Great Lakes Water Level Regulation and Diversions

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Abstract:

The Great Lakes are a hydraulically regulated system. The Boundary Waters Treaty of 1909, established a commission between the U.S. and Great Britain (Canada), so that joint decisions could be made regarding issues and projects such as hydropower and diversions in the Great Lakes. Individual Boards of Control acknowledge and focus on the needs of various interest groups in their respective area. The International Lake Superior Board of Control operates a technical regulation plan to determine the Lake Superior outflow rate that would bring the levels of Lake Superior and Lakes Michigan and Huron to the same relative position within their respective historical ranges, before diversion or control structures were in place. The ability to regulate Lake Superior's outflow however, does not mean that full control of lake levels is possible. Meteorological occurrences (precipitation, evaporation, and runoff) cannot be controlled or accurately predicted, and has a much greater impact to water levels than any man-made control.

Bio:

Cynthia Jarema, P.E. is a hydraulic engineer with the U.S. Army Corps of Engineers, Detroit District. She holds a B.S. in Environmental Engineering from Michigan Tech; a 2006 graduate. After several years of working on riverine modeling and design projects, she became involved in Great Lakes data collection and analysis. Cynthia currently holds the position as lead engineer support for the U.S. membership of the International Lake Superior Board of Control under the direction of the International Joint Commission.