

# Water WoRDs

## *Updates from the Water Resources Division*

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### **Historic Low Water Levels Create Crisis for Michigan's Harbors**

For the first time since 1964, water levels in Lake Michigan and Lake Huron have dropped below the previously-recorded low levels. This has resulted in exposed shipwrecks, bottomlands, wooden cribs supporting iconic piers along the coast and extensive beach areas. Overall, Great Lakes water levels are below the long-term average and Michiganders have noticed. Those of us in the Water Resources Division (WRD) who spend so much time monitoring Michigan's waters have too, so this week we tagged our friends in Michigan's Office of the Great Lakes (OGL) to help us out in explaining the state's short and long term strategy for adjusting to changing conditions. The OGL has been tasked by Governor Rick Snyder with coordinating state resources dedicated toward developing solutions to address the low water issue. Solutions that will ensure the continued enjoyment of Michigan's unparalleled recreational resource: our Great Lakes. The WRD plays an active role in the state's efforts as the environmental steward responsible for the issuance of permits allowing dredging to reopen obstructed harbors.

While there are many theories that diversions out of the basin and dredging of the St. Clair River are draining the lakes, they do not appear to be the dominant influences. Three primary factors have contributed to low lake levels:

**Paleo lake levels:** According to [U.S. Geological Survey studies \(11 MB PDF\)](#), Great Lakes water levels have historically fluctuated between high and low marks roughly every 30 years. These are called paleo lake level curves. The area is now experiencing the low in the cycle. According to this pattern, we may see water levels rise again, but we cannot predict if or when this may happen.

**Recent milder winters in the region:** From 1968 to 2002, [average temperatures in the Great Lakes region](#) have increased by 2.3°F. This has correlated with a 71 percent decrease in ice cover on the Great Lakes over the period of 1973 to 2010. With less ice cover, evaporation (and the resulting lake effect snow) is greater.

**Drought conditions:** [Precipitation in the Great Lakes basin](#) was below average in 2012. With reduced rainfall to replace the evaporation from a hot summer and a mild winter, lake levels have fallen.

The 2013 boating season is now at risk due to a confluence of factors limiting navigability in many of the state's harbors.

A lack of funding in the past decade has created a backlog of dredging needs, while historically low water levels, increased demand for a limited pool of dredgers, and high costs threaten to close many of our harbors in 2013.

Fostering vibrant waterfront communities is critical to sustainably growing Michigan's economy. The Great Lakes navigation system and harbors are critical assets that serve as an economic engine for local communities and the state. The consequences of ignoring the maintenance needs of these harbors includes negative impacts to local economies; increased risk of vessel groundings, collisions, and pollution incidents; significant job losses locally; lost recreational boating opportunities (valued at \$2 billion annually); and other reduced recreational and tourism opportunities. Michigan boating generates nearly \$4 billion in trips and boat spending each year and supports approximately 51,000 jobs.

Due to this emergency need, the State of Michigan has designed a strategy to address the most critical short-term dredging needs of harbor communities for the 2013 boating season. The short-term approach focuses on providing additional financial resources and streamlining access to resources. The state will also pursue a long-term funding fix at the federal level and will address the root of the long-term sedimentation problem in these harbors using a holistic view of healthy coastal communities and their contributing watersheds.

Specific to the WRD, we have spent a great deal of time in the past few months evaluating our existing permitting process for dredging, as governed by Michigan's Natural Resources and Environmental Protection Act, 1994 PA 451 as amended (NREPA). The number of potential parts of the code involved shines a light on how complex these permits can be. Part 13, Permit Processing, sets forth time constraints for our evaluation of permit applications. Part 31, Water Resources Protection, charges us with evaluating any harmful interference to water quality and floodplain functions. Part 301, Inland Lakes and Streams, is the key piece of the puzzle as it sets forth requirements for the dredging of an inland lake or stream, including artificial waterways connecting to an inland lake or stream. As for Part 303, Wetlands Protection, that's Michigan wetland statute and it comes into play when an area proposed for dredging is also designated as wetland. Part 325, Great Lakes Submerged Lands, is another key piece of the regulatory puzzle with requirements for dredging within the Great Lakes, Lake St. Clair and the waters that connect these lakes to each other. On top of all of these statutory pieces that must align, WRD staff also seek input from our sister agency, the Department of Natural Resources regarding potential fisheries and wildlife impacts, including concerns associated with threatened or endangered species. Since most of our harbors are also considered Federal Navigation



Channels pursuant to Section 10 of the Federal Rivers and Harbors Act, authorization will also be required from the United States Army Corps of Engineers (USACE). The WRD staff are in constant communication with the USACE on projects involving our joint jurisdiction. Since the WRD also is tasked with assuring compliance with state water quality standards, sediments proposed for dredging may also require characterization to ascertain appropriate containment and disposal. All applications are carefully reviewed to assure that a proposed project does not cause unacceptable harm to the aquatic environment or its users.

Persons interested in obtaining a permit to dredge as a means of reopening obstructed waterways to the Great Lakes, should contact the appropriate WRD District Office to discuss opportunities available specific to recreational dredging projects in 2013. This will include expansion of the expedited permit categories for dredging in the Great Lakes and harbors, and streamline of the sediment characterization requirements. While WRD staff are not able to guarantee an applicant's project can be permitted, we can discuss the administrative requirements and the permit process in general. We will work with coastal communities around the state to help preserve Michigan's boating heritage while also standing as stewards of our water resources.

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## What do you do in the WRD?

Meet Kameron Jordan

Kameron "Kam" Jordan is the WRD's District Supervisor in our Kalamazoo District Office, which includes the coastal counties of Allegan, Van Buren, and Berrien, and have been involved in the permitting of dredging projects and others involving Michigan's water resources for 26 years. While at the Kalamazoo District Office, Kam has observed the record high Lake Michigan Water Level in 1986, the record low levels now, and everything in between. As a fisherman who enjoys getting out on the "big lake" he understands the importance of keeping the Great Lakes harbors navigable. Since these waterways also support our world class fisheries, Kam knows we have to insure dredge and shore protection projects are designed so they don't harm these outstanding natural resources.



Kam Jordan fishing near Pentwater

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