

## **Annex 1**

### **DIRECTIVE To The UPPER GREAT LAKES “PLAN OF STUDY” REVISION TEAM**

The purpose of this directive is to establish and direct the Upper Great Lakes “Plan of Study Revision” Team (Team) to:

- incorporate a new first phase to examine physical processes and possible ongoing changes in the St. Clair River channel and impacts on levels of Lakes Michigan and Huron
- incorporate lessons learned from the Lake Ontario – St. Lawrence River Study
- further streamline the existing Plan of Study (POS) which will now be known as the Upper Lakes Plan of Study (ULPOS)

The Upper Great Lakes Plan of Study of January 2002 was sent to Governments in March 2002 with a request for funding. The Governments have not, to this date, funded the proposed study. In the past year, evidence pointing to possibly important water level changes in Lakes Michigan and Huron due to ongoing physical changes in the upper St. Clair River has come to light in the Georgian Bay Association funded Baird Report. The Commission decided to revise its ULPOS to thoroughly investigate this issue after consulting with its Great Lakes Control Boards, and following a March 30 binational multi-agency meeting on the subject hosted by Environment Canada.

This work of revision is to retain the principal purpose of the study which is to (i) review the operation of structures controlling the outflows from Lake Superior in the light of the impacts of those operations on water levels, flows, and consequently affected interests in the upper Great Lakes system from Lake Superior downstream through Lake Erie, including the environment; (ii) assess whether changes to the Orders or regulation plan are warranted to meet contemporary and emerging needs, interests and preferences for managing the system in a sustainable manner, including under climate change scenarios; and (iii) evaluate any options identified to improve the operating rules and criteria governing Lake Superior outflow regulation. The POS revision work will be conducted in the context of Articles III and VIII of the Boundary Waters Treaty and the Commission’s alerting responsibilities in the same manner as conducted for the IJC’s *Plan of Study for Criteria Review in the Orders of Approval for Regulation of Lake Ontario – St. Lawrence River Levels and Flows*.

This revised POS shall include:

- a. the definition of the studies to be performed, including possible development of a 3-dimensional hydrodynamic model for the St. Clair River and the level of detail anticipated for each study,
- b. recommendations as to the agencies or organizations capable of carrying out each study, recognizing that studies are to be conducted binationally,

- c. sources of, or means of obtaining, needed information,
- d. recommendations on the order and duration of the study and its phases,
- e. depending on the nature and extent of St. Clair River changes and impacts – recommendations for mitigation, and
- f. estimates of the time, dollar and personnel resources required for the conduct of each unit of the study.

In the course of streamlining the 2002 POS, the team shall retain the essential work related to the following studies or activities:

- a. Review of available data and research that will inform and prioritize studies and activities to be completed through the POS
- b. System flow and level modeling using compiled historical flow records, available post-glacial levels information, extended supply variability data, and considering current diversions into and out of the Great Lakes system
- c. Climate change impacts on levels and flows
- d. Effects of past and current dredging on levels and flows
- e. Groundwater impacts on levels and flows
- f. Defining the amount of anthropogenic regulation effects compared to natural levels and flows in the system
- g. Development of alternative control approaches that as nearly as possible meet the needs of all interests (including the integrity of the ecosystem), appropriately balance effects between Lakes Superior and Michigan-Huron while considering impacts on the St. Marys River and downstream of Lakes Michigan-Huron (including on Lake Erie), make provision for emergency conditions, and respect the requirements of the Boundary Waters Treaty and in particular Article VIII
- h. Ongoing public involvement in executing the study, including institutional arrangements to ensure appropriate communication with and among all interests, as well as a means of testing and demonstrating the effects of possible scenarios with the public
- i. Development of recommendations concerning appropriate communications on Lake Superior outflow regulation with and among all interests following completion of the study
- j. Development and implementation of an evaluation methodology for characterizing and assessing impacts associated with various water level and flow scenarios
- k. Qualitative assessment of how demographic and other possible future changes may affect user needs, water supplies, and regulation impacts

The Commission shall appoint an equal number of members from Canada and the United States to the Team. Members act in their personal and professional capacities and not as representatives of their countries, agencies, organizations, or other affiliations. Team members shall be responsible for their own expenses unless otherwise arranged by the Commission.

The Team shall consult with others as necessary, and especially the International Lake Superior Board of Control, to complete its work. It shall take note of work of all other agencies and organizations in both countries in order to make the most effective use of resources and efforts in both countries. It shall consult with the Lake Ontario - St. Lawrence River Study Board, currently conducting studies for the St. Lawrence River basin, to determine how best to leverage progress from that study applicable to the upper Great Lakes.

The Team shall keep the Commission informed of its progress and direction. The Team shall submit to the Commission:

1. Within one month of its formation, a document framing the general nature of the anticipated POS, and a public consultation plan;
2. By August 25, a draft revised POS; and
3. By October 15, 2005, a final POS (an electronic copy and two printed copies provided to each section of the Commission.)

The Team shall make use of public input received prior to and during the development of the POS. To the extent possible, the POS revision shall be an open and transparent process. The Team shall conduct at least one meeting with the public in Canada and one in the United States to obtain input directly from the public. The Team shall provide other opportunities for the public to provide input during the revision of the POS. The Team shall coordinate its public involvement plans with the Commission.

Documents, letters, memoranda, and communications of every kind in the official records of the Commission are privileged and become available for public information only after release by the Commission. The Commission considers all documents in any official files that the team may establish to be similarly privileged. Accordingly, all such documents shall be so identified and maintained as separate files. The Commission will work with the Team to assure that relevant information is available for public review in a timely manner.

To assist in carrying out this assignment, attached are copies of the following:

- a. 1909 Boundary Waters Treaty
- b. Commission Orders of Approval
- d. March 19, 1996, Scope of Work, developed by the International Lake Superior Board of Control
- e. Membership of the International Lake Superior Board of Control
- f. Upper Great Lakes Plan of Study of January 2002

signed: May 12, 2005

Elizabeth C. Bourget  
Secretary  
U.S. Section

Murray Clamen  
Secretary  
Canadian Section

## **Annex 2**

### **Public Consultation in the Preparation of the 2002 Plan of Study and 2005 Revised Plan of Study**

This annex contains two parts. Part A is a summary of the public consultation activities conducted in preparing the January 2002 Upper Great Lakes Plan of Study (POS). Part B describes the activities carried out in 2005 for the revision of the plan of study.

#### **Part A: January 2002 Plan of Study**

In May 2001, the International Joint Commission (IJC) informed the governments of its intention to develop a plan of study with the purpose of reviewing the IJC Orders and the regulation of the outflows from Lake Superior. Concurrently, the IJC informed the public and invited comments on the draft directive setting up a team to prepare the plan of study. The IJC held public meetings to hear views and concerns, and solicit opinions from the public on the proposed study in the following cities:

June 25, 2001, Sault Ste. Marie, Ontario  
June 26, 2001, Sarnia, Ontario  
June 27, 2001, Port Severn, Ontario  
July 9, 2001, Duluth, Minnesota  
July 10, 2001, Thunder Bay, Ontario

About 70 members of the public attended the five public meetings. There was overwhelming agreement and support for the study.

In addition to comments provided by citizens, the IJC received comments from the following groups in the spring and early summer of 2001 prior to forming the Plan of Study team:

Great Lakes Commission  
U.S. Congressional members of Great Lakes States and staff  
Lake Superior Binational Forum  
Great Lakes Fishery Commission  
Great Lakes Mayors  
Great Lakes United  
Edison Sault Electric Company  
Chippewa Ottawa Resource Authority  
International Great Lakes Coalition  
WayWahTaysee Association  
Ohio Department of Natural Resources  
New York State Department of Environmental Conservation  
Michigan Department of Environmental Quality  
Pennsylvania Department of Environmental Protection

Illinois Division of Water Resources Management  
The Nature Conservancy  
Minnesota Department of Natural Resources  
U.S. Geological Survey  
U.S. Department of State  
Great Lakes Boating

The team consulted with or received comments from the following during preparation of the draft Plan of Study:

International Great Lakes Coalition  
Whitefish Bay Shoreline Association  
Georgian Bay Association  
Edison Sault Electric Company  
U.S. Coast Guard  
Great Lakes Shipping  
Shipping Federation of Canada  
Great Lakes Power Limited  
Lake Carriers Association  
USS Great Lakes Fleet  
Western Great Lakes Pilots Association  
Environment North, Thunder Bay  
National Marine Conservation Area  
Northwest Region Advisory Committee  
Union of Ontario Indians (1850 First Nations)

In October 2001, the team invited a panel of experts in Canada and the United States to conduct a peer review of the draft POS. The peer reviewers were selected as representative of a broad range of interests, expertise and geography. Later in the same month, the team finalized the draft POS and mailed close to 400 copies to the public, interest groups, elected officials, and First Nations / Native Americans, requesting comments on the document. Next, another round of public meetings was held in the following cities:

October 31, 2001, Duluth, Minnesota  
November 1, 2001, Thunder Bay, Ontario  
November 5, 2001, Sault Ste. Marie, Ontario  
November 6, 2001, Muskegon, Michigan  
November 7, 2001, Milwaukee, Wisconsin  
November 13, 2001, Parry Sound, Ontario  
November 14, 2001, St. Clair Shores, Michigan  
November 15, 2001, Cleveland, Ohio

A toll-free call-in number was also made available at the Milwaukee and Parry Sound meetings to accommodate members of the public who could not travel to meeting locations. About 80 members of the public attended this second series of public

meetings. The vast majority of participants represented some 20 different non-governmental organizations, several of which have memberships numbering in the thousands. Broad support was expressed for both the study and the proposed approach. Specific comments for additions or improvements to the document were made in all the meetings.

In preparing the 2002 POS, the team also conducted targeted consultations with interest groups. Interest groups included in these formal and informal consultations included:

- Hydropower
- Commercial Navigation
- Residential property owner associations
- Recreational boating
- Ecosystem
- First Nations/Native Americans

The team received written comments from the following organizations:

- Sierra Club
- The Nature Conservancy
- Georgian Bay Association
- Lake Superior Binational Forum
- Michigan Department of Natural Resources, Parks and Recreation Bureau
- U.S. Army Corps of Engineers, Great Lakes and Ohio River Division, Water Management Team
- Ohio Lakefront Group
- National Wildlife Federation
- Indiana Geological Survey
- New York Department of Environmental Conservation
- Ojibways of the Pic River First Nation
- Michigan Department of Natural Resources, Alpena Great Lakes Fisheries Research Station
- U.S. Department of Transportation, Maritime Administration
- Michigan Boating Industries Association

All comments received were reviewed by the POS team. Many comments contributed towards improving the draft document and they were incorporated when preparing the January 2002 POS.

## **Part B October 2005 Revised Plan of Study**

In May 2005, the IJC informed the governments by letters and the public through a media release of its plan to expand the 2002 Plan of Study to include a study of the St. Clair River and its impacts on water levels. Two other purposes were also added, one to incorporate lessons learned from the International Lake Ontario – St. Lawrence River

Study and the other to streamline the existing plan of study. Later in the month, the IJC appointed members of the Upper Great Lakes Plan of Study Revision Team and informed the public through its June 2 media release.

Extensive efforts were made to publicize the work of the Team, and to invite the public: to comment on the proposed study; to attend public consultation meetings; and to comment on the draft revised plan of study. Public notices were placed in Environment Canada's newsletter (*Levelnews*) and in the Corps of Engineers' newsletter (*Great Lakes Update*) informing on the work of the POS Revision Team and announcing the public consultation meetings. On July 28, about 320 letters were sent in Canada and 450 in the United States, to the public, elected officials, Federal, State, Provincial, local and non-government agencies inviting them to provide advice and comments on revising the plan of study, and to invite them to attend the following public meetings:

September 1, 2005 Parry Sound, Ontario  
September 13, 2005 Sault Ste. Marie, Ontario  
September 14, 2005 Port Huron, Michigan  
September 15, 2005 St. Joseph, Michigan

The meeting announcement was also sent out on some internet listservices as well as posted on additional web sites. Prior to the public meetings, public notices were placed in local newspapers, radio stations and community television stations. A total of about 110 members of the public attended the four consultation meetings.

Beginning in August 2005, the IJC hosted a POS Revision Team internet web site to inform the public of the revision of the plan of study, work progress, and to solicit public inputs. On the web site, a template was made operational during the period August 24 – October 6, whereby the public could send in their comments on the proposed study and on the draft revised Plan of Study which was placed on the web site on August 25. A media release was issued on August 26 inviting public comments. The Team received about 205 public comments via this web site. The Team also invited the public to provide comments by either e-mail or written letters. Close to another 100 individuals responded by e-mails, letters and fax.

In addition to making it possible for the public to download the draft Plan of Study from the Internet, the Team provided hard and CD copies of the draft Plan of Study at the public meetings, and mailed material to those who did not have internet access.

Similar to the results of the 2001 public consultation, the public response in 2005 shows overwhelming support for the study, and for the addition of the St. Clair River to the plan of study.

All comments received were reviewed by the POS team. Many comments contributed towards improving the draft document and they were incorporated when preparing the October 2005 POS.

## **Annex 3**

### **Responsibilities of Study Participants and Suggested Source for Expertise**

The Plan of Study proposes a study organization consisting of a study board, study directors, panels of advisors and technical/resource groups responsible for studies. While experts in government agencies are expected to be appointed to the study organization, private citizens, companies and industries, and the academic community who have good knowledge of Great Lakes water level issues and experience in multi-disciplinary studies should be considered. All study participants serve in their personal and professional capacity and do not represent their employer, company or institution. The list below is not meant to be all inclusive. There are many agencies that may provide expertise to the study, such as local governments, universities and non-governmental organizations, which are too numerous to mention.

On joining the study organization, the study participant should be advised of the time expected to be spent on the study, including travel to attend meetings.

Experts from the following organizations could assist the study.

#### **1. Study Board and Study Management**

Appointments to the Study Board and study management are to be made by the International Joint Commission.

#### **2. Communications**

This group would have individuals who are well versed in the public affairs and public communications.

##### **United States:**

U. S. Army Corps of Engineers  
NOAA SeaGrant Program

##### **Canada:**

Environment Canada

##### **International:**

International Joint Commission  
Great Lakes Commission  
Non-Governmental Organizations

#### **3. Public Interest Advisory Group**

This group would have individuals who are very knowledgeable of water level issues. Their responsibilities would include advising the study board and work groups on issues of concern, advising on the technical nature of the study, and acting as liaison between the study board and their constituents.

#### **4. Information Technology**

This group would be responsible for developing long-term information strategy for the study board, and its implementation. The group would also operate and maintain the study board's web site to facilitate data exchange and storage among the work groups, and to communicate with the public.

#### **5. Independent Technical Review**

Experts will be invited from time to time to advise and comment on the science used in the study. The Study Board or its work groups would invite peer review when warranted, of the science and evaluation techniques prior to their adoption for use. Panels of experts on various Great Lakes disciplines especially economic and environmental evaluation would be essential at the early phase of the study to assist the Study Board on deciding study methods and major study assumptions.

#### **6. Plan Evaluation**

This group would advise the study board on selection of evaluation methods and study assumptions, and would be responsible for developing and implementing procedures and schedule for timely synthesis of study results for the Board's consideration.

#### **7. Resource Evaluation Groups**

Resources evaluation groups for various disciplines are proposed. The resource evaluation groups are responsible for: evaluating, in accordance with method and level of detail approved by the Board, various water management options and provide information essential for decision making; timely submission of work progress reports and final report in suitable formats for use by the Study Board; providing timely information to support for the study board web site to inform the public on the study progress.

Listed below are the potential sources for expertise when making up the study organization.

#### ***Ecosystem***

##### **United States:**

- U. S. Fish & Wildlife Service
- U.S. Geological Survey
- U.S. Environmental Protection Agency
- U.S. Army Corps of Engineers
- Great Lakes Environmental Research Laboratory
- Various State Departments of Environmental Quality and Natural Resources
- State Geological Surveys
- Native American / Tribal Organizations
- NOAA SeaGrant Program

The Nature Conservancy

**Canada:**

Environment Canada

Fisheries and Oceans Canada

Ontario Ministry of Natural Resources

Conservation Authorities

Ontario Ministry of Environment

First Nations

**International:**

Non-Governmental Organizations

Universities

***Recreational Boating and Tourism***

**United States:**

U.S. Army Corps of Engineers

U.S. Coast Guard

Michigan State University

NOAA Sea Grant Program

**Canada:**

Ontario Ministry of Natural Resources

Environment Canada

Canadian Coast Guard

Canadian Hydrographic Service

Ontario Marina Operators Association

**International:**

Great Lakes Commission

Non-Governmental Organizations

***Hydroelectric Power***

**United States:**

Edison Sault Electric Company

U.S. Army Corps of Engineers

New York Power Authority

**Canada:**

Great Lakes Power Company

Ontario Ministry of Natural Resources

Ontario Power Generation

***Commercial Navigation***

**United States:**

U.S. Army Corps of Engineers

U.S. Coast Guard

Lake Carriers Association

U.S. Great Lakes Shipping Association

Western Great Lakes Pilots Association

St. Lawrence Seaway Development Corporation

**Canada:**

Canadian Coast Guard

Shipping Federation of Canada

Canadian Ship Owners Association

FedNav Limited

Transport Canada

Canadian Pilotage Authority

St. Lawrence Seaway Management Corporation

**International:**

Great Lakes Commission

Non-Governmental Organizations

***Municipal, Industrial, Domestic Water Uses***

**United States:**

State Departments of Environmental Quality

Public Works/ Municipality Representatives

U. S. Environmental Protection Agency

U.S. Geologic Survey

State Departments of Public Health

**Canada:**

Ontario Ministry of Environment

Environment Canada

Public Works/Municipality Representatives

***Coastal Zone***

**United States:**

U.S. Army Corps of Engineers

State Departments of Environmental Quality and Natural Resources

U.S. Geological Survey

State Geological Surveys

NOAA SeaGrant Program

**Canada:**

Environment Canada

Ontario Ministry of Natural Resources

Conservation Authorities

Ontario Ministry of Municipal Affairs and Housing

**8. Technical Study Groups**

***Lake Superior Outflow Regulation***

**United States:**

U.S. Army Corps of Engineers

Great Lakes Environmental Research Laboratory

U.S. Geological Survey

NOAA CO-OPS

**Canada:**

Environment Canada

**International:**

Non-Governmental Organizations

Universities

***St. Clair – Detroit River Systems***

**United States:**

U.S. Army Corps of Engineers

Great Lakes Environmental Research Laboratory

U.S. Geological Survey

NOAA CO-OPS

**Canada:**

Environment Canada

**International:**

Non-Governmental Organizations

Universities

## Annex 4

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