

Citizen Lake Level Monitoring

2016 Horseshoe Lake Report

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Goal: Long-term lake level monitoring to understand natural lake level fluctuations and guide management decisions

Horseshoe Lake Quick Facts

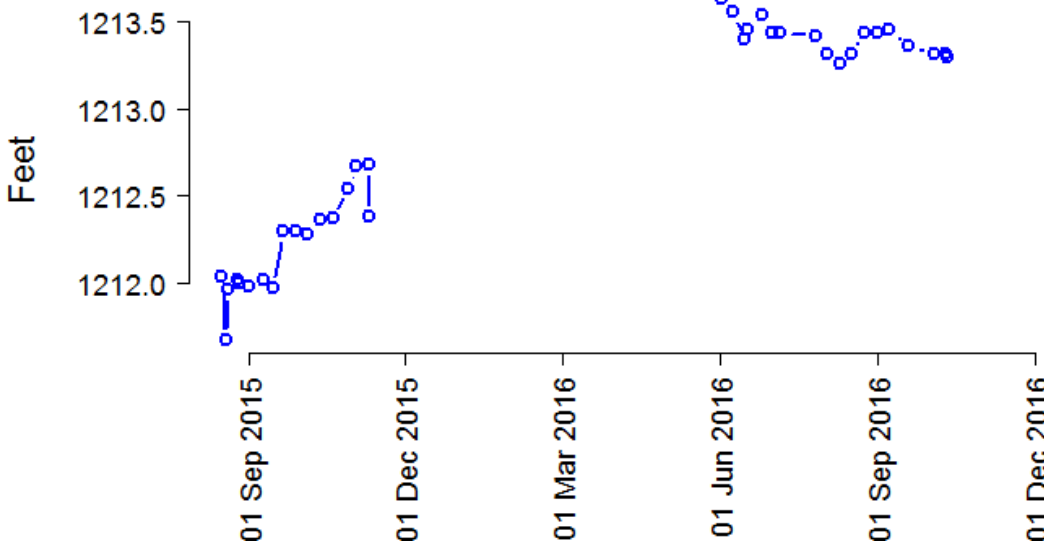
Swims Station ID	10043979
WBIC	2630100
County	Polk
Area (ac)	398
Max Depth (ft)	57
Hydrologic Lake Type	Deep Seepage



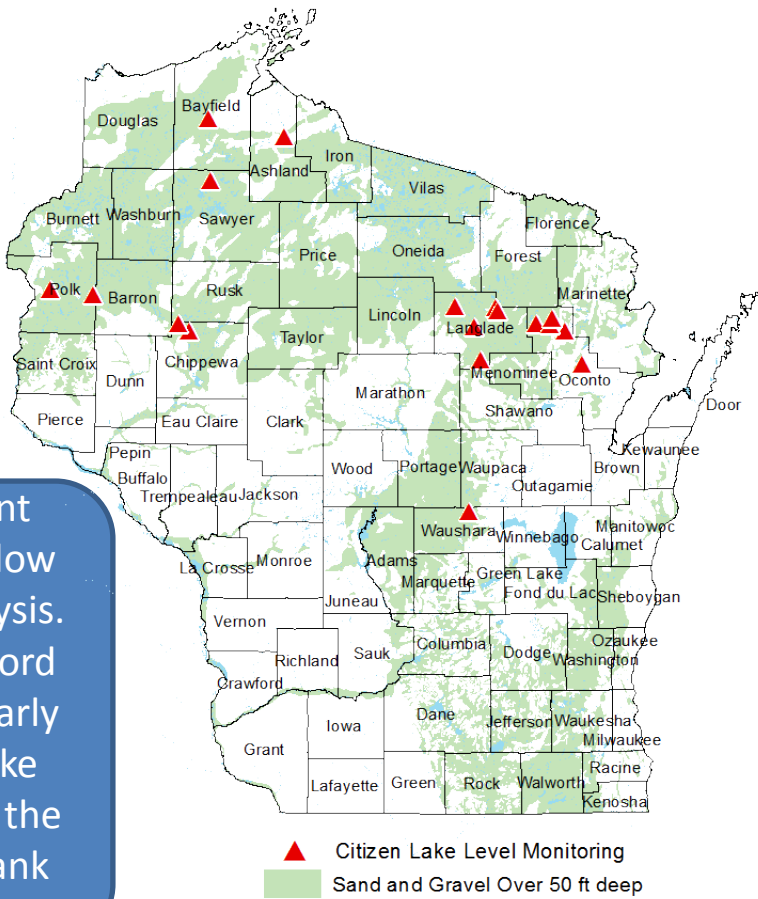
2016 Results

The great majority of participating lakes saw an increase in average lake level from 2015 to 2016. Measured lake levels on Horseshoe Lake were about 14.5 inches higher in 2016 than in 2015. In 2016, lake levels varied from 1213.26 to 1213.64 ft above sea level, a range of 4.6 inches, and showed a slight downward trend over the course of the year.

Lake Levels On Horseshoe Lake



Background: In 2015, the Wisconsin Department of Natural Resources (WDNR) developed a statewide volunteer lake-level monitoring program in partnership with the University of Wisconsin – Extension. Counties and other partners install staff gauges, and volunteers report lake levels. WDNR is currently prioritizing additional lakes for inclusion in 2017.



Consistent records allow trend analysis. Please record data regularly even if lake levels stay the same. Thank you!



Seepage lakes where sand and gravel is greater than 50 feet deep are of interest because they are more responsive to changes in groundwater

Why it Matters: Long-term data can address growing concern for lake health and recreation brought on by drought, groundwater withdrawals, precipitation and climate change.

Lake and groundwater well records in northern Wisconsin show that lake levels oscillate in unison every ~13 years and have been declining since 1998. Citizen monitoring will expand the number of lakes with long-term records and enable us to recognize future trends across the state.

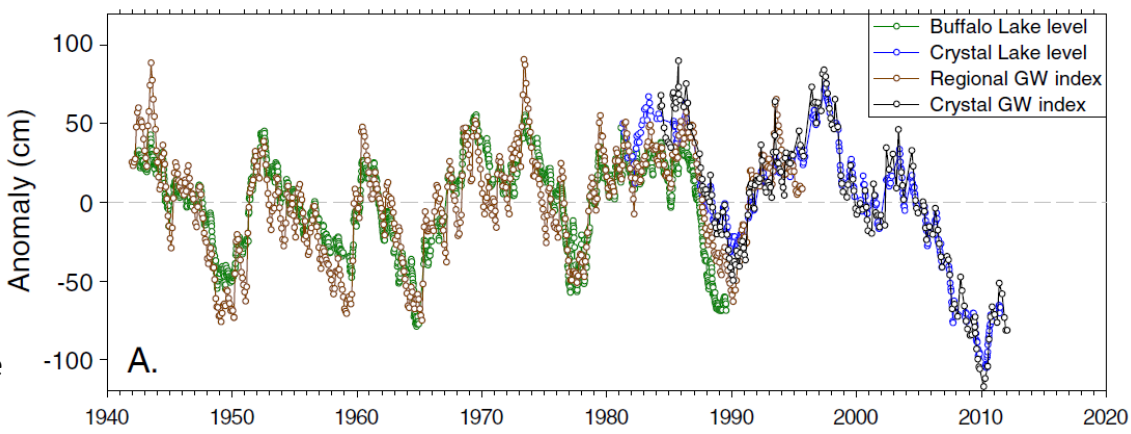


Figure from Watras et al. 2013 Geophysical Research Letters. GW = groundwater monitoring wells



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