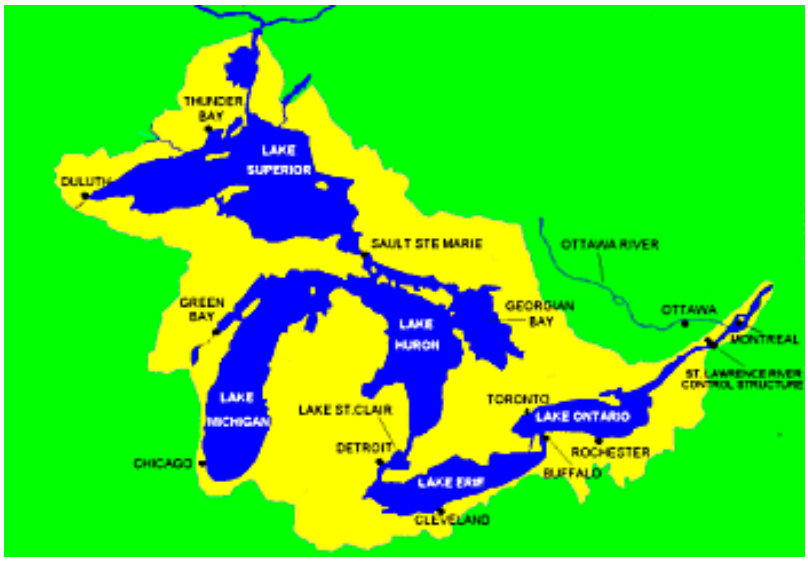
Mandate | Brochure | Members

Lake Ontario St. Lawrence River Regulation

Water empties from Lake Ontario into the St. Lawrence River and passes through the hydropower project near Cornwall, Ontario and Massena, New York. The International Joint Commission approved this project in 1952. During construction, the Commission amended its order of approval with the concurrence of the United States and Canadian Governments. The 1956 amendments added requirements to reduce the range of Lake Ontario water levels, and to provide dependable flow for hydropower, adequate navigation depths and protection for shoreline and other interests downstream in the Province of Quebec.

One requirement in the Commission's order was to regulate Lake Ontario within a target range from 74.2 to 75.4 metres (243.3 to 247.3 feet) above sea level. The project must also be operated to provide no less protection for navigation and shoreline interests downstream than would exist without the project. Another provision, known as criterion (k), was included because water supplies would inevitably be more extreme at some time in the future than in the past (1860-1954). When supplies exceed those of the past, shoreline property owners upstream and downstream are to be given all possible relief. When water supplies are less than those of the past, all possible relief is to be provided to navigation and power interests.



Great Lakes-St. Lawrence River Basin

About Us
What's New
Links
Outflow Strategy
Water Level Data
Ouflow Data
Discussion Room
Events
Comments
FAQ
Site Map

Regulatory Facilities

Lake Ontario outflows have been regulated since 1960, primarily through the Moses-Saunders power dam near Cornwall and Massena, about 160 kilometres (100 miles) from the lake. This facility is jointly owned and operated by Ontario Hydro and the New York Power Authority. Another dam, located near Long Sault, Ontario, acts as a spillway when outflows are larger than the capacity of the power dam. A third structure at Iroquois, Ontario, is principally used to help to form a stable ice cover and regulate water levels at the power dam.

The other projects in the St. Lawrence River are not supervised by the Commission. These include three navigation locks in the international section of the St. Lawrence River, two at Massena and one at Iroquois, Ontario, as well as hydropower and navigation facilities downstream in the Province of Quebec.

Lake Ontario Regulation Plan

Plan 1958-D, the current plan, specifies weekly outflows based on the water level of Lake Ontario and the water supplies to the lake. Generally, higher levels and greater water supplies result in higher outflows, and vice versa. The plan has a number of flow limitations to protect various interests in the St. Lawrence River that may be affected by extreme flows or levels. These include adequate flows for hydropower production, minimum depths for navigation and protection against flooding.

Regulation of Lake Ontario outflows does not ensure full control of Lake Ontario levels or levels downstream. The major natural factors affecting levels (precipitation, evaporation, runoff and inflow from Lake Erie) cannot be controlled. Their prediction is very complex and may not be accurate.

During periods of sustained high or low water supplies, regulation of outflows has helped to make water levels less severe. During the extreme low water supply period of the mid-1960s, for example, Lake Ontario levels were maintained higher than they would have been without the project. During the high water supply periods of the early and mid-1970s, mid-1980s, and 1993, water levels were held well below pre-project levels, providing considerable relief to shoreline interests.

At the beginning of winter, outflows are usually reduced to help to form an ice cover on the St. Lawrence River. After a stable ice cover forms, flows can be increased to offset any flow reductions. Experience has shown that during spring runoff from the Ottawa River, a major tributary, flooding in the Montreal area has been reduced by temporary Lake Ontario outflow reductions.

The International Joint Commission

The Commission was created under the Boundary Waters Treaty of 1909 to help prevent and resolve disputes over the use of waters along the Canada-United States boundary. Its responsibilities include approving certain projects that would change water levels on the

other side of the boundary. If it approves a project, the Commission's orders of approval may require that flows through the project meet certain conditions to protect interests in both countries. Hydropower development in the international reach of the St. Lawrence River is one such project.

The International St. Lawrence River Board of Control

The Board was established by the Commission in its 1952 order of approval. Its main duty is to ensure that outflows from Lake Ontario meet the requirements of the Commission's order. The Board also develops regulation plans and conducts special studies as requested by the Commission.

Outflows are set by the Board under the regulation plan or under criterion (k) once it has been invoked by the Commission. The Board may deviate from plan flows under emergency conditions or winter operations. It may also use its limited discretionary authority when a change from plan flow can be made to provide benefits or relief to one or more interests without appreciably harming others, and without breaching the requirements of the order. The Board meets at least twice a year and provides semi-annual reports to the Commission. It holds meetings with the public annually.

Membership

The International St. Lawrence River Board of Control has ten members, five each from the United States and Canada. Members serve in both their personal and professional capacities. The current United States Section chair of the Board is from the U.S. Army Corps of Engineers, while other U.S. members are from the New York Power Authority, the New York State Department of Environmental Conservation and the Rochester Institute of Technology, along with one independent engineer. The current Canadian Section chair is from the Canadian Coast Guard, while other Canadian members are from Ontario Hydro, Quebec Ministry of Environment and Environment Canada, as well as the mayor of a downstream community.

To assist the Board in carrying out the Commission's directives, each section has a secretary and a regulation representative. The regulation representatives provide technical support to the Board. The Board also has an Operations Advisory Group, consisting of navigation and hydropower representatives, which recommend weekly outflows for approval by the Board.

CONTACTS

Reg Golding
Secretary, Canadian Section
Canadian Coast Guard
200 Kent Street
Ottawa, Ontario K1A 0E6
Tel (613) 998-1408
Fax (613) 991-2473
Email

John Kangas
Secretary, United States Section
U.S. Army Corps of Engineers
111 North Canal Street
Chicago, Illinois 60606-7205
Tel (312) 353-4333
Fax (312) 353-5439
Email