



Lake Ontario-St. Lawrence River Plan 2014: Summary of Benefits and Impacts

September 2014 - The International Joint Commission (ijc.org) has submitted its conclusions to the Governments of Canada and the United States in the report, "Lake Ontario-St. Lawrence River Plan 2014: Protecting against extreme water levels, restoring wetlands and preparing for climate change." The two governments have been asked for their views and concurrence on revising the IJC's approval for regulating water levels and flows in Lake Ontario and the St. Lawrence River. This Fact Sheet summarizes conclusions of the report.

A Careful Balancing of Diverse Interests

Water levels on Lake Ontario and the St. Lawrence River are primarily determined by rain, snow, wind and other natural factors. The Moses-Saunders Dam, approved by the International Joint Commission (IJC) in the 1950s, also provides some control over water levels and flows. Regulating levels and flows has provided benefits to various uses and interests by allowing for hydropower production; improving conditions for commercial navigation, recreational boating and water intakes; and reducing the flooding and erosion of shoreline communities. Unfortunately, however, the regulation plan that has been in place for more than a half century, Plan 1958D with deviations (Plan 1958DD), has unnaturally compressed water levels and harmed coastal ecosystems on Lake Ontario and the Upper St. Lawrence River. These impacts were not understood when the project was approved, but it is now widely recognized that ecosystem needs must be considered along with other interests. The IJC has reviewed an extensive range of alternative regulation plans through 14 years of scientific

study, public engagement, dialogue with basin governments and careful consideration of all water uses and affected interests in Canada and the United States. IJC Commissioners have concluded that Plan 2014 allows more natural water levels while minimizing impacts to other interests. For example, the increase in the maximum Lake Ontario level under Plan 2014 is six centimeters (2.4 inches).

Affected Interests

Ecosystem

Plan 2014 helps restore plant diversity and habitat for fish and wildlife by allowing more natural variability in water levels while continuing to moderate extreme high and low levels. Plan 1958DD has reduced the natural variability in water levels and degraded the health of the remaining 26,000 hectares (64,000 acres) of coastal wetlands on Lake Ontario and the upper St. Lawrence River. Fish and wildlife have been adversely impacted because the diverse plant community has been overrun by a monoculture of cattail thickets.

The scientific evidence for the harm caused by Plan 1958DD is clear and too strong to ignore.

Coastal development

Both Plan 2014 and Plan 1958DD protect coastal development from the damage that would occur on Lake Ontario without regulation. Data show that average annual coastal damages on Lake Ontario would be approximately \$46 million under natural conditions, approximately \$18 million under Plan 1958DD and approximately \$20 million under Plan 2014. These data include impacts to shore protection structures, unprotected shorelines, and buildings on the U.S. and Canadian shoreline of Lake Ontario. While the IJC understands that these impacts are larger in some years than others, the data provide a sound basis for comparing regulation plans.

Approximately 85 percent of the costs under either plan result from investment needed to maintain shore protection structures, typically barriers made from large rocks placed along the shore. Some of these structures are tall, well-made and unlikely to fail under either plan. But other structures will be overtopped and destroyed.

While this is likely to happen under either plan, it is likely to happen a little sooner under Plan 2014, because to restore fish and wildlife habitat, Plan 2014 needs to allow for more variability in levels. Plan 2014 and Plan 1958DD are both effective at flood reduction and their performance is similar when water supplies are extremely high. A small portion of the expected coastal damage under either plan (about one percent) is due to flooding. The remaining economic impact is from erosion, which increases by a small amount under Plan 2014.

There is more variability in water levels on the lower St. Lawrence River than on Lake Ontario, in part because of the influence of Ottawa River inflows. The variability and flooding impacts on the lower St. Lawrence River would not change under Plan 2014.

Recreational boating

On Lake Ontario and the upper St. Lawrence River, Plan 2014 would result in higher autumn levels in two years out of three and lower summer water levels in some years. The net effect is a small negative impact, largely because there are more boaters in the summer than in the fall. Plan 2014 makes a small improvement for recreational boating in the lower St. Lawrence River.

Water uses addressed in the Boundary Waters Treaty

Municipal and industrial water use

Plan 2014 would continue to protect against extreme high water levels that flood facilities and extreme low water levels that expose water intakes. The result would be no change in economic benefits to municipal and industrial water and wastewater use. Facilities that experience problems under the present regulation plan would continue to experience problems under Plan 2014.

Commercial navigation

Overall, Plan 2014 would maintain the same economic benefits to commercial navigation. The frequency of low levels at the Port of Montreal would be about the same. In rare low water years, which have been experienced a couple of times in the last century, some ships traversing Lake Ontario would have to light load. However, in typical years navigation would enjoy small increases in available depths, allowing some ships to carry larger loads more frequently.

Hydropower

More natural fluctuations under Plan 2014 would slightly increase energy production at the Ontario Power Generation, New York Power Authority and Hydro-Quebec power plants. The value of the increase is approximately 0.2 percent of the value of hydropower produced at these plants.

MORE INFORMATION

See the Plan 2014 website online at [www.ijc.org/en /Plan2014](http://www.ijc.org/en/Plan2014)