



Annual Report

2024/25

DataStream

DataStream.org



DataStream

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DataStream.org

DataStream Initiative is a registered charity
(BN 782485734 RRO001)

DataStream's 2024/25 Annual Report covers
the period of 1 April 2024 to March 31 2025.





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Dear DataStream Community,

Welcome to DataStream's annual report. Since launching nine years ago in the Mackenzie Basin, DataStream has grown beyond all expectations.

We are now a national charity sharing water data from over 300 fantastic organizations. This annual report, reflecting on what the DataStream community has achieved in the last year, is part of our journey.

So many people contribute to DataStream's success. Our wonderful funders and partners who believe in our mission and support us at every stage. Our committed staff and team of amazing advisors who keep us moving forward, bringing new ideas and perspectives. Everyone who entrusts us with their data, making it free and open to help improve decision-making and protect our freshwater. Thank you all.

On a personal level, since joining DataStream in 2024, it has been invigorating to see the impact of

water monitors from coast-to-coast-to-coast. Thank you to everyone for welcoming me.

We know there are many challenges ahead for our freshwater systems and our environment as a whole, particularly from the impacts of climate change.

Yet, we are hopeful. Everyday, we are motivated by the passion, commitment, and innovation of the water community across Canada. The appreciation of the power of open data and community science continues to grow. Decision makers are taking notice of community-based water monitoring.

I hope you enjoy this report. To get involved, or find out more about DataStream, please do get in touch.

Katherine Balpataky
Executive Director, DataStream

Who we are

DataStream began as a project of **the Gordon Foundation**, a philanthropic charity with a longstanding commitment to protecting Canada's freshwater. Now, DataStream Initiative is an independent charity focused on freshwater protection.

We work with passionate water champions from coast-to-coast-to-coast. We believe in the power of community-based water monitoring, collaboration, and open data as essential for protecting our freshwater.

VISION

Freshwater stewardship in Canada is inclusive of public voices and informed by the best available evidence.

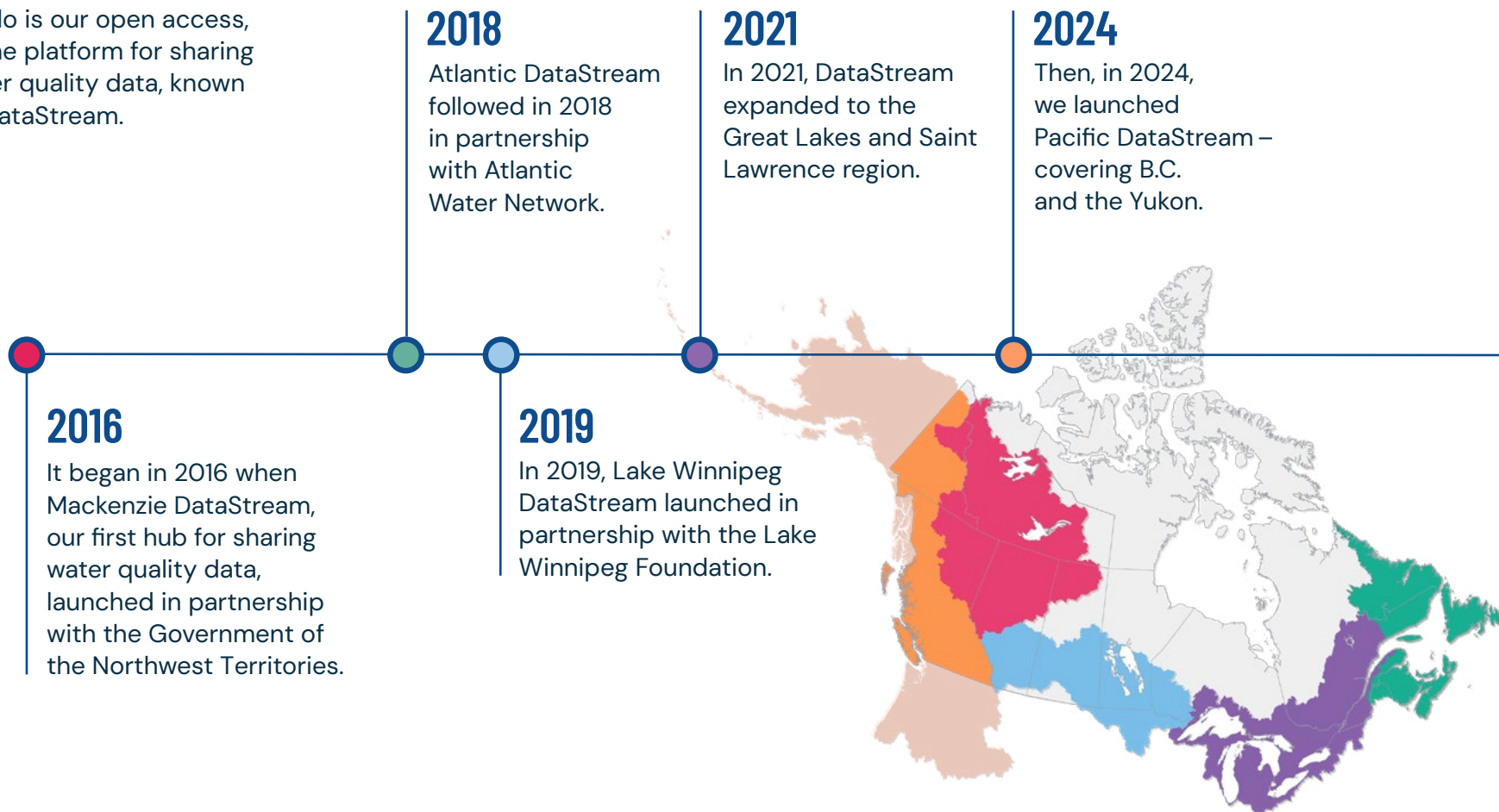
MISSION

Promote knowledge sharing and collaboration so our waters remain healthy for generations to come.

Open data

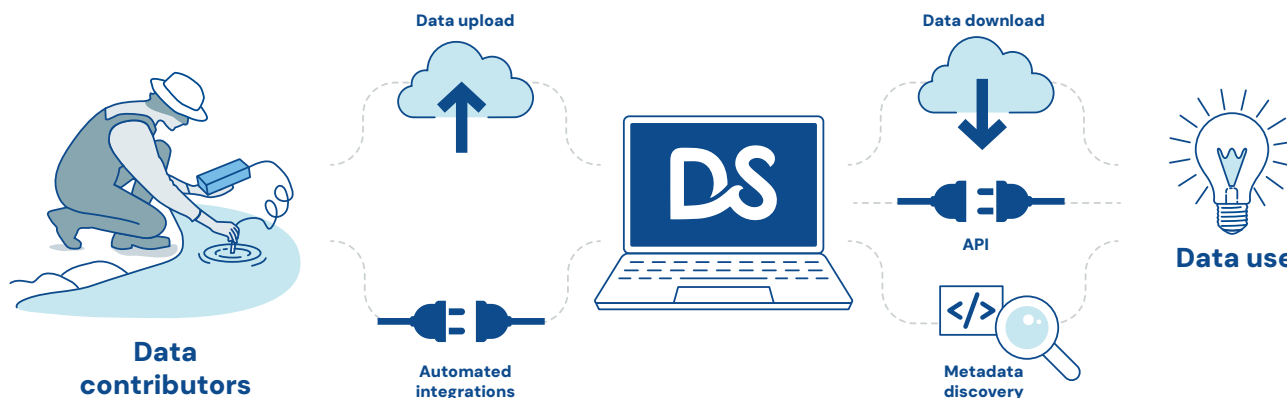
THE DATASTREAM PLATFORM

At the heart of what we do is our open access, online platform for sharing water quality data, known as DataStream.



HOW IT WORKS:

DataStream's platform provides a free, scientifically robust, and digitally secure place for water monitors to share data. Data is standardized, with monitoring results reported in a common format. This makes data easier to interpret, integrate, and use.



COMMUNITY SPOTLIGHT:

Tthebatthi Dēnésuḱiné Nation Community Based Monitoring Program currently focuses on fish and fish habitat and is entirely community led. Knowledge holders and Elders identify areas of concern and change based on generations of Dēné Knowledge (DK) and then work with western scientists to identify DK and western science indicators. The data is shared on DataStream.

PLATFORM REACH

AT THE END OF 2024/25:



Over
55.5 million

unique observations published,

an increase of
over 13.8 million over
the previous 12 months.

54,366

monitoring sites –
an annual increase
of 3,480.

309

organizations
contributing data
to DataStream.

65% of the datasets published this year were shared openly for the first time and can only be accessed publicly on DataStream.

We were honoured
to receive the
Excellence in
Open Data Award
from the Canadian
Open Data Society
at the 2025 Canadian
Open Data Awards.

COMMUNITY SPOTLIGHT:

Just one of many datasets shared by the International Institute of Sustainable Development Experimental Lakes Association, the LTER Lakes data package provides access to lake chemistry data from five lakes in northwestern Ontario. The data spans 1968-2024 and counting! [Explore the data on DataStream.](#)

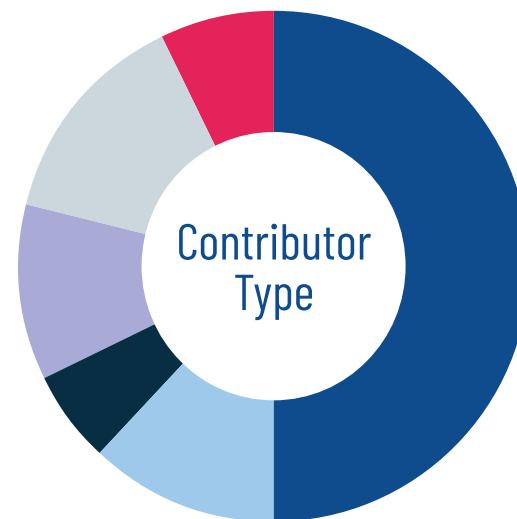
DATA CONTRIBUTORS

From large government agencies to community-led groups caring for their local waters, DataStream provides a home for water quality data from diverse monitoring organizations.

Data is shared by community monitoring groups, Indigenous Governments and Organizations, watershed organizations, researchers, governments at all levels – and many cross-sector collaborations in between. Browse the [hundreds of organizations sharing data on our website](#).

Community monitoring groups are deeply connected with their waters and often uniquely positioned to track changes as they happen. **We are proud so many entrust us with their data.**

For example, through the [Northwest Territories Community-based Water Quality Monitoring Program](#) the Government of the Northwest Territories (GNWT) partner with 21 communities to monitor water quality at over 40 sites. Community members help determine where to monitor water quality, identify where capacity exists, and conduct the monitoring themselves or with GNWT staff.



Community monitoring groups	50%
Indigenous government/organization	12%
Watershed groups	6%
Governments*	11%
Researchers	14%
Consultants and other**	7%

* Federal, regional, municipal.

** Consultants, private, regulatory, other.

**COMMUNITY SPOTLIGHT:**

Kayaking and canoeing school, the Madawaska Kanu Centre, tracks water quality and shares the data on DataStream. Using Water Rangers test kits, they gain insights that help care for the Madawaska River.

GROWING OUR PRESENCE IN PACIFIC CANADA

This year, we focused on building relationships in the Pacific region following the [launch of Pacific DataStream](#) in early 2024. We also ran a [Pacific Data Drive](#) to welcome new data contributors.

In British Columbia, we worked with organizations including the provincial government, British Columbia Lake Stewardship Society, and the Pacific Salmon Foundation (PSF). Collaborating with PSF enables organizations to share water temperature data on DataStream, helping answer questions about the impacts of freshwater temperature on salmon habitat and health.

In the Yukon, we engaged with the territorial government, First Nations, Yukon University, Yukon River Intertribal Watershed Council, and others.

We continue to engage
new data contributors as
we work towards becoming
a truly national platform.

COMMUNITY SPOTLIGHT:

Peninsula Streams Society works to restore salmon stocks in the Saanich Peninsula, B.C. by restoring streams and conserving habitats throughout South Vancouver Island. They work with thousands of volunteers and residents to protect marine and freshwater. Their Central Saanich water monitoring data is [now shared on Pacific DataStream](#).



COLLABORATION TO SHARE ICE DATA

For the third consecutive year we partnered with the **Living Data Project** through their Data Rescue Internship initiative. DataStream worked with Dr. Sapna Sharma of York University to mentor and support Jessica Ollinik, a highly skilled PhD student at the University of Regina. Jessica formatted and shared community-collected phenological ice cover data on Great Lakes DataStream, including records dating back to the mid-1800s!

"It's beneficial for us and our partners to see how DataStream users work on similar water quality issues throughout Canada."

Evaluation respondent

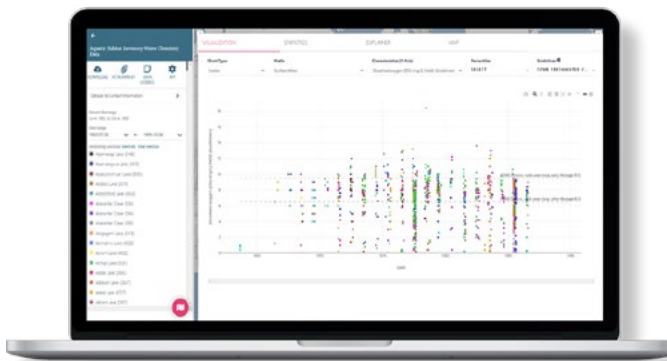


PLATFORM INTEGRATIONS

DataStream [connects with other data systems](#) to improve data sharing, discovery, and use.

This means data can be directly imported from other data portals and shared on DataStream in a standardized format. For example, monitoring groups using the Water Rangers portal, or the Water Reporter app, can automatically share data on DataStream. Integrations with open government portals bring data together across jurisdictions.

Datasets from DataStream are also indexed by platforms including the Federated Research Data Repository, the Canadian Integrated Ocean Observing System (CIOOS), Google's Dataset Search, DataCite, POLDER Federated Search, Lunarix, and the Seagull platform run by the Great Lakes Observation System.



COMMUNITY SPOTLIGHT:

The [Watershed Reports](#) are a vital, national-scale assessment of the state of freshwater in Canada.

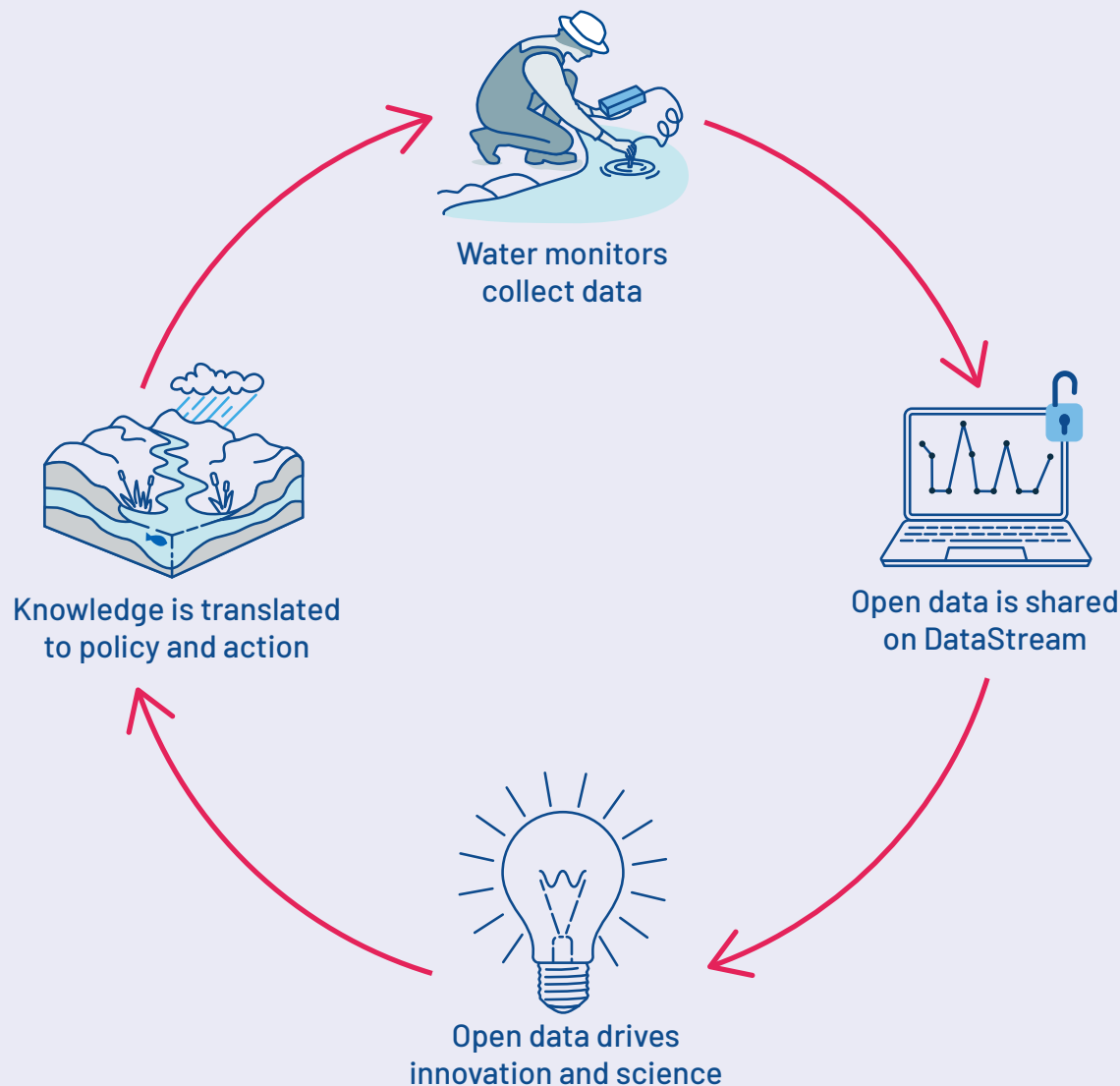
In the third edition, published by Water Rangers in March 2025 and powered by AquaAction, 78% of the data used to assess water quality came from DataStream.

Data to action

Better data means better decisions.

Communities, researchers, and governments across Canada and beyond are increasingly turning to data on DataStream to gain insights about watershed health and guide freshwater protection.

This year, **2,029 datasets were downloaded**. All datasets on DataStream have a Digital Object Identifier (DOI) – a link that will never break that allows for correct citation of data.



DataStream's

application programming interface (API) lets other organizations pull data from DataStream for use in research, machine-learning, analysis, and reporting.

This year we saw 35 new API users, with a total of 93 API users to date.

For example: Atlantic Water Network's Community Partner Map connects with DataStream to display the datasets and monitoring locations of dozens of community-based monitoring groups across the Atlantic Provinces.

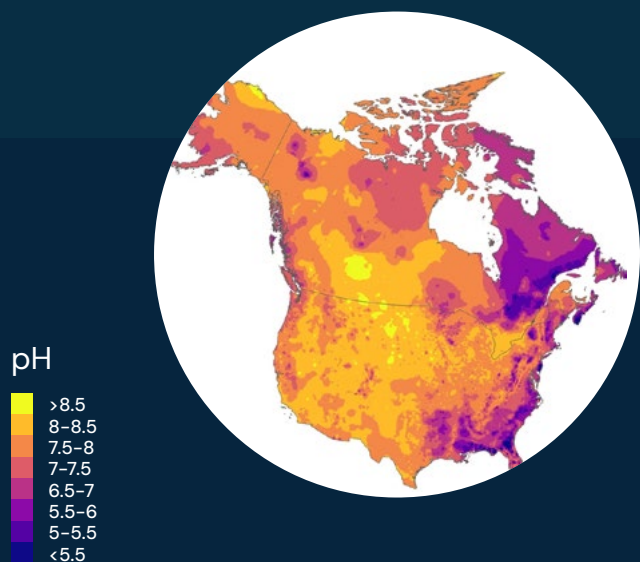
COMMUNITY SPOTLIGHT:

An International Joint Commission multi-year, multi-partner initiative monitors the St. Croix River to better understand water quality. Environment and Climate Change Canada, the Canadian Rivers Institute, and the U.S. Geological Survey used DataStream to target investments by [designing a strategic monitoring network](#), carried out today by the St. Croix International Waterway Commission. We continue to work with water monitors to share transboundary data from the St. Croix and other connected waterways.



COMMUNITY SPOTLIGHT:

A study published in Nature by researchers from the Department of Fisheries and Oceans used 75 community-collected datasets from DataStream to model high resolution map layers of pH and calcium at continental scales. This first-of-its-kind research can support freshwater conservation.



Reference: Guerin, A.J., Weise, A.M., Chu, J.W.F. et al. High-resolution freshwater dissolved calcium and pH data layers for Canada and the United States. *Sci Data* 11, 370 (2024). <https://doi.org/10.1038/s41597-024-03165-8>

DataStream and the data shared on it is being used for:

- Policy
- Watershed management and assessment
- Monitoring program design
- Research
- Education and outreach

Discover examples of how data on DataStream is being used at datastream.org

A total of 32 new publications and articles cited DataStream.

BUILDING TRUST IN FRESHWATER DECISIONS

DataStream advocates for policy that prioritizes public voices and is shaped by the best available evidence. This year, we:

Presented at the new Canada Water Agency's (CWA) [National Freshwater Data Strategy Workshop](#) and submitted feedback on the [National Freshwater Data Strategy discussion paper](#). As the Canada Water Agency establishes itself, we continue to champion community science and open data, highlighting their importance for regional and national freshwater priorities.

Participated in two workshop series hosted by the [International Joint Commission \(IJC\)](#) – developing the next Great Lakes Science Plan and charting the Future of Great Lakes Participatory Science. DataStream also received funding through the [Great Lakes Freshwater Ecosystem Initiative](#) to advance the Freshwater Action Plan in the Great Lakes region.

Contributed to a plain-language [policy brief](#) and [technical report](#) that introduces policymakers to the benefits of community science in advancing the United Nations Sustainable Development Goals (SDG) Indicator 6.3.2 ("clean water and sanitation for all"). This was led by the United Nations Environment Programme's World Water Quality Alliance.

In 2024, philanthropist John McCutcheon pledged \$20 million to [launch the Canada Freshwater Challenge Fund](#). The largest private donation by an individual to freshwater conservation in Canada's history will be distributed to seven organizations, including DataStream, highlighting the urgency of working together to conserve our freshwater resources.

Building community and learning together

WHERE WE CONNECTED THIS YEAR

Our team is often on the road meeting with, and growing, the DataStream community.

We also deliver data management training to water monitoring groups across the country. Here are some of the highlights from our team's travels:



Windsor, Ontario **MAY, 2024**

International Association
for Great Lakes
Research conference.

Dettah, Northwest Territories **MAY, 2024**

NWT-wide Community-
Based Water Quality
Monitoring Program
Training Workshop.

Dawson City, Yukon **JUNE, 2024**

Tr'ondëk Hwëch'in
Water Summit.

DATASTREAM





Montreal, Québec
SEPTEMBER, 2024

GeoMontréal



Dettah, Northwest Territories
OCTOBER, 2024

Celebrating 15 years of the NWT Water Stewardship Strategy with the Government of the Northwest Territories, Mackenzie DataStream's Founding Partner.



Lake Winnipeg, Manitoba
DECEMBER, 2024

Manitoba Watersheds Conference, alongside the Lake Winnipeg Foundation.



Ottawa, Ontario
JANUARY, 2025

Decolonizing Water Symposium.



Nanaimo, British Columbia
FEBRUARY, 2025

Pacific Salmon
Foundation Workshop.



Online, Atlantic
MARCH, 2025

Atlantic Water Network
Annual Community
Partners gathering.



Winnipeg, Manitoba
MARCH, 2025

Lake Winnipeg
Community-Based
Monitoring Network
Gathering.

Online, New Brunswick
FEBRUARY, 2025

EOS-Eco Energy Data
Management Workshop
for water monitors in
New Brunswick.



TRAINING AND RESOURCES

Managing and sharing water data is essential to any monitoring program – but it isn't always easy. We support groups with tools and resources to make the process simpler and more accessible.

Our [online learning centre](#) holds extensive water monitoring and data management resources that are free to access and available in English and French.

A perennial favourite is our [Monitor's Guide to Water Quality](#). The Guide lays out the key characteristics of fresh water, how are they measured, and why they matter.

Four new parameters were added to the Guide – [arsenic](#), [carbon](#), [pharmaceuticals and personal care products](#), and [selenium](#). We look forward to expanding access to the Guide's content through short, animated videos.

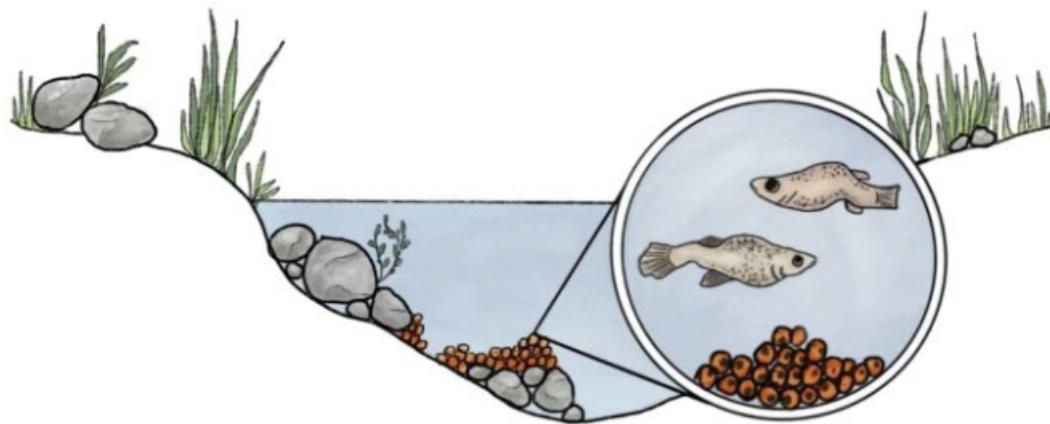


Illustration from the Monitors Guide to Water Quality showing how Selenium can cause deformities in fish and tends to concentrate in the reproductive organs, including ovaries and eggs. Selenium can impair fish reproduction and impair growth and development of young fish.

Communicating our impact

In 2024, [our external evaluation report](#) brought together feedback from 129 anonymous survey respondents and 18 in-depth interviews. These insights show what's working and where we can improve, helping us strengthen our programs and better support the communities we serve. Highlights included:

82%

of respondents found DataStream's platform either very easy or fairly easy to use.

67%

of respondents publish data on DataStream because they want to have it used by others

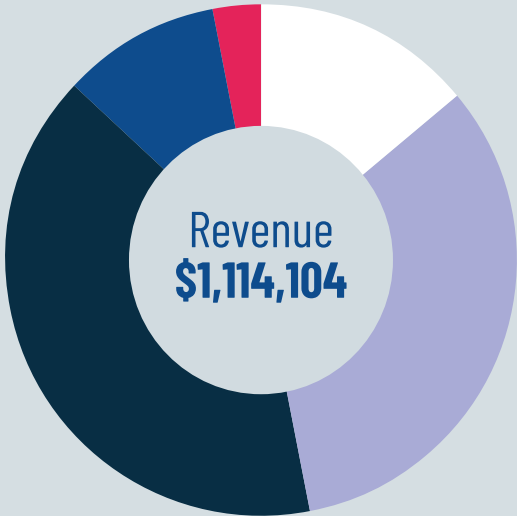
"We conducted a water inventory and used DataStream to quantify volume of datasets accessible to the public. This analysis supports decision making on how to make national freshwater data more accessible and findable."

Evaluation respondent

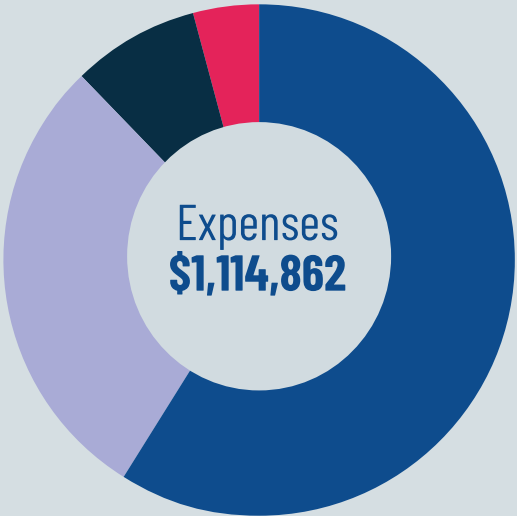
Browse our [blog](#) and connect with us on our [social media channels](#) to learn about data contributors and users, community events, and open data.

Each month, our Bluesky, LinkedIn, Facebook, and Instagram channels have an average collective reach of over 6,000, which we use to amplify the important work of data stewards across Canada. For example, our popular [New Data Series](#) features water monitoring groups that share their data on DataStream.

Headline financials



Government	14%
Foundations	33%
Corporations	40%
Individuals	10%
Other	3%



Program Expenses	59%
Platform Software Development/Performance	33%
Outreach and convening	8%
Admin	4%

A generous contribution from the Gordon Foundation is not reflected in revenue nor expenses.

Partners and supporters

Thank you for making our work possible.



LWF
LAKE WINNIPEG
FOUNDATION



**Atlantic
Water
Network**



Government of
Northwest Territories
Gouvernement des
Territoires du Nord-Ouest



**THE
GORDON
FOUNDATION**



**Y.P. HEUNG
FOUNDATION**

**John and Pat McCutcheon
Charitable Foundation**



**PACIFIC SALMON
FOUNDATION**



Foundation

Fondation **ECHO** Foundation

The Chawkers Foundation



Canada
Water Agency

Agence de l'eau
du Canada



Environment and
Climate Change Canada

Environnement et
Changement climatique Canada

Staff, board, and advisors

Many people across the country contribute to DataStream's success.

THE DATASTREAM BOARD OF DIRECTORS

Adam Chamberlain (Chair)
Jacques Pinet (Treasurer)
Briony Glassco
Kyra L. Montagu

THE DATASTREAM STAFF TEAM

Katherine Balpataky, Executive Director
Lindsay Day, Program Director
Charlotte Hagelstam-Renshaw, Data Specialist
Mary Kruk, Data Specialist
Jessica Lagroix, Data Specialist
Nell Libera, Data Specialist
Aislin Livingstone, Director, Water Program
Lori Logan, Product Manager
Meghan McLeod, Data Specialist
Jessie Reynolds, Communications Coordinator
Jayakishore Roy, Software Developer
Patrick Schaefer, Data Services Manager
Gordon Shallard-Brown, Communications Manager
Lilian Tran, Operations Coordinator

DATASTREAM'S EXPERT ADVISORS

Brendan Billingsley, Software Architect, Billingsley Custom Software
Lana Lowe, Lands Director for the Fort Nelson First Nation
Bruce Maclean, Director, Maclean Environmental Consulting
Dr. Cynthia McClain, Groundwater Data Advisor
Dr. Peter Pulsifer, Associate Professor
Dr. Megan Thompson, Limnologist
Spencer Cox, Technical Advisor

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