

The River Current

Spring 2007



Our Mission: Promoting watershed sustainability through awareness, linkages and stewardship.

Lake Winnipeg Research - Where does our water go?

Prepared by Sharon Gurney, Manitoba Water Stewardship

Lake Winnipeg is the 10th largest body of freshwater in the world, by surface area. The lake has the second largest watershed in Canada, covering parts of four provinces and four American states. Lake Winnipeg's watershed is home to 5.5 million people, and at least 20 million livestock. The lake is considered relatively shallow, averaging 12 metres in depth. Inflow to the lake is dominated by the Winnipeg, Saskatchewan and Red river watersheds.

Lake Winnipeg has immense intrinsic and economic value. There are 30 communities located along the shores of Lake Winnipeg, including 11 First Nation communities. These 11 communities rely heavily on Lake Winnipeg and its surrounding lands for their livelihood, sustenance, and traditional activities. The beaches and parks located around its shoreline attract hundreds of thousands of visitors annually. Lake Winnipeg is also Manitoba Hydro's largest and most important reservoir, providing 75 percent of its generating capacity. A number of communities depend on the lake for their source of drinking water. The lake supports a vibrant commercial and sports fishery.

The health of Lake Winnipeg is a reflection of human presence on the landscape. Human activities throughout the watershed have resulted in an increase amount of plant nutrients phosphorus and nitrogen reaching the lake. Although it is believed that algal blooms have always been a part of Lake Winnipeg's history, recent evidence points to an increase in the frequency and severity of algal blooms in the lake. This has led to impacts such as reduced recreational appeal, degraded aquatic habitat, drinking water treatment challenges and clogging of commercial fishers nets. Nutrients such as phosphorus and nitrogen fuel the growth of algae and originate from a large number of sources including industrial and municipal wastewater effluents, runoff from agricultural and urban landscapes, and the use of phosphorus based detergents and cleaning products. The lake also receives significant amounts of nutrients from natural sources including atmospheric deposition.



Studies conducted by Manitoba Water Stewardship have demonstrated that at the majority of long-term water quality monitoring stations on rivers across southern Manitoba, nitrogen and phosphorus concentrations have increased over the past 30 years. In particular, loads of nitrogen and phosphorus to Lake Winnipeg have increased by about 13 and 10 % respectively since the early 1970s.

The Province of Manitoba initiated a long-term water quality monitoring program on Lake Winnipeg in 1999 and focuses on 12 main stations across the lake. Samples are collected three times in the open water season and once during ice cover. Over 100 variables are analyzed including general chemistry, nutrients, metals, pesticides, temperature, light, and phytoplankton community composition. Additional samples from up to 70 stations across the lake are also collected as time and weather permits. The Province also maintains a long-term water quality monitoring network on the tributaries to Lake Winnipeg. Data collected from the long-term network are used to determine trends and the amount of nutrient load delivered to Lake Winnipeg.

One of the primary research objectives for Lake Winnipeg is to develop ecologically-relevant water quality objectives for Lake Winnipeg to replace the interim nutrient targets identified in the Lake Winnipeg Action Plan. Research on Lake Winnipeg is being coordinated through the Lake Winnipeg Research Consortium (LWRC). The Consortium was founded in August 1998 to facilitate scientific research on Lake Winnipeg. Membership in the LWRC has grown to 27 agencies representing various government and university departments, and corporate and stakeholder group. For more information visit www.manitoba.ca/lakewinnipeg and <http://www.lakewinnipegresearch.org>.



Reducing Nutrient loading to Lake Winnipeg and its Watershed – Our Collective Responsibility and Commitment to Action

By Bill Barlow – Chair, Lake Winnipeg Stewardship Board, and

Sharon Gurney – Technical Secretariat for the Lake Winnipeg Stewardship Board, Manitoba Water Stewardship



The Lake Winnipeg Stewardship Board was formed in July, 2003 as one of the initial steps in the Manitoba Government's Lake Winnipeg Action Plan announced earlier that year. The Lake Winnipeg Action Plan is a commitment to reduce nutrient loading to Lake Winnipeg to those levels observed in the late 1970s - about 10%. Charged with making recommendations to government about how that target could be met, the Lake Winnipeg Stewardship Board included individuals representing a wide range of watershed interests such as agriculture, fisheries, municipal and local governments, First Nations, university research, and Manitoba Hydro.

There is an urgency surrounding the need for action. Algal blooms on Lake Winnipeg continue to increase in frequency, duration, and intensity, an ominous sign that the lake is not well. Unless action is taken throughout the watershed now, the impacts of nutrient loading to the lake will increase. Although those who live and fish on the lake have been aware of the deteriorating water quality for some time, most people, communities, and governments in the watershed are not aware of the water quality problems facing Lake Winnipeg. Developing a watershed-wide understanding of what needs to be done to solve these problems is paramount. Not enough is happening in the watershed that might first initiate a slow-down, and secondly a reduction, of nutrient loading to the lake to restore the health of Lake Winnipeg. The Board feels strongly that we cannot wait - the time for action is now!

The message of collective responsibility and the need for urgency was paramount in the Board's December 2006 report to Manitoba's Minister of Water Stewardship. The Board's report provides 135 recommendations on strategies to reduce nutrient loading to Lake Winnipeg and its watershed. Advice was provided on reducing nutrient loading from transboundary, agricultural, and municipal sources of nutrients, as well as other recommendations on science and education needs. The Board recognized that nutrients are contributed from a wide variety of relatively small sources across the large watershed and that action would be required across many sectors to improve Lake Winnipeg. However, the Board's recommendations went beyond sector specific recommendations such as those for municipal and agricultural sources and included recommendations for all residents across the watershed. Improving education, working better together as neighbours in the watershed, coordinating watershed planning, and using water efficiently were just some of these recommendations. The Board also included a list of specific actions residents can take such as choosing low phosphorus or phosphorus free cleaning products, reducing or eliminating the use of phosphorus based lawn fertilizers, keeping lawn clippings out of waterways, and restoring shorelines to a natural state. We can all take action across the Lake Winnipeg watershed - including throughout the Saskatchewan River basin - to reduce nutrients now!



The Province of Manitoba has accepted in principle all of the 135 recommendations in the report. The Minister of Water Stewardship, the Honourable Christine Melnick noted that the report showed that Manitoba was on the right track as action had already been initiated on 113 of the 135 recommendations.



To further enhance protection of Lake Winnipeg, on February 14, 2007, the Minister of Water Stewardship announced an expanded mandate for the Lake Winnipeg Stewardship Board. While the Board will continue to identify and assist in implementing actions to reduce nitrogen and phosphorus loads to Lake Winnipeg, its mandate will be expanded to provide advice to government on other measures needed to restore the health of the lake.

Reducing Nutrient Loading continued.....

The terms of reference for the new Lake Winnipeg Stewardship Board are

- To use a consensus-based process to develop a basin-wide watershed management plan for Lake Winnipeg that would provide direction to and integrate individual basin plans under development by watershed authorities;
- To identify and assist with implementing further actions necessary to reduce nitrogen and phosphorus to pre-1970s levels in the lake as per the commitments in the Lake Winnipeg Action Plan of February 18, 2003;
- To provide advice through a consensus-based process on the establishment of long-term, ecologically-relevant water quality objectives for nutrients;
- To identify actions required to achieve long-term ecologically-relevant water quality objectives for nutrients;
- To consult broadly and provide advice to government on other measures in addition to nutrient reductions needed to restore the health of Lake Winnipeg;
- Through liaison with resource users, communities, scientists, and others, assist government in the preparation of periodic “state of the lake” reports. Included would be information on the status of government’s actions to implement the Board’s recommendations and the status of progress towards reaching nutrient reduction targets;
- To provide advice to government on the environment and resource management issues related to the sustainability of Lake Winnipeg’s ecosystem and its communities including management of the lake’s commercial and sport fisheries;
- To carry-out other initiatives related to the long-term health of Lake Winnipeg that may be identified by the Minister of Water Stewardship.

The Lake Winnipeg Stewardship Board looks forward to working towards its expanded mandate and contributing to the protection and restoration of Lake Winnipeg. Residents in the Saskatchewan River Basin will be an important part of a solution and the Board is sure that these residents are up for the challenge!

For more information please visit the Board’s web site: www.lakewinnipeg.org or by contacting Sharon Gurney (Technical Secretariat) at 204-945-7114 or by email at Sharon.Gurney@gov.mb.ca.

Living by Water and Keeping Your Paradise Intact

By Margaret Skeel, The Living by Water Project, Nature Saskatchewan

A healthy shoreline is one that fulfils the ecological functions of acting as a filter to keep sediments and pollutants out of our water, and as a sponge for moderating the effects of wet and dry periods – can be recognized by looking at the natural features of the surrounding area.

The Living by Water Project has many tools for individuals and to groups to use; most available at no cost. Tools include 4 ready-to-use presentations with speaker’s notes on the topics: Learning about Your Shoreline, Shoreline Landscaping and Erosion, Shoreline Construction, Septic Systems and Wells, and Agriculture, Our Cottage and Us: How We Can Make A Difference. These presentations can be adjusted to fit your specific needs.

On The Living Edge handbook (SK/MB edition and Alberta edition), provides a wealth of ideas and tips to you and others along your shoreline or around your lake. It is enjoyable to read and provides easy-to-understand tools to protect your cottage life. For more information visit the Nature Saskatchewan website www.naturesask.ca (SK/MB) or the Federation of Alberta Naturalists website at www.fanweb.ca. (for the Alberta edition)

Upcoming Conference - We're All Upstream!

The Partners FOR the Saskatchewan River Basin is planning this year's conference "We're All Upstream!" This conference will include information on activities going on across the watershed which are helping reduce nutrient loading to Lake Winnipeg. Details to come soon to our website.

November 6 - 7th 2007

Winnipeg, Manitoba

Mark your Calenders!

Staffing Changes

There have been several staffing changes at the Partners FOR the Saskatchewan River Basin Office.

JENNIFER NELSON, Manager

I started working with the Partners FOR the Saskatchewan River Basin over a year ago, as the Communications Coordinator. Before working with the Partners, I worked with the Saskatchewan Watershed Authority in the Aquifer and Watershed Planning Branch. I have a real passion for the environment. In my spare time I enjoy reading, painting, quilting, and gardening.



LIS MACK, Communications Officer

I have worked for the Meewasin Valley Authority in various capacities since 2000, as a natural and historical interpreter and most recently as the administrative assistant to the capital campaign. I am looking forward to working with the Partners as their Communications Officer.

Conference Listings

Alberta Stewardship Network: Annual General Meeting

June 11, 2007

www.ab.stewardshipcanada.ca

Nisky, AB

CWRA Science and Technology: Implications for Water Management

June 25-28, 2007

www.cwra.org

Saskatoon SK

Environmental Excellence - 2007 WCWWA Annual Conference Trade Show

October 23-26, 2007

www.wcwwa.ca/2007/2007wcwwa.htm

Edmonton, AB

We're All Upstream!

November 6-7, 2007

www.saskriverbasin.ca

Winnipeg MB

If you have an event you would like to include under our listings, please email us at partners@saskriverbasin.ca

PUBLICATIONS MAIL AGREEMENT NUMBER 40025238

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The River Current is published quarterly by Partners FOR the Saskatchewan River Basin. Articles and news items will be considered for publication. For further information about Partners FOR the Saskatchewan River Basin Project, or to submit items, please contact us.

Printed on Recycled Paper