

2021 IMPACT REPORT

# LEVERAGING INNOVATION AND TECHNOLOGY FOR FRESHWATER



# OUR MISSION IS TO RESTORE FRESHWATER HEALTH IN NORTH AMERICA.

We make this happen by engaging talented young innovators, activating their technologies, and supporting them as they turn their solutions into results.



## Actions & Solutions for Water



Tech challenges for nextGen innovators



Community of nextGen water entrepreneurs



Enabling implementation of water tech

ESTABLISHED BY



POWERED BY



ACCELERATED BY



2021 IMPACT REPORT

A Note from the Executive Director

A Word from Our Chair

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# A TIME FOR RECKONING AND HOPE

End-of-year reflections are always something I enjoy. This year, however, they were somewhat more earnest than usual. 2021 felt like a year of reckoning of tremendous proportions.

The global pandemic continued to impact all aspects of our family and work lives, and our communities. We were confronted with devastating impacts of a changing climate, from unprecedented high temperatures in British Columbia that killed millions of tons of marine biomass; forest fires that devoured whole towns; draughts that wiped out crops and put normally wet regions on level 5 water alerts. As I write these words, hundreds of people in southern British Columbia are experiencing the aftermath of massive flooding – with more storms in the



forecast. Across Canada, heavy rains have swept away homes, crumbled key infrastructure, and left communities homeless.

And we will never forget 2021 due to the tragic discovery of the unmarked graves and the remains of hundreds of Indigenous children who had been sent to residential schools.

**In these turbulent times, we need to stay hopeful and reclaim our agency to act for positive change. To build a better future, we need to make a meaningful commitment to doing things differently, to learning from our mistakes, and to embracing a new way of thinking that stems from a deep respect for the natural world.**

This is exactly what AquaAction does. Every year, we support bring young innovators who are filled with hope and committed to making a difference for freshwater health. In the following pages, we proudly share the success stories of 2021 to share their hope with you.

This year, AquaAction held the ninth and tenth editions of our flagship program, the AquaHacking Challenge. With these challenges, we welcomed 10 exciting new start-ups to our alumni community.

After getting their start with AquaHacking, a total of 36 young Canadian teams are now actively working on water solutions.

We also launched AquaEntrepreneur, a program that matches start-ups with real-life opportunities to test their solutions in the municipal sector. We also introduced a new name for our organization and launched a new website.

Furthermore, AquaAction has made a commitment to helping achieve Reconciliation through our programming. Recognizing that we still have much to learn, our program team is engaging in a learning (and unlearning) process through course work, a monthly circle, and sharing and reflecting. It's a first step in a long journey – one we are eager to take.

As this program year draws to a close, I wish to offer a heartfelt thank you to our partners, supporters, and friends. We are stronger for walking alongside you and look forward to continuing down this path of agency and hope together, for a better, brighter future.

**Kariann Aarup**  
Executive Director, AquaAction

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## FROM IDEAS TO ACTION

Why freshwater, and why now? Very simply: Every Canadian has the right to clean and safe freshwater and now, more than ever, we are living through what is likely only the start of detrimental impacts to freshwater from climate change. We are seeing it with the wildfires, the drought, low water tables, dry riverbeds... the list is legion.

For generations, our family has been involved with giving back. What is fundamentally different now in this philanthropic endeavour is that we have been guided by the youngest members of our family. My niece, nephews, and two daughters stepped forward and urged us to focus on freshwater. We were sceptical at first. Then we did our research and spoke with many leaders in the field.



My parents, siblings, and I learned – much to our shock and surprise – that freshwater in Canada was not nearly as pristine and abundant as we thought. It was humbling to face just how little we knew about our water – a resource we, as most Canadians, had clearly taken for granted for far too long.

**We established AquaAction in 2015, as soon as we understood the urgency with which freshwater issues needed to be resolved. Since then, we have been inspired by the innovative ideas that young Canadians have come up with to tackle some of the most critical issues we face – microplastics, invasive species, blue green algae, and on it goes. We are inspired but not surprised. We believe firmly in the ability of the next generation to get us back on track towards restored freshwater health in Canada.**

Another shock befell us this year as we learned about the remains of hundreds of Indigenous children in unmarked graves at residential schools. As a father, I cannot find the words to express what I feel as I think about it. The reality that Indigenous People in Canada have had to endure, and the lasting impacts of that legacy, can no longer be denied.

Water is one such lasting negative legacy issue – lack of access to potable water for so many remote Indigenous communities and impacts on the health of watersheds within traditional territories. Once again, we are humbled by that which we did not fully know.

As we begin to better understand, we are committed to learning more and to actively supporting and achieving Reconciliation. As part of this work, we are pleased to welcome Blaine Favel, a member of the Poundmaker Cree Nation, to AquaAction's Board of Directors. Blaine's experience and perspective is invaluable as we seek to develop new programming focused on water issues faced by Indigenous communities in Canada.

My family is one of ideas and one of action. Through our family foundation, we aspire to bring forth what we know best and to do so together, crafting the future of a healthier Canada. AquaAction is that vehicle and we have rebranded to demonstrate our determination to making the tangible difference that is sorely needed in the world today.

On behalf of my family and of the Board of AquaAction, I am proud to share this 2021 Impact Report with you, that highlights all that has been achieved this past year. I thank our partners, our funders, the young innovators and the alumni water-tech entrepreneurs as well as the AquaAction team. Thank you for your tireless commitment to our shared objective of healthy freshwater for all.

**François de Gaspé Beaubien**  
Chair, AquaAction

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# SUPPORTING EMERGING WATER SOLUTIONS



As AquaAction's flagship program, the **AquaHacking Challenge** is a technology innovation competition combined with leadership and entrepreneurship development bootcamps. It's a launchpad for water entrepreneurs, a pre-incubator for start-ups, and a meeting place for change makers and innovators.

2021 was another remarkable year for the AquaHacking Challenge. This year, we delivered our ninth and tenth editions in partnership with two amazing local organizations: the Okanagan Basin Water Board and the Centre d'Interprétation de l'eau (C.I.EAU).

Both Challenges were equally dynamic, but unique in terms of geographic scope, water issues, participant backgrounds, language, and programming. Whereas the Western Canada Challenge was run in English and completely virtual, with participants from across the globe (including Canada, Qatar, Syria, Japan, Russia, and China), the Defi Rivière des Mille Îles was run in French with all participants based in Quebec.



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## AQUAHACKING CHALLENGES

This year we also delivered new workshops for participants thanks to our partners Foresight Canada, Purppl, Waterlution, the Pôle régional d'économie sociale de Laval and Eco-Nature. Through these workshops, the teams honed their understanding of water as well as their leadership, entrepreneurship, and social impact skills.

Despite using different formats, the two challenges yielded similarly outstanding results – tangible and impressive technology solutions for water, backed by strong team commitments. At each of the Challenge Finals, many teams were close to having prototypes ready to go.



While the pandemic didn't make the recruitment process easy, it has highlighted the incredible quality of registered participants and, importantly, their keen interest in solving the world's most pressing freshwater issues, their drive to develop innovative solutions, and their motivation to launch impactful businesses.

The seven winning teams were rewarded with seed funding totaling \$122,000, as well as access to additional funding opportunities through Mitacs, legal support from Lavery Lawyers, and a spot in a local incubator.

Through the AquaHacking Challenges, we are very proud to be nurturing this next generation of innovators as they offer new ideas and integrated technologies for a sustainable future. And we are very fortunate to have a vibrant ecosystem of diverse partners with whom we collaborate to achieve this mission.

**Anne-Pascale Richardson, PhD**  
AquaHacking Challenge Program Manager

“When it comes to STEM and engineering, we often neglect the social implications of our innovations and ideas. Truth of the matter is that we need to foster empathy and interpersonal skills to help mold the newest generations of engineers to make our world a better place. In this case, **AquaHacking has helped us to gain a new perspective and worldview on water sustainability issues** that will carry with all finalists in their careers as engineers.”

— Yosamin Esanullah,  
The SIP Project

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# WESTERN CANADA AQUAHACKING CHALLENGE

“Now, at the beginning of your careers, you are being an example of people who are taking on the challenges of our time and making things possible. And it has been a challenging Challenge. You have had to go under, over, and through obstacles to get here. As someone who has spent their career working on water, I’m so grateful to see the next generation use their hearts, minds, and entrepreneurial ingenuity to help protect water and make the world a better place.”

– Anna Warwick Sears,  
Executive Director, OBWB



Western  
Canada

## CHALLENGE CO-HOST:

**The Okanagan Basin Water Board** (OBWB) was formed in 1970 as a valley-wide partnership to identify and resolve critical water issues in the Okanagan watershed between the Okanagan Nation Alliance, the Water Supply Association of BC and the Okanagan Water Stewardship Council. In addition to its Milfoil Control Program and Sewage Facilities Grants Program, the OBWB provides the Water Management Program which includes the WSC, Water Conservation and Quality Improvement Grants, Water Research (including floodplain mapping, source protection efforts, wetland strategy), and Communications and Outreach (including OBWB’s public outreach and education program Okanagan WaterWise and its “Make Water Work” and “Don’t Move A Mussel” campaigns).



## CHALLENGE TEAM:

**Carolina Restrepo**, Special Projects Coordinator and Western Canada AquaHacking Challenge 2021 Coordinator; **James Littlely**, Operations and Grants Manager; **Anna Warwick Sears**, Executive Director; **Corinne Jackson**, Communications Director



Anna  
Warwick  
Sears



Corinne  
Jackson



Carolina  
Restrepo



James  
Littlely

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# WESTERN CANADA AQUAHACKING CHALLENGE



## WINNER

### The SIP Project



SIP's solution is a mobile filtration station in the form of a gravity filter backpack. Water goes into the top of the backpack and filters through three levels of treatment. At the spout, the water is tasteless, clear, and decontaminated.



**TEAM:**

Elana Wood, Yamen Shehab, Yosamin Esanullah, and Mana Tokuni | UBC Okanagan

Received \$20K

[Meet the team](#) ➔

[Watch their final pitch](#) ➔



## SECOND PLACE

### Eledigm



Eledigm's device prevents contamination in water cisterns. The device connects to a cistern lid and a water hose ensures that the water is protected from contamination during transportation and storage.



Sydney Strocen, Mikhail Ignatyev, Tarek Alkabbani, and Andre Cox

**TEAM:**

Sydney Strocen, Mikhail Ignatyev, Tarek Alkabbani, and Andre Cox | UBC Okanagan

Received \$15K

[Meet the team](#) ➔

[Watch their final pitch](#) ➔



## THIRD PLACE

### ECO-Water

Public Choice Award



ECO-Water minimizes the release of chemicals of emerging concern into water bodies. ECO-Model provides a treatment system with a risk analysis and helps to optimize the system to achieve the highest removal rate possible. ECO-Filters, derived from agricultural residue, remove the remaining pollutants.



**TEAM:**

Khaled Benis, Shahab Minaei, Mohsen Asadi | University of Saskatchewan

Received \$10K

[Meet the team](#) ➔

[Watch their final pitch](#) ➔



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## DÉFI RIVIÈRE DES MILLE ÎLES

“Our partner AquaAction and our collaborators were able to bring together, motivate, train, guide and inform our participants to make their technological solutions grow into a usable reality. Congratulations to all the teams. Congratulations on your commitment to water. As we saw at the water ceremony, it’s a matter of heart to take care of water. You do it very well.”

– Denise Cloutier,  
Executive Director, C.I.EAU



Rivière des  
Mille Îles

### CHALLENGE CO-HOST:

**Le Centre d’interprétation de l’eau (C.I.EAU)** is a non-profit organization whose activities aim to help citizens discover the water cycle in an urban environment, from the river to the tap, from the toilet to the river, and from the drinking water production and purification stations. Its mission is to promote the protection and responsible use of water through its permanent exhibition The Water Trail: From River to River, its Lab’eau, its conferences and events.



### CHALLENGE TEAM:

**Isabelle Côté**, Communication Project Manager  
and Défi de la rivière des Mille Îles 2021 Coordinator;  
**Denise Cloutier**, Executive Director



Isabelle  
Côté



Denise  
Cloutier

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## WINNER

### O-TECH



**O-Plast** is a greywater treatment system designed to eliminate microplastics in water coming mainly from commercial laundry. The solution combines membrane filtration with electrooxidation which results in the complete degradation of microplastics.



**TEAM:**

Yassine Ouarda and Alae Benguit | INRS-ETE

Received \$20K

[Meet the team](#)   
 [Watch their final pitch](#)

## SECOND PLACE EX AEQUO

### ECOTIME



**Oasis** is an all-in-one rainwater harvesting and distribution system, which allows for the innovative use of rainwater in buildings and reduces the need to consume drinking water resources for non-potable uses.



**TEAM:**

Timothé Bouchard and Eddy Dureuil | Entrepreneurs

Received \$15K

[Meet the team](#)   
 [Watch their final pitch](#)

### ILOS

Public Choice Award



**ILOS** They propose a multifunctional floating platform, allowing for both new forms of ecotourism and the ability to measure water quality in real-time with the use of probes.



**TEAM:**

Jean-Christophe Gosselin, Samuel Cante, and Maël Lahmar | ÉTS Montreal

Received \$15K

[Meet the team](#)   
 [Watch their final pitch](#)

## THIRD PLACE

### OverOneThousand



**OverOneThousand** offers a versatile, multi-functional tool that leverages artificial intelligence and advanced analytics to improve planning, management and decision making in the context of sustainable development, such as the implementation of aquatic habitat protection and restoration of aquatic habitats.



**TEAM:**

Philippe Scalabrini and Ysael Desage | McGill University, Université Laval

Received \$10K

[Meet the team](#)   
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## THE CHALLENGE ECOSYSTEM

Each year, AquaHacking Challenges attract experienced and dedicated partners who bring life to the events. It's a privilege to benefit from a vibrant, cross-sectoral ecosystem and collaborate with people and organizations who are collectively driven by the promise of restoring freshwater health. Thank you to everyone for contributing to this year's success!

### AQUAHACKING ADVISORY COMMITTEE MEMBERS

**Andrew Greer**, Managing Director, Co-Founder, Purppl

**Anna Warwick Sears**, Executive Director, Okanagan Basin Water Board

**Carolyn DuBois**, Director, Water Program, The Gordon Foundation

**Claire Jackson**, Director of Engineering, waterSMART

**David Saltman**, Chair, Okanagan Sustainability Leadership Council

**Davin Budreau**, Senior Policy Analyst, Western Economic Diversification Canada

**Denise Lee**, CEO Office, Intern, Sustainable Development Technology Canada

**James Littley**, Member, BC Water Funders Collaborative

**Kat Kavanagh**, Executive Director and Founder, Water Rangers (AquaHacking Alumni, 2015)

**Marta Green**, Senior Hydrogeologist, Associated Environmental Consultants

**Mélissa Dick**, AquaHacking Alumni and AquaEntrepreneur Program Manager, AquaAction

**Merrell-Ann Phare**, Commissioner, International Joint Commission

**Pauline Gerrard**, Deputy Director, IISD-ELA

**Ragwa Gopal**, President and CEO, Innovate BC

**Robert Sandford**, Chair in Water and Climate Security, UNU-INWEH

**Brigitte Bérubé**, President of the Board of Directors, C.I.EAU

**Chantale Chatelain**, Responsible for Laval's drinking water conservation strategy, City of Laval

**Denis Brouillette**, Scientific Advisor, MELCCC – Quebec

**François Bilodeau**, General Manager, Laval Innov

**Jean Lauzon**, Director of Development, Eco-Nature

**Louis Beaupré**, Director of Expertise, Landscape Architecture, STANTEC

**Louise Hodder**, Executive Director, Pôle régional d'économie sociale de Laval

**Mathieu Laneuville**, Deputy Director, Technical Sector Manager, Réseau Environnement

**Nicolas St-Gelais**, Scientific Director and Co-Founder, CANN Forecast (Alumni AquaHacking 2016)

**Pierre-Marc Sarrazin**, Vice President, Corporate Finance and Treasury, OVIVO

**Richard Painchaud**, President and CEO, Kourant Technologies

**Sébastien Sauvé**, Vice-Dean, Faculty of Arts and Sciences, Université de Montréal

**Virginie Dufour**, Responsible for environmental issues, City of Laval

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**THE CHALLENGE ECOSYSTEM**

**ACADEMIC PARTNERS**



**WATER ISSUES LEADERS**

**Anaïs Boutin**, Biologist and Director of Protection and Conservation, Eco-Nature

**Raphaël Goulet**, General Manager, COBAMIL

**Clara Othoniel**, Project Manager, COBAMIL

**Vincent Lessard**, Project Manager, COBAMIL

**Josée Rinfret**, Environmental Coordinator City of Laval

**Martine Lanoue**, Water Management Advisor, City of Terrebonne

**André-Philippe Hébert**, Vice President, Arrimage.COM Inc

**Graham Strickert**, Assistant Professor, University of Saskatchewan

**Maggie Romuld**, Executive Director, Canadian Water Resources Association

**Robert Haller**, Executive Director, Canadian Water and Wastewater Association

**Merrin Macrae**, Professor, University of Waterloo

**Gabrielle Parent-Doliner**, Director, Water Rangers

**David Paul Teasdale**, College Professor, Water Engineering Technology, Okanagan College

**Helen Baulch**, Associate Professor, University of Saskatchewan

**David Lobb**, Professor, University of Manitoba

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# THE CHALLENGE ECOSYSTEM

## JUDGES

### SEMI-FINALS

**Pierre-Marc Sarrazin**, Vice President, Corporate Finance and Treasury, OVIVO

**Richard Painchaud**, Chair, Écotech Québec, CEO, Kourant Technologies Inc.

**François Bilodeau**, General Manager, Laval Innov

**Louis Beaupré**, Director of Expertise Landscape Architecture, Stantec

**Claudia Berger**, Program Manager – Energy and Environment, IBM Canada

**Caroline Arnouk**, CEO, OPA Technologies

**Andrew Lockhead**, CEO, Stay22

**Isabelle Pelletier**, Partner and Patent Agent, Lavery Avocats

**Denis Brouillette**, Scientific Advisor, Quebec Ministère de l'Environnement et de la Lutte contre les changements climatiques

**Geneviève Aubry**, Founder, Water Treatment Specialist, Proactivo

**Scott McKay**, Consultant, SMK Environnement Stratégique

**Sophie Lemire**, General Manager, ZIP des Seigneuries

**Davin Budreau**, Senior Policy Analyst, Western Economic Diversification Canada

**Nicole Dalton**, Kelowna Community Manager, RBC

**Charity Joy**, Founder, 30 Turtle

**Duncan Phillips**, Vice President, Strategic Markets, MITACS

**Mudit Gangal**, Product Manager, OVIVO

**Shannon Wilson**, GBS Partner, Energy and Mining, IBM Canada

**Andrew Greer**, Managing Director and Co-Founder, Purppl

**Marta Green**, Senior Hydrogeologist, Associated Environmental Consultants

**Carolyn DuBois**, Director, Water Program, The Gordon Foundation

**Claire Jackson**, COO, waterSMART

**Pauline Gerrard**, Deputy Director, IISD-ELA

### FINALS

**Pascale Biron**, Professor, Concordia University and member, Groupe de recherche interuniversitaire en limnologie (GRIL)

**Richard Painchaud**, Chair, Écotech Québec, CEO, Kourant Technologies Inc.

**Catherine Gagnon**, Vice President, Business Development and Partnerships, Axelys

**Mathieu Laneuville**, Assistant General Manager responsible for the Technical Sector, Réseau Environnement

**Louise Hodder**, General Manager, Pôle régional d'économie sociale de Laval

**Raghwa Gopal**, President & CEO, Innovate BC

**Pauline Gerrard**, Deputy Director, IISD-ELA

**Jeanette Jackson**, CEO, Foresight Canada

**Robert Sandford**, Chair in Water and Climate Security, UNU-INWEH

**Melanie McClare**, former CEO, Swirtext

### Watch the semi-finals →



WESTERN CANADA



DÉFI RIVIÈRE DES MILLE ÎLES

### Watch the finals →



WESTERN CANADA



DÉFI RIVIÈRE DES MILLE ÎLES

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## THE CHALLENGE ECOSYSTEM

The **AquaHacking Challenge** journey has a large training and resource component. Thanks to our programming partners and mentors, our participants have been guided, accompanied, informed, and trained to complete their scientific and technical knowledge, hone their entrepreneurial skills, and build their leadership capabilities.

### PROGRAM PARTNERS



### REGIONAL AND LOCAL FINANCIAL PARTNERS



“The AquaHacking bootcamps helped our team to know each other better and, most importantly, understand strength and areas for development of each other.”

— Mikhail Ignatyev, Eledigm

“In my opinion, the most valuable part of the AquaHacking Challenge is building strong leadership skills.”

— Andre Cox, Eledigm

“The SIP team feels incredibly honoured to have been supported by such an amazing network of people and are incredibly thankful for this opportunity and the impact it has had on all of us.”

— Elana Wood, The SIP Project

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Watch the recap of the leadership bootcamps →



WESTERN CANADA



DÉFI RIVIÈRE DES MILLE ÎLES

## OUR COMMITMENT TO RECONCILIATION

We are committed to helping achieve Reconciliation through our programming. As part of this work, members of the AquaHacking Challenge finalist teams had the opportunity to meet with four First Nations communities. They listened and engaged in conversations about culture, water, and the path to a better future.

Watch the water ceremony animated by the Traditional Mohawk Council of Kahnawà:ke [→](#)



We thank the following people and communities for welcoming us and sharing their knowledge so openly. We still have much to learn and look forward to building strong relationships in the years to come.

**Ivy Hamelin**, Micmac from Gespeg

**Wahiakeron Gilbert, Stuart Myiow, Edith Mora Castella, Raymond Stone Isawaa, and Marie-Claude Lacroix** from the Traditional Mohawk Council of Kahnawà:ke

**Tara Willard** from the Secwepemc'ulewc of the Secwepemc Tribal Peoples and the Neskonlith community

**Nancy Jones, Don Jones, and Jason Jones** of Nigigoonsiminikaaning (Red Gut) First Nation

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# AQUAHACKING ALUMNI



As AquaHacking Challenge teams began to grow into early-stage companies, AquaAction recognized their need for continued support as they navigated their next steps. In 2020, the **AquaHacking Alumni** program was formed to maintain contact and provide strategic support to these teams. In this second year of the program, we are proud to see the community growing and flourishing.

Together with diverse partners, collaborators, and supporters, AquaHacking Alumni are creating positive impact with their solutions across Canada, in watersheds from St. John's, Newfoundland, to Vancouver, British Columbia – and even internationally. Their technologies are helping conserve, preserve, and monitor freshwater at all scales.

## SELECT ALUMNI ACTIVITIES

- Citizen scientists are collecting and identifying microplastics during kayak and canoe outings using the sampler offered by Poly-Mer
  - Aquaculture producers such as salmon farmers can quickly detect and treat pest infiltrations thanks to the machine learning model designed by Blue Lion Labs.
  - Cities are applying the digital solutions offered by CANN Forecast to better manage when recreational swimming areas should be open or closed and when water mains need to be repaired.
  - Insurance companies are better able to map flood zones that may be of risk to homeowners using the mapping and simulation technology offered by Geosapiens.
  - University researchers significantly decrease the time required to analyse water samples containing microplastics thanks to the artificial intelligence solution developed by Particuleye Technologies.
- And more!



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▶ AquaHacking Alumni

▶ AquaEntrepreneur

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# ALUMNI AT WORK ACROSS THE WATER CYCLE



- 1. **Reduction of Plastic Waste**  
O'land Stations
- 2. **Ice Cover Monitoring**  
Spot
- 3. **Microplastics & Fisheries**  
Clean Catch Baits  
Marine Way
- 4. **Aquaculture**  
Blue Lion Labs

- 5. **Invasive Species**  
Ozero Solutions
- 6. **Microplastics in Aquatic Ecosystems**  
Particuleye Technologies  
PolyGone Technologies  
Compound Connect  
O-Tech
- 7. **Tap Water**  
Bello Solutions

- 8. **Municipal Infrastructure & Decision Making**  
CANN Forecast  
Maple Precision  
Clean Nature
- 9. **Wastewater Treatment**  
WaterPuris  
EcoWater
- 10. **Flood Risk**  
Geosapiens  
Above Atlantis

- 11. **Responsible Consumption & Production**  
Typha Co.
- 12. **Stormwater Treatment**  
Elite A2Z Filters  
GAPSS
- 13. **Water Quality Monitoring**  
Poly-Mer  
Water Rangers  
ILOS  
OverOneThousand

- 14. **Toxic Algae Blooms**  
CHANGE
- 15. **Well-water Safety**  
ExTech MIP  
Drinkable Water Solutions
- 16. **Drinking Water Quality in Rural & Indigenous Communities**  
Water Secure  
WIDE  
The SIP Project  
Eledigm

- 17. **Information Platform**  
DatActive
- 18. **Greywater Recycling**  
Ecotime Solutions
- 19. **Agricultural Impacts**  
Future Farm  
UniteAg  
LaSIR Nutrient Tech

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## Growing Water Tech Start-ups

▶ AquaHacking Alumni

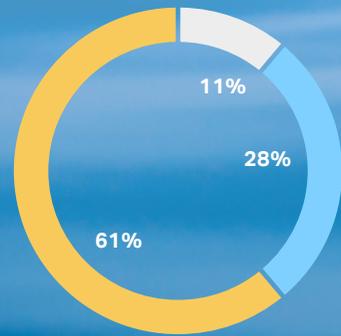
▶ AquaEntrepreneur

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## BY THE NUMBERS

### AQUAHACKING ALUMNI COMPANIES BY GROWTH STAGE



#### GROWTH AND EXPANSION

generating a consistent source of income, expanding your workforce

#### START-UP

tested your business idea, officially launching your start-up, engaging in seed funding rounds

#### SEED AND DEVELOPMENT

concept and research, testing feasibility, prototype development

# 36

active start-ups from 10 AquaHacking Challenge cohorts (2015-2021)

# 58%

INCORPORATED

# 53%

include at least 1 female co-founder

### 3 START-UPS ADVANCED A STAGE OF DEVELOPMENT FROM 2020 TO 2021!

- ➔ **O'land Stations** moved from Start-up to Growth and Expansion
- ➔ **Polygone Technologies** moved from Seed and Development to Start-up
- ➔ **Ozero Solutions** moved from Start-up to Growth and Expansion

# \$2.3M

IN INVESTMENTS

# 41

JOBS IN TOTAL

# \$1.1M

IN SALARIES

# 19K

volunteer hours dedicated by co-founders to the development of start-up

# 2400+

external volunteers hours engaged

A Note from the Executive Director

A Word from Our Chair

Supporting Emerging Water Solutions

Growing Water Tech Start-ups

➔ AquaHacking Alumni

➔ AquaEntrepreneur

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# ALUMNI AWARDS AND PARTNERS

## SELECT AWARDS AND RECOGNITION

### Bourse d'honneur Entreprendre Ici (Québec)

– Geosapiens (2018)

### 2021 Mitacs Global Impact Entrepreneur Award (National)

– Blue Lion Labs (2017)

### Ocean Start-up Project (Atlantic Canada)

– ExTech MIP (2020)

### RJCCQ Coupe des start-ups 2021 (Manitoba)

– Typha co. (2020)

### Valhalla Angels QuickPitch Competition (British Columbia)

– GAPSS (2020)

### Stu Clark Business Plan Competition (Manitoba)

– Particuleye Technologies (2020)

### MNP Future Leaders Award (Ontario)

– WaterPuris (2018)

### Social Shifter Global Innovation Challenge Finalist (Atlantic Canada and National)

– Marine Way (2020)

### 2021 Green Guardians IQ Magazine (International)

– O'land Stations (2020)

### Scotiabank Climate Action Challenge for the 2021 (Western Canada)

– Water Secure (2020)



## PARTNERS AND COLLABORATORS

AquaHacking Alumni are working together with many stakeholders to advance their solutions. Here is a select list of partners involved in our ecosystem:

- Incubators and accelerators
- Non-profit organizations
- Academia
- Private sector (Insurance, events and tourism, real estate)
- Federal government
- Provincial governments
- Municipal governments
- Member-based associations
- Parks and recreation
- Watershed authorities

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# ALUMNI PROFILE



**Water Rangers** offers a water testing kit available to citizens to enable them to collect water quality data easily and quickly from samples taken from their local watercourses and share this data on an interactive online platform. Water Rangers placed first in the 2015 AquaHacking Challenge.

## AQUAHACKING ALUMNI SUPPORT TO WATER RANGERS:

- Grant-writing support
- Subscribed to the Opportunities in the Water Sector listserv
- Peer-to-peer knowledge sharing
- Speaker opportunities

## IMPACT METRICS IN 2021:

- Doubled annual revenue from previous year
- Doubled number of staff from previous year
- **1,700+** individuals trained on water quality testing
- **9,000+** new data points added to their data platform
- **1,000+** water quality test kits distributed



**Kat Kavanagh**, Co-Founder and Executive Director



“Since my team won the Challenge back in 2015, I refer to the AquaHacking Challenge whenever I can. It’s beneficial to show that I am part of a thriving, supportive network. AquaAction has a great reputation in the water tech and environmental social innovation spaces.”

– Kat Kavanagh

To meet all the AquaHacking Alumni start-ups, visit



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# ALUMNI PROFILE



**O'land Stations** creates smart refill infrastructures to end single-use plastic waste, starting with drinking water and hand washing solutions. O'land's Fill and Wash stations help divert waste from large gatherings such as outdoor events. O'land Stations placed first in the 2019 AquaHacking Challenge.

## AQUAHACKING ALUMNI SUPPORT TO O'LAND STATIONS:

- Visibility opportunities
- Subscribed to the Opportunities in the Water Sector listserv
- Peer-to-peer knowledge sharing
- Speaker opportunities

## IMPACT METRICS IN 2021:

- 126 days of use
- 5 water bottle refill stations deployed
- 71,670 number of plastic bottles diverted from landfill through water refills



Rachel Labbé-Bellas,  
Founder

“Based on my website’s SEO analytics, I learned that AquaHacking social media platforms have brought me significant visibility. Being an AquaHacking Alumni member has helped my company grow locally and has provided me with a source of continual support long after the 2019 Great Lakes Challenge. You don’t find that with other start-up pitch competitions. For early-stage start-ups like mine, that credibility and network aspect cannot be understated. It continues to help us attract new clients, get media opportunities, and spread our impact.”

– Rachel Labbé-Bellas

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# ALUMNI PROFILE



**Ozero Solutions** offers the first washing station that fully decontaminates recreational boats, including internal plumbing, to prevent the spread of invasive aquatic species such as zebra and quagga mussels in lakes and rivers. Ozero Solutions placed first in the 2020 British Columbia AquaHacking Challenge.

“Ever since Ozero Solutions won the British Columbia AquaHacking Challenge in 2020, our project has been continually growing. The seed funding award we received allowed us to develop our prototype, to incorporate our company, and – perhaps most importantly – to create a product ready for market in only a few months.”

– Maxime Guay



Matys Tessier,  
Co-Founder



Olivier Harpin,  
Co-Founder



Olivier Liberge,  
Co-Founder



Benjamin Farley,  
Co-Founder



Maxime Guay,  
Co-Founder



Christophe Morin,  
Co-Founder

### AQUAHACKING ALUMNI SUPPORT TO OZERO SOLUTIONS:

- Mentorship connections
- Visibility opportunities
- Subscribed to the Opportunities in the Water Sector listserv
- Peer-to-peer knowledge sharing
- Speaker opportunities

### IMPACT METRICS IN 2021:

- Decontaminated **547** boats since 2020 from 23 lakes across Quebec
- Secured **\$355k** in sales with municipal clients in first year of operation

To meet all the AquaHacking Alumni start-ups, visit



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## AQUAHACKING ALUMNI IN THE MEDIA

**Water Rangers** (2015)

in **The Narwhal**  
(October 2, 2021)



**Geosapiens** (2018)

in **ICI-Radio Canada**  
(September 17, 2021)



**Poly-Mer** (2017)

in **Journal de Montréal**  
(July 23, 2021)



**CANN Forecast** (2016)

on a panel with Prime Minister Justin  
Trudeau as part of the **SheEO World  
Summit** (March 9, 2021)



**O'land Stations** (2019)

in **The Future Economy**  
(August 18, 2021)



**Ozero Solutions** (2015)

on TV show **Noovo Le Fil Estrie**  
(July 15, 2021)



**WIDE** (2020)

in **Water Canada**  
(January 22, 2021)



**Water Secure** (2015)

interviewed by **Regina District  
Industry Education Council**  
(January 5, 2021)



**LasIR Nutrient Technology** (2020)

in **University of Manitoba Faculty  
of Science Newsletter**  
(17 novembre 2020)



**Blue Lion Labs** (2015)

awarded **Mitacs Entrepreneur Award**  
(June 10, 2021)



To read all the news coverage about AquaHacking Alumni start-ups, visit:



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# AQUAHACKING ALUMNI PROGRAM ACTIVITIES

## Networking 101:

A video resource for AquaHacking Challenge participants

Attending the virtual **ReSurge Documentary Film Festival** hosted by **Water Docs**



# 139

## OPPORTUNITIES TO SUPPORT BUSINESS GROWTH

In 2021, our team identified and shared 139 opportunities to support business growth through the Alumni newsletter.

Webinar:  
**Presenting the BleuImpact Fund**



## Alumni in Action Video Series



WATER RANGERS



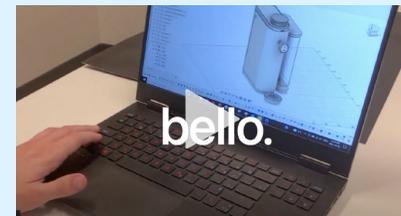
O'LAND STATIONS



OZERO SOLUTIONS



POLY-MER



BELLO SOLUTIONS

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# AQUAENTREPRENEUR



As the AquaHacking Alumni program was launching, like-minded founders with a passion to protect freshwater formed a new community. In 2021, AquaAction launched **AquaEntrepreneur**, an accelerator that identifies emerging companies with water technology solutions at the prototype and validation stages and facilitates pilot projects with end users.

The mission of AquaEntrepreneur is to accelerate the development and deployment of innovative technological solutions to ensure sustainable management of water resources.

These are the three pillars of the program:

**IN-FIELD TESTING:**

Facilitate small-scale deployments of innovative water tech solutions with a two-fold objective: to allow the end-user to assess the economic, environmental, and/or social benefits following installation and to provide feedback to the company to further refine and optimize their product or service offering

**COACHING:**

Match entrepreneurs with mentors to refine their business model, communications and marketing strategies, technical offerings, and more to meet the reality of the targeted end-user and market

**COMMUNICATION:**

Gather feedback and observations from all stakeholders involved in the program to share lessons learned and best practices with broader community



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# AQUAENTREPRENEUR

With funding support from the City of Montréal, the pilot version of the program, AquaEntrepreneur Montréal, was launched in summer 2021 in partnership with IVÉO and will continue until spring 2022.

The program's objective is to facilitate testing opportunities of water tech solutions offered by Montreal-based companies in the municipal sector. Municipalities within the Greater Montreal region are invited to learn about the solutions offered and to consider becoming a testing partner to deploy a pilot version of the water tech solutions, assess outcomes for the city, and to provide feedback to the company.



Three companies were invited to participate in the AquaEntrepreneur Montréal program:



To follow the development of the AquaEntrepreneur program and the AquaEntrepreneur Montréal cohort, visit:



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# AQUA ACTION MEDIA



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**Blaine Favel**, CEO, Kanata Earth, Joins the AquaAction Board, **AquaAction** (August 7)



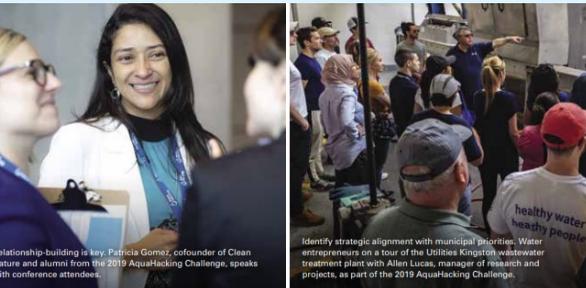
**Refreshing Canada's definition of the blue economy**

**Corporate Knights** Méliissa Dick & Alan Shapiro (March 2021)



**AquaHacking: Putting the fresh in freshwater**

**C2 Montreal**, presented by **RBC** (October 2021)

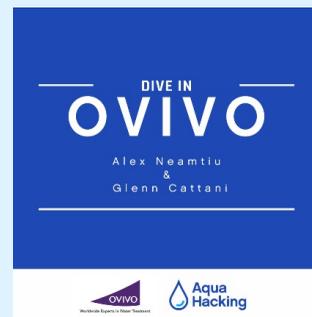


**Tapping the Municipal Market**, Méliissa Dick and Juliette Dufresne, **Water Canada** (May-June Edition)



**A dive into Ovivo's AquaHacking experience**

with Glenn Cattani & Alex Neamtii, **AquaAction**, (January 11)



**Kelowna presence among AquaHacking Challenge finalists**, Barry Gerding, **BC Local News** (May 22)



## OUR VIRTUAL REACH

# 55,254

total pages viewed by our audience  
(increased by 12% over 2020)

# 17,784

people visited the  
AquaHacking website  
(increased by 48.6 % over 2020)

# 15,035

new users reached  
(+28.62% in comparison to 2019)

More specifically:

- ➔ 49.3% women, 50.7% men
- ➔ 55% of the people reached were between 18 and 34 years old
- ➔ 48% from Canada, 17% for USA, 5% from China, 2.8 from Germany & 1.95% from France

# 14,873

## PEOPLE

following AquaHacking through Twitter, Facebook, Instagram, LinkedIn, YouTube & the AquaHacking newsletter



**+37%**

more followers on LinkedIn



**+30%**

more followers on Instagram

In total, this year we reached

# 432,348 HITS

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# OUR TEAM AND PARTNERS

What we achieved in 2021 is another positive step toward restoring freshwater health. We could not have enjoyed this success without the help of many people and partners. Thank you for devoting your time and energy to AquaAction.



## AQUAACTION TEAM



**Kariann Aarup,**  
Executive Director



**Dominique Monchamp,**  
Senior Advisor



**Anne-Pascale Richardson,**  
PhD, AquaHacking  
Program Manager



**Mélissa Dick,**  
AquaEntrepreneur  
and Alumni Program  
Manager



**Laurence Basso,**  
Communications  
Coordinator



**Vittoria De Palma,**  
Controller



**Magdala Francois,**  
Digital Communication  
Officer (Summer  
Internship)



**Nadah Ben-Yedder,**  
Research Support  
Officer (Summer  
Internship)



**Juliette Dufresne,** Project  
Administration Officer  
(Winter Internship)

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# OUR TEAM AND PARTNERS

## AQUAACTION BOARD OF DIRECTORS



**François de Gaspé Beaubien**, Chair, AquaAction, Chair & CCO, Zoom Media



**Nan-B de Gaspé Beaubien**, Co-Founder, Business Families Foundation, Co-Chair and Founder, de Gaspé Beaubien Foundation



**Blaine Favel**, Founder, First Peoples Pipeline, CEO, Kanata Earth, President, Battle River Bison



**Allen Lalonde**, Senior Innovation Executive (retired), IBM



**Barrie Laver**, CPA, CA. ICD.D, Managing Director, RBC, and Head, RBC Capital Partners

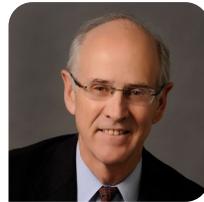


**Mathew Price Gallagher**, President & CEO, Watercluster Scientific



**Pierre-Marc Sarrazin**, President, Corporate Finance and Treasury, Ovivo

## ADVISORY COMMITTEE



**David Ullrich**, Former Executive Director, Great Lakes and St. Lawrence Cities Initiative



**Pierre Beland**, Canadian Chair & Commissioner, International Joint Commission



**Leah Konrady**, CEO, Konrady Plastics Inc.



**Rodney Northey**, Environmental Lawyer & Partner, Gowling WLG Canada



**Rachel Havrelock**, Founder & Director, The UIC Freshwater Lab, University of Illinois at Chicago

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Foundation



Worldwide Experts in Water Treatment



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**AquaAction**

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AquaAction is a registered charity in Canada.

Charitable Reg #: 79 333 5498 RR 001

“Water is essential to life on earth. It sustains us, it connects us, it nourishes us all. AquaAction is here to help everyone find meaningful ways to protect freshwater for future generations.”

– François de Gaspé Beaubien,  
Chair, AquaAction

