetofauna monitoring in the EMR coastal habitats – *FaunENord*
- eDNA and coastal biodiversity – *MELCCFP*
- Mission eDNA – *Genome Canada*
- Strutton Islands, post-fire recovery study

Meegwetch. Nakurmiik. Thank you. Merci.