Government of
Northwest Territories

Community-Based Water Monitoring

Water stewardship led locally across the NWT

Community-Based Water Monitoring is a program for training up and involving locals in monitoring the health and quantity of water in their region.

From there, what is learned is shared with decision-makers in communities, the territory, and federally – and helps academics and other researchers.

Driven by community needs and concerns

We build strong relationships and work closely with guardians, Indigenous governments, Indigenous organizations, and land-users to learn about concerns or needs – and target sampling there.

Collecting knowledge and data

When monitoring is led locally, we get the best of Indigenous and local knowledge, along with western science – resulting in a better picture of how the waters are doing, and what data tells us.

Open data for easy sharing

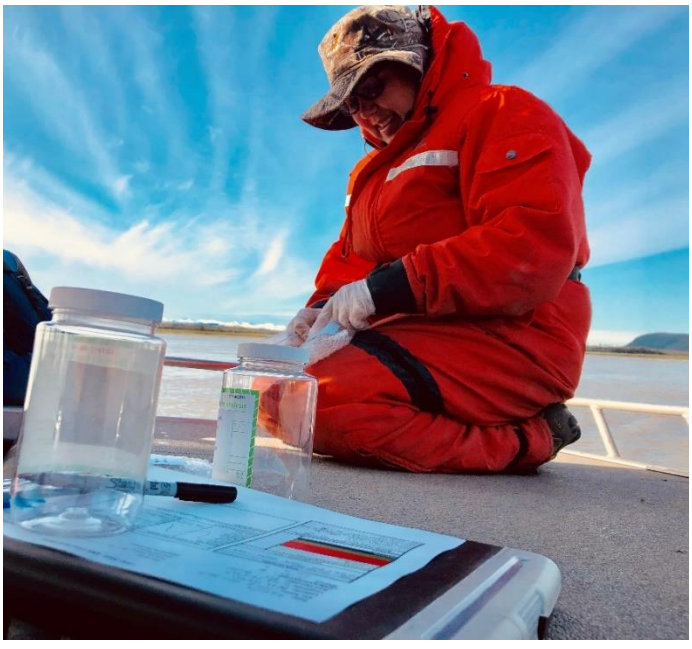
Mackenzie Datastream is an online platform where all data collected from water monitoring – including community-based monitoring – is shared for anyone to use in research, or just to better understand what's going on in their area.

Sampling: what is it?

Water is collected by community monitors from freshwater – like lakes, streams, and rivers – across the NWT. These are called samples. They get tested in a lab.

Engaging citizen scientists

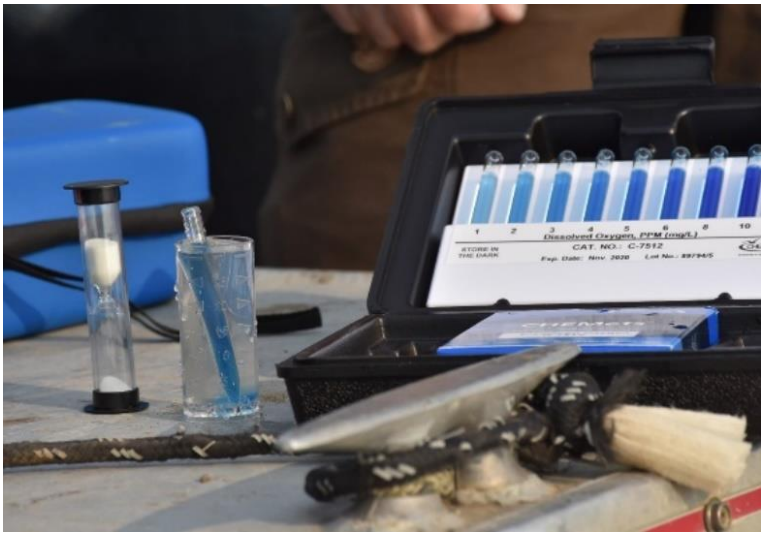
Citizen science kits – which have all you need to take water samples – are provided to local community members interested in getting involved in testing the health of local waters. These kits are easy-to-use – making sampling more accessible to non-experts than ever.



What sampling is done?

The GNWT provides training, support, and equipment for community-based monitors to use four different types of sampling equipment and techniques.

Type of sampling equipment / technique	What it means	Where it's analyzed
YSI Sondes	A device is put just below the surface throughout the whole open water season. It collects information every two hours about things like temperature, how much sand, rock, or dirt has been stirred up (known as turbidity), and how much dissolved oxygen or chlorophyll are in the water.	Taiga Labs
Polyethylene Membrane Devices (PMDs)	This device is put between 1.5 and 2 meters below the water and collect samples over a 30-day period to determine whether there are signs of pollution caused by cities or other human settlements – like runoff from highways or sewage. In technical terms, they're collecting parent and alkylated dissolved polycyclic aromatic hydrocarbons (PAHs) – which are a sign of this kind of human-influenced pollution.	University of Alberta.
Diffusion Gradients in Thin-Film passive samplers (DGTs)	These are placed 1 meter below the water for 3-7 days and are designed to collect signs of dissolved trace metals.	Trent University
Surface Water Grab Samples	These are collected just below the surface of the water into containers for analysis right away. They are analyzed for 77 different things that can tell us more about how healthy the water is. Some examples include turbidity, trace elements, and pH levels (how acidic is the water)	Taiga Labs



Get involved or learn more

Email: WaterStewardship@gov.nt.ca

Get water data: mackenziedatastream.com

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