

Shallow Lake

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Clarity Report of August 23rd,
2017



Land & Water Conservation Department

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Shallow Lake AIS Monitoring and Water Clarity Report

Field Date: August 23rd, 2017
WBIC: 1016700
Previous AIS Findings: None
New AIS Findings: None
Field Crew: Aubrey Nycz, AIS Project Leader, Thomas Boisvert, AIS Project Assistant, and Derek Thorn, AIS Project Assistant, Oneida County Land and Water Conservation Department
Report By: Thomas Boisvert

On August 23rd, 2017, Aubrey, Tom, and Derek went to Shallow Lake to implement AIS monitoring along with water clarity and quality assessments. Shallow Lake is a small 28 acre lake located in Oneida County, and is a part of the Shallow Lake State Natural Area. The WDNR states that the lake has a maximum depth of 7ft, and the substrate is reported to be 0% sand, 0% gravel, 0% rock, and 100% muck. Along with reporting the depth and substrate, the Wisconsin Department of Natural Resources also reports that the lake has no fish present, however, we observed small bluegills hiding among the weeds.

The weather while conducting research on Shallow Lake was fair. The outside temperature was 70 degrees Fahrenheit, the sky was sunny, moderate winds, and the water clarity was good. There was no adverse weather to impede our measurements in any way.

When conducting our AIS lake survey, the Oneida County AIS Team did a complete shoreline scan while meandering in and out between different depths. The AIS Team looked on the shoreline itself and also in the water, noting the plants and animals we had observed in the process. Polarized sunglasses were used to aide in looking at the bottom substrate in greater detail.

To observe the water clarity and quality of Paradise Lake, The AIS Team estimated where the deep hole was located on the lake due to no bathymetric map being available. After locating the suspected deep

hole with our sonar unit, we used a Secchi disk to measure water 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. The dissolved oxygen measurements on Shallow Lake were borderline towards being low, and would be suspected to drop even further during winter months. This would most likely cause winterkill on fish in the lake. The Secchi disk reading was 7 feet, and the dissolved oxygen readings can be found in table 2. It should also be noted that our sonar unit stated the depth to be 20 feet deep, however, when pulling up the anchor we estimated there was a layer of soft muck approximately 10 feet deep.

We were glad to see that no new invasive species were present on Shallow Lake at this time. The lake seems to be healthy, and many native plants were present and thriving. The three most common native plants we observed were White Water Lily, Large Purple Bladderwort, and Pickerel Weed. These plants can be seen below in table 1.

Findings: Taken between 1:30 p.m. – 3:30 p.m. on August 23rd, 2017

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

Secchi: The Secchi reading on this lake was 7 feet out of an estimated 10 foot maximum depth. The water color was a brownish color, and was clear when glancing across the lake.

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

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



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



Deep hole & location of Secchi disk reading

Secchi Disk Readings:
Shallow Lake - Deep Hole
Coordinates - Not Available



Table 1. Plants found in Shallow Lake when monitoring.




Common Name Scientific Plant Name	Description	Image
<p>White Water Lily</p> <p><i>Nymphaea odorata</i></p>	<p>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>	 <p>Photo Credit: Joseph A. Marcus</p>
<p>Common Bladderwort</p> <p><i>Utricularia macrorhiza</i></p>	<p>An aquatic plant with leaves containing small sacks that trap small invertebrates. This plant usually has unrooted stems that easily tangle with other plants. In the water, this plant tends to look cloudy or slimy. This plant is native.</p>	 <p>Photo Credit: frenchhill.org</p>
<p>Pickrel Weed</p> <p><i>Pontederia cordata</i></p>	<p>An aquatic plant with thin, bright green leaves. Emergent leaves tend to be arrow shaped with 6 parted, blue flowers. This plant is native.</p>	 <p>Photo Credit: ediblewildfood.com</p>

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

Depth (Feet)	Dissolved Oxygen Levels (mg/L)	Temperature (F)	Percent Dissolved Oxygen
2	7.14	69.4°	84.2%
4	7.04	69.3°	83.0%
6	6.86	69.1°	80.7%
8	5.00	67.9°	58.0%
10	0.15	63.3°	1.6%