

Turtle Lake

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Clarity Report of July 26th, 2018



Land & Water Conservation Department

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Turtle Lake AIS Monitoring and Water Clarity Report

Field Date: July 26th, 2018
WBIC: 1587400
Previous AIS Findings: None
New AIS Findings: **Chinese Mystery Snail**
Field Crew: Aubrey Nycz, AIS Project Leader, and Thomas Boisvert, AIS Project Assistant, Oneida County Land and Water Conservation Department
Report By: Thomas Boisvert

On July 26th, 2018, Aubrey and I went to Turtle Lake to implement AIS monitoring along with water clarity and quality assessments. Turtle Lake is a 52 acre mesotrophic lake located in Oneida County, and has one public boat launch. The lake is mainly surrounded by the American Legion State Forest, and because of this almost all the shoreline is in a natural state. Turtle Lake has a maximum depth of 15 feet, and the substrate is reported to be 60% sand, 15% gravel, 5% rock, and 20% muck. Along with reporting the depth and substrate, the Wisconsin Department of Natural Resources reports that the lake has largemouth bass and panfish present. We observed this firsthand as large amounts of bluegill and bass were seen along the shoreline. The average size of fish was relatively small, but there were lots present.

The weather while conducting research on Turtle Lake was constantly shifting. The outside temperature was 72 degrees Fahrenheit, the sky was cloudy, there was a slight wind, a light rain at times, and the water clarity was average. The weather was challenging at times, but we are still confident in the measurements obtained.

When conducting our AIS lake survey, Aubrey 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 that we observed in the process.

To observe the water clarity and quality of Turtle Lake, Aubrey and I went to what we thought was the deep hole towards the center of the lake. Turtle Lake does not have a bathymetric map, so we

attempted to find the deep hole with our sonar unit. After locating the suspected deep hole, 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 Turtle Lake. The Secchi disk reading was 3.5 feet, and the dissolved oxygen readings can be found in table 2.

Aubrey and I did observe a new invasive species on Turtle Lake. We found several Chinese Mystery Snails that were not known to be present here before. We took three samples which were then reported to the WDNR the next day for confirmation. Although we did find the Chinese Mystery Snail, the lake otherwise seems to be healthy and thriving. While out on Turtle Lake we took note of the most common plants observed, and they can be seen below in table 1.

Another important note is that while out on Turtle Lake we noticed a small channel that lead us into another small lake. The lake turned out to be Cranberry Lake (WBIC 1587300), and we did not notice any new invasive species, however, we suspect that the Chinese Mystery Snail is able to cross through the channel. Since Cranberry Lake does not have any registered invasive species either, this may be something to look into further.

Findings: Taken 12:00 p.m. – 2:00 p.m. on July 26th, 2018

Aquatic Invasive Species: Several Chinese Mystery Snails were found on Turtle Lake. **This is a new invasive species for this waterbody.**

Secchi: The Secchi reading on this lake was 3.5 feet out of a 15 foot maximum depth. The water color was a brownish color, and was murky when glancing across the lake.

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

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



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



-  Deep hole & location of Secchi disk reading
- Secchi Disk Readings:
Turtle Lake - Deep Hole
Coordinates - Not Available
-  Public Boat Landing



Table 1. Plants found in Turtle Lake when monitoring.




Common Name Scientific Plant Name	Description	Image
<p>Bullhead Pond Lily (Spatterdock)</p> <p><i>Nuphar variegata</i></p>	<p>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>	 <p>Photo Credit: Jomegat's Weblog</p>
<p>Water Shield</p> <p><i>Brasenia schreberi</i></p>	<p>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>	 <p>Photo Credit: Shannon Sharp</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>

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

Depth (Feet)	Dissolved Oxygen Levels (mg/L)	Temperature (F)	Percent Dissolved Oxygen
2	7.80	71.1	94.2
4	7.92	71.6	96.2
6	4.49	70.9	54.1
8	0.14	66.1	1.6