

McNaughton Lake

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Clarity Report of July 13th, 2017



Land & Water Conservation Department

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Paradise Lake AIS Monitoring and Water Clarity Report

Field Date: July 13th, 2017
WBIC: 1587600
Previous AIS Findings: Purple Loosestrife
New AIS Findings: None
Field Crew: Aubrey Nycz, AIS Project Leader, and Derek Thorn, AIS Project Assistant,
Oneida County Land and Water Conservation Department
Report By: Aubrey Nycz & Derek Thorn

On July 13th, 2017, Derek and I went to McNaughton Lake to implement AIS monitoring along with water clarity and quality assessments. McNaughton Lake is a 121 acre mesotrophic lake located in Oneida County, and has one public access boat launch. The lake has a maximum depth of 14 feet, and the substrate is reported to be 35% sand, 0% gravel, 0% rock, and 65% muck. Along with reporting the depth and substrate, the Wisconsin Department of Natural Resources reports that the lake has northern pike and panfish present.

The weather while conducting research on McNaughton Lake was not ideal. The outside temperature was 67 degrees Fahrenheit, the sky was cloudy, and there were large wind gusts that made canoeing challenging. Throughout the course of our monitoring, we were canoeing against the wind, which made it difficult keeping our canoe straight.

When conducting our AIS lake survey, Derek and I did a complete shoreline scan while meandering in and out between different depths. We looked on the shoreline itself and also in the water, noting the plants and animals we had observed in the process. When possible, we got in the water and used the aquascopes to have a closer look at the bottom composition. While completing our shoreline scan, we noted that the water color was fairly clear, as that we could see the lake's bottom while in approximately 8 feet of water.

To observe the water clarity and quality of McNaughton Lake, Derek and I went to the deep hole to obtain data information. After locating the deep hole with our sonar unit, we used a Secchi disk to measure clarity and a dissolved oxygen meter to measure water health. Oxygen is needed for a healthy fish population, and also for plants to respire at night as well. The measurements from the dissolved oxygen meter can tell us if the organisms in the lake would be under stress. Thankfully, both of these measurements were relatively average in nature, and there should be no concern for the health of McNaughton Lake. The Secchi disk reading was 8 feet, and the dissolved oxygen readings can be found in table 2.

Derek and I did not find any new invasive species while on McNaughton Lake. The lake seems to be healthy, and many native plants were present and thriving. The three most common native plants that we observed were Bullhead Pond Lily, Watershield, and White Water Lily. These plants can be seen below in table 1.

Findings: Taken between 9 a.m. – 11:30 a.m. on July 13th, 2017

Aquatic Invasive Species: We did not find any new invasive species along the perimeter of McNaughton Lake.

Secchi: The Secchi reading on this lake was 8 feet out of a 14 foot maximum depth. The water color was a brownish color, and was relatively clear when glancing across the lake.

Dissolved Oxygen: These measurements can be seen in Table 2.

Figure 1. Map of Oneida County, WI with McNaughton Lake circled in red (approximate location).



Figure 2. Map of McNaughton Lake with the location of Secchi disk reading labeled.



Public boat landing



Deep hole & location of Secchi disk reading

Secchi Disk Readings:
McNaughton - Deep Hole
Coordinates - Not Available



Table 1. Plants found in McNaughton Lake when monitoring.




Common Name	Scientific Plant Name	Description	Image
Bullhead Pond Lily (Spatterdock)	<i>Nuphar variegata</i>	An aquatic plant with heart-shaped leaves that can grow to be 15 inches long. This plant also has a yellow, cup-shaped flower. This plant is native.	 <p>Photo Credit: Jomegat's Weblog</p>
Water Shield	<i>Brasenia schreberi</i>	An aquatic plant with stems up to 2 meters long. This plant has small floating leaves and reddish purple flowers that have 6-8 petals. This plant is native.	 <p>Photo Credit: Shannon Sharp</p>
White Water Lily	<i>Nymphaea odorata</i>	An aquatic plant that has large, round leaves that can grow to be 12 inches in diameter. White water lilies also have large, white flowers with many petals. This plant is native.	 <p>Photo Credit: Joseph A. Marcus</p>

Table 2. Dissolved oxygen levels and temperatures taken at the deep hole.

Depth (Feet)	Dissolved Oxygen Levels (mg/L)	Temperature (F)	Percent Dissolved Oxygen
2	9.22	75.10	115.5
4	9.16	75.5	115.1
6	3.33	74.0	41.2
8	0.17	68.2	1.9