

South Blue Lake

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Clarity Report on June 22nd, 2018



Land & Water Conservation Department

*Michele Sadauskas, County Conservationist
Stephanie Boismenu, AIS Coordinator
Jonna Stephens Jewell, Program Assistant*

Oneida County Courthouse
P O Box 400, Rhineland, Wisconsin 54501
Phone (715) 369-7835 Fax (715) 369-6268

South Blue Lake AIS Monitoring and Water Clarity Report

Field Date: June 22nd, 2018
WBIC: 1015100
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 South Blue Lake to implement AIS monitoring along with water clarity and quality assessments. South Blue Lake is a 76 acre mesotrophic lake located in Oneida County and does not have any public boat launches. The shoreline along South Blue 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 the Bearskin Trail that runs along the east side of the lake. The lake has a maximum depth of 22 feet, and the substrate is reported to be 90% sand, 7% gravel, 2% rock, and 1% muck. Along with reporting the depth and substrate, the Wisconsin Department of Natural Resources also reports that the lake has panfish, largemouth bass, smallmouth bass, northern pike, and walleye present. We observed this firsthand as panfish and bass were seen in moderate quantities along the shoreline swimming between different plants.

The weather while conducting research on South Blue 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 very 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. When possible, we got in the water and used the aquascopes to have a closer look at the bottom composition.

To observe the water clarity and quality of South Blue Lake, the AIS team went to the deep hole towards 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 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 South Blue Lake. The Secchi disk reading was 14.5 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 Watershield, Wild Celery, and Bladderwort. These plants, along with others, can be seen below in table 1.

Findings: Taken 10:00 a.m. – 12:00 p.m. on June 22nd, 2018

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

Secchi: The Secchi reading on this lake was 14.5 feet out of a 22 foot maximum depth. The water color was a brownish 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 South Blue Lake circled in red (approximate location).

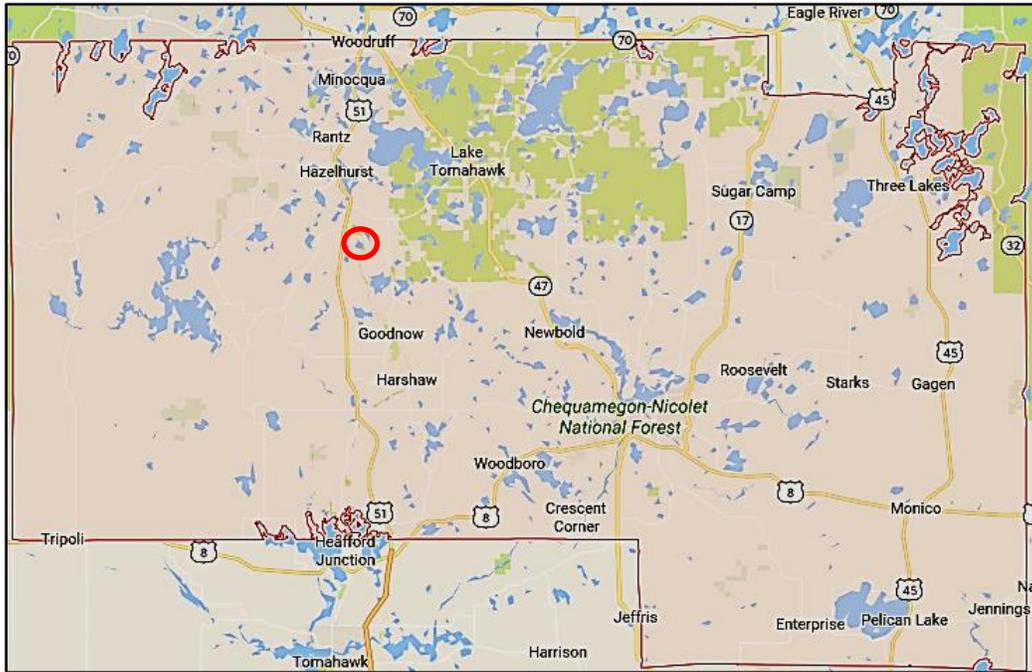


Figure 2. Map of South Blue Lake with location of Secchi disk reading labeled.

 Deep hole & location of Secchi disk reading

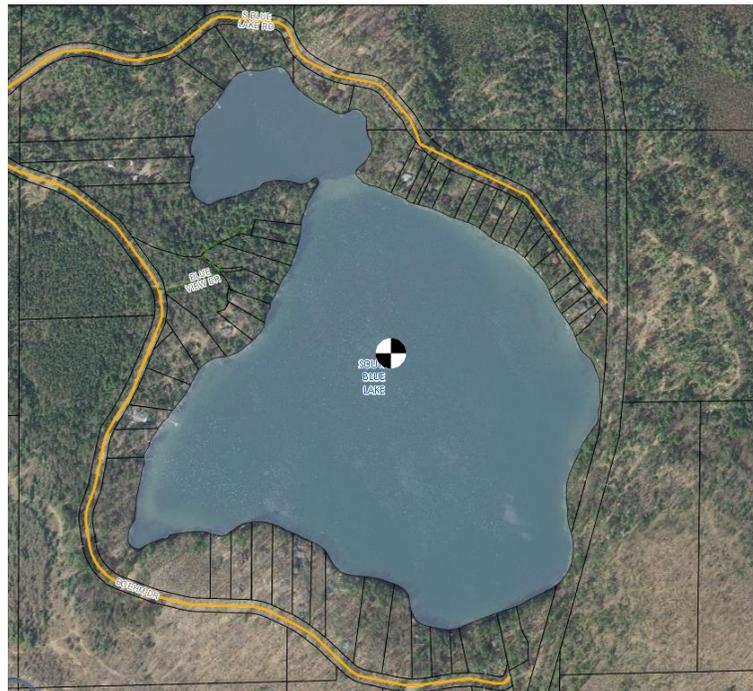


Table 1. Common plants found in South Blue Lake when monitoring.

Common Plant 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 15inches 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 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>Photo Credit: frenchhill.org</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>
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Table 2. Dissolved oxygen levels and temperatures at the deep hole.

Depth (Feet)	Dissolved Oxygen Levels (mg/L)	Temperature (F)	Percent Dissolved Oxygen (%)
2	8.23	74.5	102.6
4	8.25	74.0	102.5
6	8.25	73.9	102.3
8	8.24	73.7	102.1
10	8.30	73.5	102.5
12	8.75	72.6	107.0
14	9.39	70.0	111.7
16	9.48	66.8	108.9
18	6.38	62.6	69.9