



Atlantic Canada

Hosted by



WATER ISSUES

(summary)



In partnership with

Atlantic
Water
Network



Atlantic Canada

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Atlantic Canada is home to a spectacular system of dynamic freshwater and marine environments. Water is core to ecosystems and communities across the region; from Indigenous, to rural, to urban. Water is the life-giving force that unites all beings within this vast geography. Out east, water forms a way of life and nurtures an abundance of unique plants and animals. Rivers, lakes and coastal ecosystems form the backbone of regional economies, sustaining people and the environment.

Unfortunately, watersheds in Atlantic Canada face mounting pressures. The systems we rely on for our health and our livelihoods are under stress from a warming climate, increased pollution, and intensified land use.

Solving current water issues demands innovative new approaches and coordinated action. It requires problem solvers, with a solutions mind-set, who see issues as puzzles not barriers to positive action. It requires people who want to change the world and are ready to step up to the challenge of doing so.

In this spirit, AquaAction and SMU launched the [AquaHacking Challenge in the Atlantic Region](#) to propel a new generation of tech and entrepreneurial talent to tackle Canada's pressing water issues.



Selected Water Issues

Lead by Atlantic Water Network, the Advisory Committee for the Atlantic Canada 2022-23 AquaHacking Challenge has selected 5 water issues of significant concern to be the focus for this edition of the Challenge. Each team must choose one of the five proposed water issues.

Water Issues	Description	Water Issue Leaders (WIL)	Data sets <i>Reach out to the WIL for more</i>	Webinars	End-users and potential clients
Innovations for Projects in Lakes and Rivers	How can we innovate to improve the alteration projects occurring in our lakes and rivers?	 Annamarie Burgess , <i>Senior Water Resources Engineer, Water Resources Management Unit, Nova Scotia Department of Environment & Climate Change</i>	GeoNova (Link)	https://bit.ly/3S1bxxh	Industry & Government <i>(also eNGO & Citizens - possibly but less likely for this option)</i>
Saltwater Intrusion	How can we provide well water users cost effective solutions for salt water intrusion?	 Logan Horrocks , <i>GIS Specialist</i>  Charlyne Robertson , <i>Senior Manager, Clean Coast Clean Foundation</i>	Link 1 , Link 2 , Link 3 , Link 4 ATL DataStream (Link)	https://bit.ly/3DkRI06	Municipalities, citizens, farmers, and industry.
Aquatic Invasive Species	How can we improve the control and management of aquatic invasive species?	 Kaylee MacLeod , <i>Senior Field technician – Species at Risk and Biodiversity, Coastal Action</i>  Erin Francheville , <i>MSc Appl Sci, SMU</i>	SMU (Link) Open Canada (link 1 , Link 2) iNaturalist (Link)	https://bit.ly/3d3qyIH	eNGOs and government
Affordable Automated Water Quality Monitoring	How can we provide automated and cost-effective solutions to monitor water quality?	 Curtis Forbes , <i>Project Biologist</i>  Kalen Mawer , <i>Aquatic Science Program Manager Eastern Charlotte Waterways Inc</i>	ATL DataStream (Link , Link 2) NB Water Quality Data Portal (Link) ECC Data Catalogue (Link)	https://bit.ly/3qvfgiD	Mainly eNGO <i>if the solution was streamlined enough it could be expanded to municipality, government, and industry.</i>
Stormwater prevention & green infrastructure (GI)	How can we improve GI maintenance and care practices to ensure long term stormwater management?	 Jamylynn McDonald , <i>Climate Change Coordinator,</i>  Bailey Brogan , <i>Climate Change Coordinator, ACAP Sant John</i>	StatCan (Link) Open Canada (Link)	https://bit.ly/3xJqcG3	Municipalities
(virtual) Info-session about the water issues	ASK ME ANYTHING about the water issues listed above.	 WILs in a Panel Discussion animated by Emma Wattie , Atlantic Water Network	Friday, Oct 14 1 pm AT (ZOOM)	Register here: https://bit.ly/AMA_ATL	Opportunity to connect with the WILs and asks them anything about their water issues

About the Water Issue Leaders (WIL)

A WIL is an organization whose proposed water issue that has been selected for the AquaHacking Challenge. One or more people are appointed by the organization to be responsible for the water issue and have the mandate to support the teams that have chosen their issue in order to ensure a good understanding of the chosen issue and its scope, the type of market targeted, the needs of end users, etc... The WILs are the expert/mentors of the water issues.

Participants can contact them directly via the Discord platform made available to them. They are also available to provide data or references to data sets.

In addition, [information session about the water issues](#) is also organized and accessible to all (with mandatory registration) to allow newly registered and future participants to learn more about each water issue and to ask their questions directly to the WILs.: https://bit.ly/AMA_ATL

Additional resources

Affordable Automated Water Quality Monitoring

- Background on the project by ECW ([Link](#))
- Department of Environment and Local Government (DELG). (2019). The State of Water Quality Monitoring in New Brunswick's Lakes and Rivers. ([Link](#))
- Department of Environment and Local Government (DELG). (2017). A Water Strategy for New Brunswick. ([Link](#))
- Automated Surface Water Quality Monitoring Program, Nova Scotia ECC ([Link](#), [Link 2](#))
- How Technology Innovations Shaped the Development and Delivery of 21st Century Real-Time Water Quality (2018) – Donna Myers (U.S. Geological Survey Scientist Emeritus and Affiliate) ([Link](#))

Aquatic Invasive Species

- ★ OZERO Solutions: Boat Decontamination Station – Winner of the 2020 AquaHacking Challenge in BC ([Link](#))
- Nova Scotia Invasive species council ([Link](#)) + Invasive Alien Species in Nova Scotia ([Link](#))
- DFO Regulations, information and collaboration for reducing the spread of aquatic invasive species. ([Link](#))
- Impact of Introduced Chain Pickerel (*Esox niger*) on Lake Fish Communities in Nova Scotia, Canada ([Link](#))
- Clean Dry Program in NB ([Link](#)) + NB Aquatic invasives species ([Link](#))
- PEI aquatic invasive species ([Link](#))

Innovation for Projects in Lakes and Rivers

- [NS Watercourse Alteration I \(novascotia.ca\)](#)
- [Nova Scotia Environment: Guide to Altering Watercourses](#)
- [Department of Fisheries and Oceans Canada : Educational materials in the importance of the nearshore](#)
- Examples of other Jurisdictions:
 - [Ontario Flow Assessment Tool \(gov.on.ca\)](#)
 - [Culvert Design Spreadsheet US Government Conservation Services](#)

Additional resources (next)

Affordable Automated Water Quality Monitoring

- Saltwater Intrusion Vulnerability Mapping: ([Link](#))
- Saltwater Intrusion and Climate Change ([Link 1](#)) ([Link 2](#))
- Saltwater Intrusion – General Overview ([Link](#))
- Saltwater Intrusion – Agriculture ([Link](#))
- Detailed Risk Assessment ([Link](#))

Green Infrastructure & stormwater prevention

- ACAP Saint John, 2020. Climate Change Adaptation Plan for the City of Saint John ([Link](#))
- RAIN Community Solutions Soak it Up Toolkit ([Link](#))
- What is GI ([Link](#))?
- Municipal Hub for GI resources ([Link](#)):
- University of New Hampshire Stormwater Center (UNHSC) ([Link](#)):
- ACAP Saint John, Green Infrastructure ([Link](#))

For more information related to the water issues you may also reach out to **Atlantic Water Network** team. Ask to our participant manager (aka Hackworks) how you can reach them.

AquaHacking Alumni Activities in Atlantic Canada

Following the completion of the [Atlantic Canada 2020 AquaHacking Challenges](#), the first cohort of AquaHacking Alumni members in Atlantic Canada was established and continues to have an impact on water issues in the region :



Plastic Pollution

Halifax, NS

Manufactured first-ever soft bait fishing lure out of a unique organic biopolymer solution which is 100% biodegradable and PVC-free, allowing anglers to practice their sport without worry and contributes to the safety of fish and all aquatic life.

cleancatch.ca



Well Water Testing

Halifax, NS

Developing the SIP mechanism and a service to assist private well owners with water testing to reduce known barriers and increase testing of well water quality.

drinkable.tech



ExTech MIP Inc
Extraction polymer

Freshwater Testing

St John's, NL

Offers reliable, fast, portable and convenient measurement of organic contaminants in water resources using a field deployable and inexpensive device, allowing for quick on-site sampling of well water or any other freshwater resource.

extechmip.ca

[Check out all the AquaHacking Alumni startups](#)