

# LAKE WINNIPEG FOUNDATION

Submission to the House of Commons Standing  
Committee on Environment and Sustainable  
Development: Study on Freshwater



Beaver Creek Photo: Paul Murch

May, 2021



## **Lake Winnipeg's health is a national priority**

At the centre of Canada, Lake Winnipeg is the world's 10<sup>th</sup> largest freshwater lake, recognized nationally and internationally for its ecologically and culturally important habitats. While the lake is situated within the province of Manitoba, its watershed of nearly one million square kilometers draws water from four provinces, four states and hundreds of Indigenous nations.

Over the past century, peoples around Lake Winnipeg have witnessed a concerning decline in the lake's health. Eutrophication – the over-fertilization of freshwater ecosystems with the nutrient phosphorus – is causing increasingly frequent and severe algal blooms that negatively impact water quality and drinking water, recreation and tourism, subsistence and commercial fisheries, lakeshore economies and ecosystem integrity. The impacts of eutrophication are exacerbated as climate change adds further pressure to the system.

Improving the health of Lake Winnipeg is a well-established national priority, acknowledged through the policy priorities, funding programs, mandate letters, and throne speeches of successive federal governments.

## **The Lake Winnipeg Foundation's work is guided by federal water science**

The Lake Winnipeg Foundation (LWF) advocates for change and co-ordinates action to improve the health of Lake Winnipeg, now and for future generations. LWF's flagship initiative, the Lake Winnipeg Health Plan, identifies eight evidence-based actions to reduce phosphorus loading to the lake – providing a blueprint for cost-effective, results-focused action to improve Lake Winnipeg's water quality. Our goal is to ensure policy and practices informed by evidence are implemented and enforced.

LWF's phosphorus-reduction initiatives are soundly based in five decades of whole-ecosystem research at the Experimental Lakes Area (ELA) in Northwestern Ontario.<sup>1</sup> Established in 1969 by Fisheries and Oceans Canada, this research facility was specifically mandated to identify the causes and consequences of freshwater eutrophication, prompted by bi-national concerns about declining water quality in the Laurentian Great Lakes.

ELA's research continues to guide federal efforts to address eutrophication across the country, including Environment and Climate Change Canada's ongoing regional initiatives to improve water quality in the Great Lakes, Lake of the Woods, and Lake Winnipeg.

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<sup>1</sup> Management of ELA was transferred to the International Institute for Sustainable Development in 2014 and the research facility is now known as [IISD-Experimental Lakes Area](#).

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## Environment and Climate Change Canada’s Lake Winnipeg Basin Program

Since 2008, the Canadian government has made dedicated financial investments to address the eutrophication of Lake Winnipeg through the Lake Winnipeg Basin Program, led by Environment and Climate Change Canada (ECCC).

This regional water-quality program, like others led by ECCC across the country (e.g. Great Lakes Protection Initiative, Atlantic Ecosystems Initiative, St. Lawrence Community Interaction Program), fall clearly under that department’s mandate for water and for “the preservation and enhancement of the quality of the natural environment, including water, air and soil quality.”<sup>2</sup> These regional programs have, over decades, been continuously and collaboratively refined and strengthened to effectively link community water concerns and federal policy priorities.

Federal investment through the Lake Winnipeg Basin Program has enabled both stakeholder-led phosphorus-reduction initiatives, as well as ongoing federal research, monitoring and intergovernmental collaboration to improve Lake Winnipeg water quality.

The Lake Winnipeg Basin Program’s scientific priorities include:

- 1) Reporting on progress towards restoring a healthy lake;
- 2) Monitoring to assess status and track change;
- 3) Research on nutrient sources and transport pathways to the lake; and
- 4) Research on lake ecosystem components to achieve a sustainable nutrient balance.

In addition to supporting federal science, the program provides funding for stakeholder projects that achieve:

- 1) Nutrient reduction;
- 2) Collaborative governance; and
- 3) Indigenous engagement.

These priorities align very strongly with both the water-quality challenges experienced by peoples around Lake Winnipeg and with LWF’s efforts to achieve meaningful reduction in phosphorus loading through the evidence-based actions of the Lake Winnipeg Health Plan.

To this end, LWF currently receives funding from the Lake Winnipeg Basin Program to support the Lake Winnipeg Community-Based Monitoring Network, which monitors phosphorus loading throughout the Lake Winnipeg watershed.

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<sup>2</sup> [Department of the Environment Act](#), 1985

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## The Lake Winnipeg Community-Based Monitoring Network

For decades, efforts to address the eutrophication of Lake Winnipeg have lacked the high-resolution phosphorus data needed to target remedial action directly to phosphorus sources within the lake's large watershed. The Lake Winnipeg Community-Based Monitoring Network (LWCBMN) is a collaborative, long-term monitoring program designed to identify localized phosphorus hotspots where action is required to improve Lake Winnipeg water quality.<sup>3</sup>

Leveraging the expertise of the Lake Winnipeg Foundation's Science Advisory Council and the commitment of volunteer citizen scientists, LWCBMN collects frequent water samples to measure phosphorus concentration at many, widely dispersed sampling sites across the watershed. Sampling efforts are responsive to snowmelt, spring floods and summer storms, when heavy runoff flushes phosphorus off the land. Phosphorus concentration data derived from LWCBMN samples is analyzed with water flow data from the Water Survey of Canada's National Hydrometric Network and with drainage area delineated by Agriculture and Agri-Food Canada to determine phosphorus exports – the amount of phosphorus exported from each hectare of land in a year. Phosphorus exports are compared across different drainage areas within the larger watershed to identify phosphorus hotspots – localized areas contributing higher amounts of phosphorus to Lake Winnipeg tributaries.

LWCBMN builds on existing ECCC research<sup>4</sup> to create a robust, continuous data set that enables geographic targeting of phosphorus-reduction efforts. While ECCC currently funds LWCBMN activities through the Lake Winnipeg Basin Program, there remains a conspicuous gap in data use. The full potential of LWCBMN must be realized through integration of LWCBMN data back into ECCC decision-making, completing the full data-to-impact cycle.

With data shared openly through Lake Winnipeg DataStream,<sup>5</sup> LWCBMN provides the evidence base necessary to ensure federally funded projects generate results and make effective use of public resources. Upon renewal in Budget 2022, ECCC's Lake Winnipeg Basin Program must explicitly recognize LWCBMN as a critical data source for effective water management in the Lake Winnipeg basin, and use these data to allocate phosphorus-reduction funding to known phosphorus hotspots (Figure 1). Evaluation of ECCC-funded projects will further be supported by ongoing, long-term use of LWCBMN data to track collective progress towards shared water-quality goals across the larger watershed.

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<sup>3</sup> Lake Winnipeg Foundation, 2019. [Lake Winnipeg Community-Based Monitoring Network Report](#).

<sup>4</sup> Rattan, K.J., Corriveau, J.C., Brua, R.B., Culp, J.M., Yates, A.G., & Chambers, P.A., 2017. Quantifying seasonal variation in total phosphorus and nitrogen from prairie streams in the Red River Basin, Manitoba, Canada. *Science of the Total Environment*. 575, 649-659.

<sup>5</sup> The Gordon Foundation, 2020. [Lake Winnipeg DataStream](#).



Figure 1. Lake Winnipeg Community-Based Monitoring Network data is integrated into ECCC’s Lake Winnipeg Basin Program decision-making, completing the data-to-impact cycle.

### The data to impact cycle: a reciprocal role for ECCC

There is considerable risk inherent in the view that the federal government acts solely as a provider of freshwater data to other stakeholders. This unilateral perspective on the federal role overlooks critical information generated through community-based monitoring, which often fills data gaps not addressed by government monitoring programs. The community concerns that drive citizen monitoring programs are almost always well aligned with ECCC’s regional water programs and policy objectives. To fulfill its responsibility for water and strengthen its own evidence-based decision-making, ECCC must identify, integrate and use relevant data from diverse, credible sources.

## **There are no shortcuts to healthy water**

It is undeniable that freshwater management in Canada is inherently complex, unique across the diverse regions of our country, and further complicated by the urgent need to address climate change, advance reconciliation, and improve collaboration within our cooperative federalist system. There is no simple silver bullet that can easily address all the complicated issues we face.

Improving the health of Lake Winnipeg – and addressing the myriad other regional water concerns across the country – certainly requires collaboration, commitment and ingenuity. Finding agreement between competing interests is hard work. Effective solutions require continuous evaluation and adaptation. Turning policy into practice is never a simple task.

But a new Canada Water Agency provides no guarantee that any of this hard work will be easier. In fact, the very act of launching a new agency might itself be detrimental, drawing time, energy and funding away from the very real efforts of existing departments working on the ground, across the country, to protect Canada’s fresh water. Instead of starting over, the federal government must commit to fulfilling existing departmental mandates, strengthening established programs, and providing the resources necessary to ensure that federal water policies are evidence-based and effective.<sup>6</sup>

If a new water agency is to be established, the justification for its development must be clear, focused, and not redundant with existing federal mandates and functions.

## **A clear and focused purpose: building nation-to-nation water relationships**

Canada cannot justifiably position itself as a water leader on the international stage when there remain First Nations across the country that still do not have access to potable water in their homes and communities. The ongoing exclusion of Indigenous peoples from water governance processes undermines the federal government’s own leadership.

To fulfill its treaty responsibilities, to meaningfully implement the United Nations Declaration on the Rights of Indigenous Peoples<sup>7</sup>, and to succeed in keeping water safe, clean and well-managed, the federal government must recognize Indigenous jurisdiction and make space for Indigenous knowledge, law and governance to guide public policy for water protection.

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<sup>6</sup> Lake Winnipeg Foundation & Lake Winnipeg Indigenous Collective, 2020. [Five Things the Federal Government Must Do for Lake Winnipeg.](#)

<sup>7</sup> United Nations, 2007. [United Nations Declaration on the Rights of Indigenous Peoples.](#)

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To date, proposals for the Canada Water Agency have lacked a clear and compelling purpose that distinguishes the new agency from existing federal efforts. As presented so far, the proposed Canada Water Agency most notably falls short of effectively fulfilling the federal government's commitment to affirm nation-to-nation relationships with Indigenous governments and to recognize the knowledge and uphold the rights of Indigenous peoples.

Indigenous peoples have lived on the shores of Lake Winnipeg since its formation, walking with the waters as they receded from the massive glacial Lake Agassiz. Generations of peoples survived by observing and listening to the land. Those observations developed into unique and complex systems of Indigenous knowledge, passed to each successive generation through oral traditions. These traditions, rooted in survival and reciprocity, are evident in the resilience of the Anishinaabe, Dakota and Nehiyaw peoples who continue to maintain their relationships with the land and Lake Winnipeg. As with written knowledge systems, rigorous and well-maintained processes are critical to generate, verify, and share Indigenous knowledge. Knowledge holders' ceremonies and protocols require many years of practice and strict adherence to maintain the integrity of Indigenous knowledge. In this way, the understanding of how to live on and protect the lands and waters is a meticulous and deliberate act, and not an accident.

The establishment of a new water agency provides a unique opportunity for Canada's federal crown government to unambiguously recognize Indigenous authority and redress the severe deficit in government support provided to Indigenous systems of knowledge. Just as scientists require resources to gather and synthesize the data that inform water policy, so too do Indigenous knowledge holders. Science enjoys billions of dollars in funding from the federal government, with hundreds of supporting institutions and thousands of positions contributing to the development and dissemination of information to students and the broader public. We call on the federal government to begin redressing the severe lack of balance in supports provided to Indigenous systems of knowledge and governance.

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## Indigenous leadership is needed to achieve shared goals

The Lake Winnipeg Foundation recommends that the new water agency be established as an Indigenous-led agency, informed by Indigenous knowledge and law, and properly resourced to enable Indigenous knowledge holders and decision-makers to freely conduct ceremonies, generate and share knowledge across generations, shape public policy processes, and lead stewardship efforts for the land and waters. Indeed, we submit that it is not possible to achieve the federal government's goal of keeping water clean, safe and well-managed without Indigenous leadership. To date, exclusive reliance on economic motivations and scientific research to inform water decision-making has hindered our capacity to effectively address chronic and pervasive ecological challenges. We need additional tools, systems and approaches to assess and understand change in Lake Winnipeg, and in freshwater ecosystems across the country.

Water governance in Canada must explicitly acknowledge Indigenous jurisdiction and self-determination. In 1996, the Report of the Royal Commission on Aboriginal Peoples (RCAP) made clear that Indigenous nations "are entitled to control matters important to their nations without intrusive interference. This authority is not something bestowed by other governments. It is inherent in their identity as peoples. But to be fully effective, their authority must be recognized by other governments."

Before Canada's federal government seeks a role on the world stage, it must do better at listening to, learning from, and supporting the solutions identified by the myriad Indigenous nations within its own borders. As stated in Bill C-15,<sup>8</sup> the Government of Canada rejects all forms of colonialism and is committed to advancing relations with Indigenous peoples. An Indigenous-led water agency represents an important first opportunity to implement the United Nations Declaration on the Rights of Indigenous Peoples.

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<sup>8</sup> [Bill C-15: An Act respecting the United Nations Declaration on the Rights of Indigenous Peoples](#), 2020.



## Summary of recommendations

The government of Canada should:

- 1) **Maintain, renew and continue to improve existing ECCC regional water-quality programs** (e.g. Lake Winnipeg Basin Program, Great Lakes Protection Initiative, Atlantic Ecosystems Initiative, St. Lawrence Community Interaction Program) to fulfill the department’s long-standing mandate for water protection, while ensuring alignment between community water concerns and federal policy priorities;
- 2) **Integrate and use community-based monitoring data in ECCC decision-making processes**, completing the data-to-impact cycle in order to realize the full potential of existing regional community-based monitoring programs like the Lake Winnipeg Community-Based Monitoring Program;
- 3) **Ensure that the very real, ongoing efforts of existing federal departments to protect Canada’s freshwater are not undermined, delayed, diminished or duplicated** by future efforts and investments to establish any new federal agency;
- 4) **Support the establishment of an Indigenous-led water agency that affirms Indigenous jurisdiction and self-determination, is guided by Indigenous knowledge and law, and is properly resourced to shape public policy and lead water stewardship efforts** – ultimately recognizing water governance as a first important opportunity to implement the United Nations Declaration on the Rights of Indigenous Peoples.

*The Lake Winnipeg Foundation (LWF) advocates for change and co-ordinates action to improve the health of Lake Winnipeg, now and for future generations. Combining the expertise of our Science Advisory Council and the commitment of our members, LWF is nationally recognized for our unique capacity to link science and action. Our goal is to ensure policy and practices informed by evidence are implemented and enforced.*

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