

# Grand Council Treaty #3 Environmental Monitoring

NOFNEC October 3, 2024

Chris Herc, Ben Finlan

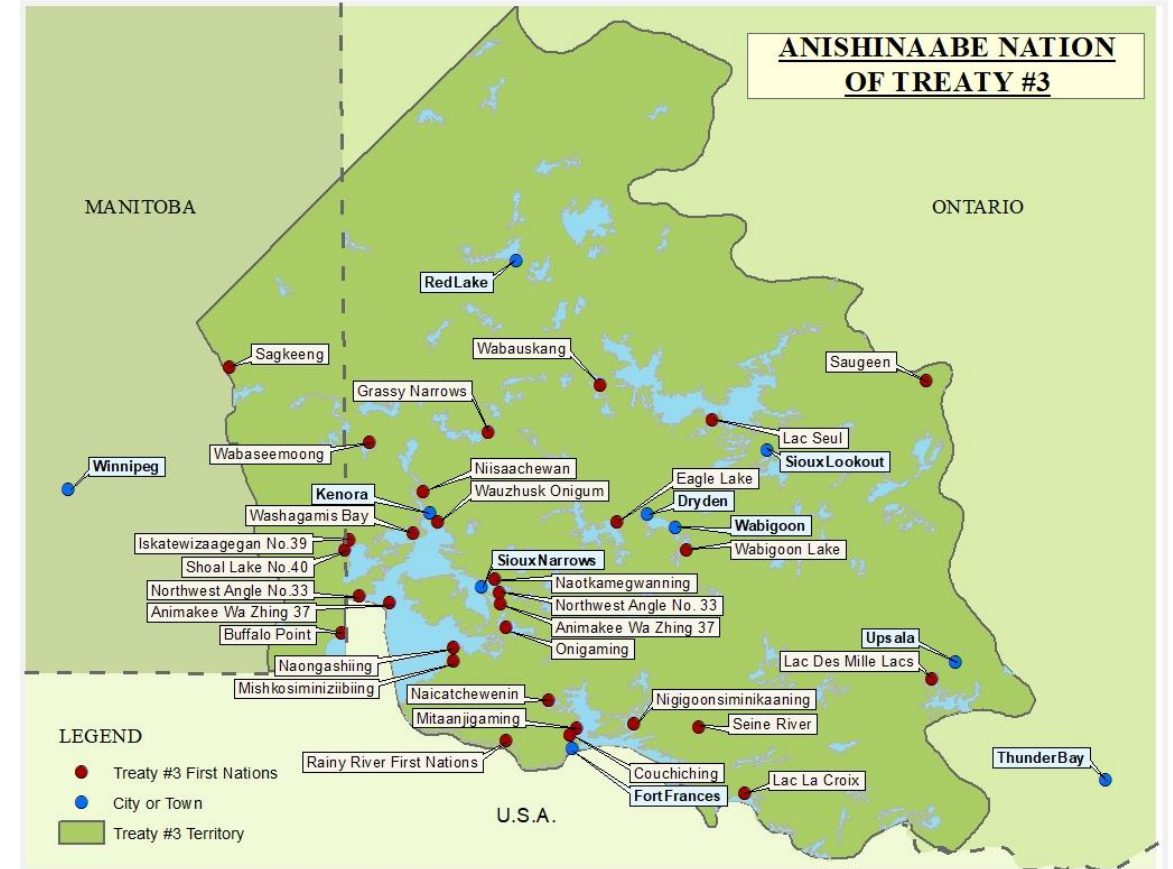


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# Introduction

- GCT3 is the traditional government of the Anishinaabe Nation in Treaty #3. GCT3's overall goal is the protection, preservation and enhancement of Treaty and Aboriginal rights
- TPU guided by Manito Aki Inakonigaawin and Nibi Declaration, works to assert Treaty #3 environmental jurisdiction and inherent rights
- Current work includes MAI, Treaty #3 projects applications portal, Guardians, natural resources policy, hunting and trapping, sustainable energy, and environmental monitoring



# GCT3 Led Environmental Monitoring

## Goals:

- Protect and preserve Treaty #3 lands, waters, and relations
- Develop and strengthen monitoring across Treaty #3 territory
- Prioritize youth engagement and involvement

## Collaborative approach to implementing monitoring initiatives

- Work with communities to establish monitoring priorities, co-create monitoring/work plan, capacity building etc.
- Weave Traditional Knowledge and Western Science together



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# GCT3 Led Environmental Monitoring

## GCT3 Environmental Monitoring Initiatives Include:

- Community-based Water Monitoring
- Community-based Climate Impacts Monitoring
- Invasive Species
- GIS Mapping
- Microplastics Presence Monitoring
- Species at Risk
- Long-term water quality monitoring stations



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# Community Based Monitoring

## CBM - Water

- Work with interested communities to identify monitoring interests, monitoring locations, train & build capacity, and collect baseline data
- Water quality, fish habitat, aerial and aquatic reference photos, methylmercury in fish, etc.

## CBM – Climate Impacts

- Similar process to CBM water monitoring, focus on TK interviews, precipitation, year-round water temperature, ice, weather stations



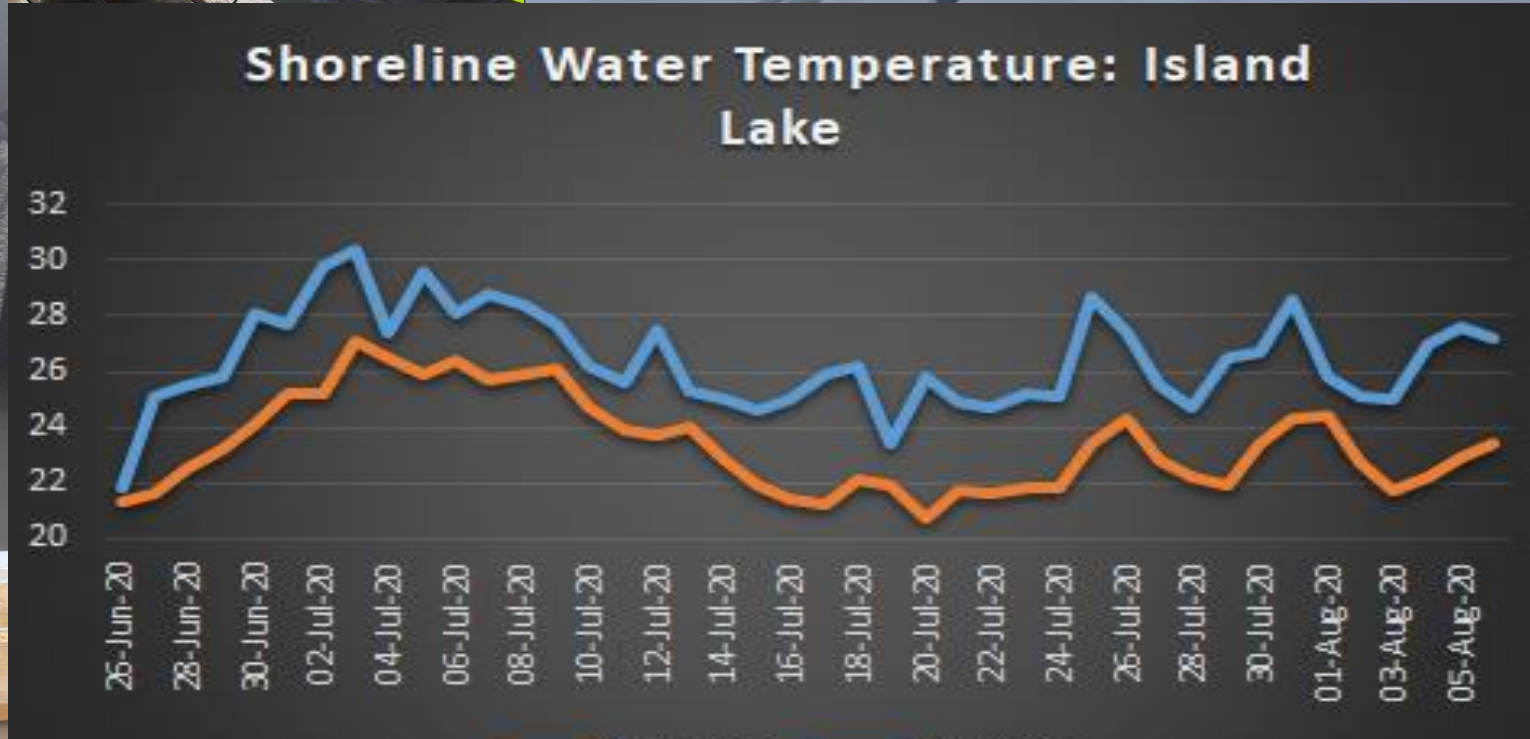
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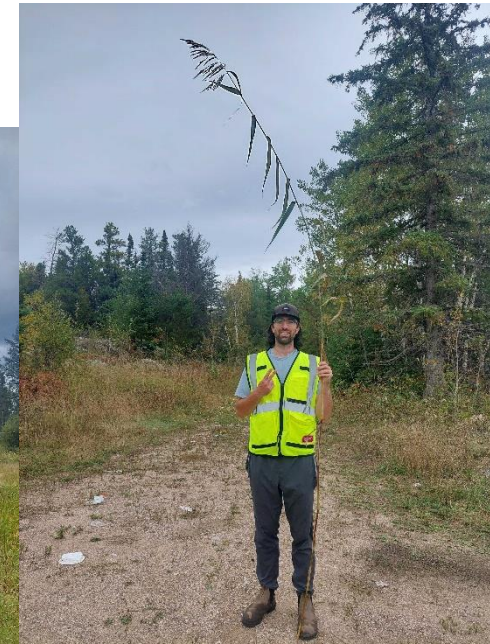




# Invasive Species

TPU is leading invasive species presence monitoring efforts across Treaty #3. Current efforts are focused on:

- Zebra Mussels
- Phragmites
- Purple Loosestrife



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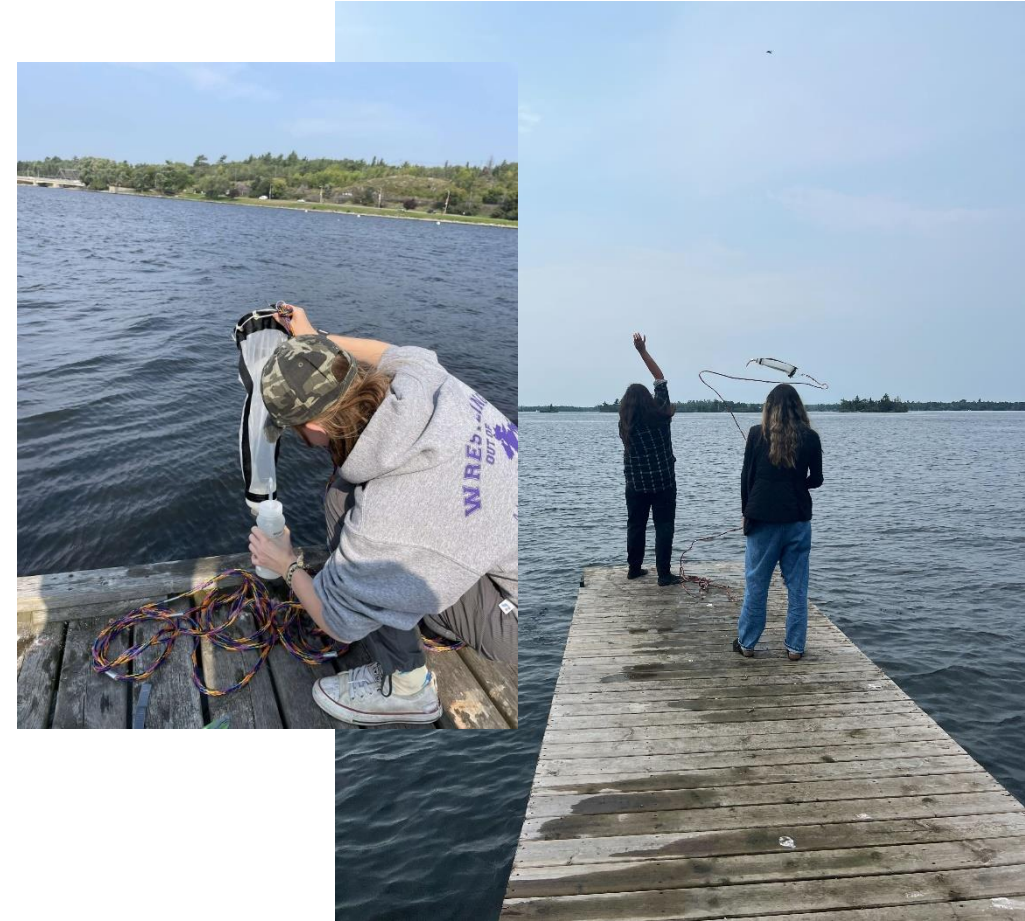
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# Treaty #3 Zebra Mussel Monitoring

Began monitoring for Zebra Mussel veliger presence during 2023 with help from ISC and their Action Fund

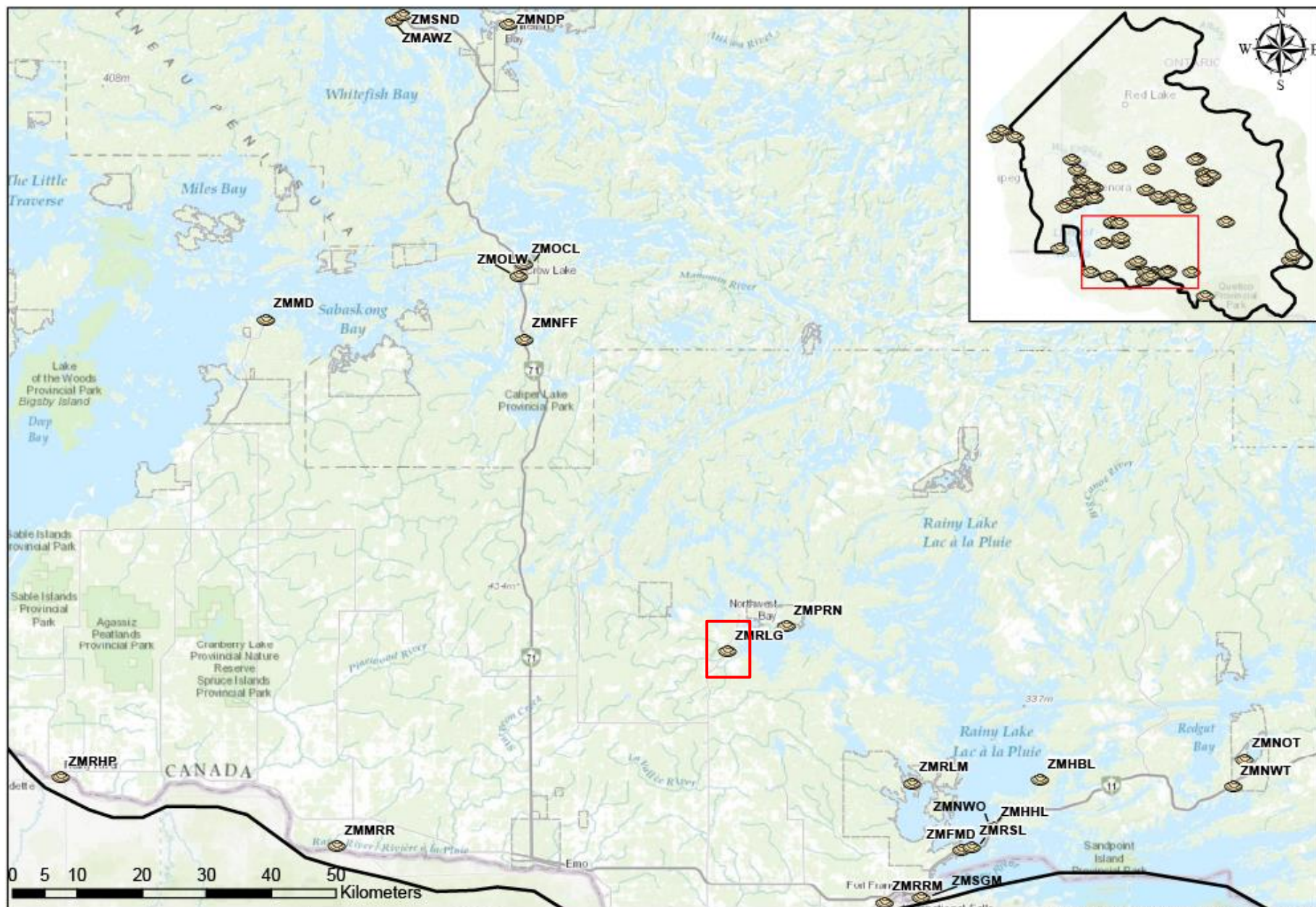
- New small net, adapted protocols from what MNRF uses
- Monitored 73 unique locations across Treaty #3. 27 from Treaty #3 community boat launches, 46 from high traffic public boat launches/docks
- Only one confirmed positive in Ontario – Northwestern section of Rainy Lake
- 8 locations also tested positive for Spiny Waterflea
- Spent day with youth program teaching them how to monitor



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## Zebra Mussel Veliger Sampling Locations



## GRAND COUNCIL TREATY #3

THE GOVERNMENT OF THE ANISHINABE NATION IN TREATY #3

Map Created By: GCT3, GIS Specialist, R. Parsons  
Map Created: November 28, 2023  
Coordinate System: NAD 1983 UTM 15N  
Map Group: 3/5, Southern Map  
Service Layer Credits: Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, Geobase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), (c) OpenStreetMap contributors, and the GIS User Community

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# Phragmites Monitoring

## Invasive Phragmites monitoring started in 2022

- Funding through ISC
- Mapping of Phragmites growing locations in Kenora area
- DNA testing for confirmation on native vs invasive species. No invasive's confirmed

## Increased Monitoring in 2023

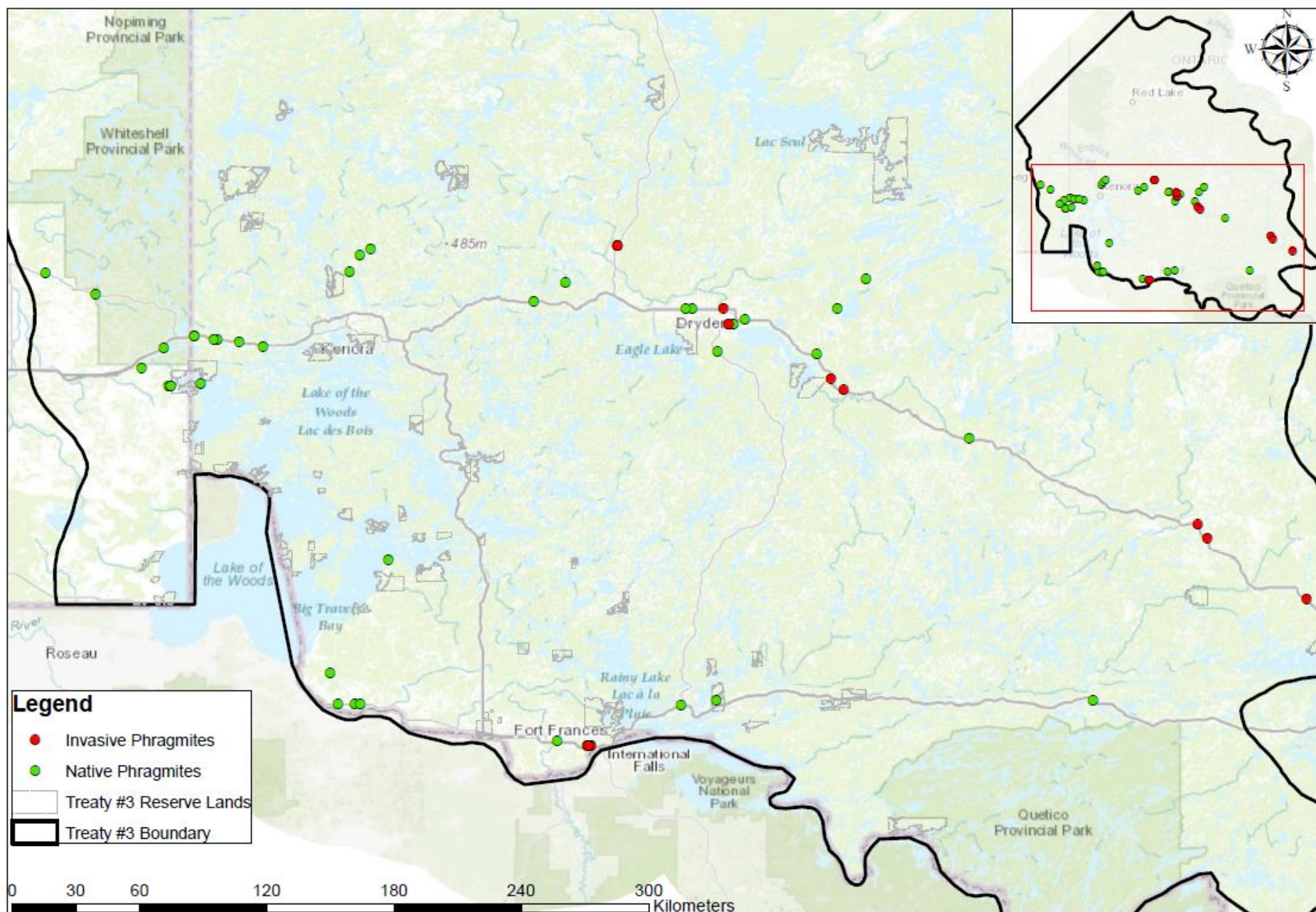
- Continued funding from ISC
- Increased focus on DNA testing as physical traits between native/invasive blurred
- 61 tests and 17 confirmed invasive. Found in Fort France, Dryden, Upsala, and Vermillion Bay areas.



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## Phragmites Sampling 2023 Native vs Invasive



**GRAND COUNCIL  
TREATY #3**  
The Government of the Anishinaabe Nation in Treaty #3

Map Created By: GCT3, GIS Specialist, R. Parsons  
Map Created: February 12, 2024  
Coordinate System: NAD 1983 UTM 15N

Service Layer Credits: Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), (c) OpenStreetMap contributors, and the GIS User Community

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# GRAND COUNCIL TREATY #3

The GOVERNMENT of THE ANISHINAABE NATION in TREATY #3

Treaty #3 Phragmites Mapping Project

About

Members 5

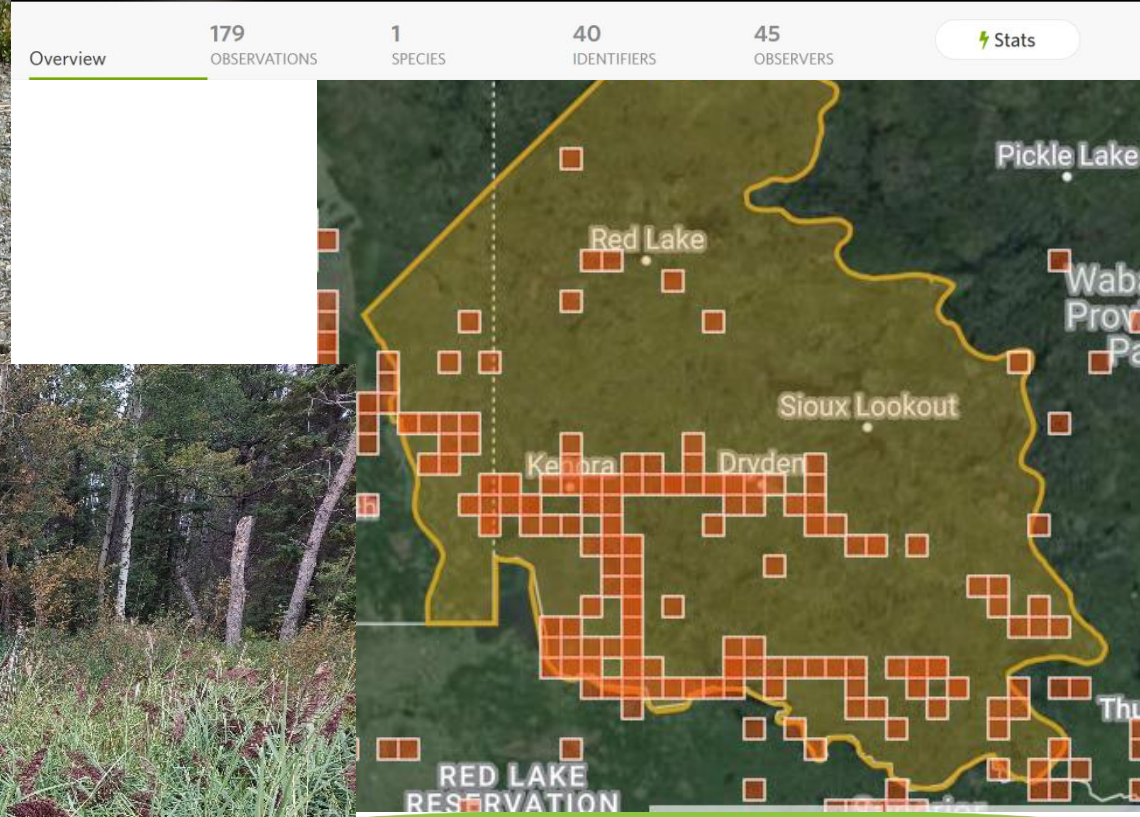
Mapping of invasive and native Phragmites in Treaty #3 to determine spread and severity of invasive Phragmites within Northwestern Ontario

Read More >

Your Membership

Edit Project

Project Journal



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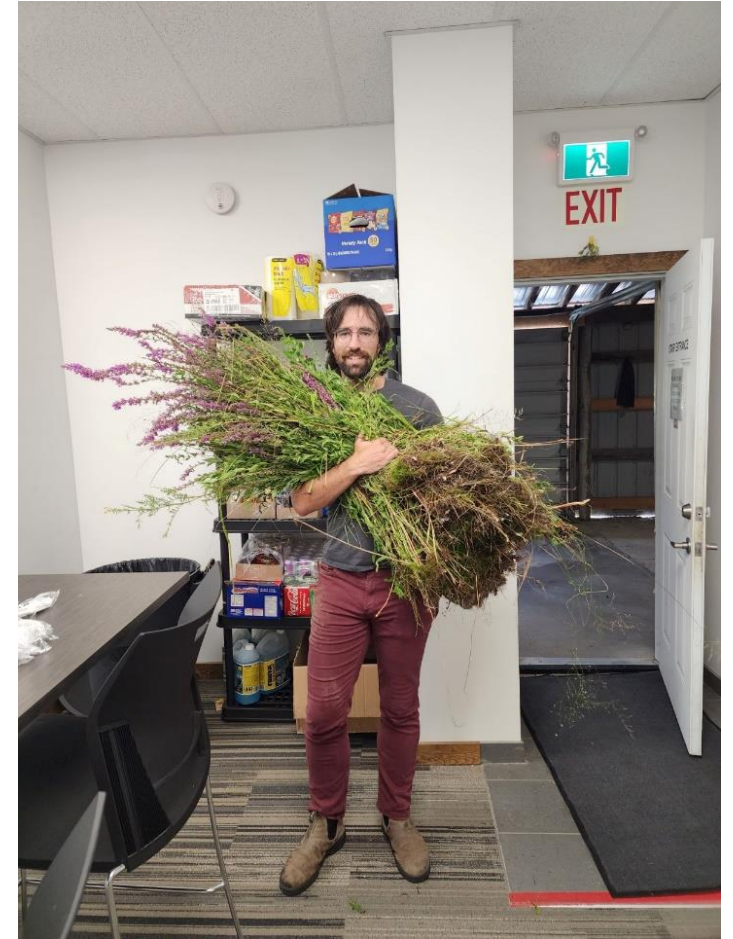
# Purple Loosestrife Monitoring

## Mapping/monitoring efforts officially began in 2023

- Purple Loosestrife becoming more present in Treaty #3 territory year after year
- Potential Impacts to traditional medicines
- Monitoring initially funded through ISC Action Fund

## TPU summer students drive on across Treaty #3 and digitally map using iNaturalist

- Easiest during flowering season
- Some small removal measures taken
- Will guide monitoring and removal efforts



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144 new Purple Loosestrife growing locations mapped through iNaturalist. Only 88 by TPU staff

- Growing stands ranges from 1 plant to 5,000+ plants





# New Invasive Plant Species of Concern



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# Upcoming Invasive Species Work

Mobile boat cleaning stations for popular Treaty #3 boat launches

- Happening over the next three years

Create Invasive Species guidebook exclusive to Treaty #3

- Happening this year, will be dual language. English and Anishinaabemowin

Create and lead Phragmites Management Working Group for Treaty #3 Territory

- Treaty #3 communities, municipalities, Provincial Ministries



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# BIINITOON • ZIIKOBIIGINAN • BAASAN

CLEAN DRAIN DRY

STOP THE SPREAD OF INVASIVE SPECIES

## PROTECT TREATY #3 LANDS AND WATERS FROM INVASIVE AQUATIC HITCHHIKERS

Biinitoon gijiimaan bengwa'an, baasan, gakina gegoo gaa-gii-aabajitooyan  
gii-wewebanaabiiyan gaawiin awiya manidooshag imaa ji-agokewaad jiimaaning.

Clean, drain, and dry your boat, trailer, and equipment when moving between  
water bodies to keep unwanted invasive hitchhikers from tagging along.

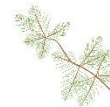
ZEBRA MUSSELS



FLOWERING RUSH



EURASIAN  
WATERMILFOIL



SPINY  
WATERFLEAS



RUSTY CRAYFISH



 TREATY #3 TERRITORY



Prevent the Spread of Aquatic  
Invasive Species

### BIINITOON • CLEAN

Gakina gegoo biinitoon gaye Manidooshag, gaye  
netaawaginging gijiimaani odaabaanaak, gakina gaasii'an  
ezhashkiiwanganin gakina gegoo biinitoon  
giwewebanaabaan giigokeyawan, gaye gimakizinan.

Inspect and clean off plants, animals, and mud from your  
watercraft, trailer, and any equipment used, such as fishing  
gear, waders, or boots.

### ZIIKOBIIGINAN • DRAIN

Ziikobiiginan gijiimaan, gijiimaani odaabaanaak gaye  
gakina giwewebanaabaanan, gidakik gaye, gigiigoonwakik,  
gaye nibi gaa-izhijiwang.

Drain all water from your watercraft, trailer, and gear,  
including buckets, well, bilge, and ballast.

### BAASAN • DRY

Gakina gegoo baasan gijiimaan, gijiimaani odaabaanaak,  
gakina gegoo baasan gii-ishkwaa-wewebanaabiiyan.

Dry all parts of your watercraft, trailer and gear completely  
between trips.

LEARN MORE AT  
[WWW.CANADAINVASIVES.CA](http://WWW.CANADAINVASIVES.CA)



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**TREATY #3**  
THE GOVERNMENT OF THE NORTHERN TERRITORIES IN TREATY #3



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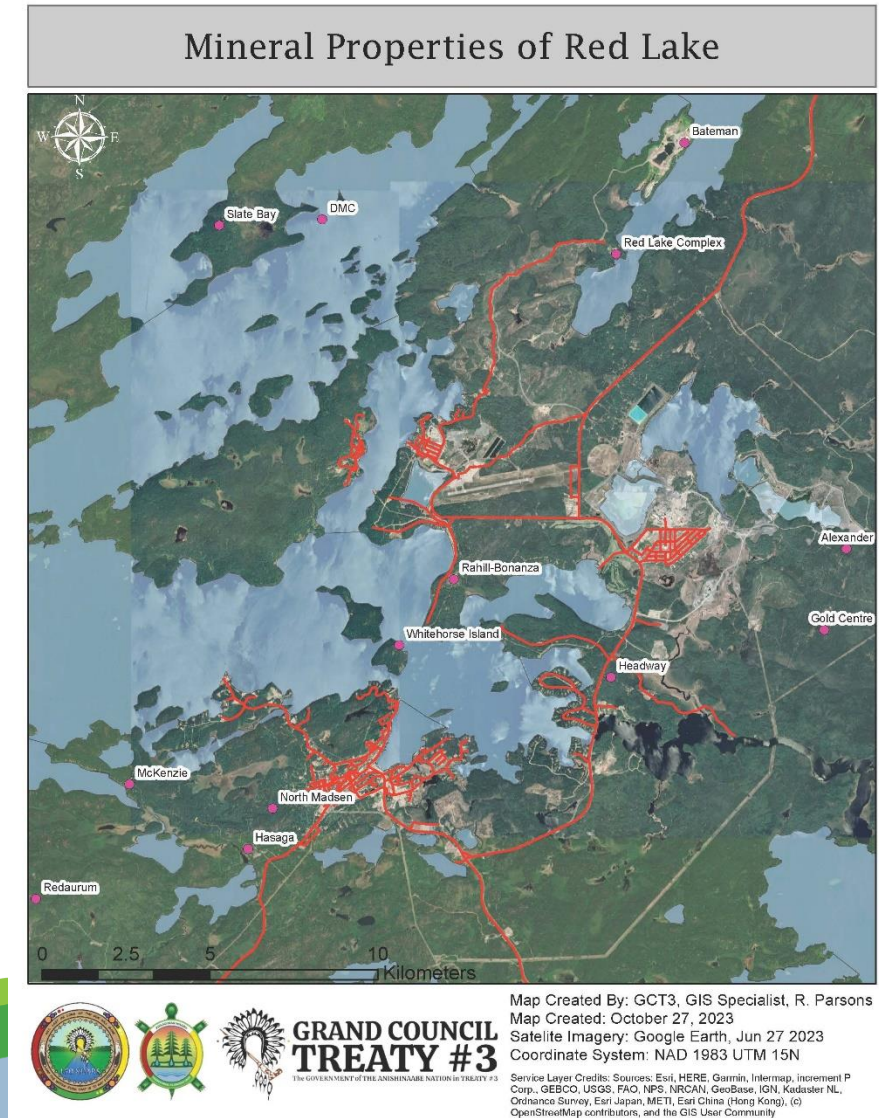
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# GIS & Geoportal

TPU has had a dedicated GIS Specialist for three years

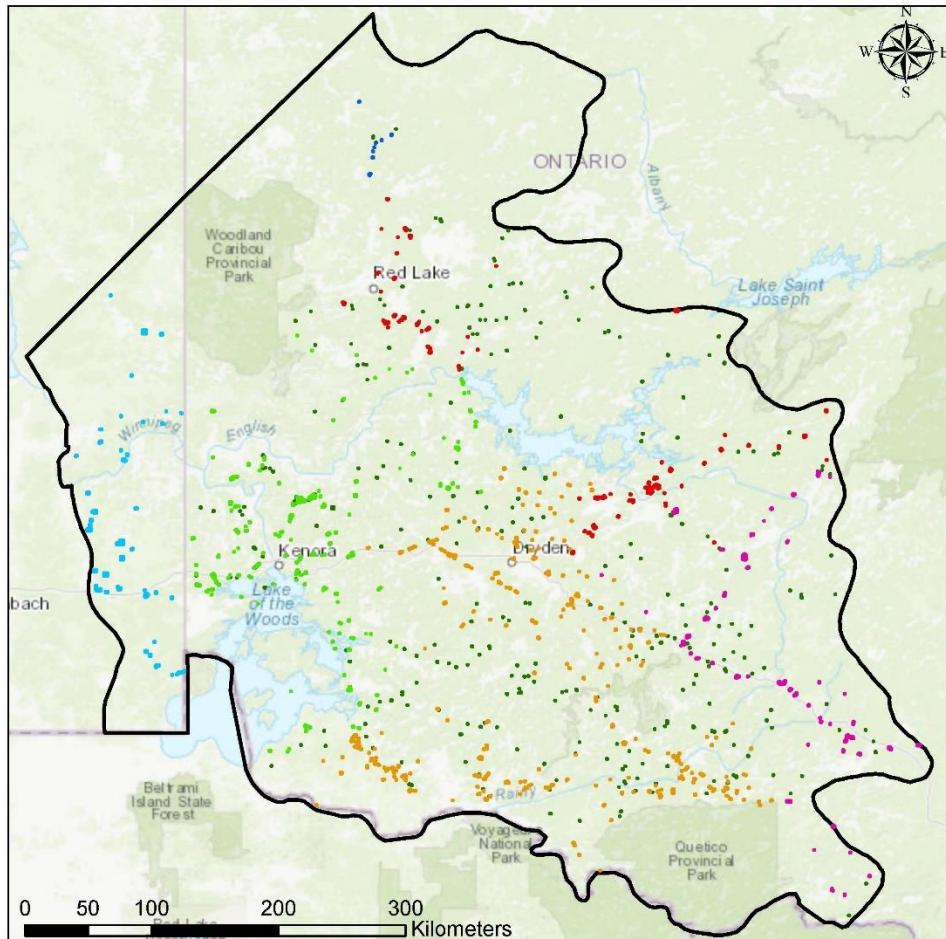
- One of our most under-utilised resources in the TPU
- GIS Specialist is here to help communities to make custom maps for any community needs. Lands and resource-based maps, trap lines, mining, housing/building development, etc.
- Lead GIS training and capacity development for communities



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Treaty #3



## Aggregates Pits and Quarries by District



85 Sites	Manitoba Quarries
319 Sites	Dryden Fort Frances Atikokan District
8 Sites	Far North District
200 Sites	Kenora District
88 Sites	Red Lake Sioux Lookout District
73 Sites	Thunder Bay Ignace District
348 Sites	Inactive Aggregates

In total, there are 688 active aggregate pits and quarries found within the Ontario portion of Treaty #3 as of 2022.

In addition, there are 348 inactive aggregate pits and quarries within the Ontario portion of Treaty #3 as of 2019.

There are about 85 quarries in the Manitoba portion of Treaty #3. 43 are pending leases and 42 are issued leases, with 22 expiring in 2023-2024.



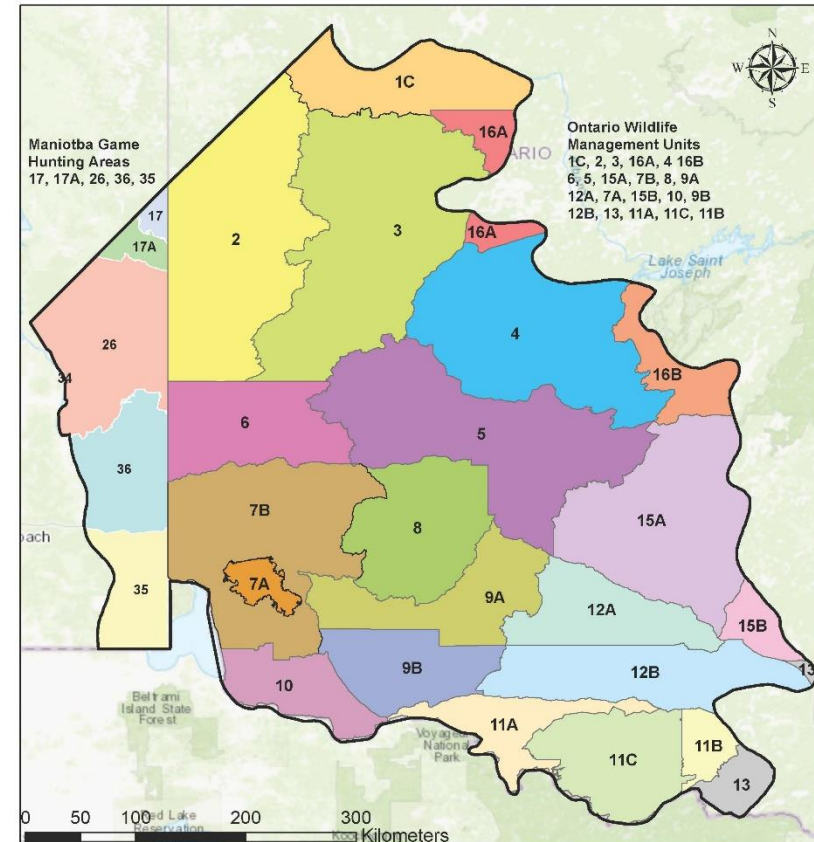
**GRAND COUNCIL  
TREATY #3**  
THE GOVERNMENT OF THE ANISHINABE NATION IN TREATY #3

Map Created By: GCT3, GIS Specialist, Rae Parsons  
Map Created: March 1, 2023  
Coordinate System: NAD 1983 UTM 15N

Service Layer Credits: Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), (c) OpenStreetMap contributors,



## Ontario Wildlife Management Units and Manitoba Game Hunting Areas of Treaty #3



**GRAND COUNCIL  
TREATY #3**  
THE GOVERNMENT OF THE ANISHINABE NATION IN TREATY #3

Map Created By: GCT3, GIS Specialist, R. Parsons  
Map Created: October 20, 2023  
Coordinate System: NAD 1983 UTM 15N

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# New Monitoring Initiatives

## Species at Risk

- Providing capacity to communities to monitoring for bird, bat, and mammal SAR by providing access and training to acoustic monitoring equipment and trail cameras.

## Microplastics Monitoring

- Three-year project working with communities to monitoring for microplastics presence across Treaty #3 in fish, wild rice, lake sediment, water, and air
- Water and air monitoring starts in year 2 as they require specialized equipment



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# Long-term Water Quality Monitoring Stations

GCT3 is working with Treaty #3 communities to identify priority monitoring locations across Treaty #3 to deploy YSI Exo3 Sondes

- Sondes will be deployed in same locations year-to-year during open water season and collect data every 30 minutes
- Will monitor for water temperature, conductivity, DO, pH, turbidity, and water level fluctuation



exo3



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# Developing Capacity Beyond In-field Environmental Monitoring

## Development of educational resources

- Treaty #3 Species at Risk Web Portal, Treaty #3 Invasive Species Information Booklet, etc.

## Training and Workshops

- ELA CBM workshops and videos, CABIN training, Birds Canada Youth Internships, etc.

## Development of a GCT3 environmental monitoring equipment bank

## Other

- Funding information/help, connecting with resources, science advice, assisting with community led projects, Treaty representation on environmental committees, etc.



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# How Does GCT3 Arrive at These Initiatives?

The simple answer is community engagement in a variety of forms.

- Engagement at community, regional, and National levels. Ex. individual community environmental sessions, meeting with Chief and Councils, regional community Lands Managers meetings, input from Treaty #3 Environmental Chiefs, Treaty #3 National Environmental Gathering, etc.
- Community members and Treaty #3 leadership voice their environmental concerns and direction on what GCT3 should be focusing on, and GCT3 staff also ask for input/interest on potential projects
- GCT3 look for funding, connections, partnerships, etc. to implement the environmental monitoring and capacity building initiatives of the Treaty #3 Nation



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# Funding and Capacity Development

GCT3 develops its environmental initiatives through a variety of methods but typically relies funding from Federal, Private, and NGO funding.

- Bi-monthly scans of available funding that aligns with current work or areas GCT3 is looking to expand into
- Create opportunities – be proactive, lead free or low-cost work on your own, speak with funders about project ideas, highlight work at conferences, etc. and organizations will begin to approach with funding and/or in-kind opportunities

GCT3 also works with Federal Government, Provincial Government, and NGOs to develop in-kind partnership opportunities

- Setting up training and monitoring opportunities led through other orgs for Treaty #3 communities, free monitoring equipment for communities, community involvement in project plan development, etc.



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# Miigwech!

Chris Herc  
Environmental Manager  
[chris.herc@treaty.ca](mailto:chris.herc@treaty.ca)  
807-548-4214 (ext. 504)



**Zhaagimaa Waabo**

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