



Restore Our Water International

Restore Our Water International (ROWI) is an alliance of American and Canadian organizations concerned about the dire environmental and economic impacts of severe low water on Lakes Michigan and Huron and Georgian Bay. ROWI represents over 15,000 shoreline owners and commercial interests. The mission of ROWI is to restore the natural ranges of water levels on the Great Lakes and flows in their interconnecting waterways altered by man-made changes.

Water Level Problems

Water level ranges on each of the Great Lakes have been modified by humans over the last 145 years to improve commercial transport of iron ore, coal, aggregates, and other goods and to produce stable, plentiful and clean hydropower. These changes have produced huge national and regional benefits. Unfortunately, dredging operations in the interconnecting waterways and Lake Superior outflow regulation has permanently lowered water levels in Lakes Michigan and Huron by at least 20 inches. This fact is supported by multiple international studies over the last 30 years. Dredging, sand/gravel mining and channel bottom erosion in the St. Clair River has caused the majority of this change to the natural water level range on Lakes Michigan-Huron.

The protracted low water period from 2000-2013 has caused significant environmental damage, including lost wetlands, fish spawning territory and sensitive bird nesting areas, reducing bio-diversity across the upper Great Lakes ecosystem. Economic losses include advanced decay of harbor infrastructure, diminished hydropower production, reduced recreational opportunities, reduced revenues for the commercial and sport fishing industry and increased costs of commercial shipping. These impacts cost the region at least one billion dollars per year.

Climate Variability and Global Warming Trends

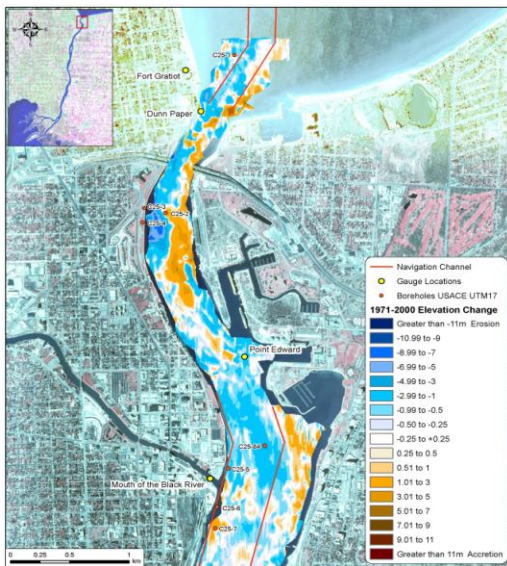
Since 1998, the climate across the Great Lakes region has shifted significantly with a decrease in snowfall and rainfall over the northern portions of the drainage basin and an increase in lake surface temperatures. This has caused greater evaporation and reduced ice cover for 14 of the last 16 winters. Record high rainfall in 2013, followed by the most severe winter in a generation and a very wet 2014 has helped water levels to rebound to be slightly above average. This rebound may be short-lived, however, as drought conditions have occurred since December 2014.

Global warming is expected to persist for the foreseeable future with increased variability in hydrologic inputs to the Great Lakes. These major natural forces are coupled with a long history of increased man-made outflows through the St. Clair River, causing a deficit in the water balance for the upper Great Lakes. Severe low water on Lake Michigan and Huron will likely reoccur sooner than later. The U.S. and Canadian governments need to act to counter previous man-made disturbances to the upper lakes and move toward retaining water throughout the system, especially in light of climate change projections.



For further information, please visit: <http://www.restoreourwater.com/>

Increased St. Clair River Outflows



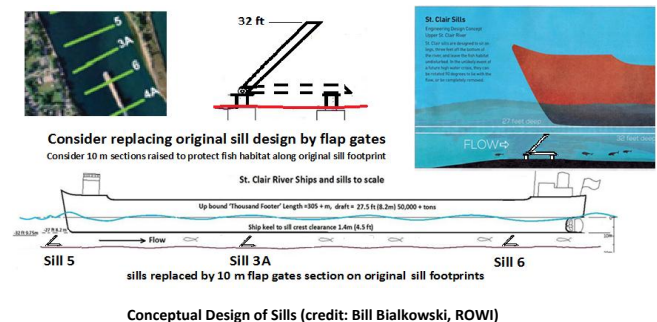
2000-1970 St. Clair River Depth Changes (from Baird, Inc, 2008).

The 20-inch lowering of Lakes Michigan and Huron was caused by a series of changes to the conveyance of the St. Clair River starting with dredging of a 20-foot deep navigation channel between 1855 and 1906, a 25-foot deep channel in 1930-1937 and a 27-foot deep channel in 1960-1962. Since 1962, there is clear evidence that erosion of the river bottom has occurred, increasing outflows from Lake Huron downstream into Lakes St. Clair and Erie.

Compensation structures were installed in the Detroit River in the 1930s and 1960s to rectify increased conveyance in that river course, without permanent adverse effects upstream or downstream. The U.S. Congress authorized the U.S. Army Corps of Engineers (USACE) to study how to compensate for increased outflow capacity, or “conveyance” of the river in 1957. Unfortunately, funding was never provided to construct these needed compensation structures. ROWI is pushing the U.S. and Canadian governments to finally resolve this festering problem.

The Solution

The USACE needs to reassess design options for St. Clair River compensation structures in light of current conditions and newer technologies. The St. Clair River compensation structures should include a series of adaptable underwater “sills” (or speed bumps) that could be placed on the river bottom. Implementation of these measures should include ice control structures in the St. Clair River and temporary structures in the Niagara River to negate any adverse upstream or downstream impacts.



Conceptual Design of Sills (credit: Bill Bialkowski, ROWI)

What is needed from the U.S. Administration and Congress

1. Expand the current Congressional authorization for the Corps reevaluation study to include structural solutions to counter the full 20” of permanent lowering of lakes Michigan and Huron AND methods for eliminating upstream and downstream water level impacts of new St. Clair River compensation measures;
2. Fund the U.S. Army Corps of Engineers by \$3 million over FY16-18 to reassess engineering options to compensate for changes in the St. Clair River, including comprehensive economic and environmental assessments;
3. Treat Lake Huron-Michigan water level restoration as a goal of the Great Lakes Restoration Initiative; and
4. Implement other structural and non-structural measures outlined in the International Joint Commission’s 1993 Advice to Governments to eliminate extreme high and low water conditions on the upper Great Lakes.

Contacts:

Roger L. Gauthier, Chair, Restore Our Water International, mobile: 248-219-4284, rogergauthier@charter.net
 Mary Muter, Vice Chair, Restore Our Water International, home: 905-833-2020, marym@sierraclub.ca

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