

FoTTSA Overview for August 11, 2008 IJC Consultation

International Upper Great Lakes Study Board's Public Meeting

August 11, 2008

7:00pm – 9:00pm

North Simcoe Sports and Recreation Centre

527 Len Shelf Boulevard, Midland, L4R 4K6

Background on the IJC

The International Joint Commission on the Upper Great Lakes (IJC) is holding public information and consultation sessions concerning water level issues in the Great Lakes. Of specific concern to Lake Michigan and Lake Huron/Georgian Bay is the erosion and shoreline alteration of the St. Clair River resulting in sustained low water levels.

The IJC was created in the Canada - United States International Boundary Waters Treaty of 1909 to help the governments manage lakes and rivers that cross the international boundary between the two countries and manage any disputes that arise from their use. The Treaty obliges Canada and the U.S. to protect the natural levels and flows of boundary waters.

The IJC has six members, three appointed by the U.S. President and three appointed by the Governor in Council for Canada (Cabinet). It is an independent body with responsibility for helping the parties resolve disputes related to boundary waters quality and resources management. The IJC may also be called upon to make decisions on uses of these waters that could potentially affect water levels and quality such as applications for dams on boundary waters or other water resource issues. It has also been asked in the past to monitor and report on pollution levels in the Great Lakes, as well as air quality and water levels. While the Commission has jurisdiction over all boundary waters that flow between Canada and the U.S., it has played a particularly prominent role in the management of the Great Lakes.

The IJC's mandate for management of boundary waters includes more than environmental considerations. As a body wholly independent from both governments, it is called upon to balance the uses of boundary waters for the good of the communities situated on them. As such, it must balance economic, industrial, recreational, aboriginal and other interests in the use of the waters.

Finally, the IJC, in completing its work must engage the public in both nations through on-going consultation and open meetings at least once every two years. To complete this work, the IJC has over 20 expert boards reporting to the commission that help it carry out its responsibilities.

The IJC's current Commissioners are:

Irene Brooks, U.S. Chair

Herb Gray, Can. Chair

Allen Olsen, U.S.

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Jack Blaney, Can.
Sam Speck, U.S.
Pierre Trépanier, Can.

The following summary draws on Mary Muter's June 8, 2008 presentation to the FoTTSA and the Tiffen Homeowners Association at the Midland Curling Club.

Mary Muter is Vice-President of the Georgian Bay Association, local Georgian Baykeeper for the National Waterkeeper Alliance and Chair of the GBA's Environment Committee.

Information contained in the presentation and the following summary draws on findings in the 2005 Baird and Associates Report "*Regime Change (Man Made Intervention) and Ongoing Erosion in the St. Clair River and Impacts on Lake Michigan – Huron Lake Levels.*" The Report was commissioned by the GBA and is available at www.georgianbay.ca

Topic of discussion:

Lakes Michigan and Huron and Georgian Bay are all one water body that drains through the St. Clair River into Lake St. Clair into the Detroit River and finally into Lake Erie.

Over the last 140 years, Great Lakes water trends have shown that Lakes Superior, St. Clair and Erie have all experienced rising water levels while levels in Lakes Huron and Michigan have fallen.

Research has indicated that dredging and aggregate mining from 1855 to 1965 of the St. Clair River has resulted in changes to the river bed (river bed erosion and depth of the river bed). This in turn has caused changes to the hydrodynamic flow conditions (and the natural response of the river bottom contours) in the river as well as a reduction in sand supply to the St. Clair River.

Dredging of the River occurred over three periods: 1925-26 (channel dredged 20 ft.), 1933-37 (25 ft.) and 1963-65 (27 ft). This has resulted in a permanent loss of water in Lakes Huron and Michigan and a drop in water levels close to 80cm (32 inches) since 1865. Thirty centimetres (1 foot) have been lost between 1970 and 2000 after the last dredging project.

The channel through the St. Clair River-less than 20 feet in the mid 1920s- is now over 60 feet deep in places (ships require only 30 feet of depth). Rapid water flow in the deepest parts of the River continue to cause erosion, increased water outflow and subsequently lower lake levels in Huron and Michigan.

Without implementation of compensation measures, this drop represents an irreversible decline in the long-term average lake levels of Lakes Michigan and Huron. These changes, when compared to cyclical lake level changes and average lake levels, are very significant with potentially extensive socio-economic and environmental implications.

In 2005, the Georgian Bay Association commissioned W.F. Baird and Associates to carry out research on the water levels in Georgian Bay at a cost of \$250,000. The research has supported the concern that

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ongoing physical changes to the upper St. Clair River may be causing important water level changes in Lakes Huron and Michigan. Between 2002 and 2005 there has been an overall increase in erosion of the St. Clair River with a total net volume change of 31,700 cubic metres. In 2006, it was identified that an additional 10-12cm had been lost in Lakes Huron and Michigan since 2005. In terms of water outflow this is equivalent to a diversion of 2.5 billion gallons of water per day.

The Baird report also indicated shoreline sands have hardened and sand is gone from Lake Huron beaches near the outflow at the St. Clair River resulting in increasingly rapid water outflow.

To summarize, the historic changes and dredging of the St. Clair River over the years have resulted in changes to the riverbed that have increased the amount of water going down the river, carrying more and more water out of Lakes Michigan and Huron, through the lower lakes and out to the ocean. It is believed that this trend is now threatening the hydrological integrity of the entire upper lakes.

Impacts beyond the Great Lakes:

Some of the impacts of sustained low water levels include:

- Water quality in enclosed bays deteriorating due to less exchange of water
- Wetlands have dried up and shorelines have become exposed. Wetlands are needed by 80% of Great Lakes fish for spawning or nursery habitat. Collingwood's waterfront wetland is now a grass meadow.
- Recreational boating channels are shallow – scaring away boaters
- Marinas need to dredge to maintain access
- Shipping moves lighter loads – increased costs passed on
- In water access only areas, some residents unable to access their properties – this impacts land value and local municipal assessments. On Lake Huron on the west side of the Bruce Peninsula cottagers are now driving to cottages where they used to take boats to and from marinas
- Increase in invasive reed plant phragmites rendering beaches and shorelines inaccessible and driving out natural species and plants.

What can and should be done:

While documenting changes to lake levels in Lakes Michigan and Huron, to date the IJC has not included research and action on Georgian Bay in their considerations.

The outflow of Lakes Huron, Michigan and Georgian Bay is the only Great Lake outflow that is totally unregulated. In addition, all of the other lakes have bi-national Control Boards that meet monthly and set the outflows.

The IJC must be encouraged to begin addressing the low water level in Lakes Huron, Michigan and Georgian Bay. This includes pushing for the following:

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- Recognize that the lakes have reached the crisis thresholds for which effective emergency measures should be considered and implemented. (These thresholds are a high of 177.14m and a low of 176.01m.)
- Consider a flexible, submerged inflatable bladder to be used to increase or decrease flow as levels fluctuate. Cost-less than \$10 million (1/4 of the cost of 1993 IJC study that recommended this intervention)
- Study the erosion via a 3-D model and evaluate the reduced sand supply along the shorelines. The current International Great Lakes Study includes only 1- and 2-D models. Conveyance capacity of a complex river with turns and cross channel currents and reduced sand supply cannot be measured without a 3-D model.

The IJC public meetings provide an opportunity for input. Timing is important. Very powerful US shoreline property owners have been in US Ohio court to win the right to own to the water's edge – the lower the water goes, the more land they own. It is believed they will oppose doing anything that will raise lake levels.

Continuing to dredge marinas and ports is very costly and environmentally harmful.

Interim, flexible control measures can be put in place to bring Lakes Michigan and Huron/Georgian Bay out of “crisis” levels.

Our voices need to be heard.