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Citizen science project is hands-on water stewardship in action

News

LWF

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Gathering on the banks of the Assiniboine River with Lake Winnipeg Foundation (LWF) staff, science advisors and partners on a sunny morning in September, Sustainable Development Minister Cathy Cox participated in a new citizen science project supported by Manitoba's government.

LWF's community-based monitoring (CBM) network is currently focused on monitoring phosphorus levels in water samples. Excess phosphorus is a primary cause of harmful algae blooms which have been increasing in size and frequency on Lake Winnipeg's waters.

CBM provides valuable information that can be used to enrich long-term data sets in the province, measure progress, and inform future water policy and land-management decisions.

"LWF is uniquely positioned to link citizens and science to catalyze action," says Alexis Kanu, LWF's executive director. "We bring together the expertise of our [Science Advisory Council](#), the passion and dedication of our members and volunteers, and the support of our many organizational partners. Thanks to the support of Minister Cox and her department, our CBM project is providing an opportunity for Manitobans to roll up their sleeves and actively participate in advancing evidence-based solutions for our shared waters."



By mobilizing grassroots volunteers, LWF's CBM network represents a cost-effective opportunity to expand Manitoba's collective monitoring capacity. This past summer, the project's pilot field season, LWF's science advisors and community partners developed and tested scientifically rigorous CBM protocols for collection and analysis, and trained citizen scientists on these protocols.

Collected samples were analyzed by LWF advisor Mike Stainton, a career aquatic chemist, with resulting data being analysed and interpreted by Dr. Greg McCullough, a research scientist at the University of Manitoba and another volunteer LWF science advisor. Both McCullough and Stainton provided expertise, guidance and support over the course of the 2016 pilot season.

"Our particular approach to CBM is important in any jurisdiction where there is a need to change land-use practices to better manage the contribution of phosphorus to receiving water," Stainton says. "Knowing that the Red River Valley is the major source of phosphorus entering Lake Winnipeg is informative but it doesn't tell you where you should begin to change things. Some areas matter a lot more than others. Knowing the areas that matter allow scarce resources to be used in a focused way."



The water sample taken by Minister Cox will be added to LWF's CBM data set. Analyzed and interpreted data will be shared back with both community partners and government agencies.

LWF will be expanding Manitoba's CBM network in 2017 by providing portable water-sampling kits and training to schools, conservation districts and individuals. Science Advisory Council members will continue to oversee network activities.

"The inclusion of students and teachers from the First Nation communities around Lake Winnipeg strengthens CBM efforts by connecting youth, educators, traditional knowledge keepers and professional scientists, and bringing this important area of study into the high-school curriculum," says Rudy Subedar of the Red River Science Academy, which works with high-school and post-secondary science students from Manitoba First Nations.

LWF's flagship initiative, the [Lake Winnipeg Health Plan](#), identifies eight sector-specific actions to manage phosphorus loading; CBM falls under [Action 4](#), Monitoring our Waterways. You can read more about Manitoba's CBM network [here](#).

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