

Spider Lake

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Clarity Report on June 22nd, 2018



Land & Water Conservation Department

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Spider Lake AIS Monitoring and Water Clarity Report

Field Date: June 22nd, 2018
 WBIC: 1586600
 Previous AIS Findings: None
 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 22nd, 2018, Aubrey and I went to Spider Lake to implement AIS monitoring along with water clarity and quality assessments. Spider Lake is a 123 acre mesotrophic lake located in Oneida County and has one public boat launch. The shoreline along Spider Lake is composed of private owners and public land. Since most of the lake is composed of private landowners, there are not many recreational opportunities available besides fishing and paddling. The lake has a maximum depth of 29 feet, and the substrate is reported to be 60% sand, 20% gravel, 5% rock, and 15% muck. Along with reporting the depth and substrate, the Wisconsin Department of Natural Resources also reports that the lake has musky, largemouth bass, walleye, and panfish present.

The weather while conducting research on Spider Lake was ideal. The outside temperature was in the high 70 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 Spider Lake, the AIS team went to the deep hole, which is off of the south point. 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. Thankfully, both of these measurements were relatively average in nature, and there should be no concern for the health of Spider Lake. The Secchi disk reading was 3.5 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 Pickerelweed, 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 22nd, 2018

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



Secchi: The Secchi reading on this lake was 3.5 feet out of a 29 foot maximum depth. The water color was a reddish color, and appeared clear when glancing across the lake.

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

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



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

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

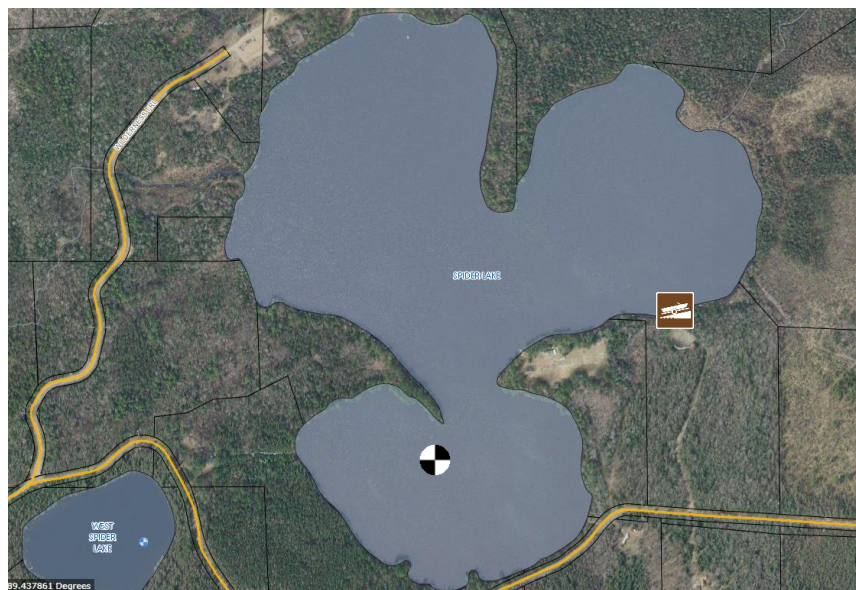






Table 1. Common plants found in Spider Lake when monitoring.

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>Photo Credit: Jody Partin</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>Photo Credit: Jomegat's Weblog</p>
<p>White Water Lily <i>Calla Palustris</i></p>	<p>A native pant common in more acidic, shallow water and bogs. They typically bloom between May and June, and can be identified by having waxy smooth, heart-shaped leaves, and nearly cylindrical white flowers called the spadix. This plant is native.</p>	 <p>Photo Credit: Joseph A. Marcus</p>
<p>Blue-Flag Iris <i>Iris versicolor & Iris virginica</i></p>	<p>A flowering plant with light green leaves and petals. This plant grows to be 2-4 feet tall. The center of the leaf is thicker than the bottom and tip. This plant is native.</p>	 <p>Photo Credit: Prairie Moon Nursery</p>



<p style="text-align: center;">Wild Celery <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 style="text-align: center;"><i>Photo Credit: Jacqueline Donnelly</i></p>
<p style="text-align: center;">Common Bladderwort <i>Utricularia macrohiza</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 style="text-align: center;"><i>Photo Credit: frenchhill.org</i></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	7.59	77.9	98.6
4	7.38	74.7	92.7
6	5.43	71.9	66.3
8	5.3	69.1	62.8
10	3.55	59.7	37.7
12	2.87	54.1	28.5
14	2.63	49.5	24.5
16	2.81	45.9	25.0
18	2.62	43.8	22.7