ONEIDA COUNTY LAND AND WATER CONSERVATION DEPARTMENT

McGrath Lake

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McGrath Lake AIS Monitoring and Water Clarity Report

Field Date:	July 26th, 2018
WBIC:	1003900
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 26th, 2018, Aubrey and I went to McGrath Lake to implement AIS monitoring along with water clarity and quality assessments. McGrath Lake is a 51 acre oligotrophic 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. McGrath Lake has a maximum depth of 24 feet, and the substrate is reported to be 55% sand, 15% gravel, 10% rock, and 20% muck. Along with reporting the depth and substrate, the Wisconsin Department of Natural Resources reports that the lake has largemouth bass present. We observed Largemouth Bass, however, we also observed many species of panfish in the lake.

The weather while conducting research on McGrath Lake was not ideal. The outside temperature was 68 degrees Fahrenheit, there was a constant rain, a moderate wind, and the water clarity was average. The weather may have been difficult at times, however, we are still confident in the accuracy of the data gathered.

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 McGrath Lake, Aubrey and I went to the deep hole towards the center of the lake. McGrath Lake has a bathymetric map, so we used the map to get close and then

found 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. 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 McGrath Lake. The Secchi disk reading was 9 feet, and the dissolved oxygen readings can be found in table 2.

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

Findings: Taken 9:30 a.m. – 10:30 a.m. on July 26th, 2018

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

Secchi: The Secchi reading on this lake was 9 feet out of a 24 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 McGrath Lake circled in red (approximate location)

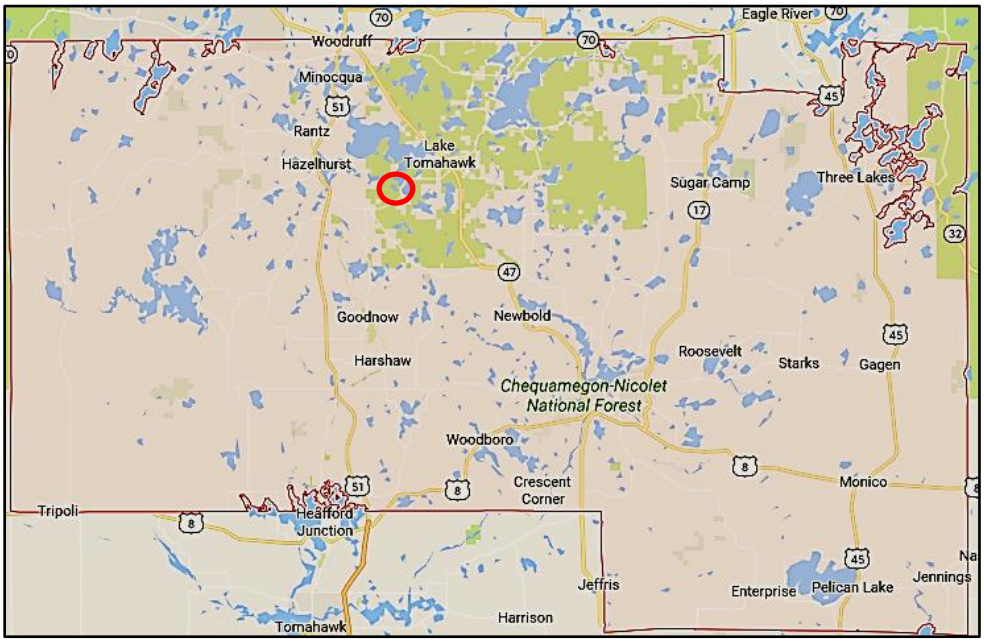


Figure 2. Map of McGrath Lake with the location of the Secchi disk reading labeled.

Deep hole & location of Secchi disk reading

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

Public Boat Landing

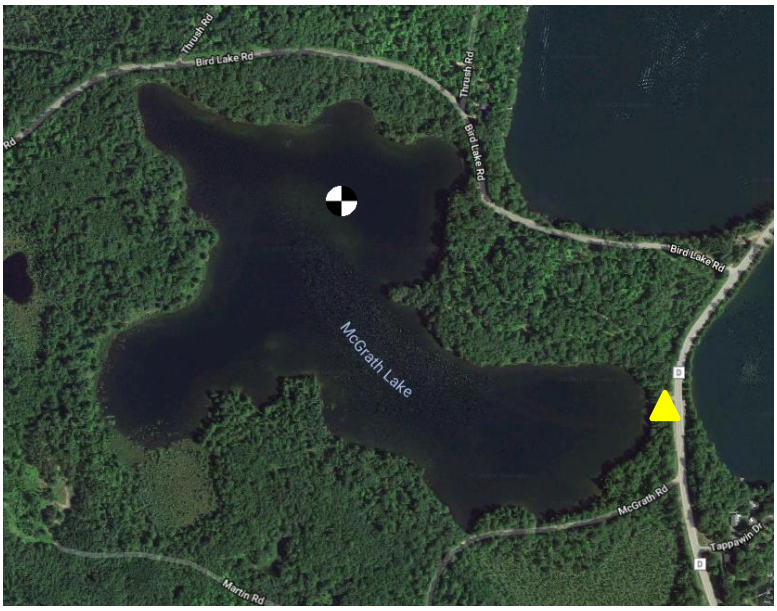
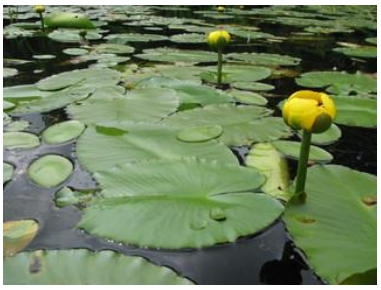


Table 1. Plants found in McGrath Lake when monitoring.

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*

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*
White Water Lily *Nymphaea odorata*	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.	 *Photo Credit: Joseph A. Marcus*

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

Depth (Feet)	Dissolved Oxygen Levels (mg/L)	Temperature (F)	Percent Dissolved Oxygen
2	7.52	72.4	92.0
4	7.40	73.1	91.2
6	7.36	73.4	91.0
8	7.32	73.6	90.7
10	7.28	73.7	90.3
12	7.26	73.8	90.1
14	6.58	73.5	81.4
16	0.51	69.0	6.0