

THE WATERSHED OBSERVER

Victoria Beach, Photo: Jeopie Wolfe

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"If you can't see it, you can't solve it."

– Former United Nations Secretary-General Kofi Annan

PRESIDENT'S MESSAGE

For nearly a decade and a half, we have been waiting for the City of Winnipeg to comply with phosphorus limits for effluent from the North End Water Pollution Control Centre (NEWPCC). Levels are currently three times higher than permitted.

For that same decade and a half, we have heard an endless string of reasons – some legitimate – as to why the upgrade hasn't happened. Provincial licence requirements for both nitrogen and phosphorus removal have set the price tag high, leading to debate over the value of nitrogen removal. Facing this high cost, Winnipeg is reluctant to begin construction, particularly given little evidence of cost sharing with other levels of government.

With construction costs inflating at double the national rate, it's now frustrating to learn that the city's current plan postpones phosphorus removal at the north end plant until 2035. This is not acceptable.

Your Lake Winnipeg Foundation has proposed a solution involving a low-cost retrofit to the existing NEWPCC that will meet phosphorus licence requirements without precluding the long-term goal of a full plant upgrade. It's the same technology currently used in major cities around the Great Lakes. You can read about the plan on page 4 of this newsletter.

We have the knowledge to act. To not do so is unconscionable.

In the words of those famous pragmatists Mick Jagger and Keith Richards: "You can't always get what you want – but if you try, sometimes, you get what you need."

– Mike Stainton, LWF President



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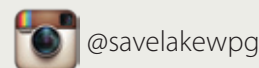
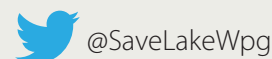
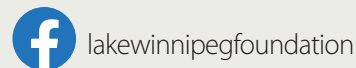
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(l-r) LWF Executive Director Alexis Kanu, Sustainable Development Minister Rochelle Squires, The Gordon Foundation President & CEO Sherry Campbell, Interim President & CEO of the International Institute for Sustainable Development Jane McDonald; Photo: The Gordon Foundation

WATER QUALITY DATA AT YOUR FINGERTIPS

A new online platform will help close the gap between data and decision-making.

Lake Winnipeg DataStream is an open-access, online portal for water-quality data. Led nationally by The Gordon Foundation, Lake Winnipeg DataStream launched in collaboration with LWF on March 20, 2019. Lake Winnipeg's portal is the third in the national DataStream network, pioneered in the Mackenzie River watershed by The Gordon Foundation and the government of the Northwest Territories in 2016.

Advancing LWF's core commitment to open and accessible information, Lake Winnipeg DataStream offers a platform to support strategic collaboration and innovative approaches to water policy and management.

Data sets now accessible online include phosphorus data collected by the Lake Winnipeg Community-Based Monitoring Network, long-term ecological reference data from IISD Experimental Lakes Area, and water-monitoring data from Environment and Climate Change Canada and Manitoba Sustainable Development. Provincial data contributions represent an important step in fulfilling a commitment, made at LWF's request in 2018, to share provincial data online annually.

In today's rapidly changing environment, no one agency or organization has the capacity to do it all. Combining data from government, industry and citizen sources gives us a clearer understanding of our freshwater resources, to support evidence-based decision-making.

Explore more online at lakewinnipegdatastream.ca

FEDERAL AUDIT: INADEQUATE ACTION ON AQUATIC INVASIVE SPECIES

A federal audit found Fisheries and Oceans Canada and the Canada Border Services Agency have not done enough to prevent aquatic invasive species (AIS) from becoming established in Canada.

In the April report, Canada's Commissioner of the Environment and Sustainable Development identified multiple challenges including:

- No systematic approach to assess and monitor AIS threats, or to track spread
- Lack of clarity on federal responsibilities and those of provinces and territories
- Inadequate enforcement of federal AIS regulations

Ineffective intervention to prevent the spread of zebra mussels into Canada at Emerson, Man., the busiest international border crossing in the Prairies, was highlighted as a case study.

The audit makes eight recommendations including: the development of a national AIS database; clarification of federal and provincial roles and responsibilities; a national strategy to allocate resources; and improved training for border services and fishery officers.

Slowing the spread of AIS is our collective responsibility. Be sure to decontaminate boats and water gear before moving between water bodies.

The full report can be found at oag-bvg.gc.ca

TAKE ACTION BY REPORTING ALGAE

Concerned about water quality in your lake? If you see an algae bloom, report it! Let the government know where and when you encountered algae, and upload a photo, at: forms.gov.mb.ca/algae_report

SEWAGE SOLUTION: LAKE WINNIPEG HEALTH PLAN UPDATE

UPGRADING WINNIPEG'S SEWAGE TREATMENT FACILITIES MUST BE A CIVIC PRIORITY

Winnipeg's North End Water Pollution Control Centre (NEWPCC) is the fourth largest phosphorus polluter among all wastewater treatment facilities in Canada and the single largest point source of phosphorus contributing to the growth of algae blooms on Lake Winnipeg.

Upgrades to reduce the NEWPCC's environmental impact have been repeatedly delayed due to disputes over climbing costs and regulatory requirements.

Under its provincial operating licence, the City of Winnipeg must reduce phosphorus in NEWPCC effluent to 1 milligram per litre (mg/L), based on a 30-day rolling average, by Dec. 31, 2019. Earlier this year, both the city and the province acknowledged that it is no longer possible to meet this deadline based on current upgrade plans.

On Feb. 28, 2019, Winnipeg's city council approved a new, three-phased approach to NEWPCC upgrades. The first phase of this plan, addressing the sewage treatment plant's power supply and headworks, is projected to start this year with an approved budget of \$408 million.

However, under this new approach, nutrient removal will not be in place until 2035 and no funding is yet secured. In the meantime, the NEWPCC continues to release 600 kg of phosphorus into the Red River every single day.

In recognition of continued delays, Manitoba Sustainable Development recently asked the city to submit a revised plan

for NEWPCC upgrades. The city's submission is to be received by July 31, 2019, and must include a clear timeline for completion, as well as "interim implementation options to expedite phosphorus removal" in advance of full plant upgrades.

Together with the International Institute for Sustainable Development (IISD), LWF is recommending an interim retrofit to the NEWPCC that would enable the plant to meet its phosphorus limit by the Dec. 31, 2019 deadline.

The proposed retrofit is modelled on methods used in jurisdictions around Lake Erie, where treatment plants regularly meet the 1 mg/L phosphorus limit – with some plants even aiming for a more stringent limit of 0.3 mg/L. These plants use a chemical called ferric chloride to remove phosphorus from the waste stream, preventing its release into receiving water bodies.

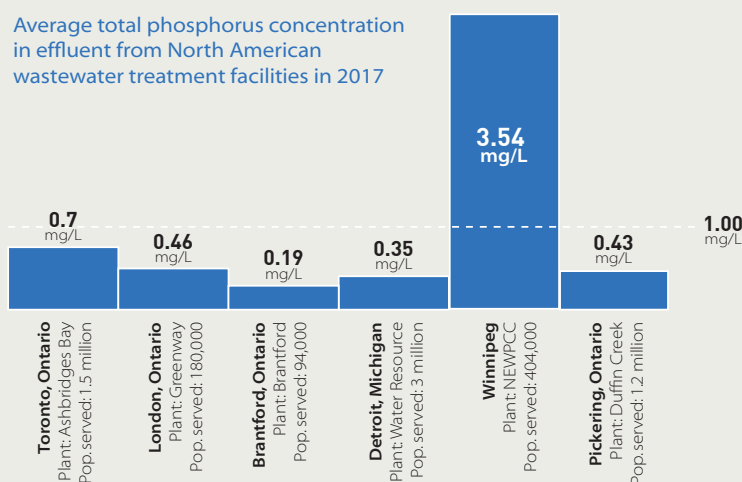
Ferric chloride is already used at the NEWPCC to reduce odour and keep pipes clean. By simply adjusting the timing and dose of this chemical, phosphorus in NEWPCC effluent could be reduced by 70 per cent.

The retrofit is estimated to cost \$5 million to implement. This represents only one per cent of the \$408 million already approved by the city – well within contingencies built into civic construction estimates.

Technically feasible, cost-effective and timely, the NEWPCC retrofit solves a long-standing problem and fulfills our responsibility to protect Lake Winnipeg.

Read the full report online at lakewinnipegfoundation.org

Average total phosphorus concentration in effluent from North American wastewater treatment facilities in 2017



Action 3: Setting the Standard for Wastewater Treatment

The water we use to flush our toilets ends up in Lake Winnipeg. It's our collective responsibility to ensure it's clean when it gets there.

FINDING PHOSPHORUS: LAKE WINNIPEG HEALTH PLAN UPDATE

CITIZEN SCIENCE INFORMS SOLUTIONS

The Lake Winnipeg Community-Based Monitoring Network (LWCBMN), coordinated by LWF with the guidance of our science advisors, is mobilizing citizen volunteers and conservation professionals to collect water samples across Manitoba.

This long-term monitoring program identifies phosphorus hotspots – localized areas that contribute more phosphorus to waterways than other areas.

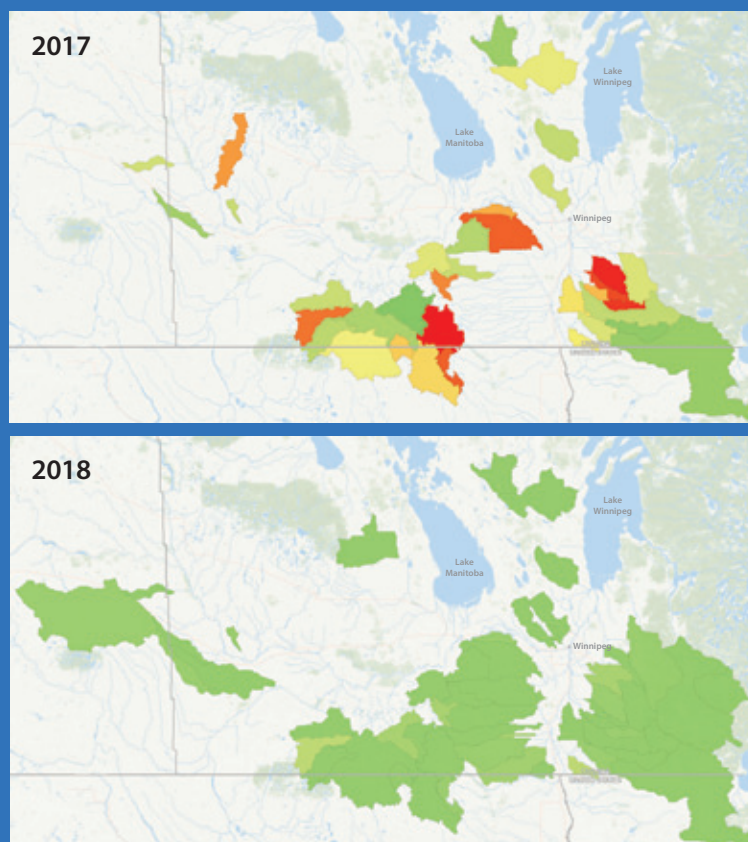
LWCBMN volunteers follow scientific protocols, generating data which are compatible with government monitoring initiatives. The network is nimble, with volunteers able to respond quickly to high-water events like the spring flood or a summer storm, collecting samples at times when most phosphorus is being flushed off the landscape and into the lake.

LWCBMN has grown rapidly. In 2018, 1,000 samples were collected from 101 sites – up from 200 samples collected at 12 sites in 2016.

Another busy LWCBMN field season began with the arrival of the 2019 spring melt. The network is preparing to collect more than 2,500 samples from more than 150 sites in what is expected to be a relatively wet season.

Other plans for 2019 include new partnerships with the Manitoba Metis Federation and additional conservation districts, and further expansion into the Winnipeg River system. LWCBMN monitoring protocols will also be used to evaluate water-retention projects and other beneficial management practices on Manitoba farms.

Interested in volunteering with LWCBMN?
Contact chelsea@lakewinnipegfoundation.org

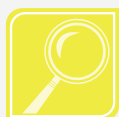


Phosphorus exports (kg/ha/yr) from LWCBMN sites sampled in 2017 (top) and 2018. Data confirm the existence of phosphorus hotspots and highlight the importance of water flow, which drives phosphorus export in hotspot regions.

LWCBMN water samples are analyzed at Agriculture and Agri-Food Canada's Morden Research and Development Centre to measure phosphorus concentration and calculate phosphorus exports from various sub-watersheds.

Citizen-generated data provide valuable insight into how to reduce algae blooms. For example, in contrast to 2017, 2018 was very dry in southern Manitoba, with low phosphorus exports across all sampling sites. This finding emphasizes the role of water flow in driving phosphorus loading to Lake Winnipeg – and suggests that phosphorus hotspots can be managed by replicating dry conditions using natural wetlands, constructed ponds and dams to retain water.

LWF is excited to be at the forefront of citizen science efforts that inform practical solutions for local water management.



Action 4: Monitoring Our Waterways

To take effective action to reduce phosphorus loading, we must understand how, when and from where phosphorus is reaching Lake Winnipeg.

SHARING STORIES



Daniel at Manitou Api; Photo: Alexis Kanu

Daniel Gladu Kanu is Anishinaabe, Metis and Irish. A member of Animakee Wa Zhing (Northwest Angle 37) First Nation, he has worked for the past 10 years to advance the protection of lands and waters through Indigenous self-determination. He is the Director of the Lake Winnipeg Indigenous Collective.

My grandma and her brother were born at Hungry Hall Reserve, where the Rainy River meets Lake of the Woods. As children, they were separated by residential school and would never return home.

As a young woman, my grandma lived in Winnipeg. After their wedding, she and my grandfather moved to one of the many small rocky islands on Rainy Lake, where she was reunited with her brother. My grandparents eventually built a home in the nearby town of Fort Frances, Ont., to raise their 10 children.

It was here on the shores of Rainy Lake and into that loving home that I was born. I remember swimming under the watchful eye of my grandmother, pulling walleye and northerns from under the ice, feeling the rough waves under our boat and the cold water spraying into our faces. Rainy Lake flows into the boundary river to Lake of the Woods, over the now-flooded lands of Hungry Hall, and onward towards Lake Winnipeg.

My father brought me to Winnipeg – the big city – in grade school, but every year I return to the lakes of my childhood. The highlight of my summers continues to be the annual canoe trip with my family. It was on one of these trips that I was first inspired to dedicate myself to protecting the waters that have always been home to our ancestors.

After university, I worked for the Centre for Indigenous Environmental Resources. I put my knowledge and skills to use where I could – raising awareness about First Nation environmental issues, supporting water monitoring and conducting field surveys. I had the privilege of sitting with

elders and First Nation leaders who shared teachings about respect for the land and living in relation to all beings around us. I also saw that their knowledge was too often ignored by decision-makers, even though these were the people whose grandchildren would suffer the greatest consequences of inaction and disrespect.

I joined the Lake Winnipeg Indigenous Collective in October, 2018. Many of the same leaders and elders who had influenced me in the past have joined the collective, which is focused on placing Indigenous knowledge and perspectives at the centre of governance and decision-making for Lake Winnipeg.

This spring, the collective gathered in Winnipeg under the theme of renewal. Together on the banks of the Assiniboine River, we held a ceremony of gratitude. We identified the need to support youth to rise up and take responsibility for water. We spoke of mentorship, and passing on knowledge, language and teachings. Together, as elders, youth, women and men, we will protect the lakes and waters that our people have always called home.

By Daniel Gladu Kanu, Director
Lake Winnipeg Indigenous Collective

SUPPORTER SPOTLIGHT

CITIZEN SCIENTISTS CELEBRATED IN MANITOBA LEGISLATURE



Infrastructure Minister Ron Schuler (centre) with LWCBMN citizen scientists and LWF staff; Photo: Marlo Campbell

This spring, citizen scientists with the Lake Winnipeg Community-Based Monitoring Network (LWCBMN) received provincial recognition – and a standing ovation – when

Minister of Infrastructure Ron Schuler commended their efforts in a private member's statement delivered to the Legislative Assembly of Manitoba.

Forty-two citizens and three schools now volunteer with the network, collecting water samples across Manitoba.

Danica Racicot started volunteering with LWCBMN in 2017 and currently samples at several sites along Cooks Creek.

"It's the least intimidating but most rewarding activity you could do for yourself, your community and the water bodies in our province," she says. "It allows you to feel a part of a bigger cause that is going to make a difference – and being a citizen scientist is as cool and important as it sounds!"

Congratulations to these dedicated citizen scientists on their well-deserved honour!

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