Langley Lake

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Langley Lake AIS Monitoring and Water Clarity Report

Field Date:	July 18th, 2018
WBIC:	1583500
Previous AIS Findings:	None
New AIS Findings:	None
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 18th, 2018, Aubrey and I went to Langley Lake to implement AIS monitoring along with water clarity and quality assessments. Langley Lake is a 49 acre lake located in Oneida County, and has one public boat launch. The lake is mainly surrounded by the Chequamegon-Nicolet National Forest, and because of this almost all the shoreline is in a natural state. Langley Lake has a maximum depth of 9 feet, and the substrate is reported to be 10% sand, 5% gravel, 15% rock, and 70% 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 were seen along the shoreline. The average size of fish was relatively small, but there were lots present.

The weather while conducting research on Langley Lake was ideal. The outside temperature was 78 degrees Fahrenheit, the sky was sunny, there was no wind, and the water clarity was good. Overall, there was no adverse weather to impede our measurements in any way.

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. When possible, we got in the water to have a closer look at the bottom composition.

To observe the water clarity and quality of Langley Lake, Aubrey and I went to what we thought was the deep hole towards the center of the lake. Langley Lake does not have a bathymetric map, so we attempted to find the deep hole with our sonar unit. After locating the 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 Langley Lake. The Secchi disk reading was 3.5 feet, and the dissolved oxygen readings can be found in table 2.

Aubrey and I did not observe any new invasive species on Langley Lake. We were glad to see that no new invasive species were present at this time, and the lake seems to be healthy with native plants present and thriving. The most common plants observed on Langley Lake can be seen below in table 1.

Findings: Taken 12:30 p.m. – 1:30 p.m. on July 18th, 2018

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

Secchi: The Secchi reading on this lake was 3.5 feet out of a 9 foot maximum depth. The water color was a bluish 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 Langley Lake circled in red (approximate location)

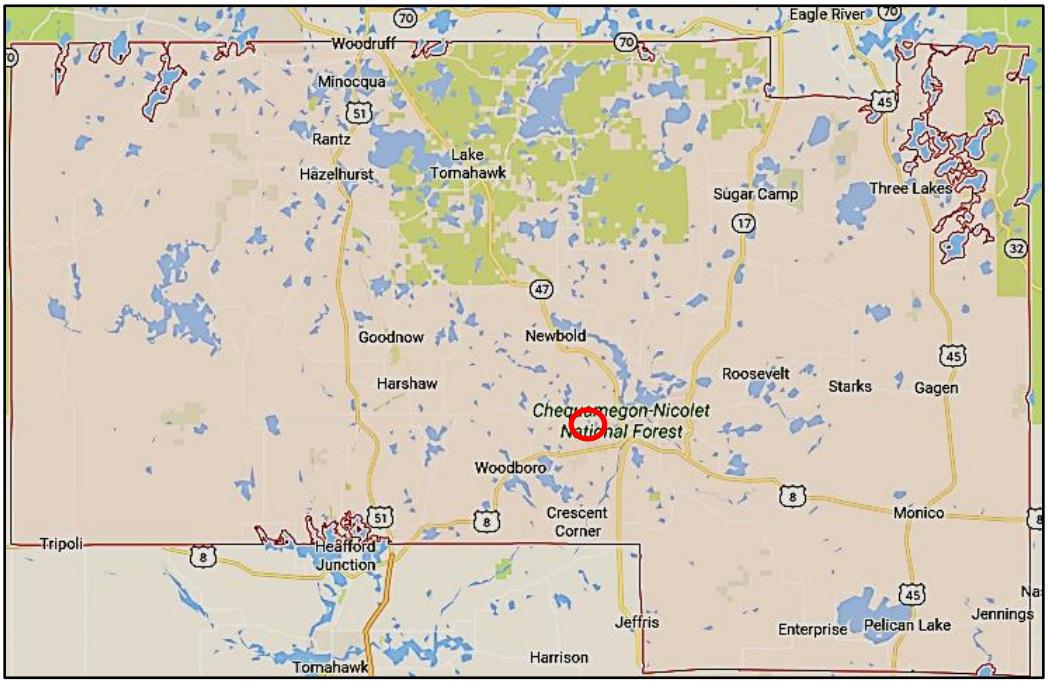

Figure 2. Map of Langley Lake with the location of the Secchi disk reading labeled.

Deep hole & location of Secchi disk reading

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

Public Boat Landing

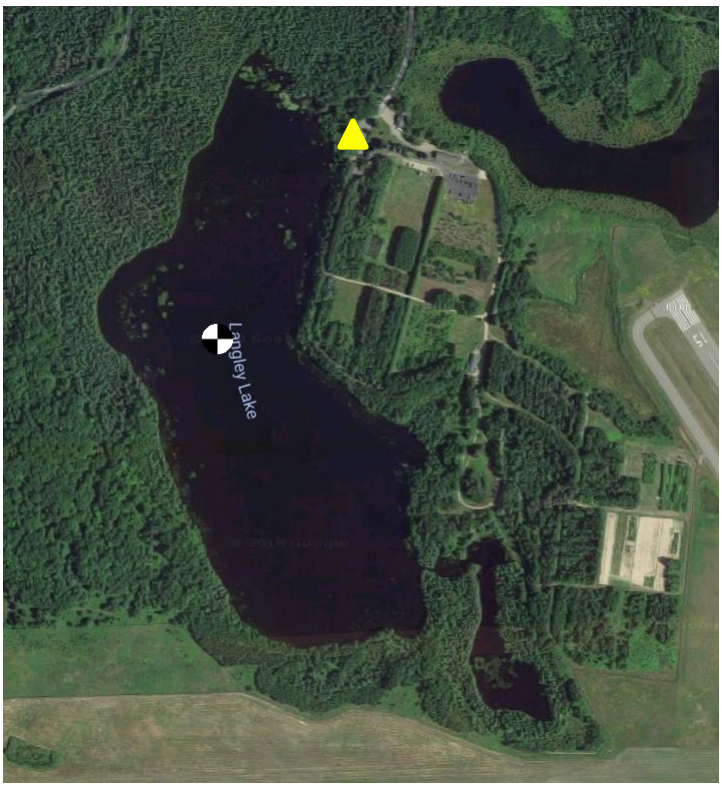

Table 1. Plants found in Langley Lake when monitoring.

Common Name Scientific Plant Name	Description	Image
Bullhead Pond Lily (Spatterdock) *Nuphar variegata*	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.	 *Photo Credit: Jomegat's Weblog*
Water Shield *Brasenia schreberi*	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.	 *Photo Credit: Shannon Sharp*
Blue-Flag Iris *Iris versicolor & Iris virginica*	A flowering plant with light green leaves and blue 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.	 *Photo Credit: Prairie Moon Nursery*
Common Bladderwort *Utricularia macrorhiza*	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.	 *Photo Credit: frenchhill.org*

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

Depth (Feet)	Dissolved Oxygen Levels (mg/L)	Temperature (F)	Percent Dissolved Oxygen
1	6.44	77.8	82.8
2	6.63	76.9	84.5
3	6.54	76.2	82.7
4	6.47	75.6	81.4
5	6.35	75.2	79.5