DataStream

Seven years of DataStream: Left turns, lessons learned and the open (data) road ahead

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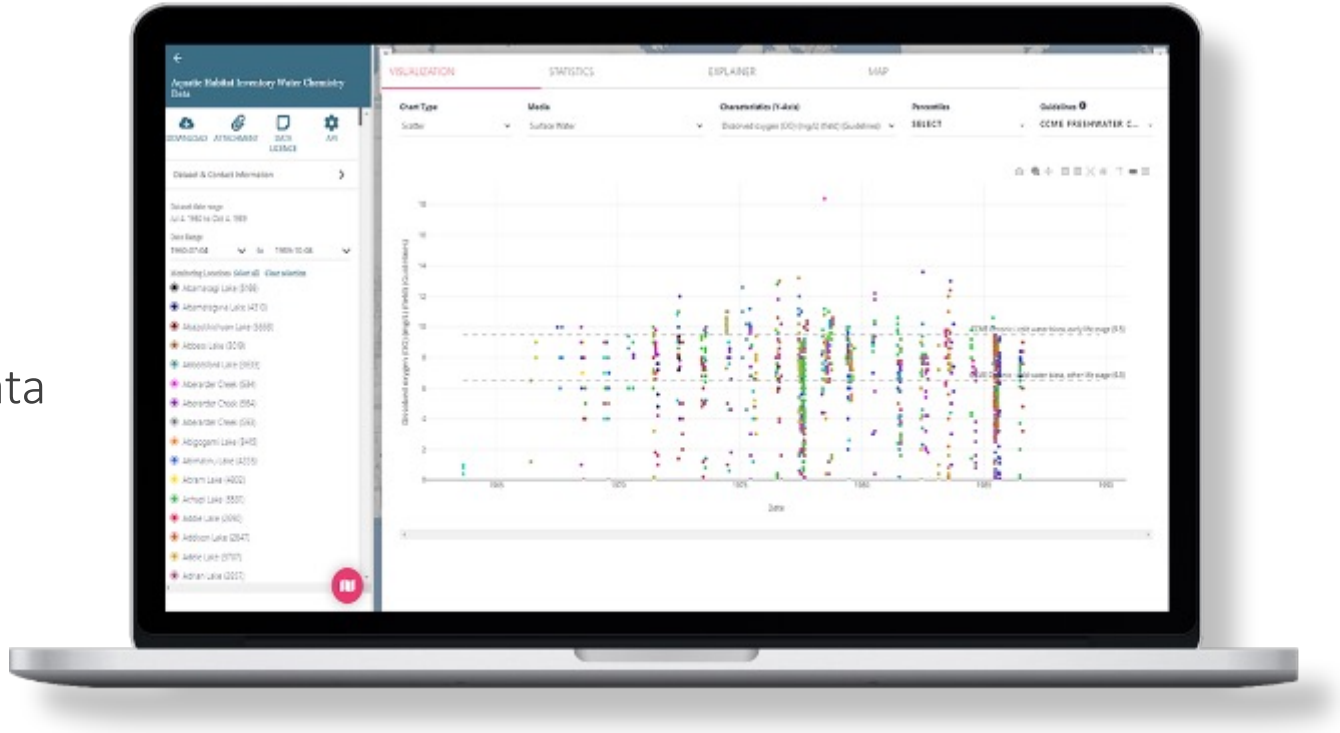
The Gordon Foundation

Overview

- DataStream 101
- Lessons from our early years
- Growing pains and gamechangers
- Next steps and the road ahead

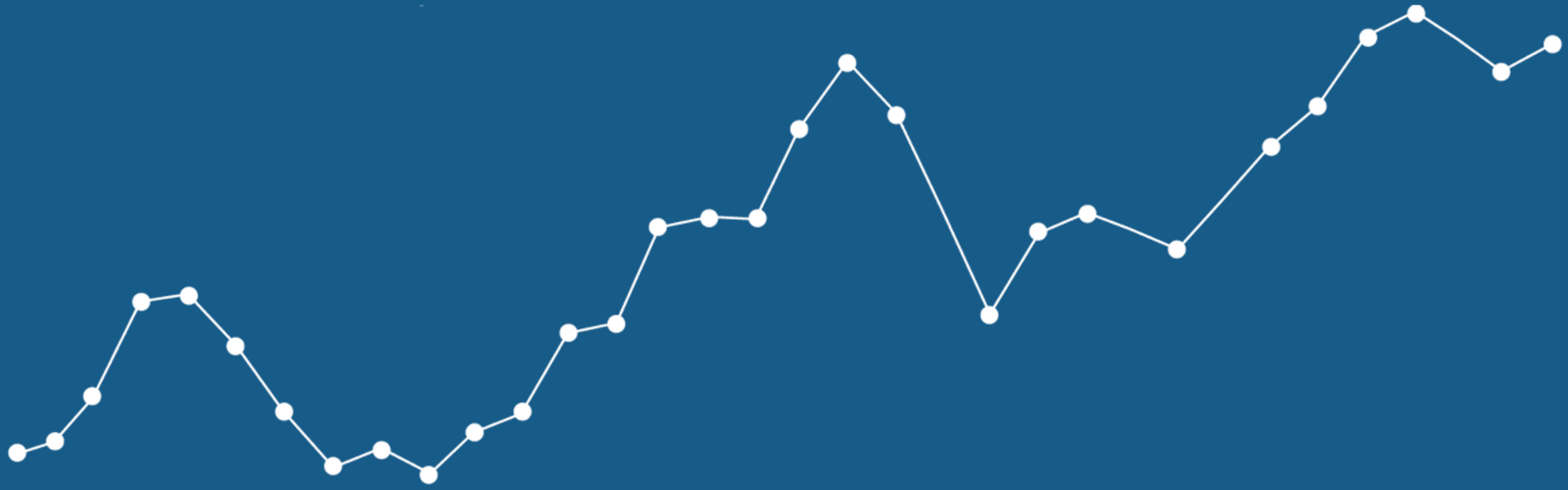
DataStream 101

- Open access site for **water quality data**
- Free and open for anyone to use
- Minimizes barriers to accessing/sharing data
- Fosters connections and collaboration
- Committed to **continuous improvement**

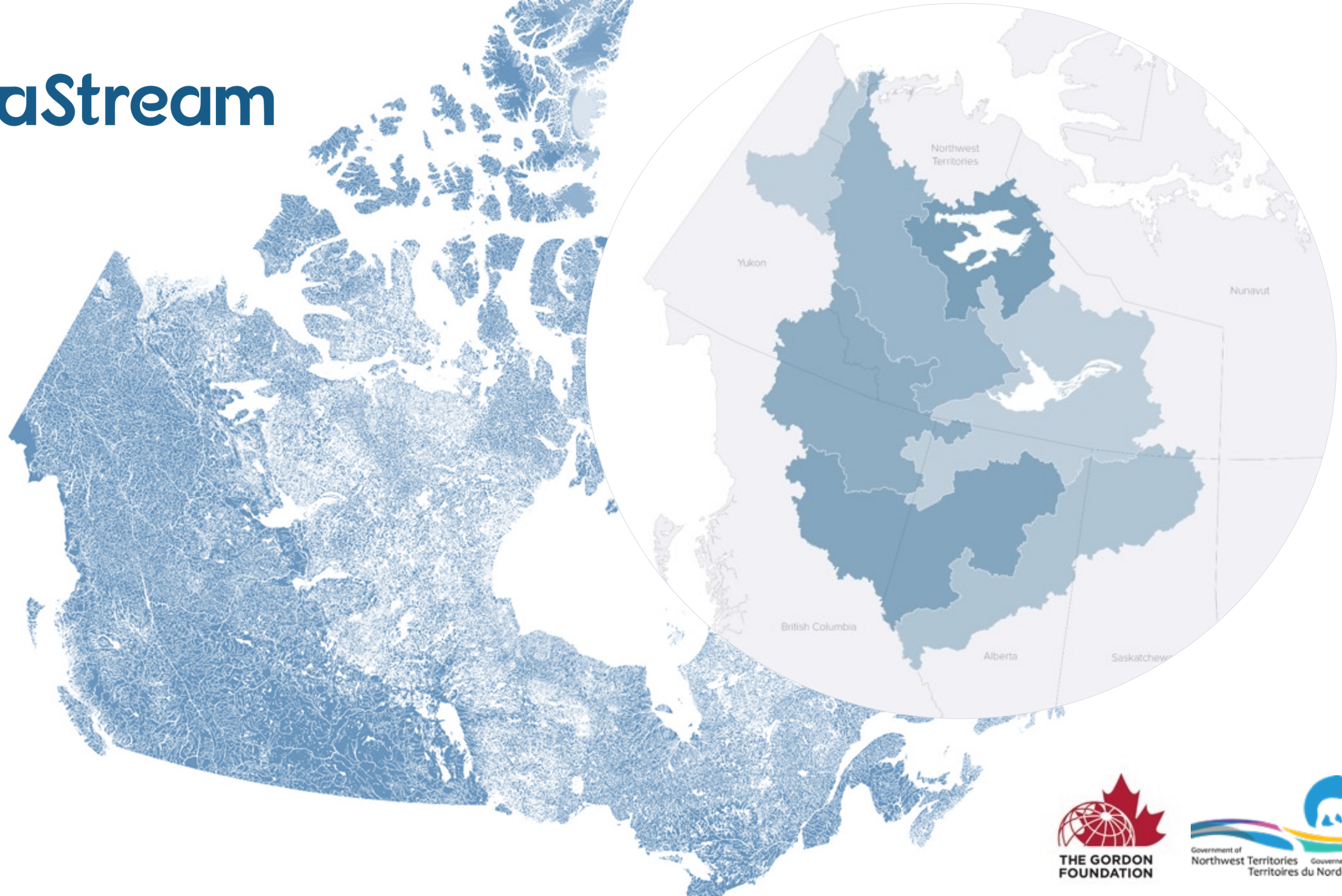


www.DataStream.org

The Early Years



DataStream

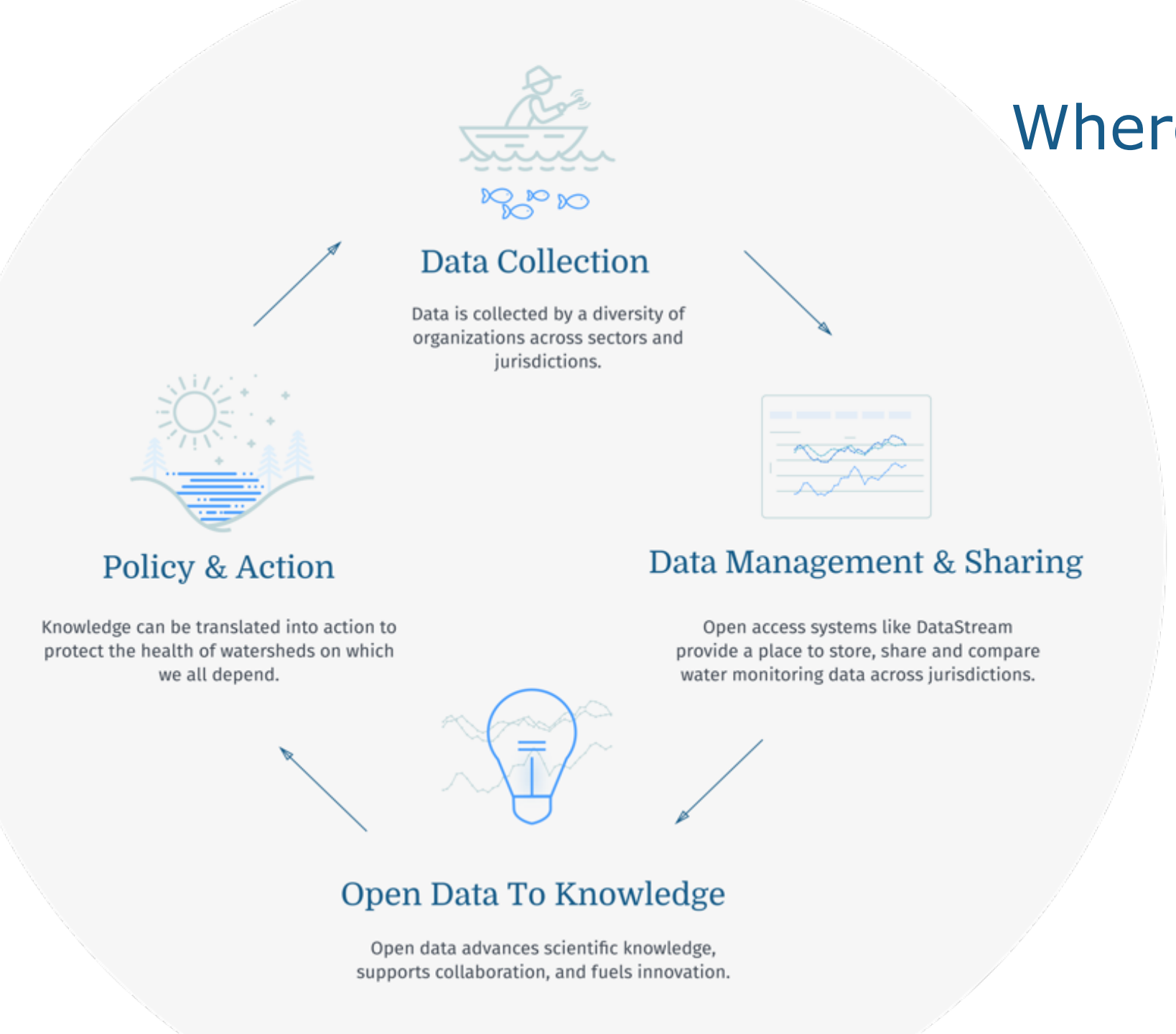


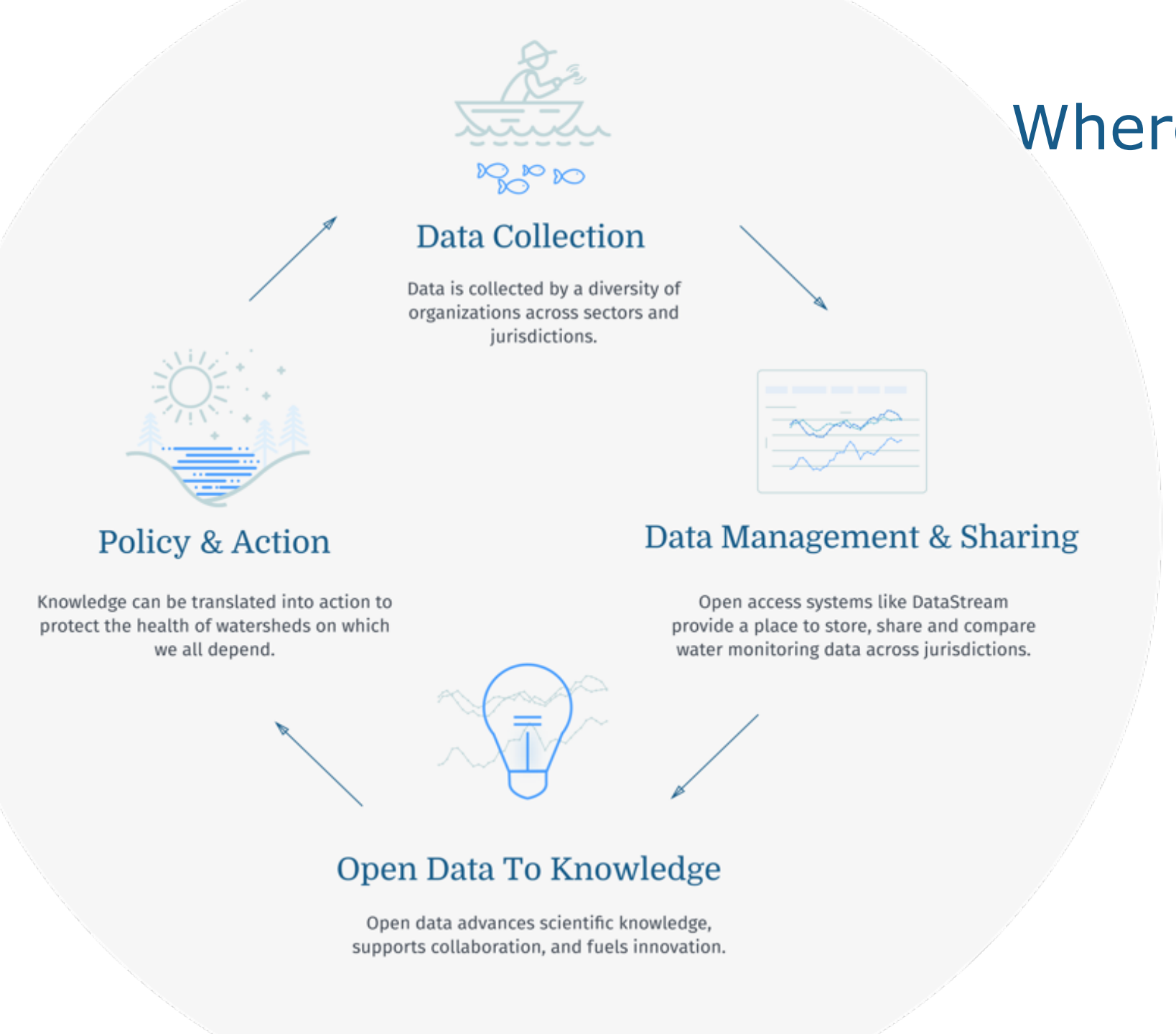
THE GORDON FOUNDATION

Government of Northwest Territories / Gouvernement des Territoires du Nord-Ouest

Positioning : Where DataStream fits in

Where DataStream fits in





Where DataStream fits in

WE DO

- Provide a place to openly publish water quality data
- Provide support to help organizations format and upload data

WE DO NOT

- Collect, fund or own any water monitoring data
- Analyze data and interpret results
- Fully QA/QC data

Be clear about what you do and don’t do

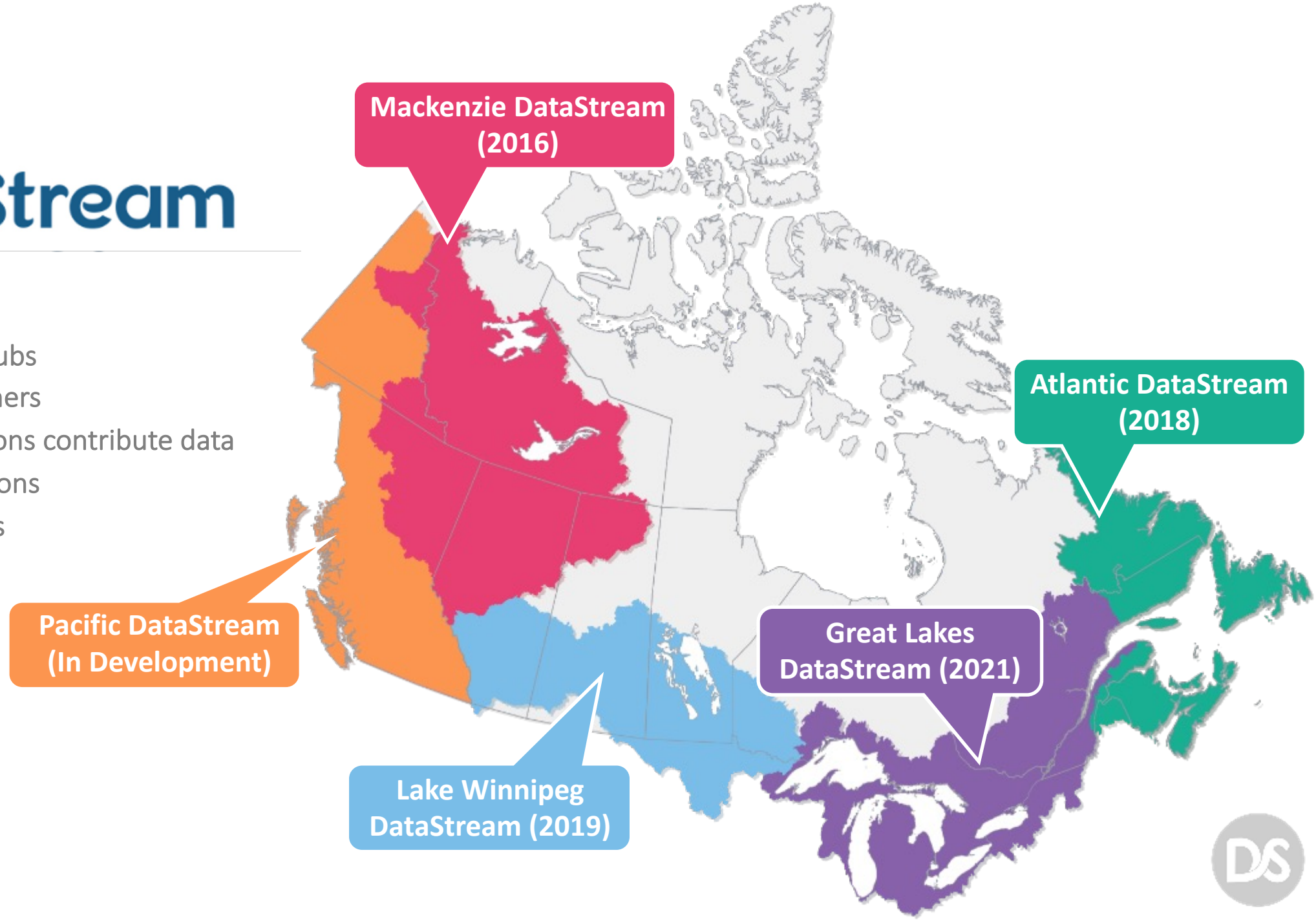
Open Data & DataStream

- Free and open for anyone to use
- Access is not tiered or password protected
- All data can be downloaded in structured .csv files (a machine readable, non-proprietary format), or accessed via an API
- All data published under open data licenses that provide clarity around data ownership, attribution and reuse

Open Access is great
(it’s also easier)

DataStream

- 4 DataStream hubs
- 3 Regional Partners
- 200+ organizations contribute data
- 31M+ observations
- 47,000 locations



Collaboration is key & takes time

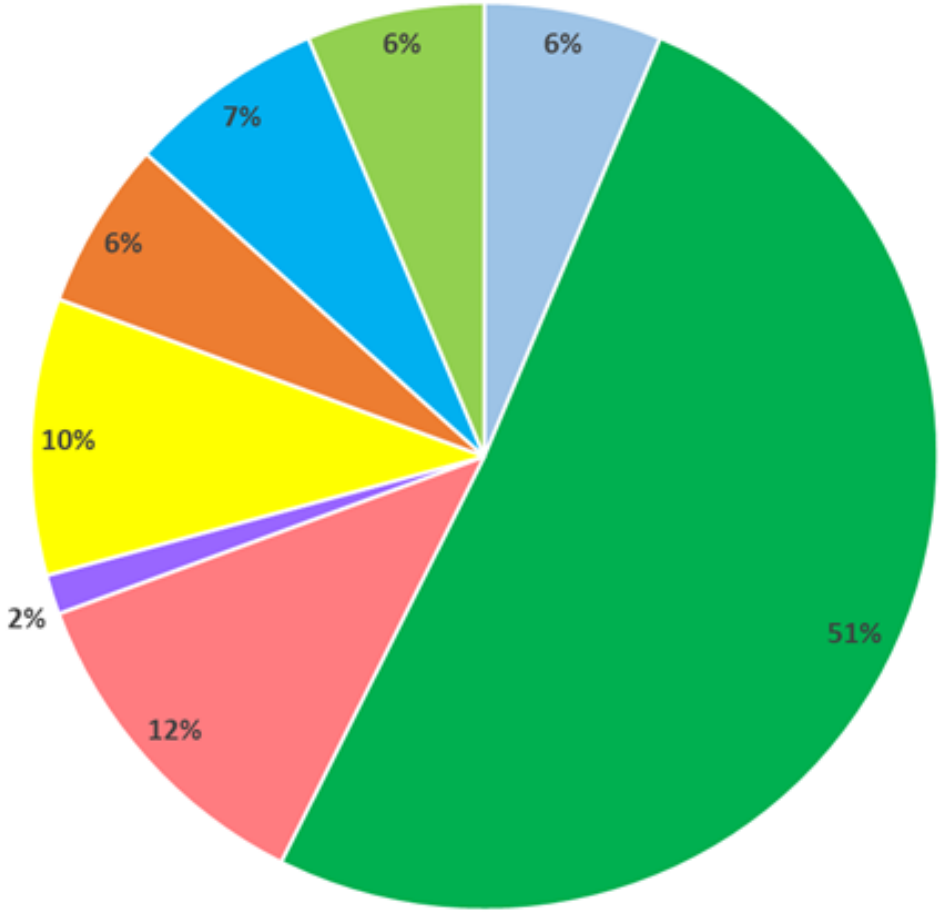
Who is sharing data on DataStream?

- Watershed organizations
- Academics
- Indigenous governments and orgs
- Provincial/Territorial Governments
- Federal Government

Data contributors maintain ownership of their data

Datasets on DataStream by Contributor Type

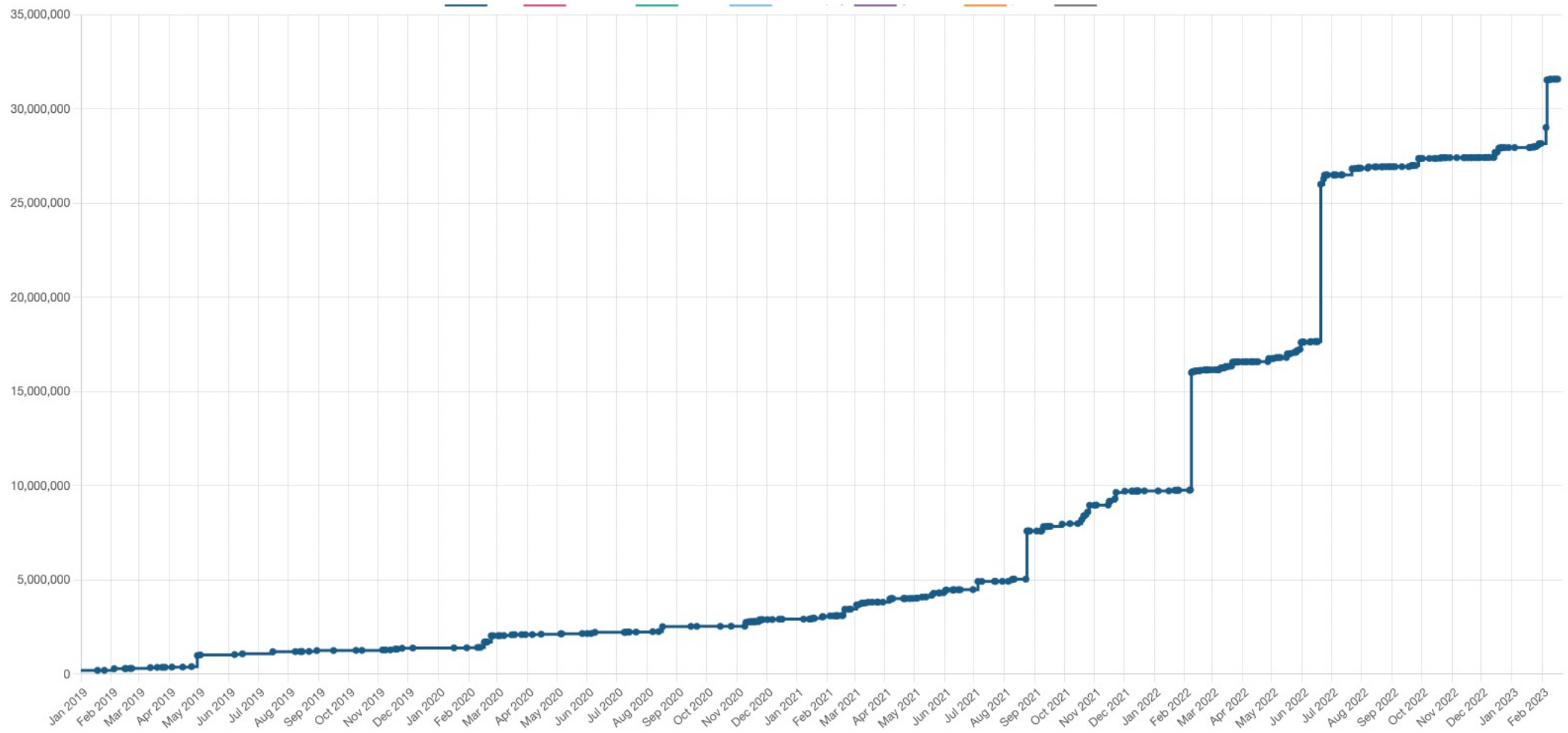
By proportion of datasets



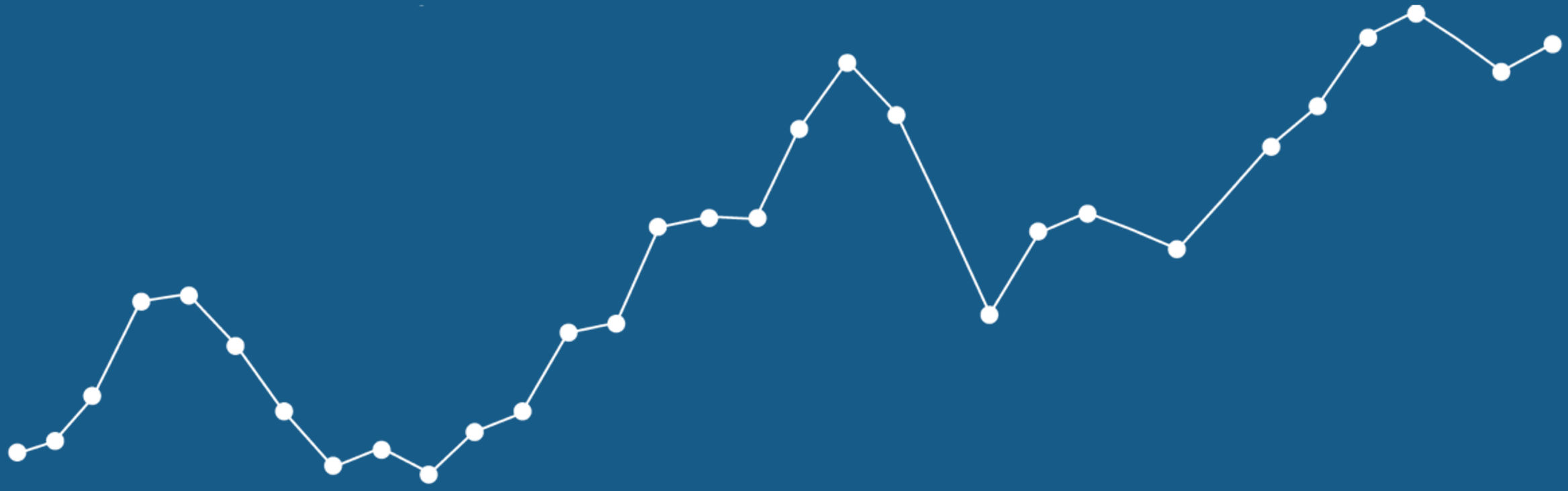
Total Datasets: 284

- Academic and other research institutes: 18
- CBM: 145
- Collaboration: 34
- Consultant: 4
- Federal Gov: 28
- Indigenous Gov/Org: 17
- P/T/M Gov: 20
- Watershed Organization: 18

Growth in Data Published on DataStream



Growing pains & Gamechangers



Expectation

vs.

Reality

Standardizing data

Monitoring location

Site name, ID
Coordinates
Reference datum
Waterbody type

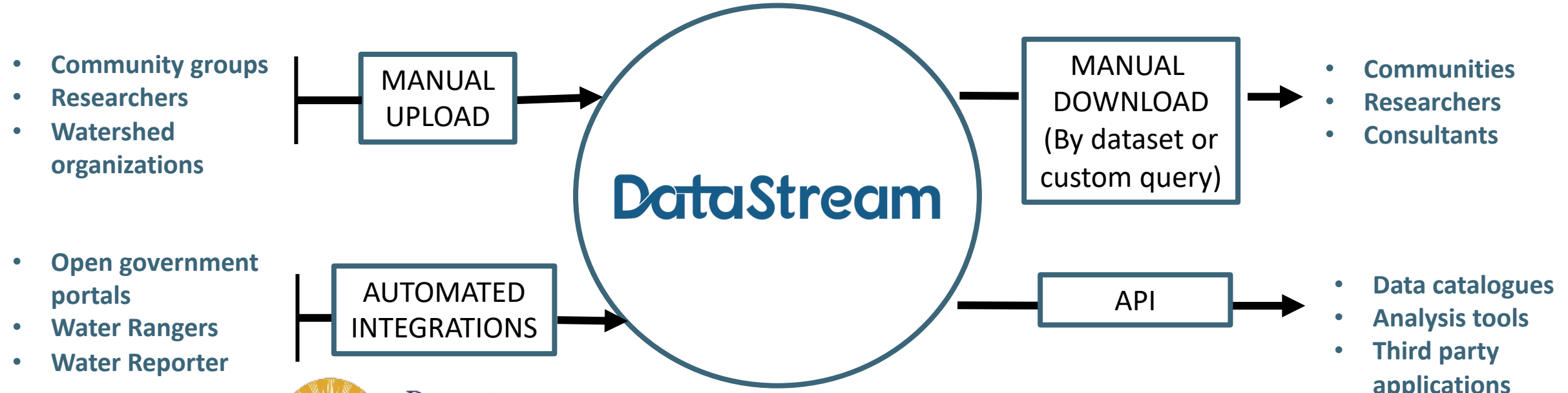
Sample collection

Sample type (e.g. field, lab, blank)
Date, time
Collection equipment
Activity depth

Parameter/result

Characteristic name, speciation, sample fraction
Result value, units
Analysis method, date, time
Detection limits

Connecting with other systems



BRITISH COLUMBIA

WATER RANGERS

WATER REPORTER

Salt Spring Island Water Preservation Society

DataCite
FIND, ACCESS, AND REUSE DATA

Google Dataset Search

FRDR FEDERATED RESEARCH DATA REPOSITORY

DFDR DÉPÔT FÉDÉRÉ DE DONNÉES DE RECHERCHE

WWF WATERSHED REPORTS

Ville de Montréal

Prince Edward Island CANADA

Conservation ONTARIO

University of Waterloo

Seagull

THREATS™ THE HEALTHY RIVER ECOSYSTEM ASSESSMENT SYSTEM

CIOOS CANADIAN INTEGRATED OCEAN OBSERVING SYSTEM

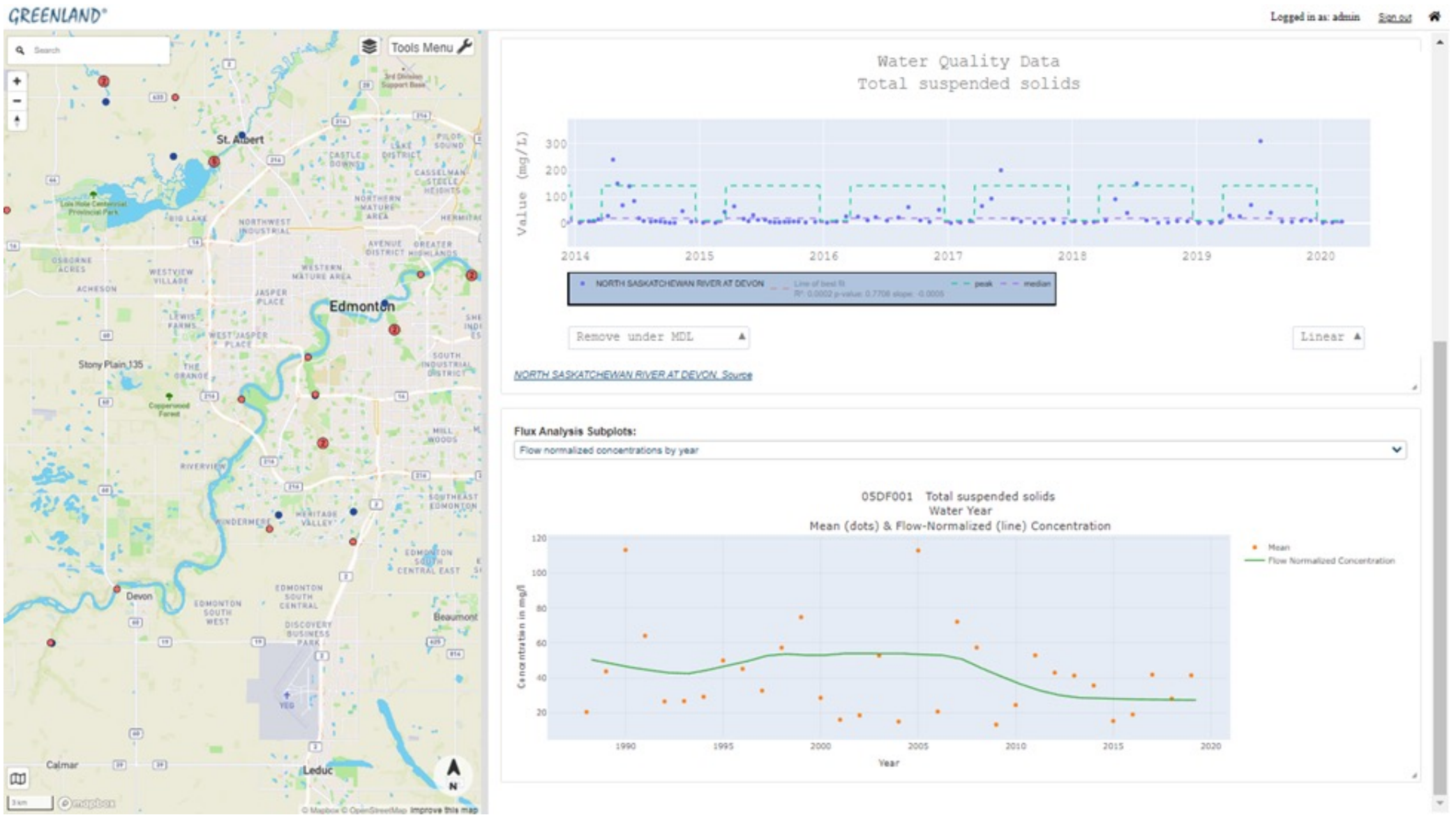
Calgary

New Nouveau Brunswick CANADA

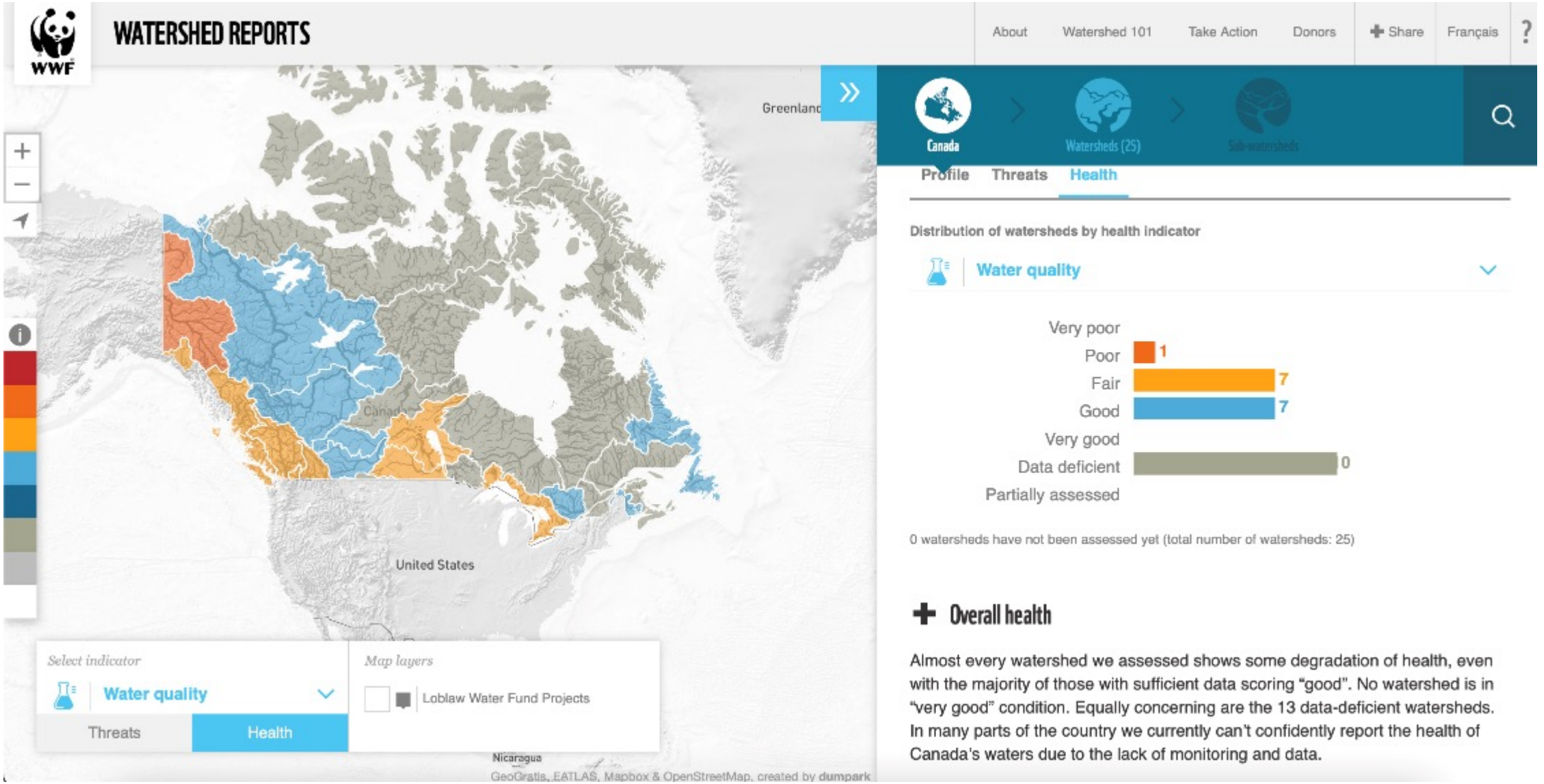
SIOOC SYSTÈME INTÉGRÉ D'OBSERVATION DES OCÉANS DU CANADA

The Healthy River Ecosystem AssessmenT System

THREATS™
THE HEALTHY RIVER ECOSYSTEM ASSESSMENT SYSTEM



WWF Watershed Health Assessment Reports



Atlantic Water Network

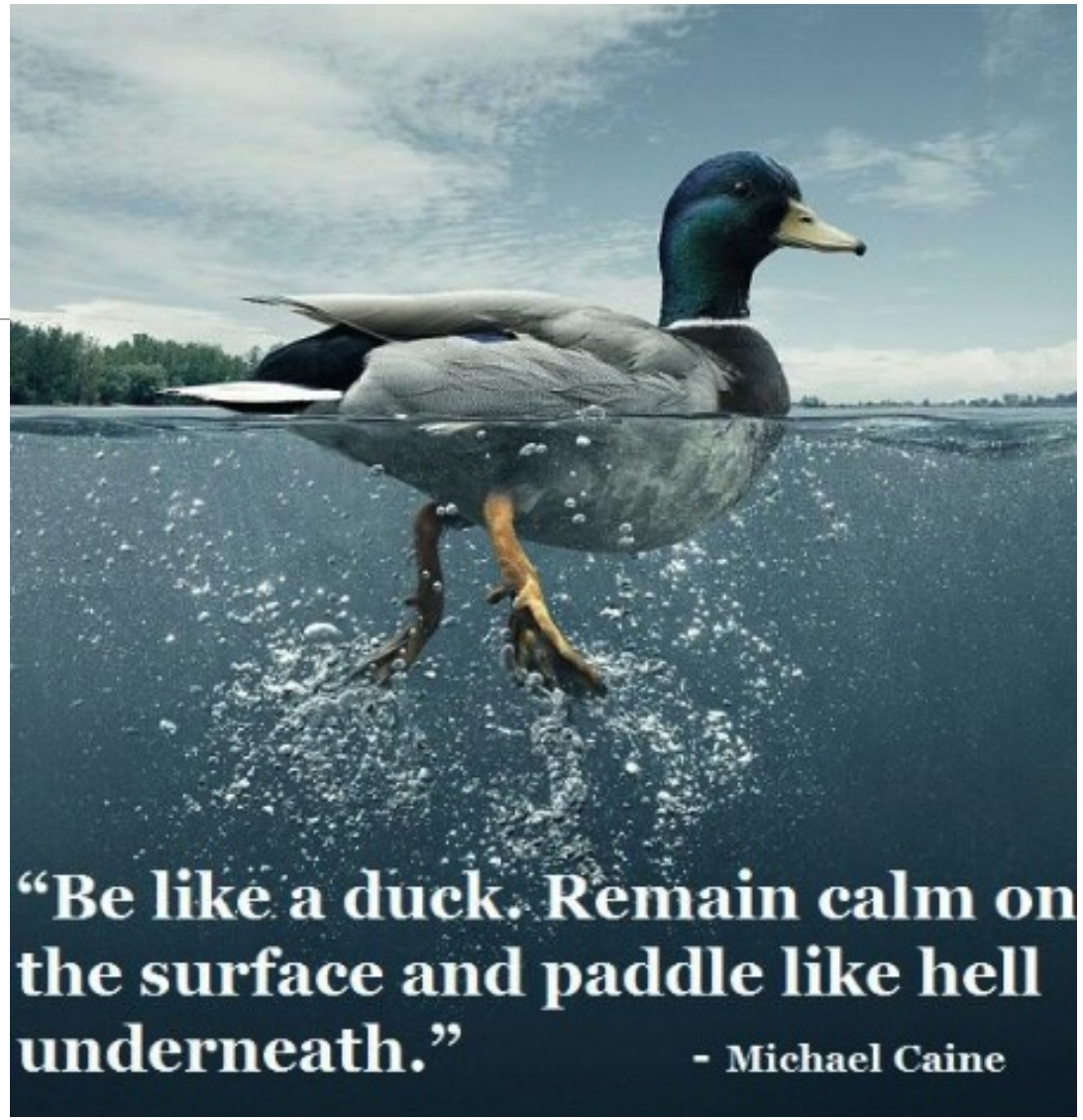
Atlantic Water Network

GROUNDTRUTHING AND FILLING WATER DATA GAPS IN ATLANTIC CANADA

Mapping Atlantic Canada's water quality data

For more info: https://atlwaternetwork.ca/groundtruthing-and-filling-water-data-gaps-in-atlantic-canada/

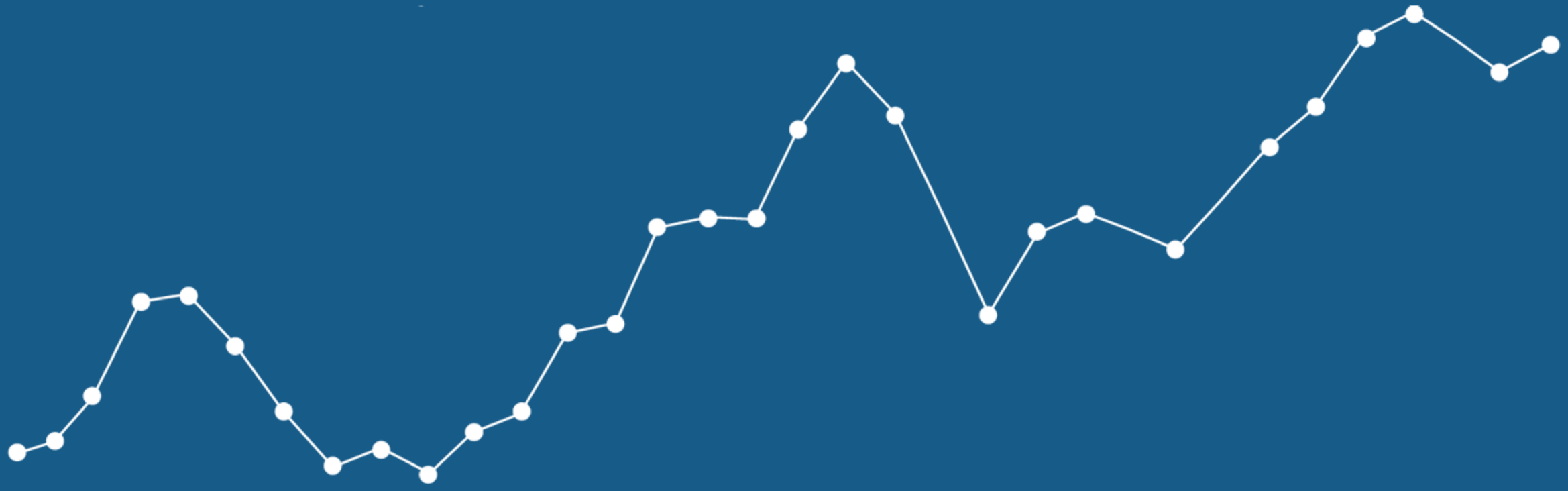
Be clear about what you do and don’t do



Our Approach:

- Make it easy for people
- Meet organizations where they are at
- Be responsive
- Invest in relationships
- Under promise/ over deliver

The road ahead



What's next?

- Advance CBM & Open Access
- Continued growth
- Groundwater
- Accessibility improvements
- System of systems
- Data Use and story-telling

Thank You!

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@DataStreamH2O

@DataStreamH2O

@DataStreamInitiative

Open data is a team sport, collaboration is key!

Regional Partners

Government of Northwest Territories / Gouvernement des Territoires du Nord-Ouest

Atlantic Water Network

LWF LAKE WINNIPEG FOUNDATION

Collaborators & Supporters

THE GORDON FOUNDATION

RBC Tech for Nature

Environment and Climate Change Canada / Environnement et Changement climatique Canada

Fondation ECHO Foundation

Conservation ONTARIO Natural Champions

PRINCE EDWARD ISLAND WATERSHED ALLIANCE

WATER RANGERS

Digital Research Alliance of Canada | Alliance de recherche numérique du Canada