

# Pressure mounts to restore Great Lakes water levels

October 2 2012, by Dan Egan

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Pressure is mounting on the U.S. and Canadian governments to explore ways to restore water levels on Lakes Michigan and Huron that have been lowered nearly 2 feet due to historic dredging on the St. Clair River. The two lakes, which are actually one body of water connected at the Straits of Mackinac, have been below their long-term average for more than a decade, and forecasters say in the coming months they could plunge below their record low.

Now an organization of 90 mayors representing more than 15 million residents in cities across the [Great Lakes](#) region is telling the International Joint Commission that it is "dissatisfied" with a recent study that determined restoring lake levels by installing some type of structure to repair damage done to the St. Clair River would be a costly project that could take decades and ultimately do more harm than good.

The St. Clair River is the primary outflow of Lakes Michigan and Huron, and a deeper river channel means more water can flow out of the lakes, into [Lake Erie](#), over Niagara Falls and, ultimately, out to the Atlantic Ocean.

The mayors group is asking the Joint Commission, a binational board that advises the U.S. and Canadian governments on boundary waters issues, to further investigate engineering options to raise lake levels in order "to compensate for human activities, notably dredging in the St. Clair River over the past decades."

The request from the mayors group was submitted as part of a public comment process for a \$17 million Great Lakes water-level study that began five years ago.

It is a study that has been plagued by controversy from the start, including the fact that it was co-chaired by an employee of the U.S. [Army Corps of Engineers](#), which many view as a source of the problem because it has a history of dredging in the St. Clair River to open Lakes Michigan and Huron to deep-draft navigation.

## ST. CLAIR KEY

The St. Clair has been heavily dredged for over a century, and the federal government has long acknowledged that this human meddling in the riverbed has led to a permanent drop of about 16 inches from Michigan and Huron's long-term average.

The depths of Lakes Michigan and Huron are in constant flux because of a complex combination of factors, including precipitation levels and evaporation rates as well as the amount of water flowing into them from Lake Superior down the St. Marys River and out of them through the St. Clair.

The lakes' level typically swings by inches seasonally (low in winter, high in summer) and by as much as 6 feet over a period of years, depending on long-term weather patterns. That means a graph of their long-term average includes dips and blips much like an electrocardiogram, with a line running through the statistical middle of the peaks and valleys representing the long-term average level.

Alarmed that even the lakes' peak levels had been below that average line for several years, a Canadian conservation group created by property owners from northern Lake Huron's Georgian Bay hired its own

engineering firm to conduct a study of what was going on in the St. Clair River in 2004. That study said the water lost from the lakes by expanding the river channel was actually much greater than 16 inches - and getting worse.

The engineering firm concluded that an Army Corps dredging project completed in the early 1960s had exposed the riverbed to severe - and ongoing - erosion that helped trigger a massive and increasing water loss from Michigan and Huron. The problem was compounded by shoreline hardening in Lake Huron with structures like docks and retaining walls stopping the natural flow of sand and silt into the St. Clair to fill in the river bottom. The Georgian Bay group likened the problem to an ever-expanding drain on a bathtub. Others called it a hole in the bottom of the lakes.

Responding to public concern, the Joint Commission instructed a team of scientists in 2007 to focus on the St. Clair as part of a larger study of [water levels](#) on Lakes Michigan, Huron and Superior. Working under orders to get that work done fast, this "study board" responded in 2009 that unexpected erosion had indeed occurred since the 1960s dredging but that it was not ongoing and had led to an additional water loss of only about 3 to 5 inches from the lakes. Because of the previously acknowledged 16-inch loss tied to earlier dredging, that means if you walk down to the shore of Lake Michigan today, the water is about 20 inches lower than it would otherwise be, according to the study.

This can be considered more of a blessing than a problem in high-water years like the mid-1980s, when waves were lapping at Chicago's Lakeshore Drive. But in low-water years it causes havoc for commercial navigation and marina operators, can render private docks useless, trigger weed growth on beaches and have devastating effects on sensitive wetland zones.

The St. Clair study board initially deemed the erosion to be "natural" because the board said it was likely caused by an ice jam in the river in the mid 1980s. "We have no other explanation," the study board's co-chair, Eugene Stakhiv, a career Army Corps employee, said when the first draft of the study was released.

And because the study board considered the erosion to be natural, it said it would not recommend pursuing some type of structure to slow flows in the St. Clair and boost average levels for Michigan and Huron. It also noted that a change in climate patterns and the Earth's crust rebounding from the last ice age were to blame for the water level drop.

But the study board backed off the ice jam story when it released its final report seven months later, acknowledging it didn't know what triggered the erosion. Still, the study authors maintained that it had since stopped and that the 5-inch additional loss wasn't enough to merit a river fix. They didn't say what amount of water loss would have been deemed significant enough for them to recommend a project to restore water levels.

For some perspective on how much water it would take to lower the lakes by 5 inches, the reversal of the Chicago River in 1900 so it flowed out of Lake Michigan instead of into it means that about 2.1 billion gallons per day are siphoned into the Mississippi River basin. That diversion has resulted in a drop of Michigan and Huron's long-term average by about 2 inches.

The Joint Commission rejected the study board's conclusion to do nothing about the water loss and instead instructed it to review a range of possible fixes. The study board came back with yet another report in 2011 that concluded a variety of structures could be used to slow flows in the St. Clair and raise lake levels by as much as 20 inches, but its leaders said such a project likely would take decades to complete and

cost as much as \$170 million. The study authors also said such a project could bring with it a host of environmental troubles, including temporary low water levels on downstream Lakes Erie and Ontario as well as erosion on the shores of Michigan and Huron during extreme high-water years. They also cautioned that a riverbed restoration project could harm efforts to help endangered sturgeon recover in the St. Clair.

## WINNERS AND LOSERS

The study board has long framed the issue largely as one that pits the desires of Georgian Bay property owners, whose wetlands-rich shorelines stand to gain from higher lake levels, against the interests of residents to the south whose property could be damaged by erosion from higher water.

In 2010, the study board hired a former newspaper reporter to engage the public with social media, and in the winter of 2011 he wrote a story for the study board's website that was headlined "Lake Michiganders Don't Want to See Water Levels Raised."

The story was based on about two dozen letters solicited by a member of the study board's advisory group, and it said the majority who responded concluded this: "Leave Mother Nature alone."

"While some Georgian Bay residents believe it's worth looking at structures and other ways of restoring water levels to those in the 1960s and earlier, some Lake Michigan folks have an opposite view," the article stated.

The article made no mention that few people view the St. Clair as a natural river in the first place because of all the historic dredging, or that a year earlier the Joint Commission held a public hearing in the Lake Michigan city of Sturgeon Bay during which the crowd of about 100

overwhelmingly urged a river fix to lessen the outflow.

Similar sentiments were expressed in Milwaukee this summer during the last round of Joint Commission hearings on the issue.

## FINGER POINTING

While there are indeed plenty of people opposed to the idea of fixing the St. Clair to raise [lake levels](#), the vast majority of opinions expressed in public comments posted as of Friday on the Joint Commission's website endorse further exploration of river remediation.

A separate group of 3,000 property owners called Save Our Shoreline, which represents owners concentrated in Saginaw Bay on Lake Huron and Grand Traverse Bay on Lake Michigan, has posted on its website an Aug. 17 letter to the Joint Commission that states:

"Given the history of consistent water level reductions since 1855, the unmitigated and unplanned increase in conveyance in the St. Clair River since 1962, and the uncertainties presented by climate change, we believe it would be irresponsible not to begin the process toward a regulatory structure now."

Most conservation groups are opposed to the idea of a dam-like structure that could be manipulated to increase or decrease flows depending on weather patterns and water supplies. They contend that naturally fluctuating levels are good for the lakes' wetlands and fear a controllable structure would politicize water-level management, with economic interests trumping ecological ones.

But they are generally advocating for more research into a static structure on the river bottom that would compensate for the dredging in the river's shipping channels and still allow for natural fluctuations.

A major coalition of environmental groups isn't saying at this point that it is necessarily a good idea to restore the river bottom. But the coalition has concluded that the study board hired by the Joint Commission didn't come close to answering the critical questions.

"We believe that it is essential for the (Joint Commission) to investigate ecological restoration of the St. Clair River bottom in more depth than the Study Board did; the objective of further study should be to make up for dredging activities, especially the major activities that took place in the years of 1958 to 1962," the National Wildlife Federation, Alliance for the Great Lakes and Great Lakes United, wrote in an Aug. 31 letter to the Joint Commission.

Those groups want the Joint Commission to conduct a full-blown environmental impact statement that would analyze the costs and benefits - both ecological and economic - of such a structure, a process they expect will take two years.

The Joint Commissioners said during the public hearing in Milwaukee earlier this summer they will carefully consider the comments they are soliciting through September.

"We've not made a decision on this," Joint Commission member Dereth Glance said in July. "That is why we are out here hearing from you."

But critics have been grumbling for years that the study board leaders approached the question of whether to pursue a remediation project as if they already knew the answer. They point to a number of actions, including:

The study board released its draft of the St. Clair study in spring 2009 before all the scientific research was complete.

At that time, study board co-chair Stakhiv rejected questions raised about a possible conflict of interest in having an Army Corps employee in charge of a study into a problem that may have been caused by Army Corps dredging projects. He said nobody needed to worry because at the time the draft report was released all of the science in the study had been independently peer reviewed. The Milwaukee Journal Sentinel subsequently learned that was not true.

When the study team initially pointed toward an ice jam in the 1980s as the source of the erosion problem, it claimed that because the erosion was triggered by a natural event, the Joint Commission prohibited the study board from recommending any remediation studies or actions. The study board, however, could not produce that directive from the Joint Commission.

"The way this study was conducted makes us think that the results were predetermined," the National Wildlife Federation's Melinda Koslow said in December 2009 when the final St. Clair erosion report was released.

Lakes Michigan and Huron are now approaching their 14th year in a row of below-average levels. They are about 6 inches above their record low for September. Because of the drought and warm summer, [forecasters](#) predict them to drop another 2 inches by the middle of October, and they could hit record low levels - set nearly a half century ago - by the end of the year.

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