

# Stella Lake

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Clarity Report on June 28<sup>th</sup>, 2018



Land & Water Conservation Department

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## **Stella Lake AIS Monitoring and Water Clarity Report**

Field Date: June 28<sup>th</sup>, 2018  
WBIC: 1575700  
Previous AIS Findings: Chinese Mystery Snail  
New AIS Findings: None  
Field Crew: Aubrey Nycz, AIS Project Leader, Vanessa Niemczyk, AIS Project Assistant, Oneida County Land and Water Conservation Department  
Report By: Vanessa Niemczyk

On June 28<sup>th</sup>, 2018, Aubrey and I went to Stella Lake to implement AIS monitoring along with water clarity and quality assessments. Stella Lake is a 415 acre mesotrophic lake located in Oneida County and has one public boat launch. The shoreline along Stella Lake is composed of private owners. Since all of the lake is composed of private landowners, there are not many recreational opportunities available besides fishing. The lake has a maximum depth of 22 feet, and the substrate is reported to be 60% sand, 25% gravel, 5% rock, and 10% muck. Along with reporting the depth and substrate, the Wisconsin Department of Natural Resources also reports that the lake has musky, smallmouth bass, largemouth bass, northern pike, walleye and panfish present.

The weather while conducting research on Stella Lake was ideal. The outside temperature was 79 degrees Fahrenheit, the sky was sunny, there was little to no wind, 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 AIS team 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.

To observe the water clarity and quality of Stella Lake, the AIS team went to the deep hole in the center of the lake. After locating the 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. The measurements from the dissolved oxygen meter can tell us if the organisms in the lake would be under stress. The water clarity seemed to be low and the abundance of weeds lead us to believe there may be runoff entering the lake from the nearby cranberry marshes. The Secchi disk reading was 4 feet, and the dissolved oxygen readings can be found in table 2.

The AIS team was glad to see that no new invasive species were present 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 Pickerel Weed, Bullhead Pond Lily, and White Water Lily. These plants, along with others, can be seen below in table 1.

**Findings:** Taken 3:00 p.m. – 4:00 p.m. on June 28<sup>th</sup>, 2018

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



Secchi: The Secchi reading on this lake was 4 feet out of a 22 foot maximum depth. The water color was a brownish color, and appeared murky when glancing across the lake.

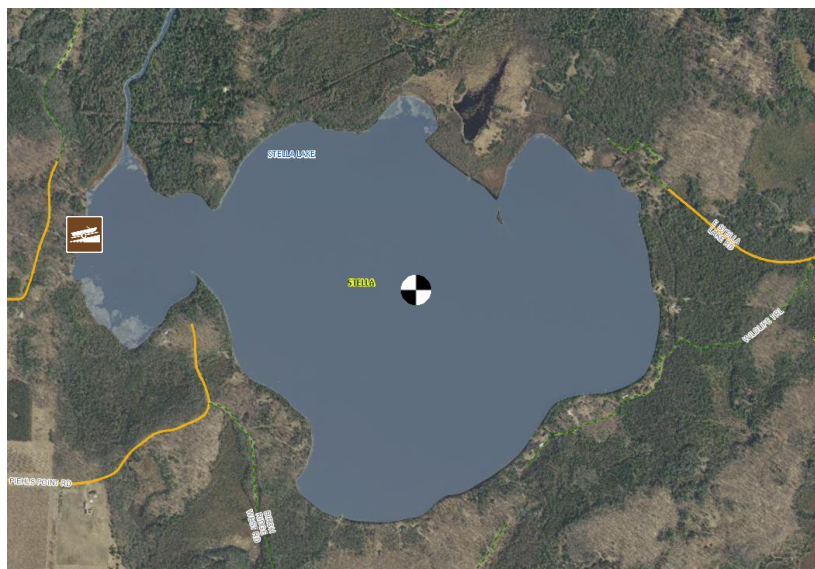
Dissolved Oxygen: These measurements can be seen in Table 2.

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










**Figure 2.** Map of Stella Lake with boat landing and location of Secchi disk reading labeled.

-  Public boat landing
-  Deep hole & location of Secchi disk reading



**Table 1.** Plants found in Stella Lake when monitoring.

Common Plant Name Scientific Plant Name	Description	Image
<p>Pickereel Weed <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><i>Photo Credit: Jody Partin</i></p>
<p>Bullhead Pond Lily (Spatterdock) <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><i>Photo Credit: Jomegat's Weblog</i></p>
<p>Wild Rice <i>Zizania palustris</i></p>	<p>A native plant that grows above the water but is rooted in mucky sediment. Leaves are green in color and grow in clusters, they appear ribbon-like. Stalks can grow 3 to 10 feet tall.</p>	 <p><i>Photo Credit: Susan Bronson</i></p>

<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>Wild Celery</p> <p><i>Vallisneria americana</i></p>	<p>An aquatic plant with ribbon-like leaves that are dark-green. This plant grows below the water surface and then blankets the surface. This plant produces small, whitish-yellow flowers.</p>	 <p>Photo Credit: Jacqueline Donnelly</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>Northern Water Milfoil</p> <p><i>Myriophyllum sibiricum</i></p>	<p>An aquatic plant with 5-10 pairs of leaflets per leaf. Leaves are usually a brighter green. Stems are tan to green and stiff enough to hold shape when taken out of the water. This plant is native.</p>	 <p>Photo Credit: Alison Fox</p>

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

<b>Depth (Feet)</b>	<b>Dissolved Oxygen Levels (mg/L)</b>	<b>Temperature (°F)</b>	<b>Percent Dissolved Oxygen (%)</b>
2	7.65	78.5	100.2
4	7.57	75.7	96.3
6	7.55	74.6	94.9
8	6.94	72.6	85.6
10	6.5	72.2	79.7
12	2.59	70.4	31.1