

## **FISHES Annual Project Report – 2021/22 FY**

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### **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 2021-22, the FISHES project employed 51 Cree land users, for the 2021/2022 sampling year, for a total contribution of \$93,104.77.

### **Results:**

During the 2021 sampling campaign, the CTA-EMR officers collected a total of 2444 fish from June 2021 through March 2022. A breakdown of sampling success by community, species, and stock type for all sampling years can be found in Table 1.

Table 1: FISHER Sample Summary Table (Summer 2020-Spring 2022)

	<b>Chisasibi</b>	<b>Eastmain</b>	<b>Waskaganish</b>	<b>Wemindji</b>	<b>Grand Total</b>
<b>Cisco</b>	<b>250</b>	<b>208</b>	<b>340</b>	<b>139</b>	<b>937</b>
Mixed	164	143	219	99	625
Source	86	65	121	40	312
<b>Trout</b>	<b>263</b>	<b>199</b>	<b>12</b>	<b>244</b>	<b>718</b>
Mixed	65	152	11	164	392
Source	198	47	1	80	326
<b>Whitefish</b>	<b>410</b>	<b>489</b>	<b>418</b>	<b>132</b>	<b>1449</b>
Mixed	193	412	340	79	1024
Source	217	77	78	53	425
<b>Grand Total</b>	<b>923</b>	<b>896</b>	<b>770</b>	<b>515</b>	<b>3104</b>

#### **Project Schedule:**

The 2021 sampling season was the second year of a four-year project. During this time the CTA-EMR officers experienced challenges in meeting full sampling capacity due to COVID-19 restrictions and weather. 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 summer and fall of 2021, CTA-EMR staff facilitated visiting researchers from the FISHERS team. This included project lead Dr. Louis Bernatchez visiting Eastmain for 1 week in July and PhD student Raphael Buchard visiting Waskaganish for 1 week in September 2021.

Additionally, the CTA-EMR staff are working with the FISHERS Research Advisory Board (RAB) to ensure that the traditional ecological knowledge (TEK) and social science portion of the project made progress. During the summer of 2021, Dr. Monica Mulrennan and Dr. Katherine Scott were able to complete nine (9) TEK interviews in Wemindji in August of 2021.

For 2022, the CTA-EMR anticipates completing source and mixed stock samples for all communities and TEK interviews are planned to occur throughout the summer from June to September 2022.

#### **Preliminary Results:**

Throughout 2021, CTA-EMR staff made significant progress in reaching project targets. Many targets for whitefish collection were completed in the coastal communities. Significant progress was also made towards reaching cisco and trout target, though these species were caught in lower quantities than whitefish. A summary of the 2021 sampling progress, completion, and sample targets for 2022 are summarized below in Figures 1-3.

Currently, there are no analytical results to report. The samples collected during 2021 were sent to research partners at Laval University for analysis.

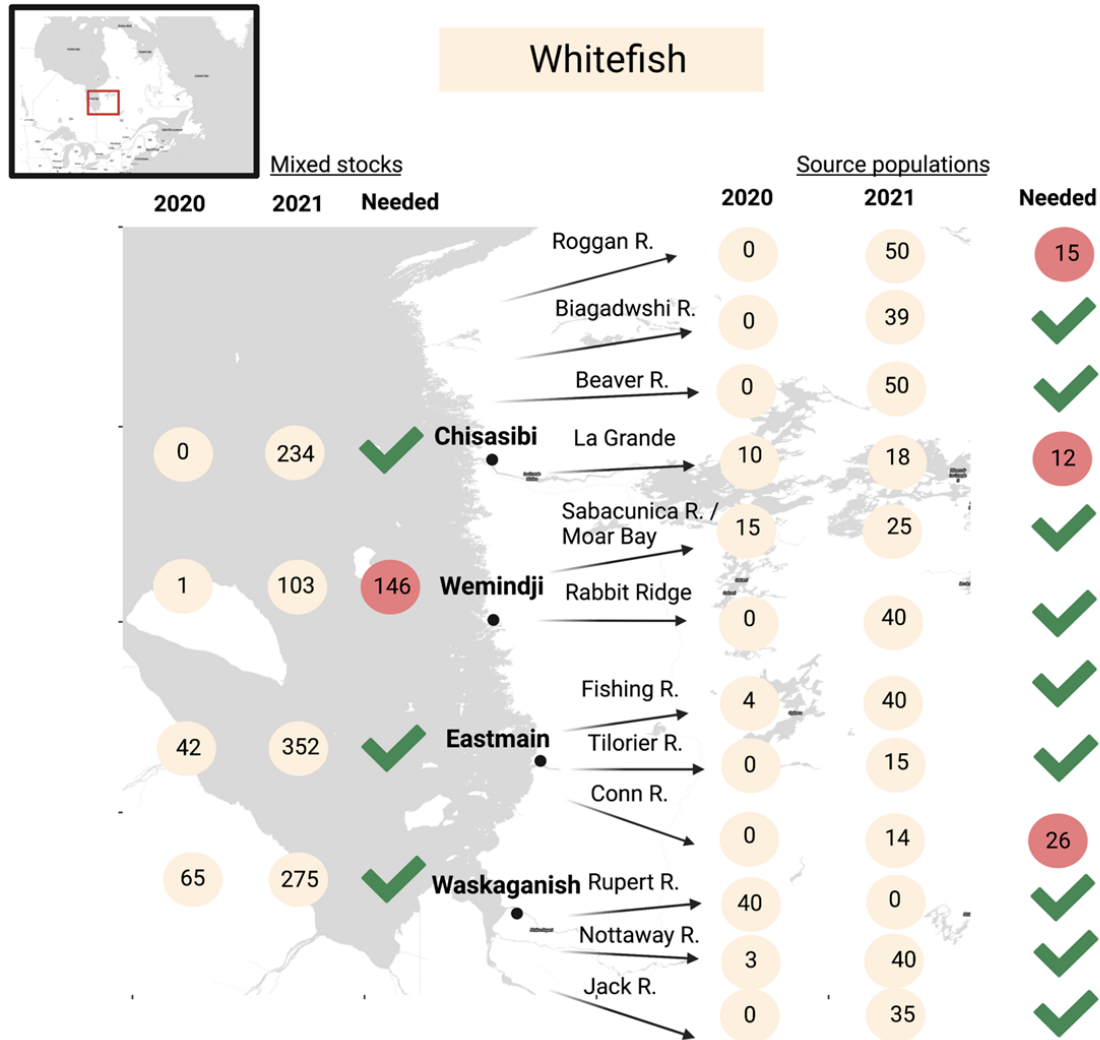


Figure 1: Summary of whitefish samples from 2020-2021 and anticipated samples for 2022



## Cisco

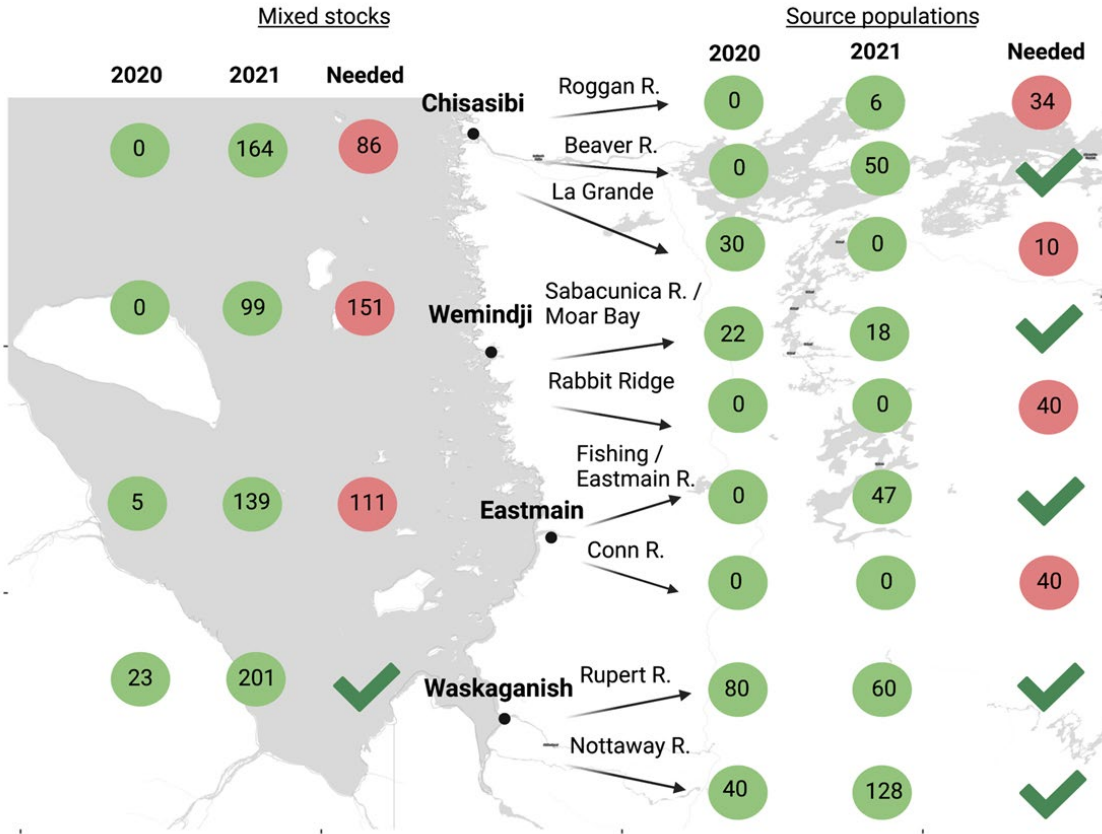


Figure 2: Summary of cisco samples from 2020-2021 and anticipated samples for 2022

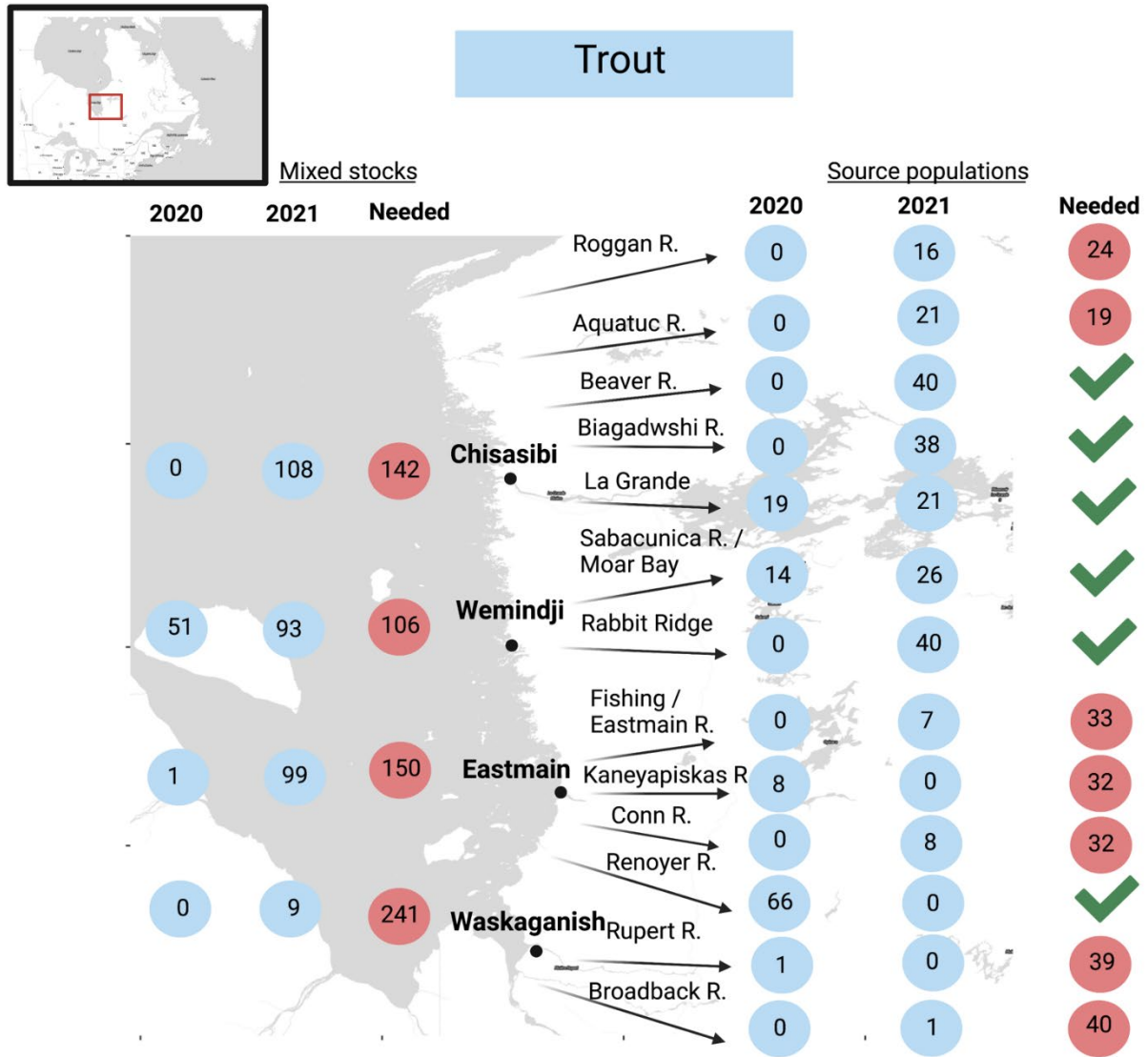


Figure 3: Summary of trout samples from 2020-2021 and anticipated samples for 2022

Report (GLTRLR1)

Trial Balance as of 2022-03-31

In Functional Currency

Sort By [Department]  
 Include Accounts With No Activity [No]  
 For Year-Period [2022 - 12]  
 From Department [5115] To [5115]  
 From Account Group [ ] To [ZZZZZZZZZZZZ]  
 Use Rolled Up Amounts [No]

Account Number	Description	Debits	Credits
3000-5115	EMRWB - FISHES		53,020.00
3020-5115	EMR FISHES - Niskamoon Corp		52,737.16
5000-5115	EMR FISHES - Travel Expenses	2,629.90	
5020-5115	EMR FISHES - Gas & Oil	5,202.49	
6400-5115	EMR FISHES- Administration Charges	4,820.00	
7015-5115	EMR FISHES - Contracted Services	93,104.77	
	<b>Total:</b>	<b>105,757.16</b>	<b>105,757.16</b>
	<b>Net Income (Loss) for Accounts Listed:</b>	<b>0.00</b>	

6 accounts printed