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## Innovative technology meets grassroots water monitoring to improve the health of Lake Winnipeg

News  
LWF  
May 16, 2019  
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The May long weekend marks the unofficial beginning of cottage season in Manitoba. As lake-lovers prepare to head out to the lake, the Lake Winnipeg Foundation (LWF), The Gordon Foundation and RBC Foundation are embarking on a new partnership to drive evidence-based water stewardship across the Lake Winnipeg watershed.

This collaborative, three-year project has been made possible with a \$600,000 gift from RBC Foundation.

Leveraging LWF's localized knowledge and community connections, and The Gordon Foundation's technical expertise and innovation, the project aims to generate credible water-quality data from multiple sources to support informed decision-making and collaborative water stewardship.

The [Lake Winnipeg Community-Based Monitoring Network](#) (LWCBMN) mobilizes citizens to collect water samples in order to measure phosphorus concentration. Coordinated by LWF with support from conservation partners and the guidance of LWF science advisors, LWCBMN is identifying phosphorus hotspots across Manitoba. Phosphorus is the nutrient responsible for the potentially toxic blue-green algae blooms that have become an all-too-frequent sight on Lake Winnipeg and other waterbodies.

[DataStream](#) is an open-access, online hub for securely sharing water-quality data. Led nationally by The Gordon Foundation, it was originally built for the Mackenzie Basin in 2016 and has since become a leading platform used by communities, academics, governments and others. In addition to helpful visualization tools and an easy upload process, DataStream uses state-of-the-art blockchain technology, developed in conjunction with RBC, to provide users with a transparent way of verifying that the data they are accessing are authentic.

Launched in March, [Lake Winnipeg DataStream](#) is the newest addition to a growing DataStream network that is now operating in three regions across Canada.

[Interactive with Marlo .jpg](#)



“With the rapid growth of the Lake Winnipeg Community-Based Monitoring Network, citizen science has become indispensable in pointing the way towards solutions for Lake Winnipeg,” says Alexis Kanu, LWF’s executive director. “Now, with Lake Winnipeg DataStream, citizen-generated phosphorus data can be used to support evidence-based policy making so that our actions will have greater impact.”

Historically, across Canada, lack of access to data has created challenges for those working on freshwater protection.

“DataStream is a game-changer, in that it’s making crucial water-quality data available to anyone, anywhere,” says Carolyn DuBois, Water Program Director at The Gordon Foundation. “Having that information is necessary to the development of evidence-based, watershed management policies.”

New technology enables innovative approaches to collaborative freshwater stewardship.

“The environmental challenges we’re facing today are increasing in scope and impact at a faster rate than we’ve historically experienced. At RBC, we believe in the power of innovative technologies like artificial intelligence and blockchain to address and scale solutions to pressing global and local environment issues,” says Kim Ulmer, RBC Regional President Manitoba, Saskatchewan and Northwestern Ontario. “We’re proud to be working alongside the Lake Winnipeg Foundation and The Gordon Foundation to develop real-world solutions that advance the role of new technologies and freshwater protection.”

Water management in the Lake Winnipeg watershed is complex. Phosphorus loading from multiple sources is driving eutrophication in Lake Winnipeg, the world’s 10th largest freshwater lake, negatively affecting the lake’s drinking water quality, fisheries, recreation and tourism industries, property values and ecosystem integrity.

No one agency or organization has the capacity to do it all. Meaningful change requires coordinated efforts across sectors. This project invests in the power of citizen action and the potential of state-of-the-art technology to improve the health of our shared waters.

The Lake Winnipeg Foundation advocates for change and coordinates action to improve the health of Lake Winnipeg. The Gordon Foundation supports research, communication, and collaboration to strengthen citizen engagement in freshwater management, and to drive the development of sound freshwater policy.

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