

WATER FIRST

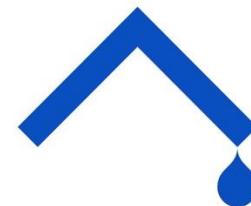




Mandate: To address water challenges in First Nations communities through education, training and meaningful collaboration.

Water First has collaborated with about 35 First Nations in Ontario & Quebec on education and training projects to date.

**W A T E R
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TIN ROOF GLOBAL

CLEAN WATER FOR ALL

We got started in Uganda, as Tin Roof Global, bringing water resources to rural schools that had no running water. We collaborated with local organizations to implement.

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Through collaboration with both local and Canadian water experts, we provided education and training around sanitation, hygiene, and water system maintenance.

Communities were very remote, welcoming and vibrant.

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At the time, this is where we thought community development was taking place.

Many community development organizations thought and acted that way.

Priorities were abroad.

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harbingerfoundation



Donner
Canadian
Foundation

Fondation
canadienne
Donner



Water For People-Canada
De l'eau Pour Vous-Canada

obakki
100% HUMANITARIAN

unicef
canada



PWDRF



iDE



TIN ROOF
GLOBAL



RIGHT
TOPLAY

PGPR
Programme for Global
Paediatric Research



we are
the change



Rotary Clubs



Save the Children



Grand Challenges Canada
Grands Défis Canada
BOLD IDEAS FOR HUMANITY

RESULTS
Canada



DECODE GLOBAL



UNIVERSITY OF TORONTO
FACULTY OF APPLIED SCIENCE & ENGINEERING
Centre for Global Engineering



UNITED NATIONS
UNIVERSITY
UNU-INWEH



BRITISH COLUMBIA
INSTITUTE OF TECHNOLOGY



UNIVERSITÉ
LAVAL

Toronto WASH
conference:
hundreds of
professionals from all
over Canada, dozens
of organizations.

Important work
taking place abroad,
and a deep field of
expertise zeroing in
on solving
international water
challenges.

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Watershed moment:
Ottawa national
conference with a
focus on First
Nations.

Looking for other
NGOs was
challenging!

NGOs often share,
collaborate, and try
to compliment each
other's projects.

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First project:
Shawanaga First
Nation. Baseline
water quality study
to help site an intake.

Challenges and
lessons, but our
model was born: hire
and train locally to
achieve project
results.

Apparently a novel
approach.

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Second project
Temagami First
Nation: mercury
concentration study
in fish in 15 lakes
within traditional
territories.

School engagement
was a means to
inform community of
Temagami First
Nation about the
technical research
project.

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We encountered some funder reluctance around youth engagement, but it was a top priority to the community.

Water First delivered hands on water science workshops in the local school and children came on fishing trips to take fish flesh samples.

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W A T E R

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WHO ARE THESE GUYS?



**Volunteer Board
Member:
Heather Murphy**

Heather has a Ph.D. in water treatment engineering and is a professor/researcher at Temple University. Research interests & experience:

- First Nations drinking water
- UNICEF
- Public health

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**Volunteer Board
Member:
Gary Pritchard**

Gary is from Curve
Lake First Nation, is
an aquatic ecologist
and university &
college instructor.

Interests &
experience:

- Cultural sensitivity training
- Fish habitat
- Field research

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Staff Member:
Kendra Driscoll

Kendra worked as an environmental coordinator at Wahnapiatae First Nation, and has taught water chemistry & water treatment at Cambrian college. Kendra is Water First's lead instructor on Manitoulin Island.

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Staff Member:
Natalie Patrick

Natalie is Metis, grew up in Red Lake northern Ontario, and has a background in teaching, having taught in dozens of schools over her career. Natalie manages Water First's school outreach programs.

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**First Nations
Advisory Council
Member:
Cheryll Recollet**

Cheryll is
Wahnapiatae First
Nation's Director of
Sustainable
Development. She
oversees her
community's
environmental
programs.

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**First Nations
Advisory Council
Member:
Jeanette Corbiere
Lavell**

Jeanette is from Wikwemikong Unceded First Nation, where she teaches fine art at her local high school, in addition to her activism regarding First Nations rights.

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Water First Advisor: Murray Richardson

Murray is a professor and hydrologist at Carleton University, specializing in environmental water quality, GIS, and heavy metals. Murray's research is based in the north where he hires and trains locally to collect data.

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Water First Advisor: Bob Rae

With his lengthy political career behind him, Bob's work now focuses on advising and negotiating on behalf of First Nations communities in Canada on a wide range of legal issues. Bob lives in Toronto.

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W A T E R F I R S T

OUR PROGRAM AREAS

Project: Fish Habitat Restoration

Water First frequently collaborates with young adults and lands and resources offices in First Nations communities to improve fish habitat and to increase local fish populations.

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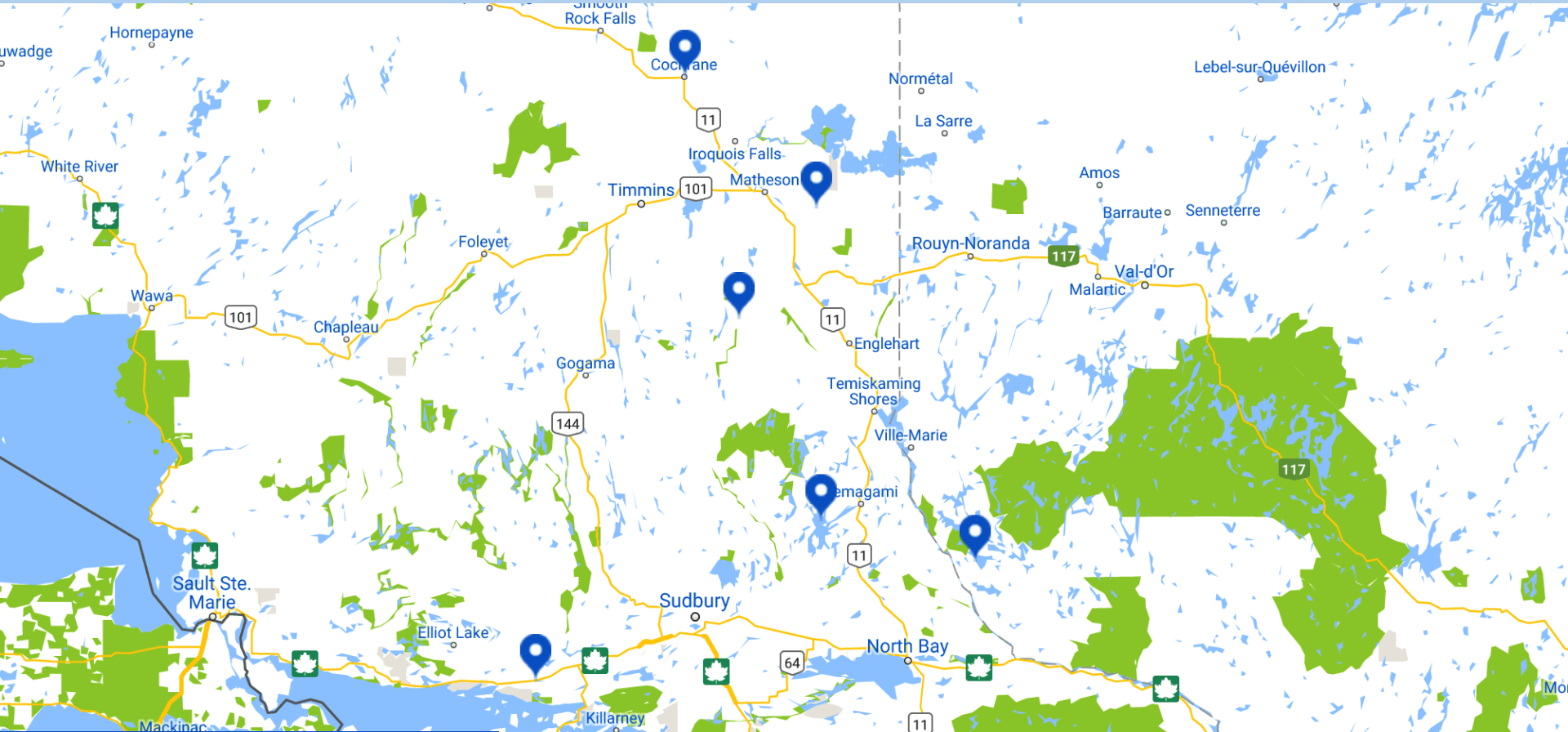
Project: Fish Habitat Restoration

A local youth environmental group helps increase the size and ecological quality of a Walleye fish spawning shoal on Lake Temagami. Water First's staff collaborate locally to identify sites and create a project plan.

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PARTNER COMMUNITIES



**W A T E R
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**Kebaowek First Nation, Mattachewan First Nation,
Sagamok First Nation, Taykwa Tagamou First Nation,
Temagami First Nation, Wahgoshig First Nation**



Project: Water Tree

Trees are critical to healthy watersheds. The Water Tree program engages local First Nations schools with hands-on in-class workshops that explore the local watershed, lakes, rivers and all.

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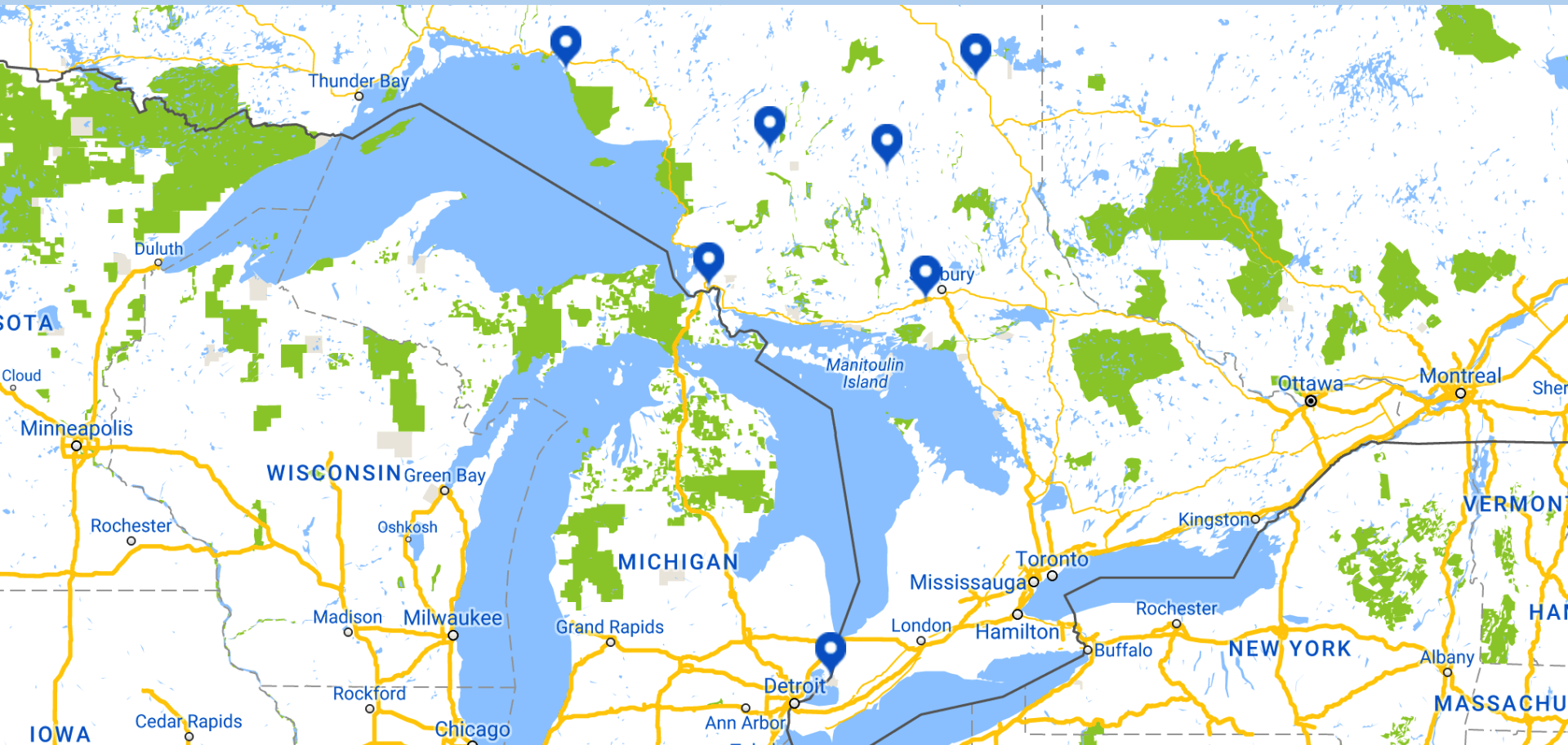


Project: Water Tree

Water First works with the First Nation's lands and resources office to identify areas within the watershed that would benefit from tree plantings. Together with local school children, we plant trees to help prevent erosion.

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PARTNER COMMUNITIES



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**Brunswick House First Nation, Garden River First Nation,
Mattagami First Nation, Michipicoten First Nation, Pic
River First Nation, Walpole Island First Nation**



Project: Baseline Water Quality Study

Water First collaborates with local leaders to identify water quality concerns and together with our water advisors, we design a baseline water quality study to be implemented by the community.

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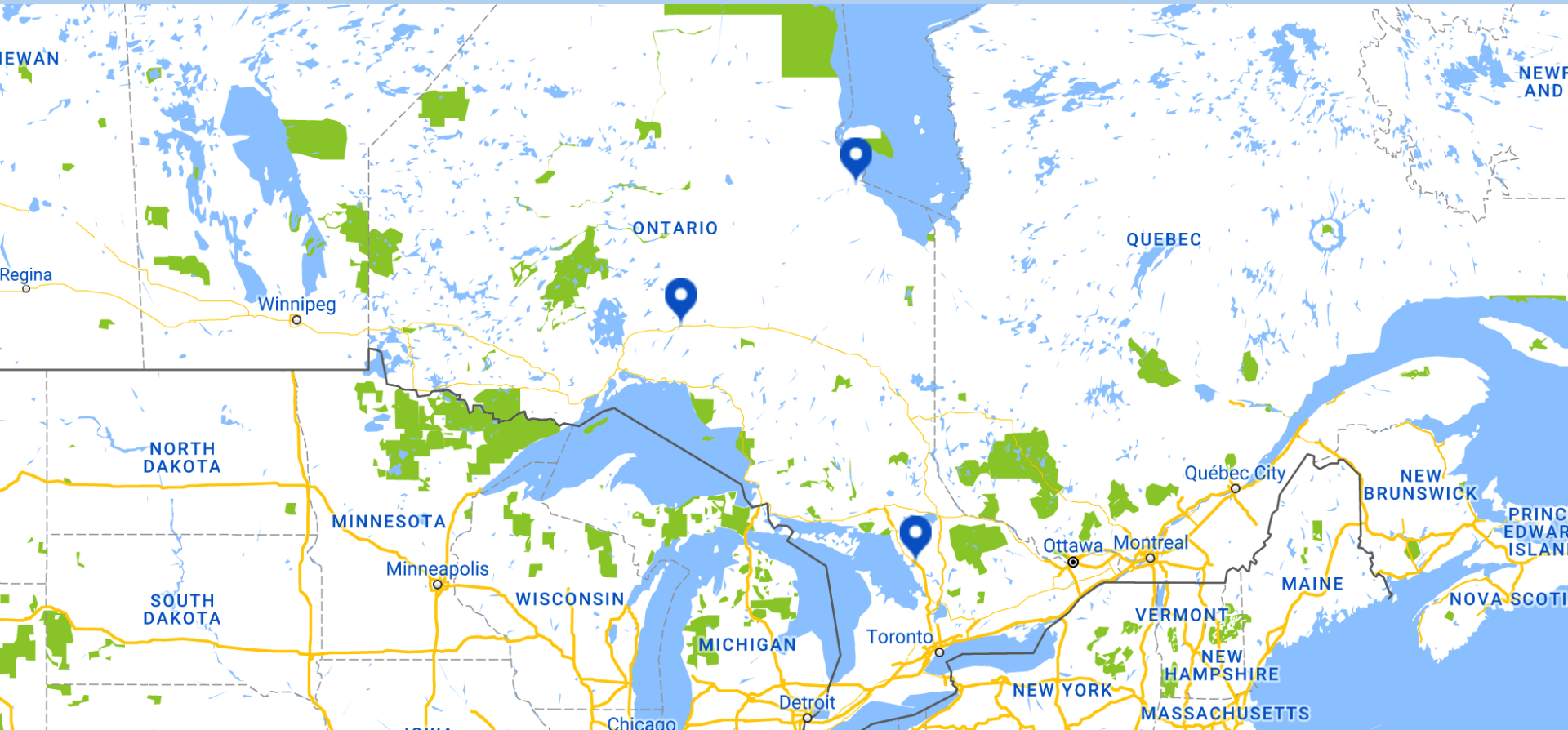
Project: Baseline Water Quality Study

Young adults from the First Nation are hired and trained in water quality testing and monitoring, and implement the study. The interns sample water at sites on a regular basis, collecting water samples and data.

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PARTNER COMMUNITIES



**W A T E R
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**Fort Albany First Nation, Long Lake 58 First Nation,
Shawanaga First Nation**

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INTERNSHIP



**UNITED CHIEFS
AND COUNCILS OF
MNIDOO MNISING**



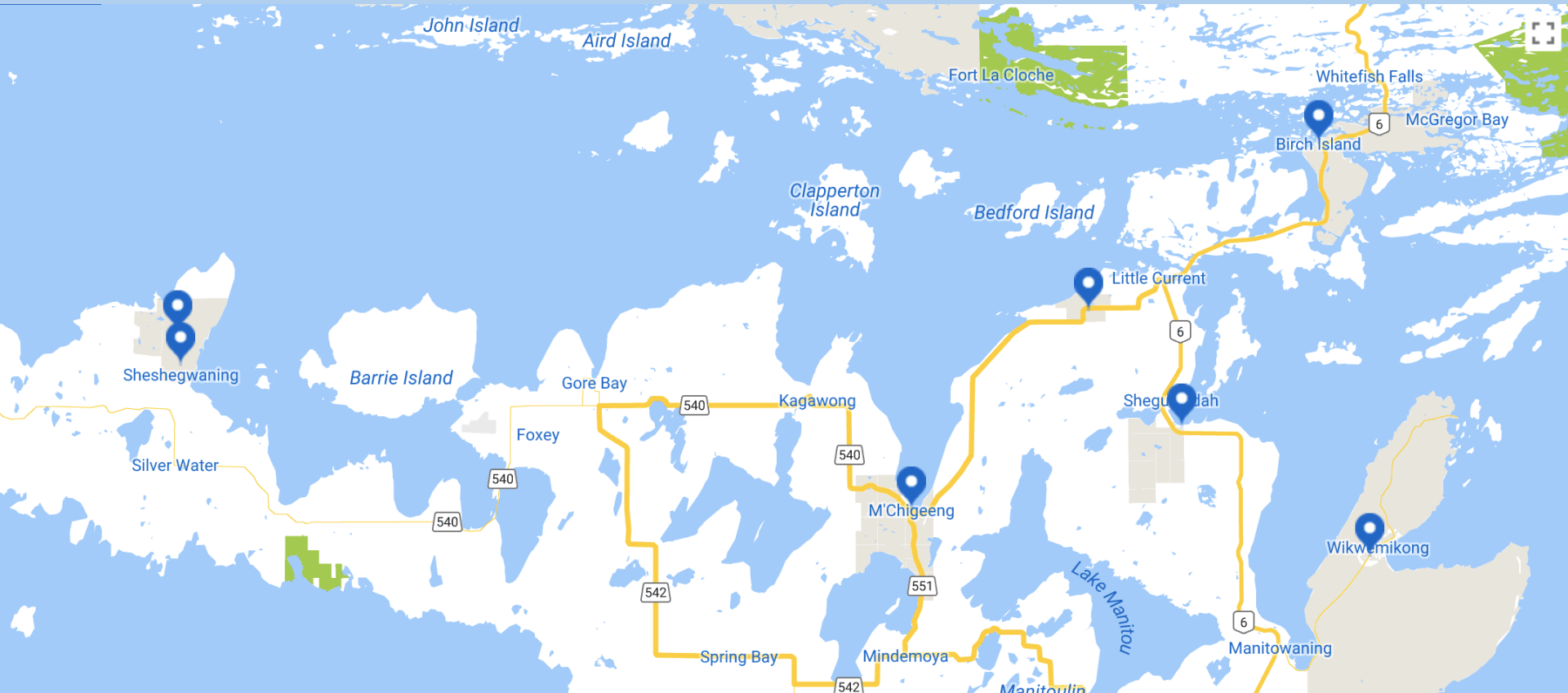
**WIKWEMIKONG UNCEDED
FIRST NATION**



Anishinabek
**UNION OF
ONTARIO INDIANS**



PARTNER COMMUNITIES



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**Aundek Omni Kaning First Nation, M'Chigeeng First Nation,
Sheguiandah First Nation, Sheshegwaning First Nation,
Whitefish River First Nation, Wikwemikong First Nation,
Zhiibaahaasing First Nation**



Project Offers:

Skills Training

Certification

Employment
Experience

Professional
Networks

All in water
treatment and
environmental water
quality monitoring

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Project Activities:

Participants work in their home community's water treatment plant over the course of 18 months:

Under the supervision of their local water treatment plant operator(s)

Learning the tools of the trade

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Project Activities:

Interns from all seven partner communities convene together at a central location, with Water First's instructors and other relevant experts for periodic, intensive, week long training sessions, multiple times throughout the internship.

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Project Outcomes:

Increased female participation in water science (40% of interns are women)

Increased employability of Interns in water field

Opportunities for further study

Increased local skill pool in the water sciences

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Project Activities:

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Project Activities:

Interns undertake environmental field work, learning various methods for sampling water.

Applicable skills and future employment opportunities are in source water protection and environmental monitoring.

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Project Activities:

Interns learn about cutting edge research and analytical tools:

Remote controlled bathymetry boat

Drone technology

Geographic Information Systems

Cloud based computing

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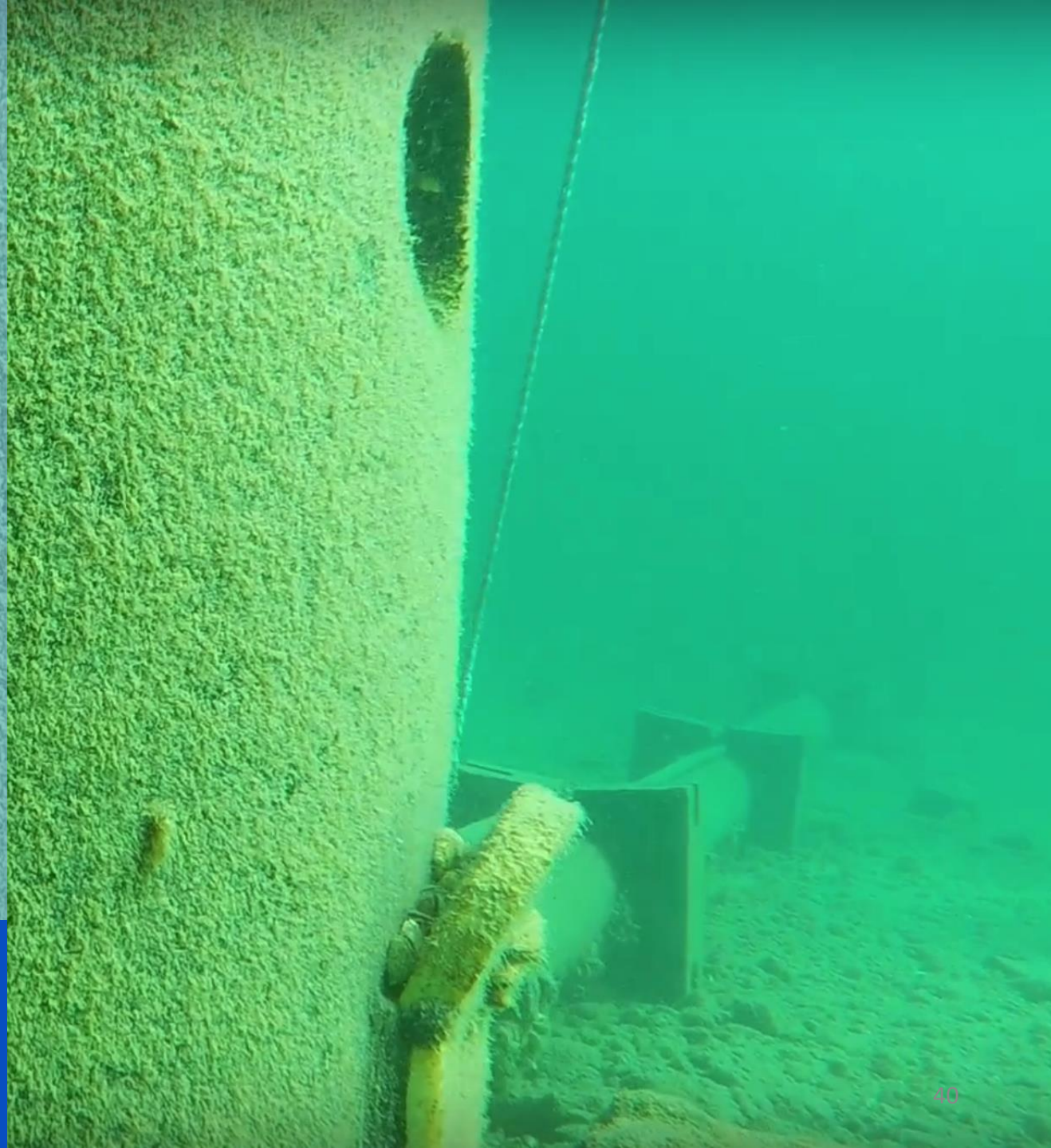


Project Activities:

A submersible GoPro camera tethered to a line allows for close up underwater viewing:

A specialized WiFi repeater cable, beams imagery from underwater (i.e. a community's intake) to an iPad on board an anchored research boat above.

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Project Activities:

Interns become proficient at operating a variety of industry standard analytical tools:

Van Dorn

Sonde

Colorimeter

Dredge sampler

Jar test

GIS mapping

Bathymetry

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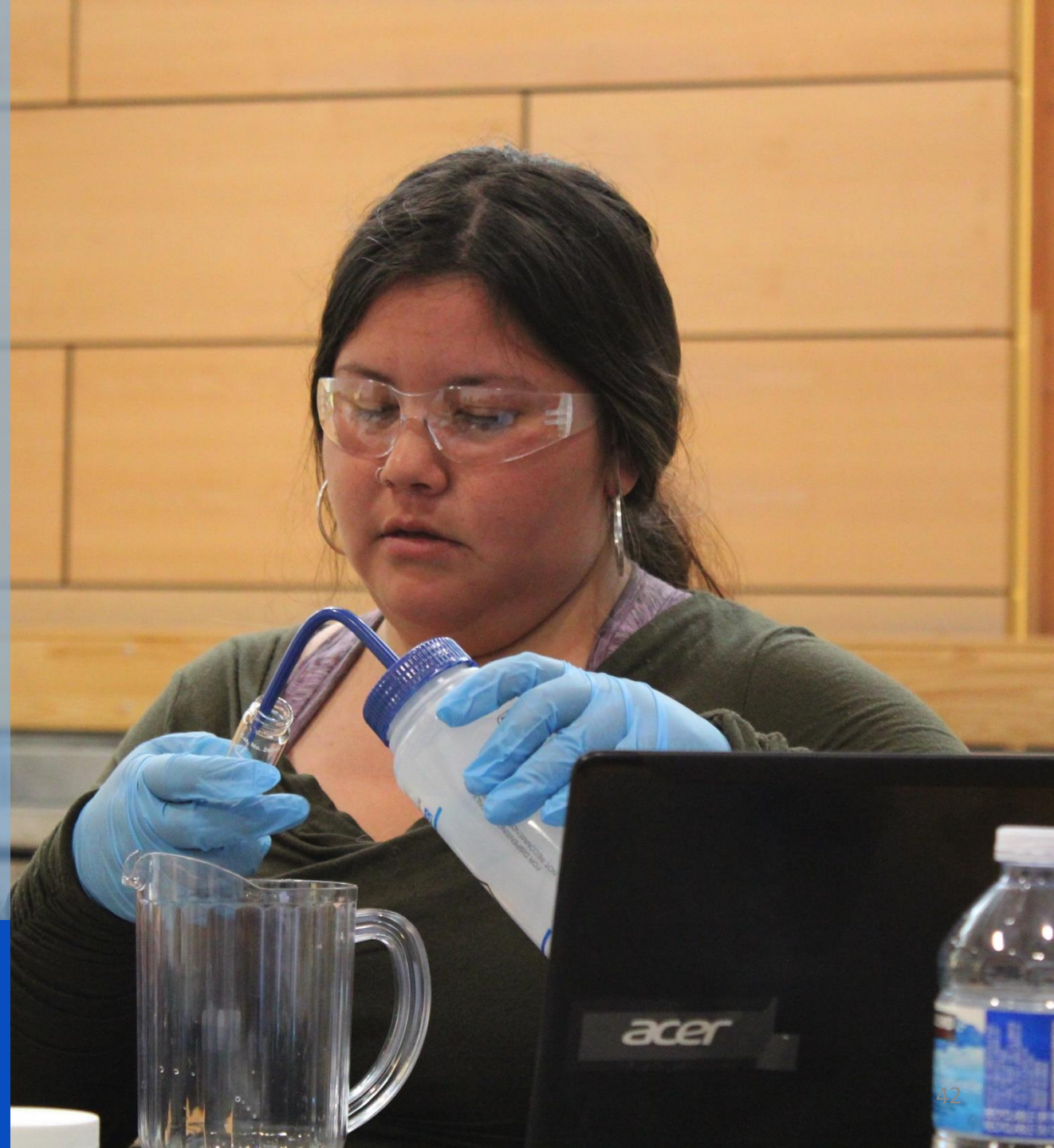
Mid Point Project Results:

2 Interns have
completed or are on
track to complete
high school

3 Interns have passed
their OIT exams

8 Interns have passed
their WQA exams

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In the Past 12 Months: Over 40 young adults from 15 First Nations have received hands-on employment and training experience related to water treatment and environmental water projects. Thousands of school children have participated in Water First's hands-on water science lessons in First Nations communities in Ontario & Quebec.



W A T E R F I R S T

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