



## Overview of the 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 spans almost one million km<sup>2</sup>, and includes four provinces and four U.S. states. Water quality has deteriorated in the lake due to excessive nutrients (nitrogen and phosphorous) that have increased the frequency and magnitude of algal blooms, including blue-green algae.

In February 2008, Environment Canada received approval from Treasury Board for funding of \$17.7M over a four-year period for the Lake Winnipeg Basin Initiative (LWBI), part of Canada's \$96.9M Action Plan for Clean Water. The LWBI was developed partly in response to Manitoba's request for federal support in meeting research, information and monitoring needs, and to facilitate governance and cooperation throughout this vast, transboundary watershed.

Work is now underway on the three components of the LWBI: \$12.1M to conduct a science (research/information/monitoring) program; \$3.6M to develop and administer a Lake Winnipeg Basin Stewardship Fund; and \$1.9M to facilitate governance.

### Research, Information and Monitoring

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In order to improve the health of Lake Winnipeg, a sound scientific base of knowledge is first required, to determine what, and how much, action is needed. As a result, the major focus of the LWBI has been to bring the Government of Canada's freshwater science and monitoring expertise to bear on the nutrient issues facing the lake and the watershed. This work is a necessary prerequisite in order to determine the appropriate measures needed to reduce nutrient loading into the lake, and to evaluate if such measures are effective in improving the health of Lake Winnipeg.

A science plan for the Lake Winnipeg Basin has been developed to understand the gaps related to ecology and nutrient cycling, and the sources and transport mechanisms for nutrients. Twenty-four research, monitoring and information management projects and activities are currently underway on Lake Winnipeg and major sub-basins, including the Red-Assiniboine and Winnipeg rivers, and Lake of the Woods.



Sequential sediment trap is deployed from the deck of the MV Namao.  
Photo Credit: Todd Breedon.  
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Edge of field monitoring for nutrient runoff.  
Photo Credit: Julie Corriveau.  
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Activities underway by Environment Canada and other federal and provincial partners cover a wide range of topics and study areas, such as nutrient dynamics; sediment surveys; dissolved oxygen studies; stable isotope analyses to fingerprint nutrients; food web analyses; remote sensing; water quality, climate and hydrodynamic modeling; water quality and biological monitoring throughout the watershed; review of monitoring networks to optimize location, timing and sampling protocols amongst agencies; assessment of agricultural beneficial management practices for nutrient reduction; research on valuation of ecological goods and services; and development of a web-based Lake Winnipeg information portal.

## Stewardship

The second pillar of the LWBI is the Lake Winnipeg Basin Stewardship Fund, providing funding support for cost-shared projects to reduce nutrients. In the first four rounds of the Fund, \$2.1M was approved for 37 projects. Round 5 is currently underway.

Projects are based throughout Manitoba, Ontario, Saskatchewan and Alberta, and encompass agricultural beneficial management practices, wetland and riparian restoration, and demonstration projects related to nutrient abatement.

Technical advisors from a number of federal and provincial agencies provide advice on the feasibility of proposals received. A public advisory committee, comprised of representatives from key stakeholder groups within the Lake Winnipeg Basin, provides funding recommendations to the Minister of the Environment concerning the stewardship projects.



Lake-friendly project by South Basin Reeves and Mayors.  
Photo Credit: L. Remillard.  
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## Facilitating Governance



Activities are ongoing to facilitate governance in the watershed, the third pillar of the LWBI.

A five-year *Canada-Manitoba Memorandum of Understanding Respecting Lake Winnipeg and the Lake Winnipeg Basin* was signed in September 2010. The 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. An MOU steering committee has been established to oversee implementation of the MOU, and to provide oversight for the development of subsidiary arrangements in support of the MOU.

Environment Canada also participates on a number of other water science and governance mechanisms to facilitate co-ordination of government and stakeholder efforts across the watershed.

Visit [www.ec.gc.ca/doc/eau-water/winnipeg\\_e.html](http://www.ec.gc.ca/doc/eau-water/winnipeg_e.html)  
for more information about the Lake Winnipeg Basin Initiative