

International Joint Commission's
Advice to Governments on the Recommendations of the
International Upper Great Lakes Study

A Report to the Governments of Canada and the United States

April 15, 2013



Foreword

This report contains the International Joint Commission’s advice to the Governments of Canada and United States on the recommendations put forth by the International Upper Great Lakes Study Board. The binational Study Board issued its final report in March 2012. Copies of the Study Board’s December 2009 and March 2012 reports to the Commission are available at www.ijc.org under the IUGLS Board tab. The Study Board benefitted from the input of more than 200 science and policy experts, an external Independent Peer Review process and a Public Interest Advisory Group.

The Commission and the Study Board consulted extensively with stakeholders and the public during the course of the five-year Study. In July 2012, the Commission held 13 public hearings regarding the final Study Board report at locations on lakes Superior, Michigan, Huron, St. Clair and Erie. Members of the public also were provided opportunities to comment on the report via a public hearing teleconference, regular mail, telephone, e-mail and a web-based comment form.

In preparing its advice to the Governments, the Commission thoroughly considered all the input received from these sources.

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Introduction

The International Upper Great Lakes Study (the Study) was a five-year, peer-reviewed, investigation launched by the International Joint Commission (the Commission) in 2007. Originally focused on updating the regulation plan for Lake Superior outflows at Sault Ste. Marie, the Study was expanded to include an examination of whether physical changes in the St. Clair River were affecting the level of Lake Michigan-Huron. This second objective was added in response to concerns expressed by many interests throughout the basin about low water levels.

The Study was led by a ten-member binational Study Board of science and policy experts. More than 200 scientists, engineers, planners and other experts from Canada and the U.S. were engaged in technical projects designed to answer key questions, ranging from the stability of the St. Clair River bed to the effects of climate change on water supplies and lake water levels. The Study also benefited from a binational Public Interest Advisory Group (PIAG) of 20 members appointed by the Commission from diverse interests in the upper Great Lakes. The PIAG helped to engage and inform the public, holding more than 60 public meetings that provided stakeholders with opportunities to learn about the Study and provide their views.

In the St. Clair River portion of the Study, the Study Board concluded with the publication in December 2009 of the report entitled, ***Impacts of Upper Great Lakes Water Levels: St. Clair River***. The Study Board concluded that between 1963 -2007 the decline in the water levels of Lake Michigan-Huron relative to Lake Erie of 23 centimetres (cm) or 9 inches (in) was due to a combination of factors including:

- changing climate patterns (the primary driver at 9-17 cm or 3.5-6.7 inches);
- an increase in the conveyance capacity (*i.e.*, the measure of water flow capacity of a channel) of the St. Clair River (7-14 cm or 2.8-5.5 in); and,
- ongoing glacial isostatic adjustment (*i.e.*, adjustment of the earth's crust resulting from the removal of the weight of the glaciers) was 4-5 cm or 1.6-2.0 in.

The Study Board provided a range in numbers that reflects the uncertainty associated with the estimates.

The Commission consulted the public in 2010 on the findings of this report. They received extensive public comment on the Study Board's key finding that remediation of the increased conveyance capacity of the St. Clair River not be undertaken at that time, but that mitigative measures be investigated in the second phase of the Study in the context of the long-term effects of climate change on water levels.

Subsequently, the Commission asked the Study Board to investigate, at an exploratory level, the feasibility and potential impacts of various options for restoring Lake Michigan-Huron water levels. The findings of this exploratory analysis were included in the Study Board's final report, *Lake Superior Regulation: Addressing Uncertainty in Upper Great Lakes Water Levels*, published in March 2012. Key recommendations in this report include: an improved, more robust, regulation plan for outflows from Lake Superior that works better specifically under exceptionally dry conditions; and, adoption of an adaptive management strategy to address the impacts of an uncertain future climate, including possible extreme water levels.

In July 2012, the Commission held 13 Public Hearings regarding the Study Board's final report at locations on lakes Superior, Michigan, Huron, St. Clair and Erie, including three sites on Georgian Bay. Members of the public also were provided opportunities to comment on the report via a public hearing teleconference, regular mail, telephone, e-mail and a web-based comment form. While there was general support for the new regulation plan, a key message that emerged from the nearly 3,500 comments received was strong public concern about the effects of extreme low water levels on lakeshore property owners, coastal habitat, recreational boaters and navigation interests.

Depending in part on their geographic location, some interests urged immediate action to restore water levels on Lake Michigan-Huron, while others expressed concerns about the effects of high water levels in the future or unintended impacts downstream, if remedial measures to raise Lake Michigan-Huron levels were undertaken. The Commission considered all of these responses in the context of the Study Board's analysis and recommendations before developing its advice to the Governments.

Context

With approximately 20 percent of the world's fresh surface water, the importance of the Great Lakes system to Canada and the United States cannot be overstated. It is a unique ecosystem, and its health is vitally linked to the natural variation of the water level regime. The quality of life, as well as the livelihoods, of the nearly 40 million people who live in the basin is affected by water levels that are constantly fluctuating and that will continue to do so.

In this large system, there are only two points where the flow is regulated with control structures: one at the outlet of Lake Superior on the St. Marys River and the other just downstream of Lake Ontario on the St. Lawrence River (Figure 1). There are three diversions in the system that either divert water in or out of the system: the Long-lac and Ogoki diversions divert water into Lake Superior and the Chicago diversion that draws water out of Lake Michigan. The Welland and New York Barge canals are the only intra-lake diversions. These diversions result in a small net increase change in the levels in the overall system.

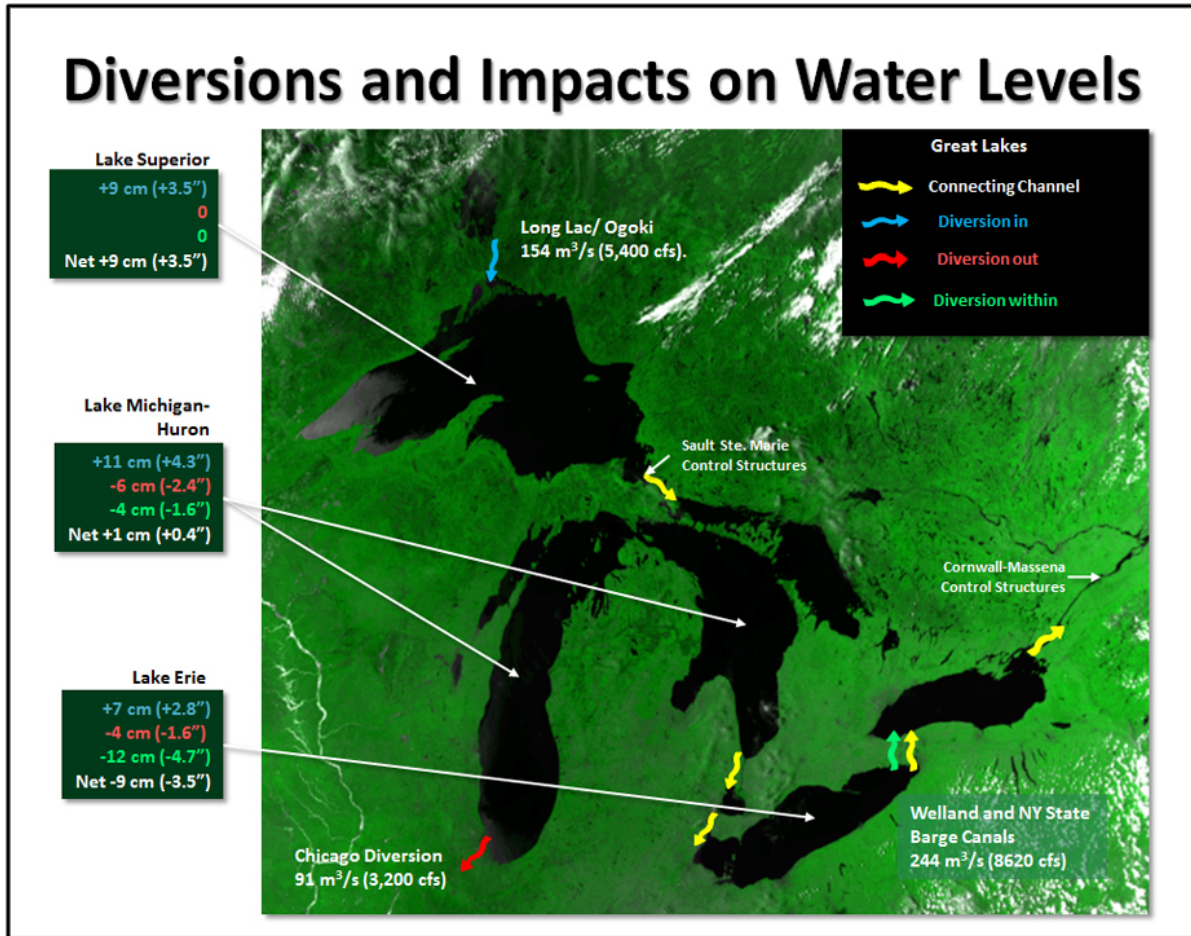


Figure 1: Existing Control Structures and Diversions and the Effect of Diversions on Lake Levels.

The huge water surface area of the upper Great Lakes compared to their relatively small outflow channels makes them largely self-regulating. These physical basin characteristics, combined with the historical climatology result in an annual range of water levels from the winter lows to summer highs of roughly 30-50 cm or 12-20 inches. On longer time scales, year-to-year and decadal climate variations have resulted in monthly water levels that range from about 60-90 cm (2-3 feet) above or below the long-term averages for the month, depending on the particular lake.

Understanding the water balance still continues to be a scientific challenge and requires ongoing analyses. The Study greatly contributed to our understanding of the Great Lakes water balance through additional monitoring of inter-connecting flows and installation of evaporation gauges on the lakes. Significant advances in modelling provided better estimates of the hydrological components and further helped to reduce the uncertainty. Figure 2 illustrates the Study's assessment of the Great Lakes water balance based on this new information. However even with these advances, there still is the uncertainty associated with a highly variable and changing climate and ongoing glacial isostatic adjustment on future water levels.

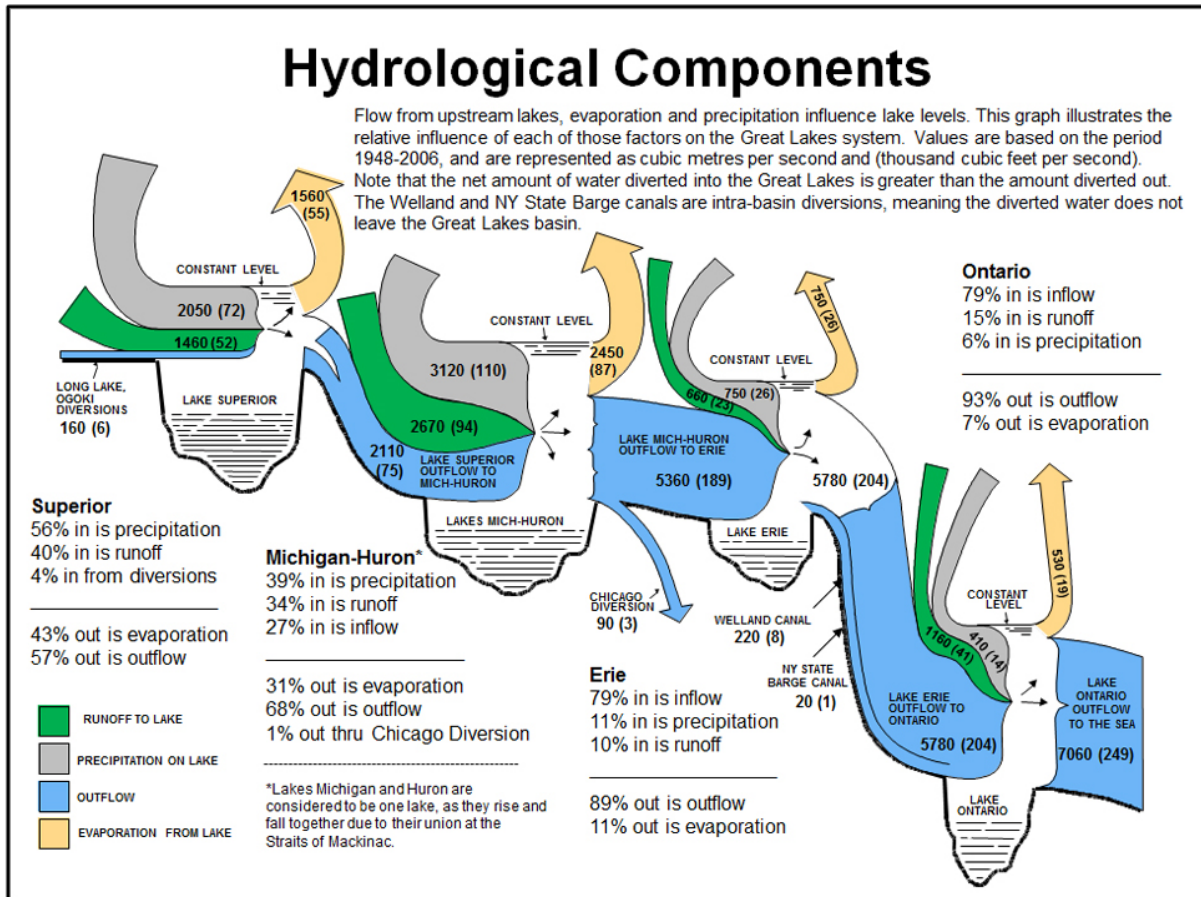


Figure 2: Water Balance for the Great Lakes System.

The Study Board found that water supplies have been declining in general in the upper Great Lakes basin over the last 40 years, a finding consistent with the current understanding of the effects of climate change. While lower water levels in the future are more likely, the possibility of high water periods still remains.

It is within this context, that the Commission provides its advice to Governments on this important and complex system.

Commission Response to the International Upper Great Lakes Study Recommendations

1. Lake Superior Regulation Plan 2012 and an Updated Order of Approval

IUGLS Board Recommendations:

*The IJC should approve **Lake Superior Regulation Plan 2012** as the new plan for regulating Lake Superior outflow and advise governments that the 1977A plan will be replaced with the new plan.*

*The IJC should prepare and issue new integrated Orders of Approval that consolidate all of the applicable conditions and requirements of the original and Supplementary Orders, as well as the additional considerations required to implement the recommended new plan, **Lake Superior Regulation Plan 2012**. The integrated Orders of Approval should include provisions to:*

- *add a requirement to limit the rate of gate opening changes so as to protect fish and fish habitat in the St. Marys River rapids;*
- *formalize within new Orders the current guidelines governing peaking and ponding operations conducted by the hydropower entities;*
- *update the period defining “supplies of the past as adjusted” to 1900-2008 (from 1990-1976), so as to expand the range of NBS within which the regulation plan must satisfy the condition;*
- *amend the Sault Ste. Marie flooding specification so as to take into account the effects of glacial isostatic adjustment;*
- *include a requirement that regulated maximum winter flows take into consideration ice management;*
- *modify **criterion c** of the 1979 Supplementary Order to require that any regulation plan must not result in a greater frequency of Lake Superior levels being below 183.20 m (the Chart Datum/Low Water Datum level) than would occur with the preproject St. Marys River condition;*
- *reaffirm the requirement that the flows be regulated to balance levels of Lake Superior and Lake Michigan-Huron to the extent consistent with meeting the other criteria of the Orders;*
- *continue to require IJC approval for deviations from the plan but maintain the existing emergency discretion of the International Lake Superior Board of Control; and,*
- *retain the existing required flow allocations for the various uses at Sault Ste. Marie as stipulated in the 1978 and 1985 Supplementary Orders.*

The main focus of the Study was the development of an improved Lake Superior outflow regulation plan that would deliver robust performance under a wide range of possible hydrological conditions that could arise from climate variability and change. The Study Board found that the existing plan, **1977A**, performed well except under significantly drier future conditions that are possible with climate change. Of the many alternative plans developed and evaluated, the Study Board found that one, now labeled **Lake Superior Regulation Plan 2012**, performed slightly better or as well as the others in all of the hydrological scenarios considered.

Lake Superior Regulation Plan 2012 is expected to provide modest benefits compared to the existing plan for commercial navigation, hydroelectric generation and coastal zone interests under both wetter and drier climate conditions. The Study Board concluded that this plan also would benefit the St. Marys River ecosystem by providing a more natural seasonal pattern of river flows and by preventing rare but serious detrimental effects on the spawning habitat of lake sturgeon, an endangered or threatened species. The Commission notes that while this new plan is an incremental improvement compared to **1977A**, it will not result in major changes in lake levels under most hydrological conditions.

The Study Board reviewed the existing Orders of Approval governing the regulation of Lake Superior outflows and concluded that some specific changes were required to implement the recommended new plan. It recommended that a new Order also should recognize a number of improved policies and regulation practices that have been developed by the Commission since the last revision of its Order in 1979.

Through its Public Hearings and comment process, the Commission found that there was significant support for implementing **Lake Superior Regulation Plan 2012**. Support was expressed by major environmental groups, some shoreline property owners and a commercial navigation association. There was some opposition to implementing the new regulation plan. One rationale put forward by several commenters was that no new Lake Superior regulation plan should be considered until compensating structures in the St. Clair River have been implemented. The Commission does not support this view, as it sees no reason to delay the benefits of implementing the new regulation plan. Another reason put forward for not implementing the new plan was the misunderstanding that the plan would be responsible for dramatically lowering Lake Michigan-Huron during extreme drought conditions. Such low levels would not be caused by the regulation plan, as the Study Board determined that no Lake Superior regulation plan could prevent the levels of Lake Michigan-Huron from falling to such low levels under the most extreme drought conditions considered in the analysis.

Finally, the Commission consulted its International Lake Superior Board of Control on the recommendations of the Study and found the Board of Control to be in support of the proposed new regulation plan and each of the provisions for inclusion in the new Order.

Therefore, based on these considerations:

The Commission agrees with the Study Board recommendation to adopt Lake Superior Regulation Plan 2012 to replace Plan 1977A. The Commission also accepts the nine provisions recommended by the Study Board to be included in a new Order. The Commission will proceed immediately to prepare a Supplementary Order that incorporates these changes recommended by the Study Board.

The Supplementary Order will amend the Commission's existing Orders for Lake Superior regulation by adding, replacing or deleting provisions. The Commission also will prepare a consolidated version of the Orders that will contain all the relevant provisions from previous Orders, as well as the new Supplementary Order, in lieu of the proposed integrated Order recommended by the Study Board. The Commission has alerted its International Lake Superior Board of Control to make necessary preparations to implement the new plan this year. Once the new Supplementary Order is issued, the Commission will have **Lake Superior Regulation Plan 2012** put into operation by the Board of Control.

2. Multi-lake Regulation

IUGLS Board Recommendation: Further study of multi-lake regulation in the Great Lakes-St. Lawrence River system should not be pursued at this time.

Multi-lake regulation in the context of the Study explored implementing new large-scale structures (*i.e.*, dams and their associated channel enlargements) to address extreme water levels and flows throughout the Great Lakes-St. Lawrence River system. The Study Board looked at the ability to control levels with the existing structures at the outlets of Lake Superior and Lake Ontario as well as with additional new structures at the outlets of Lake Huron and Lake Erie. This analysis was conducted at an exploratory level of detail only. The Study Board identified many issues that affected the viability of multi-lake regulation, such as climate uncertainty, high cost, institutional requirements and environmental concerns. Based on these factors, the Study Board concluded that multi-lake regulation could not be justified.

Multi-lake regulation has been examined several times in previous Commission studies, including the 1973 Regulation of Great Lakes Water Levels and the 1993 Levels Reference Study. These previous analyses all came to the same conclusion: that multi-lake regulation in the Great Lakes-St. Lawrence River system is not economically viable and would have significant environmental impacts. During the Commission's public consultations, there was modest stakeholder interest in the concept of multi-lake regulation. However, the majority of responses received by the Commission from the public and stakeholders were opposed to this scale of regulation.

Therefore, based on these considerations:

The Commission supports the Study Board recommendation that multi-lake regulation not be pursued at this time.

3. Restoration of Lake Michigan–Huron Water Levels

IUGLS Board Report: *The IJC did not request the Study Board to make any recommendation as to implementing water level restoration options for Lake Michigan-Huron. Rather, it directed that an exploratory analysis be conducted of such options and their impacts. Several engineering options were reviewed, based on previous studies. In addition, the analysis considered several more current engineering solutions. The Study identified the estimated costs and the key positive and adverse impacts associated with each option.*

During the last 150 years, a range of human actions in the St. Clair River have resulted in increases in the conveyance capacity of the river and a relative lowering of Lake Michigan-Huron water levels. These actions have included sand and gravel mining, channelization for navigation and possibly maintenance dredging. However, even after the last channelization project was completed by 1962, water levels in Lake Michigan-Huron set record high levels in 1973 and again in 1986. Levels were nearly as high as recently as 1998. These high water levels have significant adverse economic effects.

However, Lake Michigan-Huron water levels now have been well below average long-term levels for more than a decade. While an extended period of low levels is not unprecedented, various economic sectors and the public are concerned about the serious adverse effects of these low water levels. This concern is shared by the Commission and is being heightened by the low water levels recorded throughout the Great Lakes-St. Lawrence system in 2012 and by the fact

that Lake Michigan-Huron water levels set historical lows this current winter. The Commission is also fully aware that Lake Superior regulation can provide only minimal relief for Lake Michigan-Huron at these extreme water levels.

In considering restoration of water levels on Lake Michigan-Huron, the Study Board focused on six potential engineering solutions: sills; dikes; weirs; inflatable flap gates; inflatable weirs; and hydrokinetic turbines. These structures would be used to reduce the conveyance capacity of the St. Clair River and, in turn, raise the level of Lake Michigan-Huron by some predetermined amount. Some of the solutions would lead to a permanent specified relative increase in water levels, while others involve small-scale regulatory-type structures that would have a varying effect on levels and that could be operated so as not to exacerbate high levels. It is important to note that the full effects of these structures would not be immediate, but rather could take up to a decade to achieve the desired outcome, depending on hydrological conditions.

During the Public Hearings, the Commission heard from Georgian Bay cottagers and residents about the need for measures to compensate for changes in the St. Clair River and for Governments to restore water levels in Lake Michigan-Huron accordingly. This call for immediate action was shared by some members of the public in the United States. Some other shoreline residents were strongly opposed to any action to raise the level of Lake Michigan-Huron because of concerns regarding potential damages resulting from future high water periods. The effects of these structures on the St. Clair River ecosystem, and in particular the potential impact on lake sturgeon spawning habitat, were deemed serious concerns. However, environmental stakeholders generally expressed the need for further examination of options to restore water levels to protect the ecological integrity of the upper Great Lakes.

The deepening and widening of the navigational channel in the St. Clair River in the early 1960s resulted in an estimated lowering of Lake Michigan-Huron water levels by 13 cm (5.1 inches). At that time, the Governments of Canada and the United States agreed to take measures that would compensate for the effects of the dredging on flows in the St. Clair River. However, the Governments did not proceed with construction of any of the proposed structures. This issue of past channelization and compensating measures was raised repeatedly by the public during the course of the Study and at the Public Hearings.

The Commission directed the Study Board to evaluate whether there has been any change in the conveyance capacity of the St. Clair River since this last channelization work was completed in 1962. The 2009 Study Board report concluded that an increase in the conveyance capacity of the St. Clair River resulted in a decline of 7-14 cm (2.8 to 5.5 in) in Lake Michigan-Huron water levels between 1963 and 2007. However, more accurate bathymetric surveys undertaken from 2000 to 2008 (the latest available) show that the conveyance capacity may be slightly decreasing. The Study Board investigated several possible causes but was not able to resolve what had triggered the change in conveyance capacity that appeared to have occurred in the 1980s or fully reconcile survey findings resulting from the use of the different survey technologies. Given this uncertainty, and the fact that the change was not ongoing, the Study Board did not propose any immediate action.

The Study Board's exploratory review of possible structures in the St. Clair River that could be implemented to raise Lake Michigan-Huron levels can serve as an excellent foundation for future analysis on such options and their likely effects. However, much more detailed work would be required to address fully the selection of a preferred option and undertake the engineering design.

Therefore, based on these considerations:

The Commission recommends that the Governments undertake further investigation of structural options to restore water levels in Lake Michigan-Huron by 13 to 25 cm (about 5 to 10 in). The low end of the range addresses compensation for the early 1960s channelization and the higher end would offset the additional change in conveyance capacity that has been estimated by the Study Board to have occurred since then.

The Commission recognizes that the change in conveyance capacity since 1963 cannot be attributed directly to a particular human action and thus any restoration actions will warrant further deliberation by the Governments.

The Commission encourages the Governments to focus on an option that would not result in a permanent restoration change that could exacerbate future high water levels, but rather one that could primarily provide relief during low water periods.

The Commission also recommends that the Governments undertake a comprehensive benefit-cost analysis and a detailed environmental study that includes upstream and downstream impacts of potential structural restoration options as part of this more comprehensive investigation.

Finally, the Commission recommends that the Governments undertake periodic bathymetric surveys along the full reach of the St. Clair River and its delta in order to better understand the conveyance issue in the St. Clair River.

4. Adaptive Management and Great Lakes-St. Lawrence River Water Levels Advisory Board

IUGLS Board Recommendations:

The IJC should seek to improve scientific understanding of hydroclimatic processes occurring in the Great Lakes basin and the impacts on future water levels as part of a continuous, coordinated binational effort. In particular, the IJC should endorse the following initiatives as priorities and strongly recommend ongoing government support:

- strengthening climate change modelling capacity in the Great Lakes basin in light of the promising preliminary results identified in the Study; and,*
- enhancing hydroclimatic data collection in the upper Great Lakes Basin.*

An adaptive management strategy should be applied to address future extreme water levels in the Great Lakes-St. Lawrence River basin through six core initiatives:

- *strengthening hydroclimatic monitoring and modelling;*
- *ongoing risk assessment;*
- *ensuring more comprehensive information management and outreach;*
- *improving tools and processes for decision makers to evaluate their actions;*
- *establishing a collaborative regional adaptive management study for addressing water level extremes; and,*
- *promoting the integration of water quality and quantity modelling and activities.*

The IJC should seek to establish a Great Lakes-St. Lawrence River Levels Advisory Board to champion and help administer the proposed adaptive management strategy for the entire Great Lakes-St. Lawrence River system.

The IJC should work with governments to pursue funding options and coordinate adaptive management efforts with the Lake Ontario-St. Lawrence River Working Group, the renewal of the Great Lakes Water Quality Agreement, and the implementation of the Great Lakes-St. Lawrence River Basin Sustainable Water Resource Agreement.

Early in the Study, the Commission recognized and directed that a comprehensive adaptive management plan was needed to supplement the new **Lake Superior Regulation Plan 2012**. Without such a plan, critical monitoring and modelling established by the Study Board likely would not be maintained and the ability of Governments and other parties to adapt effectively to a changing climate would be hampered. The 2009 Study Board report identified a number of monitoring systems that needed to be maintained and modelling efforts that required further development. These initiatives would form an integral part of an adaptive management plan.

At the conclusion of the Study, a draft adaptive management strategy was developed and the elements of that strategy were outlined in the final Study Board report. In May 2012, the Commission established the International Great Lakes-St. Lawrence River Adaptive Management Task Team (Task Team) to further develop a detailed adaptive management plan. The plan is to be delivered to the Commission in mid-2013. It will evaluate and recommend priorities for binational adaptive management activities in the Great Lakes-St. Lawrence River basin to address future extreme water levels, consistent with the Study Board's recommendations. It will address adaptive management activities required for the upper Great Lakes system, the Lake Ontario-St. Lawrence River system, and activities that are common to both. The scope of the plan will include:

- studies and activities proposed to be performed;
- the level of detail and costs anticipated for activities;
- partnering opportunities and interested organizations that may conduct proposed activities; and,
- identify whether the activities are within or beyond the Commission's existing authorities.

The Task Team will address institutional arrangements and processes for administering the proposed plan. The Task Team will evaluate the Study Board recommendation concerning the establishment of a Great Lakes-St. Lawrence River Water Levels Advisory Board, exploring possible roles, functions and responsibilities as well as membership and the reporting structure within the overall governance of the system. In doing so, the Task Team will seek the views of the Commission's three Great Lakes Control Boards and the Lake Ontario-St. Lawrence River Working Group. In developing the plan, the Task Team will be seeking input from federal, provincial and state agencies, as well as from stakeholders.

Another important aspect to be addressed by the Task Team is analysis of linkages between water level and water quality considerations as described in the new Great Lakes Water Quality Agreement.

In the past, the Governments have asked the Commission on several occasions to assess approaches that could help to reduce the impacts of extreme water levels, both high and low. In addition, the concept of an International Great Lakes Levels Advisory Board was explored in the late 1970s. The Commission created the International Great Lakes Levels Advisory Board on August 9, 1979 in response to a reference from governments. The 1979 reference supported the Commission establishing such an advisory board to assist the Commission with its continuing responsibilities regarding Great Lakes water supplies, levels and flows. Furthermore, following the 2000 report, "Protection of the Waters of the Great Lakes", the governments provided a standing reference authorizing the Commission to review its recommendations contained in the 2000 report. One of the recommendations was that federal, state and provincial governments should move quickly to establish systematic arrangements for the exchange of water data and information and undertake coordinated research efforts to provide improved information for future water planning and management decisions. The work being proposed under the Great Lakes-St. Lawrence River Adaptive Management Plan could fulfill this long-standing need. In considering the Study Board's analysis and recommendations on adaptive management, the Commission finds that there is a continuing need for a comprehensive approach to adaptive management and broader governance mechanisms for managing water levels in the Great Lakes-St. Lawrence River system.

Therefore, based on these considerations:

The Commission supports in principle the Study Board's adaptive management recommendations, with the understanding that the Commission will provide its advice to Governments on the scope and extent of the binational adaptive management plan after it has had the opportunity to review the Task Team's final report.

Through its Task Team, the Commission is also evaluating institutional arrangements and processes for administering the proposed plan, including the Great Lakes-St. Lawrence River Water Levels Advisory Board recommendation made by the Study Board. The Commission will provide its advice to Governments on these two remaining Study Board recommendations in mid-2013.

Further Advice to Governments

The Commission has been involved in two major studies over the last decade: the International Lake Ontario-St. Lawrence River Study and the International Upper Great Lakes Study. The Commission has learned many important lessons from undertaking these major efforts.

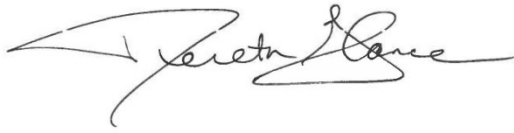
First, both of these studies greatly benefitted from an external independent peer review process. Therefore, the Commission proposes that independent peer review be an integral part of future bi-national studies. Independent peer review helps to ensure that the best science is put forward by a study and that the scientific process is transparent.

Secondly, the Commission recognizes that storing and maintaining access to the valuable data and information collected by these comprehensive and costly studies is an important investment. In the past, many of these study data and reports have been stored in multiple places and now are either lost or no longer readily accessible. The Commission has for the first time ensured that these important study data and information materials will be stored by the Commission itself. The Commission would like to draw attention to www.ijc.org, where all the data and reports associated with the Study are available and are linked to the Study Board's decision-making process. Storing and making accessible these data and information materials will greatly save time and costs for the Governments and other parties in the future.

Finally, it is clear to the Commission that conducting major periodic studies may not be the most prudent approach to addressing water level regulation, particularly in light of a changing climate and the continually evolving and advancing state of science. The Commission believes that conducting ongoing monitoring and analyses to address uncertainty, for example, through the proposed adaptive management approach, may be a better investment of the Governments' resources and provide more timely information for a wide range of decision-makers

The Commission welcomes the opportunity to discuss these recommendations and findings with the Governments of Canada and the United States and their respective agencies.

Signed this 15th day of April, 2013.



Dereth B. Glance
Commissioner
U.S. Section



Joseph M. Comuzzi, P.C.
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Richard Moy
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**Statement of Lana Pollack, U.S. Section Chair
On The Commission's Advice to Governments
On the Recommendations of the International Upper Great Lakes Study**

April 15, 2013

I wish to acknowledge the outstanding work done in the International Upper Great Lakes Study and commend the work of the entire study team. The Study Board's report is meritorious in many regards.

I have chosen today not to sign the Commission's Advice to Governments on the Recommendations of the International Upper Great Lakes Study for the following reasons:

- The Advice, in my view, places insufficient emphasis on climate change and the need for governments to pursue adaptive management strategies in the basin. It is critical that consistent funding be provided by governments to conduct necessary adaptive management studies and adequate adaptive management implementation to address extreme Great Lakes water levels anticipated in the future due to climate change.
- The Advice may also raise false hopes that structures in the St. Clair River, if built, would be sufficient to resolve the suffering from low water levels of Lake Michigan-Huron, while at the same time causing possible disruption downstream in Lake St. Clair and Lake Erie.

Ultimately, we have a responsibility to our two countries to assist them in protecting the diverse interests dependent on the Great Lakes by addressing the long-term impacts of climate change caused by the buildup of greenhouse gases in the atmosphere.

Sincerely,



Lana Pollack
Chair
US Section