

## **FISHES Annual Project Report – 2022/23 FY**

**Project Leader:** Natasha Louttit, Wildlife Liaison Officer, Cree Trappers Association (Eeyou Marine Region), 158 Opinaca Rd., Eastmain, QC J0M 1W0

### **Project Summary:**

The Cree Trappers Association-EMR Department is providing support to the Fostering Indigenous Small-scale fisheries for Health, Economy, and food Security (FISHES) project in collaboration with Dr. Louis Bernatchez of Laval University. The project will develop and apply genomic approaches in concert with Traditional Ecological Knowledge to address critical challenges and opportunities related to food security and commercial, recreational and subsistence fisheries of northern Indigenous Peoples in Canada. In the Eeyou Marine Region, the project will develop genomic resources for three fish species important to Cree communities and use these resources to identify genetically distinct populations, assess their vulnerability to future climatic conditions, and quantify their contributions to mixed-population harvests.

### **Project Objectives:**

The CTA-EMR staff has contributed to the projects objective to collect cisco, lake whitefish, and brook trout in each of the communities of the EMR to obtain information on fish demographics (length and age) and genetics to identify genetically distinct populations.

### **Materials and Methods:**

To determine sample locations, CTA-EMR officers worked with coastal tallymen in Waskaganish, Eastmain, Wemindji, and Chisasibi. Tallymen and the CTA-EMR officers identified 2-3 rivers in each community where cisco, whitefish, and trout spawn (called source stocks) and 2-3 coastal areas in each community where the fish from each river spend time during the summer (called mixed stocks). Additionally, CTA-EMR officers worked with tallymen to gain access to their traplines for sampling and to identify boat guides and sampling technicians.

Between July and December 2021, the previously mentioned locations were visited with local guides and technicians to set gill nets to target cisco, lake whitefish, and brook trout. For each of the source stock locations, the CTA-EMR officers aimed to gather 40 fish of each species. For the mixed stock, the CTA-EMR officers aimed to gather 250 fish of each species from each community.

Once the fish were collected, the CTA-EMR officers measured the fish length (mm) and collected the adipose fin of each fish into vials containing a saltwater solution. The samples were then sent to research partners at Laval University for further analysis.

For the year of 2022-23, the FISHES project employed 38 Cree land users, from July 2022 to February 2023, for a total contribution of \$44,172.20 to tallymen and land users, out of a total of \$52,190.20 expenditures.

## Results:

During the 2021 sampling campaign, the CTA-EMR officers collected a total of fish from July 2022 until February 2023. A breakdown of sampling by community, species, for 2022/23 fiscal can be found in Table 1.

Table 1: FISHER Sample Summary Table (Summer 2022-Winter 2023)

	Whapmagoostui	Chisasibi	Eastmain	Waskaganish	Wemindji	Grand Total
<b>Cisco</b>	<b>0</b>	<b>0</b>	<b>70</b>	<b>122</b>	<b>55</b>	<b>247</b>
<b>Trout</b>	<b>332</b>	<b>0</b>	<b>112</b>	<b>102</b>	<b>55</b>	<b>601</b>
<b>Whitefish</b>	<b>87</b>	<b>0</b>	<b>216</b>	<b>96</b>	<b>225</b>	<b>624</b>
<b>Grand Total</b>	<b>419</b>	<b>0</b>	<b>398</b>	<b>320</b>	<b>335</b>	<b>1472</b>

## Project Schedule:

The 2022 sampling season was the third year of a four-year project. During this time the CTA-EMR officers experienced challenges in meeting full sampling capacity due to weather and availability of land users and equipment rental. Despite these challenges, the CTA-EMR officers were able to complete a substantial amount of sampling and the collection of source and mixed stock samples were collected on schedule.

During the winter of 2023, CTA-EMR staff facilitated visiting researchers from the FISHER team. This included Social Sciences researcher Katherine Scott in and Chisasibi for FISHER TEK interviews. TEK interviews were also gathered at the CTA-Regional Annual General Assembly and from an online link posted to the CTA Regional Facebook page. In Chisasibi, 14 interviews were completed with 18 participants. To date, 140 surveys have been collected in person and via online links. In June of 2023, FISHER TEK interviews will be conducted in Waskaganish.

Additionally, the CTA-EMR staff are working with the FISHER Research Advisory Board (RAB) to ensure that the traditional ecological knowledge (TEK) and social science portion of the project made progress.

## Preliminary Results:

Throughout 2022, CTA-EMR staff made efforts in reaching project targets. Many targets for whitefish collection were completed in the coastal communities. Progress was also made towards reaching cisco and trout target, though these species were caught in lower quantities than whitefish. Although 2022/23 is the final year for sample collection, the CTA-EMR is searching for funds to complete mixed stock sampling in the Chisasibi area in the spring/summer of 2023, which were incomplete. Samples were collected in the area via CERRI. The samples collected during 2022 were sent to research partners at Laval University for analysis and are expecting a preliminary report in the summer of 2023.

The first analytical result will be reported in summer of 2023 to the EMRWB and the CTA-BOD. Raphael Bouchard, University of Laval, will have population structure results to share in the spring of 2023, once lab analysis for the whitefish mixed-stock samples is complete.