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Overview

Lake Winnipeg Basin Initiative

Lake Winnipeg is the tenth largest freshwater lake in the world and the sixth largest in Canada. The Lake Winnipeg watershed covers almost a million square kilometres, encompassing four provinces and four U.S. states. Water quality has deteriorated in the lake due to multiple sources of excessive nutrients (phosphorus and nitrogen) that have increased the frequency and magnitude of algal blooms, including blue-green algae.

In August 2012, Phase II of the Lake Winnipeg Basin Initiative (LWBI) was launched with a 5-year (2012–2017), \$18-million investment. Phase II will focus on engaging citizens, scientists, and domestic and international partners in actions to restore the ecological health of Lake Winnipeg, reduce domestic and transboundary pollution, and improve water quality for fisheries and recreation.

Phase II (2012–2017) of the LWBI will increase support to community stewardship projects that will reduce nutrients and pollution in the geographic areas known to have the most influence on water quality in Lake Winnipeg. Scientific research and monitoring will shift from lake-based to land-based activities that assess the effects of humans in the watershed and monitor any progress made. Transboundary partnership efforts will emphasize collaborative work with other governments within the watershed to ensure sources of nutrients outside Manitoba are also being addressed.

Near-term expected outcomes of the LWBI include increased nutrient management, research on tracking ecosystem health, and the engagement of domestic and international governments in improved nutrient management efforts.

Longer-term outcomes remain the restoration of the ecological integrity of Lake Winnipeg, a reduction in the magnitude and extent of harmful algal blooms, fewer beach closures, improved water quality for recreation, and a sustainable fishery.

The renewal of the stewardship, science and transboundary partnership pillars of the LWBI builds on the 5-year (2007–2012), \$18-million investment of Phase I of the initiative. Work is currently underway on the three pillars of the LWBI.



Stewardship

The Lake Winnipeg Basin Stewardship Fund (LWBSF) provides financial support to high-impact, community-driven stewardship projects aimed at reducing nutrient loading within the Lake Winnipeg basin. The LWBSF employs a two-stage process: a call for Letters of Intent is issued, followed by an invitation to submit a proposal for eligible Letters of Intent. Proposals are then submitted for technical review by advisors across federal and provincial government departments. A public advisory committee, comprised of basin stakeholders, also reviews the proposals and related technical evaluations, and develops funding recommendations to the Minister of the Environment.

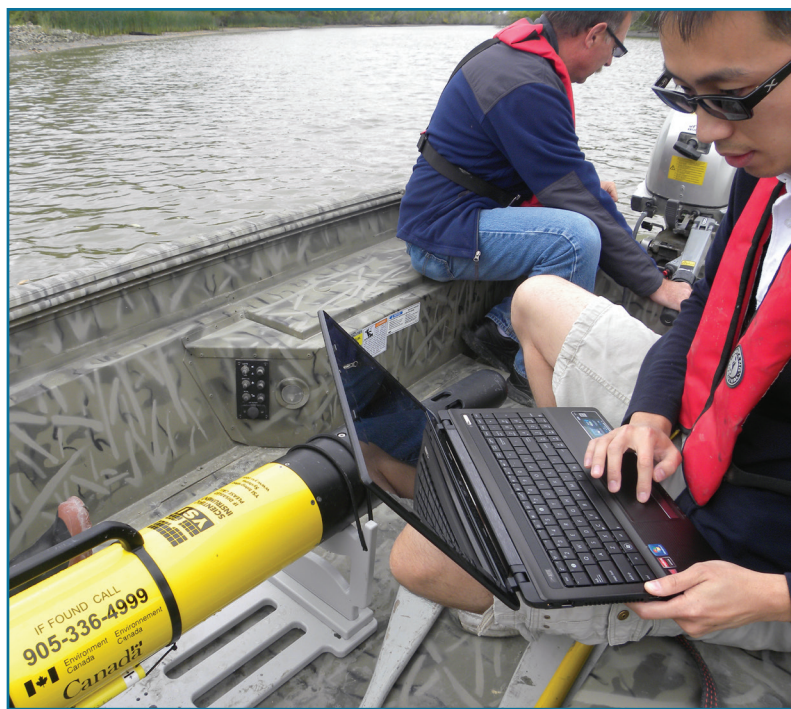
In Phase I, the LWBSF provided \$2.4 million to support 41 projects throughout the basin. Under Phase II, a heightened focus will be placed on physical stewardship projects that demonstrate tangible nutrient reductions in areas known to be significant sources of nutrient loading to Lake Winnipeg. Information on the LWBSF, including eligibility criteria and funded projects, is available online.

The LWBSF also provides additional funding to the Lake Winnipeg Research Consortium's MV *Namao* research vessel and the University of Manitoba's Lake Winnipeg Basin Initiative Information Portal (<http://lwbi.cc.umanitoba.ca>).

Science

Under Phase I of the LWBI, a science plan for the lake and its basin was implemented to better understand the gaps related to ecology and nutrient cycling, and the sources and transport mechanisms for nutrients. The science plan for Phase II of the LWBI includes further monitoring and research to fill priority knowledge gaps in science, finding ways to measure results, and assessing the effectiveness of efforts to clean up the lake. Several projects are currently underway to study the fate and effects of nutrients originating from agricultural activities, especially in the Red-Assiniboine sub-watershed. Modelling of possible methods to manage nutrients in the basin and Lake Winnipeg is also occurring alongside transboundary monitoring of the lake's biology and water quality.

Environment Canada and other federal and provincial partners are developing watershed nutrient loading estimates and nutrient concentration measurements, tracking or “finger-printing” the sources of land-based nutrients, and analyzing micro-toxins and algal bloom trends in Lake Winnipeg. Scientists are also examining the role of hydrology and climate on nutrient loading, analyzing nutrient change and identifying best practices for nutrient management. In addition, they are measuring the nutrients retained in dams and reservoirs, and are updating the Lake Winnipeg Basin Initiative Information Portal.



Transboundary Partnerships

The third pillar of the LWBI emphasizes collaborative work with other governments (provincial, state, federal) and organizations within the Lake Winnipeg transboundary watershed. Domestic and international water management boards play a key role in managing nutrients in the Lake Winnipeg basin. Environment Canada participates on a number of water science and water management boards to facilitate coordination of efforts across the watershed and to help address nutrient loading originating from outside of Manitoba's jurisdiction.

The five-year Canada–Manitoba Memorandum of Understanding Respecting Lake Winnipeg

and the Lake Winnipeg Basin was signed in September 2010. The Memorandum of Understanding (MOU) formalizes the commitment of both governments to a long-term, collaborative and coordinated approach to support the sustainability and health of the Lake Winnipeg basin. A steering committee has been in place since 2010 and will continue to oversee implementation of the MOU, and provide oversight for the development of formalized activities in support of the MOU.

Further information regarding the Lake Winnipeg Basin Initiative may be found online at:

www.ec.gc.ca/water



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