

Citizen Lake Level Monitoring

2015 Duck Lake Report

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

Duck Lake Quick Facts

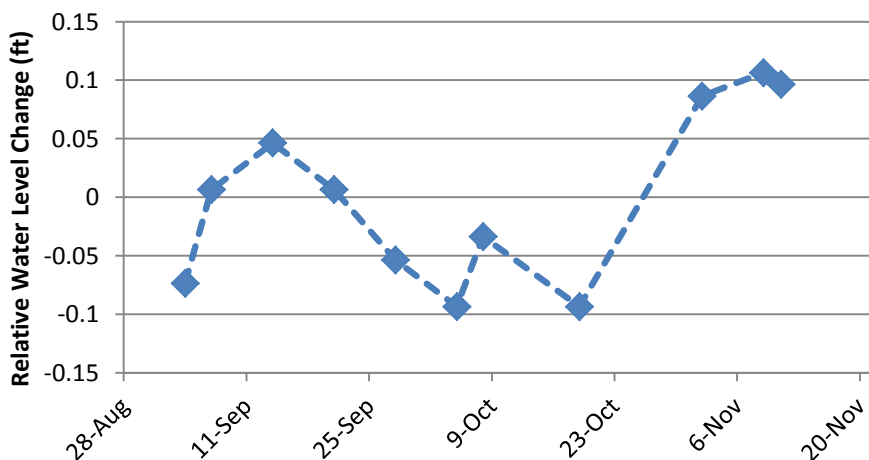
Swims Station ID	10044057
WBIC	981500
County	Langlade
Area	123 Acres
Max Depth	19 feet
Hydrologic Lake Type	Seepage



2015 Results

Most of the 17 lakes monitored in 2015 fluctuated 0.2 to 0.5 feet from July to November. The water level on Duck lake changed 0.2 feet from its highest to lowest level recorded. The graph below shows water levels on Duck Lake compared to the lake's seasonal average. For example, on September 14, the lake level was 0.05 feet above average.

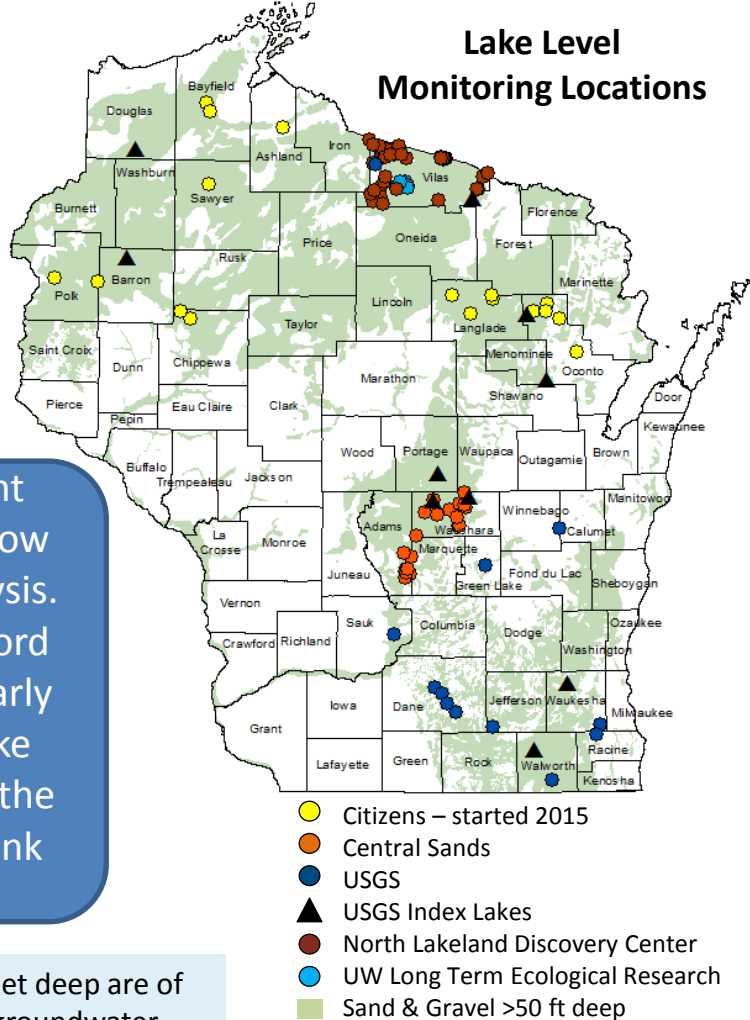
Duck Lake Water Levels 2015



Background: In 2015, the Wisconsin Department of Natural Resources (WDNR) developed a statewide volunteer lake-level monitoring program and began monitoring water levels on 17 new lakes. Counties and other partners installed staff gauges, and volunteers monitored lake levels. WDNR is seeking partners to monitor more lakes in 2016.



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



- Citizens – started 2015
- Central Sands
- USGS
- ▲ USGS Index Lakes
- North Lakeland Discovery Center
- UW Long Term Ecological Research
- Sand & Gravel >50 ft deep

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.

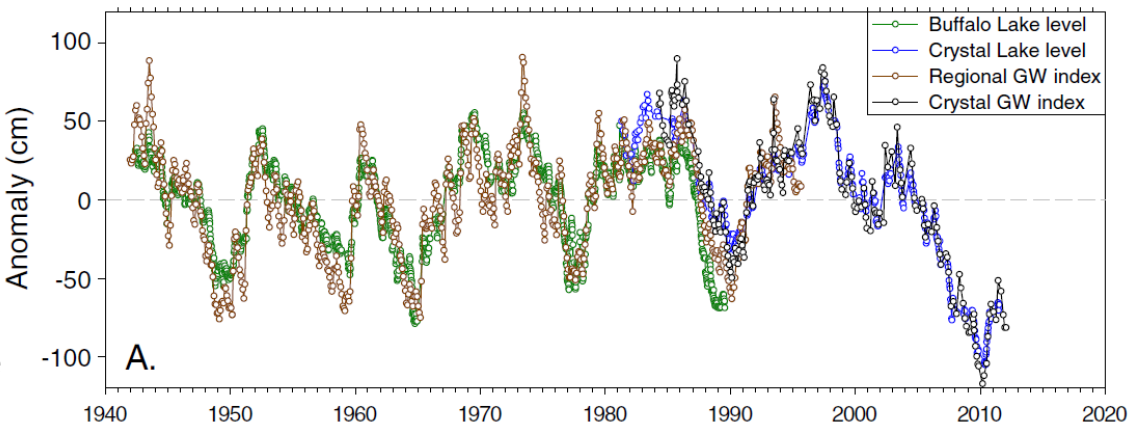


Figure from Watras et al. 2013 Geophysical Research Letters. GW = groundwater monitoring wells



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