



Foundation Sponsors Tributary Monitoring Program

Program will measure nutrient loads to Lake of the Woods in Canada

As part of the Nutrient Budget Study being conducted for Lake of the Woods, the Foundation is providing support for the establishment of a tributary monitoring program for the Canadian streams flowing into the Rainy River and Lake of the Woods.

The purpose is to measure nutrient loadings into the Rainy River and into Lake of the Woods from Canadian tributaries. Although many of the streams in Minnesota are monitored, nutrient loads on the Canadian side have not been measured. This information was identified as a key data gap in the preliminary nutrient budget research being undertaken for the Foundation by Kathryn Hargan at Trent University. Monitoring will help refine the nutrient budget for the lake, and identify tributaries with the highest nutrient loadings to help focus possible reduction strategies.

A consortium of agencies are collaborating on this research, including our Foundation, Ontario Ministry of Environment, Ontario Ministry of Natural Resources, the Watershed Program of the Rainy River First Nations, and Trent University researchers working on the Nutrient Budget for Lake of the Woods. The Minnesota Pollution Control Agency is also participating to ensure that comparable methods and analyses are employed on both sides of the international border.

Manitoba Joins Ontario in Backing Foundation's Call For IJC Reference for Lake of the Woods Water Quality

Manitoba sends letter of support to Canada



Photo: Ted MacDonald

The effort to institute binational coordination for water quality through the International Joint Commission got a boost from the Province of Manitoba in early March. In a letter dated March 5th to Canada's Foreign Affairs Minister Lawrence Cannon, Manitoba Minister of Water Stewardship Christine Melnick requested that Canada jointly (with the United States) provide the International Joint Commission with the authority (known as a "Reference") to address water quality on Lake of the Woods. Minister Melnick cited the existing collaboration between her Department and Canada, Ontario, Minnesota and the Lake of the Woods Water Sustainability Foundation as a strong starting point for coordination by the International Joint Commission.

Manitoba's support follows on a similar request to Canada for an IJC Reference by Ontario Premier McGuinty in late January. With Manitoba aligned with Ontario in support of international coordination for the lake through the IJC, the stage is set for a positive response from Canada.

Ontario Premier McGuinty Backs IJC Reference for Our Lake

Province requests Establishment of IJC Nutrient Task Force and Pollution Monitoring Board

Ontario got behind to the Foundation's efforts to institute bi-national coordination for our lake in late January, when Premier Dalton McGuinty sent a letter to Canada's Foreign Affairs Minister Lawrence Cannon supporting the Foundation's request for an International Joint Commission reference for Lake of the Woods water quality. Ontario is asking for:

- Formation of a bi-national task force, set up through the IJC, to coordinate nutrient loading research and development of nutrient management plans across all jurisdictions around the lake;
- Expansion of the existing IJC Rainy River Water Pollution Board to include Lake of the Woods, to provide long-term monitoring and follow up for the lake.

The Premier also indicated Ontario's intent to strengthen and formalize collaboration on the lake by developing a multi-agency working agreement between provincial, state and federal agencies.

Ontario took this strong stance in support of our lake, following a series of meetings this winter with the Foundation assisted by the Rt. Hon. John Turner and Kenora Mayor Len Compton.

State of the Basin Report Released

Definitive Baseline Report on Water Quality and Ecology of the Lake of the Woods Now Available at Foundation's website www.lowwsf.com

The State of the Basin Report for the Lake of the Woods and Rainy River Basin was released March 11 at the International Lake of the Woods Water Quality Forum. This 140 page report is a comprehensive synthesis of what is known about the Lake of the Woods ecosystem, including climate, geography, hydrology, morphometry, water chemistry, trophic status and biological communities. It also includes an assessment of data and research gaps and emerging threats to the lake's water quality and ecology. Importantly, the State of the Basin report provides a baseline against which to evaluate future environmental changes and the effectiveness of future management strategies for the lake, its water quality and its biological communities.



Preparation of the State of the Basin Report was a collaborative effort of our Foundation, the Ontario Ministry of Environment, the Minnesota Pollution Control Agency and Environment Canada. In addition, many other agencies and researchers in Canada and the United States generously provided data and analyses to this project. The report is available electronically for download at the Foundation's website: www.lowwsf.com

Lake of the Woods Water Quality Forum

Conference Focuses on International Coordination for Lake

Eighty scientists and resource managers battled their way through a winter blizzard to attend the 6th Annual International Lake of the Woods Water Quality forum in March. The Forum featured a day and a half of research presentations and a half day of "working group sessions" focused on plans for inter-agency collaboration on water quality monitoring and work to prevent introductions and expansion of aquatic invasive species like the spiny water flea.

Main themes of the research presentations focused on: nutrients and algae, impacts of water level regulation, aquatic invasive species, and updates on research and monitoring initiated in 2008 by Environment Canada, Ontario MOE, and the Minnesota PCA.

Preliminary results of the Foundation's Lake of the Woods Nutrient Budget Study were presented by Kathryn Hargan (Trent University) and Joe Hadash (MN St. Cloud State University). When completed next year, Kathryn's and Joe's work will account for all sources and amounts of phosphorus loading to the lake and also develop water quality models for evaluating management strategies to reduce algae blooms stimulated by this key nutrient.

International coordination for the lake was the theme of keynote presentations by Gaylen Reetz, Pollution Control Director of the MPCA and Franca Dignem, Northern Region Director of Ontario MOE. Mr. Reetz also described the MPCA's 10 year plan to assess and remediate all lakes and streams in the state, with Lake of the Woods being a top priority. The Clean Water Land and Legacy Amendment, passed during the November 2008 elections, will allocate \$5.5 billion over 25 years to protect water and land in Minnesota, supported by a 3/8 cent sales tax levy. This historic vote by the citizens of Minnesota established a dedicated Clean Water Fund, which will direct \$80-90 million per year to protecting and restoring water quality in Minnesota.

Minnesota Bill for IJC Reference Passes Second Reading

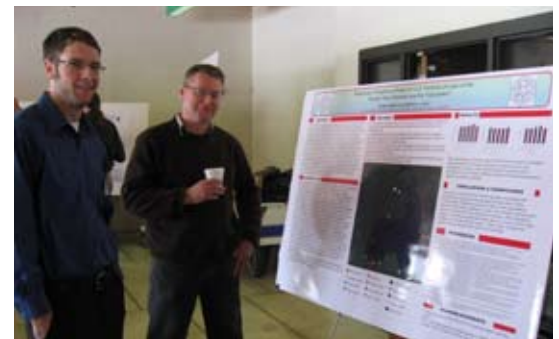
Bill to support Foundation's request for IJC Reference for Lake of the Woods

The Minnesota bill supporting an International Joint Commission Reference for Lake of the Woods water quality passed committee hearings and second reading in the Minnesota House of Representatives on March 23.

Introduced in late January by Representative David Olin, with a companion Senate bill sponsored by Senator Leroy Stumpf, the bill would indicate State consensus that the US Government seek an IJC Reference jointly with Canada for Lake of the Woods to ensure complementary and coordinated efforts basin-wide, analogous to the position recently taken by Ontario and Manitoba.



Nolan Baratono of the MPCA presents updates on Minnesota's nutrient monitoring and research on Lake of the Woods



Joseph Hadash (St. Cloud State University) and Tom Mosindy (Ontario Ministry of Natural Resources) discuss preliminary results of Joseph's research into developing a nutrient budget and water quality model for the US portion of Lake of the Woods

Bev Clark Recipient of the 2009 Kallemeyn Award

Award Recognizes Scientist's Achievements in the Lake of the Woods and Rainy Basin



Bev Clark receives the Larry Kallemeyn Award, presented by the Foundation and the organizing committee of the Forum. L-R: Nolan Baratono (MPCA), Melissa Rauner (MPCA), Don Carlson (MPCA), Kelli Saunders (OMOE), Todd Sellers (Foundation), Bev Clark (AE-COM; OMOE retired), Anna DeSellas (OMOE), Andrew Paterson (OMOE)

Bev Clark is the 2009 recipient of the Larry Kallemeyn Award for outstanding professional achievement in research or resource management in the Lake of the Woods and Rainy Basin.

The Kallemeyn Award was presented to Bev by the Foundation, March 11 at the International Lake of the Woods Water Quality Forum.

In honouring Bev with the Kallemeyn Award, the selection committee cited Bev's many contributions to water quality research and monitoring on Lake of the Woods over the past twenty years including:

- building the Ontario Lake Partner Program into a rigorous science-based volunteer water quality monitoring program, which engages the public as volunteers to collect water quality samples at over 40 sites on the lake
- establishing detailed water quality monitoring programs for Lake of the Woods starting in the late 1980s as well as programs in the 2000s related to the occurrence of toxic blooms of algae that had been reported on the lake
- co-authorship and research contributions to the State of the Basin Report for the Lake of the Woods and Rainy River Basin

In addition to his research contributions, the committee noted Bev's important role in fostering the collaborative and cooperative approach that exists today on Lake of the Woods among the many research and resource management agencies and the public around the binational basin of Lake of the Woods.

The Foundation presented Bev with a carving of a walleye to accompany the Kallemeyn Award plaque. Special thanks are due to renowned Manitoba decoy carver Harry Williams, who generously donated the walleye carving.

Harry took up the challenge to create the walleye for Bev, after learning that Bev was himself an accomplished carver who had carved the sturgeon presented last year to the award's first recipient, Larry Kallemeyn.



Harry Williams, carving the walleye decoy donated to the Foundation for presentation to Bev Clark, 2009 Kallemeyn Award recipient

Multi-Agency Working Group Brewing

Agreement to formalize collaboration on Lake of the Woods nears completion

Over the past few months, the Ontario Ministry of Environment and the Minnesota Pollution Control Agency have led the drafting of a multi-agency arrangement formalizing collaboration on science, monitoring and information sharing among all the agencies working on Lake of the Woods. Now in final review stage with the Foundation, provincial, state and federal agencies, this will provide a framework for partners and stakeholders engage in coordinated activities to help protect water quality in Lake of the Woods.

OMOE's "Lake of the Woods Coordinator" Appointed to Top Position in Kenora Area Office

Kelli Saunders Appointed Area Supervisor

In January, the Ontario Ministry of Environment appointed Kelli Saunders to the position of Acting Area Supervisor for the Kenora area office. In addition to leading the Kenora OMOE team, Kelli will continue her former responsibilities as the Lake of the Woods Coordinator for the Ministry.

Over the past several years, Kelli's efforts on behalf of the lake have helped to raise the profile of water quality protection and also contributed immensely to developing collaborative efforts to protect the lake among government agencies, and public groups such as the Foundation and LOWDPOA.

The Foundation applauds OMOE for selecting Kelli for this position, which befits the increased focus by OMOE on Lake of the Woods as a provincial priority.



Kelli Saunders, OMOE's new Kenora Area Office Supervisor

A sneak peak at Preliminary Results of the Phosphorus Budget For Lake of the Woods

A Report from Kathryn Hargan, Trent University

At the 2009 International Lake of the Woods Water forum, a preliminary phosphorus budget for the Lake of the Woods (LoW) was presented. The purpose of this research is to quantify all sources of phosphorus to, and losses from, the lake. These data will be applied to lake water quality models to predict current and future lake phosphorus concentrations and water quality conditions (e.g., chlorophyll, as a measure of algae, and oxygen levels) for a variety of management scenarios. The goal of the budget is to understand the contribution of natural and human-caused sources of phosphorus to the lake and the sensitivity of the lake water quality to increases in phosphorus inputs.

Preliminary estimates indicate that the largest source of phosphorus to LoW is the Rainy River, contributing about 55% of the total phosphorus to the lake. Other major inputs come from the local basin (streams draining directly into the lake on the Canadian side, estimated at 31% of the total load) and atmospheric deposition (12%). Residential septic leakage is estimated to be a relatively small component given the overall scale of the lake and loads from other sources.

Because of the importance of the Rainy River and the "local basin" identified in my preliminary results, a tributary monitoring program will begin this spring for the major streams flowing into both the Rainy River and the Lake of the Woods "local basin".

It is important to note that the total phosphorus budget is preliminary. It will continue to be refined as more phosphorus samples are gathered and other relevant basin data are collected. For example, the amount of shoreline development around the lake is currently only crudely estimated but will be determined precisely as part of my research. Also, the preliminary phosphorus contribution to LoW from the "local basin" was estimated by extrapolating phosphorus export data measured for other lakes in North America. The initiation of a Lake of the Woods Tributary Monitoring Program this spring will provide a better estimate of the phosphorus contribution from the "local basin".

In the coming year my work will focus on more detailed estimation of flows and phosphorus loads from tributaries to LoW and the Rainy River, as well as estimating total phosphorus budgets and developing water quality modeling for three isolated bays in northern Lake of the Woods.

Manitoba Joins in Support of Nutrient Budget Study

Water Stewardship Department Joins Research Partnership on Lake of the Woods

Manitoba Water Stewardship has joined the partnership led by the Foundation to develop a nutrient budget and water quality models for Lake of the Woods.

Assistant Deputy Minister Dwight Williamson was the Foundation's guest speaker at the evening reception for scientists at the Water Quality Forum.

In presenting the compliments of Minister Melnick to the assembled scientists, Mr. Williamson noted Manitoba's support for international coordination for Lake of the Woods through the International Joint Commission and also that Manitoba was supporting the development of a nutrient budget for the lake.

The Water Stewardship Department is providing technical and financial support to the Foundation's research on Lake of the Woods, in recognition of the importance of the lake to Manitobans, to the drinking water supply for Winnipeg, and to the efforts to restore the health of Lake Winnipeg, given that Lake of the Woods is a major source of water and nutrients to Lake Winnipeg.



Dwight Williamson (inset) Assistant Deputy Minister of Manitoba Water Stewardship addresses scientists and managers attending the Foundation's reception at the 2009 Lake of the Woods Water Quality Forum. Also pictured (L-R): Gaylen Reetz, Director Pollution Control Division MPCA; Lee Grim, IJC International Rainy Lake Board of Control; Patrick Carey MPCA

HOW CAN YOU HELP?

Please invest in our lake's future by donating to the Lake of the Woods Water Sustainability Foundation



- Donations are tax deductible in Canada
- American donors can claim a tax deduction by directing a gift to LOWWSF via The Winnipeg Foundation USA

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