

# **INTERNATIONAL UPPER GREAT LAKES STUDY BOARD**

## **ORGANIZATIONAL AND OPERATIONAL GUIDELINES FOR THE WATER USES TECHNICAL WORKING GROUP**

### **GENERAL GUIDELINES AND INFORMATION**

The Technical Working Groups (TWGs) are formed by the Board in consultation with the IJC. The TWGs are organized under specific tasks which fulfill the mandate of the IJC to undertake the studies required to provide the Commission with the information it needs to evaluate options for regulating levels and flows in the Upper Great Lakes system in order to benefit affected interests and the system as a whole in a manner that conforms to the requirements of the Treaty, and the Board shall be guided by this mandate in pursuing its studies. These studies include:

1. Examining physical processes and possible ongoing Lake Huron outflow and St. Clair River changes and their impacts on levels of Lake Michigan and Huron. Additionally, depending on the nature and extent of these changes and impacts, recommending and evaluating potential remedial options;
2. Reviewing the operation of structures controlling Lake Superior outflow in relation to impacts of such operations on water levels and flows, and consequently affected interests;
3. Assessing whether changes to the Order or regulation plan are warranted to meet contemporary and emerging needs, interests and preferences for managing the system in a sustainable manner; and
4. Evaluating any options identified to improve the operating rules and criteria governing the system.

Specific Tasks Teams (TTs) are the Lake Huron Outflow/ St. Clair River Task Team and Lake Superior Regulation Task Team (See attached “IUGLS Organization – Task Team Framework”). The following TWGs are established under the two Task Teams to provide the expert and technical support to deliver the Study:

#### **I. Lake Huron Outflow/ St. Clair River Task Team:**

1. Data Verification, Reconciliation, Collection and Monitoring;
2. Hydraulic Modeling; and
3. Sediment Studies.

## II. Lake Superior Regulation Task Team:

1. Municipal, Domestic and Industrial Water Uses;
2. Commercial Navigation;
3. Eco-System;
4. Coastal Zone;
5. Hydropower; and
6. Recreational Boating and Tourism

## III. Other TWGs which serve one or both TTs:

1. Basin Hydrology: to address net basin supply (NBS), net total supplies (NTS) and climate change issues for both Task Teams;
2. Plan Evaluation: directly linked to the Lake Superior Regulation Task Team, but could peripherally be connected to the Lake Huron Outflow/ St. Clair River Conveyance Task Team;
3. Mitigation Issues: directly linked to the Lake Huron Outflow/ St. Clair River Task Team, but could peripherally be connected to the Lake Superior Regulation Task Team.

The individuals appointed to the TWGs provide the Study Team and the International Joint Commission their expertise and support in their personal and professional capacity and not as representatives of their agencies or employers. The Board provides guidance to the TWGs directly and through the Study Co-Managers. Each TWG should, whenever possible, be composed of equal numbers of members from the U.S. and Canada, and there shall in all cases be at least one member from each country. Each TWG will have two co-Leads, one from each country. All reports of TWGs shall include any dissenting or different views within the group.

Study Board and PIAG members will be apprised of the activities of the TWG by the Task Team Co-Chairs and specifically by TWG co-Leads for those in which they have an expertise in the subject being evaluated by that TWG.

TWG members are committed to work with their specific group as a team in advising on the issues and delivering the work with which the group is tasked.

The co-Leads of each TWG, working in close liaison with the Study Managers and the TWG members are expected to provide leadership and guidance in planning and delivering the work of their TWG as defined by the Study Board Work Plan. The co-Leads will organize meetings and

conference calls; draft work plans; draft terms of reference and provide cost estimates for required work; identify suppliers and sources; draft documentation for contracts; prepare written reports on completed work; and coordinate with other TWGs.

The co-Leads are responsible for ensuring that all deliverables are provided on time and within the approved budget. Meta-data will be required for all deliverables and activities will not be considered complete until this obligation is fulfilled with funding retained accordingly. (As a rule of thumb, twenty percent [20%] of funding will be retained until meta-data is provided).

Each TWG is expected to confirm its annual Work Plans and deliverables with the Board and Study Managers. Funding for the activities of each TWG, in accordance with its approved Work Plan, will be provided by the appropriate section of the Commission, in accordance with applicable government procedures and requirements.

Work that may be undertaken by other government agencies will be on the basis of well-identified products and deliverables, with timelines and itemized costs associated with the tasks. Such work may be according to a formal agreement, contract or memorandum of understanding as the case may justify. Such agreements will be concluded by the appropriate section of the Commission, in accordance with applicable government procedures and requirements.

Each TWG will submit a semi-annual activity report listing activities completed and products created during the reporting period in time to provide input to the Board's semi-annual Progress Report. The TWG will also submit a semi-annual report on expected deliverables that will be generated during the next period.

Each TWG should also keep abreast of the activities of the Board, TTs and other TWGs to ensure consistency in Board general procedures and guidelines, and to ensure best integration of the results of these groups towards the ultimate objectives of the Board and IJC.

## **SPECIFIC INFORMATION AND TASKS**

In general, municipal and industrial water intakes are not greatly affected by fluctuating water levels on the upper Great Lakes system. Most, if not all, intakes are located at depths well below the historical range of water levels recorded in the previous century. Record low water levels occurred in the mid-1920s on Lake Superior and in the mid-1960s on Lakes Michigan-Huron. All major municipal and industrial water intakes built subsequent to these low water levels are most likely designed to accommodate at least these record lows; further investigations would verify whether this is the case.

Low water levels, however, could lead to problems including increased pumping costs, poor water quality in some areas, increased turbidity which can be worsened by passing boats and commercial vessels, algae growth and decay, and higher water treatment costs. Very low water levels predicted by some of the global climate models may render some of these intakes ineffective or completely inoperable. High water levels, on the other hand, may flood water treatment facilities that are located on flood prone coastlines.

Outside the urban centres, shore-wells are the source of water for many cottages, campers, and permanent homes along the shores of the upper Great Lakes. Shorewells are generally not built to accommodate the total historical range of water level fluctuations due to lack of regulatory oversight and excessive costs. Again, if the low water levels predicted by some of the global climate models actually occur, many shorewells would be affected to the point of complete shutdown.

This study can make use of the data and evaluation methods being generated in the International Lake Ontario - St. Lawrence River Study. A fairly comprehensive inventory of the major urban and industrial intakes, especially those relatively more vulnerable to water level fluctuations, should be made. Much of this inventory data is already available from state or provincial agencies. For example, the U.S. Environmental Protection Agency is conducting a source water assessment in all Great Lake states.

All major water intakes have been documented. Invert elevations for many of these intakes are also available through this effort. Any additional information that is needed can be obtained by letter and telephone communications and if needed, followed by visits to the critical sites. During this data collection effort, information on future basin needs for municipal and industrial water supply can also be obtained, if available. This information would be closely related to future land use changes in the basin. As population continues to grow and shift, water demand will also. Analyses should include identification of areas where additional water use may occur in the future as well as relative magnitude of these potential increases.

The Water Use TWG should address the issues of climate change/variability and how the water use as a whole may need to adapt in the future to respond to more extreme conditions than have been experienced in the past.

Tasks would include, but are not limited to the following:

- Use existing state and provincial agency inventories to identify major municipal and industrial intakes, including those vulnerable to extreme water level fluctuations.
- Compile current municipal and domestic uses; estimate future expected water demands, in terms of quantity and quality.
- Assess the effects of the current regulation plan on these water uses, assuming present and future use projections.
- Conduct pilot studies designed to provide more detailed assessment, if necessary; using selected urban and rural areas.
- Visit selected sites to collect data, if necessary.
- Investigate, and adapt wherever suitable, evaluation techniques.
- Assist in identifying any changes to regulation plans to improve operations to benefit municipal, industrial, and domestic water uses.

- Evaluate the effects of alternative regulation and supply scenarios on municipal, industrial, and domestic water interests.

While water quantity does have an impact on water quality, it is not within the mandate of this study to investigate water quality in detail. Qualitative discussions will be included where appropriate. It is noted that water quality is being addressed by other avenues such as the Great Lakes Water Quality Agreement and portions of the Great Lakes Regional Collaboration.