



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 the protracted low water crisis on Lakes Michigan and Huron and on Georgian Bay. ROWI currently represents over 15,000 shoreline owners and commercial interests across these water bodies. The mission of ROWI is to restore the natural ranges of water levels on the Great Lakes and flows in their interconnecting waterways that have been altered by man-made intervention.

Great Lakes Low Water Crisis

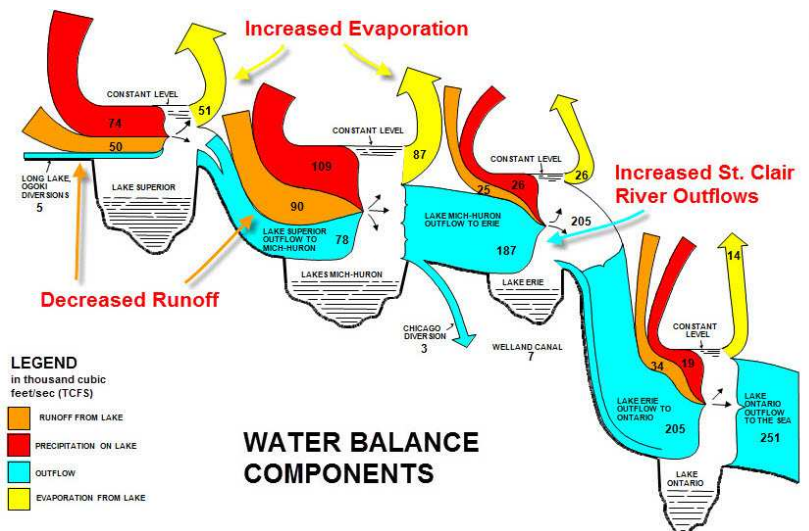
Water level ranges on each of the Great Lakes have been modified by humans over the last 145 years to improve commercial transport of iron ore, coal, aggregates, and other goods and to produce stable, plentiful and clean hydropower. These changes have produced huge national and regional benefits; however, they have caused the water levels in Lakes Michigan and Huron to be at least 20 inches lower today than what they would be under natural conditions. Low water levels have caused significant environmental and economic losses to the region. Environmental impacts include lost wetlands and lost fish spawning territory and bird nesting areas. These direct changes have decreased the bio-diversity and health of Great Lakes ecosystems. Economic impacts are occurring from degradation of harbor infrastructure, diminished hydropower production, reduced recreational opportunities, reduced revenues for the commercial and sport fishing industry and increased costs of commercial shipping. All of these impacts have caused multi-billion dollar annual losses to the region.

Water level forecasts for 2014 indicate that lakes Michigan and Huron, along with Georgian Bay, will incur water levels below the “low water action” trigger for the 15th consecutive year. This “Crises Response” level was defined by an International Joint Commission study group as a target when recommended action should be initiated. Record setting rainfall over the upper Great Lakes in 2013, coupled with the most severe winter in a generation, has not resolved the crises. Responsible government agencies have yet to act to curtail the environmental and economic damage caused by the protracted low water condition across the region.

Climate and Human Changes to the Water Balance

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 in winter months.

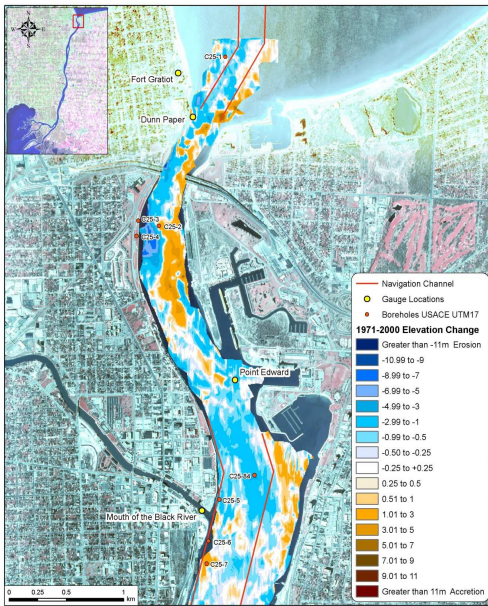
Water supplies to the upper lakes have been unusually wet and cold over the last 12 months, helping lakes Michigan and Huron water levels to rise. Unfortunately, levels will be more than a foot lower than their long-term means through 2014.



Climate change 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. The current low water crisis on Lake Michigan and Huron will persist.

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

Increased St. Clair River Outflows



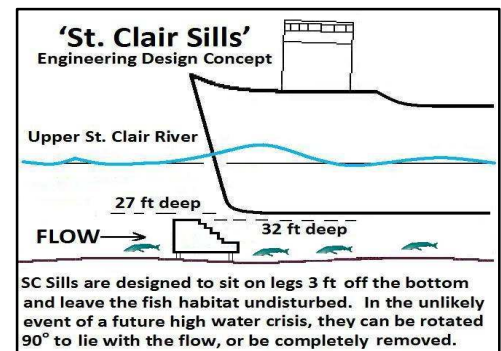
2000-1970 St. Clair River Depth Changes (from Baird, Inc, 2008).

Dredging, sand/gravel mining and channel bottom erosion in the St. Clair River have created increased outflow capacity which has permanently lowered Lakes Michigan and Huron by at 20 inches since 1855. 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 compensation structures to rectify these man-made problems.

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 the river bottom erosion 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 the river course, without permanent adverse effects upstream or downstream.

Solutions

The USACE developed preliminary designs for compensation structures that could be placed in the St. Clair River to hold water back on Lake Huron. The compensation structures, as designed, could include a series of underwater “sills” (or speed bumps) that could be placed on the river bottom, and potentially gated structures in areas that are not part of the maintained commercial navigation channel. Implementation of St. Clair River compensation measures need to include ice control structures in the St. Clair River and temporary measures in the Niagara River to negate any potential adverse impact upstream or downstream impacts. A responsible solution can be implemented to restore the natural water balance of the upper Great Lakes.



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

What is needed from governments?

ROWI is asking the U.S. and Canadian governments to seek a permanent solution to the low water crisis on the upper Great Lakes, including the following immediate actions:

1. **Push Congress to authorize the USACE to assess potential compensation measures to restore up to 20 inches of water levels to lakes Michigan-Huron, including mitigation of any potential upstream and downstream impacts;**
2. **Push the U.S. Army Corps of Engineers (USACE) to reevaluate necessary compensation in the St. Clair River for all past dredging, sand/gravel mining and erosion, in a timely manner; and**
3. **Promote water level restoration for the upper Great Lakes as a key component of the currently funded Great Lakes Restoration Initiative.**

PLEASE ADD YOUR VOICE TO THIS CAMPAIGN – WRITE YOUR MEMBERS OF CONGRESS AND YOUR GOVERNOR

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