

# Little Lake Tomahawk

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Page 1: AIS Monitoring and Water  
Clarity Report on July 25th, 2018



Land & Water Conservation Department

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### **Little Lake Tomahawk AIS Monitoring and Water Clarity Report**

Field Date: July 25th, 2018  
 WBIC: 1543900  
 Previous AIS Findings: Eurasian Water Milfoil, Chinese Mystery Snail, Rusty Crayfish, Narrow Leaf Cattail  
 New AIS Findings: Purple Loosestrife  
 Field Crew: Aubrey Nycz, AIS Project Leader and Jody Partin, AIS Project Assistant, Oneida County Land and Water Conservation Department  
 Report By: Jody Partin

On July 25th, 2018, Aubrey and I went to Little Lake Tomahawk to implement AIS monitoring along with water clarity and quality assessments. Little Lake Tomahawk is a 163 acre oligotrophic lake located in Oneida County and has one public canoe launch. The shoreline along Little Lake Tomahawk is composed of private owners and public land, to include the McNaughton Correctional Facility. The lake has a maximum depth of 48 feet, and the substrate is reported to be 85% sand, 5% gravel, 0% rock, and 10% muck. Along with reporting the depth and substrate, the Wisconsin Department of Natural Resources also reports that the lake has walleye, musky, northern pike, largemouth bass, smallmouth bass, and panfish present.

The weather while conducting research on Little Lake Tomahawk was pleasant. The outside temperature was in the mid-70 degrees Fahrenheit, the sky was cloudy, the wind was fairly calm, and the water clarity was excellent. 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 Little Lake Tomahawk, the AIS team went to the deep hole and 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. Both of these measurements were relatively average in nature, and there should be no concern for the health of Little Lake Tomahawk, other than the abundant Eurasian Water Milfoil. The Secchi disk reading was 17.5 feet, and the dissolved oxygen readings can be found in table 2.

The AIS team was disheartened to see that Purple Loosestrife, a new invasive species, was present at this time in small amounts on the northwest side of the lake adjacent to the American Legion State Forest land. Moreover, the abundance of Eurasian Water Milfoil in this lake is alarming. In addition to the large underwater forests of EWM that were clearly visible from the surface, the southeastern portion (most noticeably) of the lake was literally covered in floating EWM fragments. The AIS team scooped large amounts of it out of the water and deposited it in the woods, but the amount that needed removal was overwhelming. Despite this, an enormous variety of native plants were present and thriving. It would be impossible to determine the three most common native plants, as the lake was extremely diverse. Some of the plants can be seen below in table 1.

**Findings:** Taken 10:30 am – 3:00 p.m. on July 25th, 2018

Aquatic Invasive Species: We found Purple Loosestrife and Eurasian Water Milfoil in Little Lake Tomahawk.

Secchi: The Secchi reading on this lake was 17.5 feet out of a 48 foot maximum depth. The water color was a yellowish 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 Little Lake Tomahawk circled in red (approximate location).

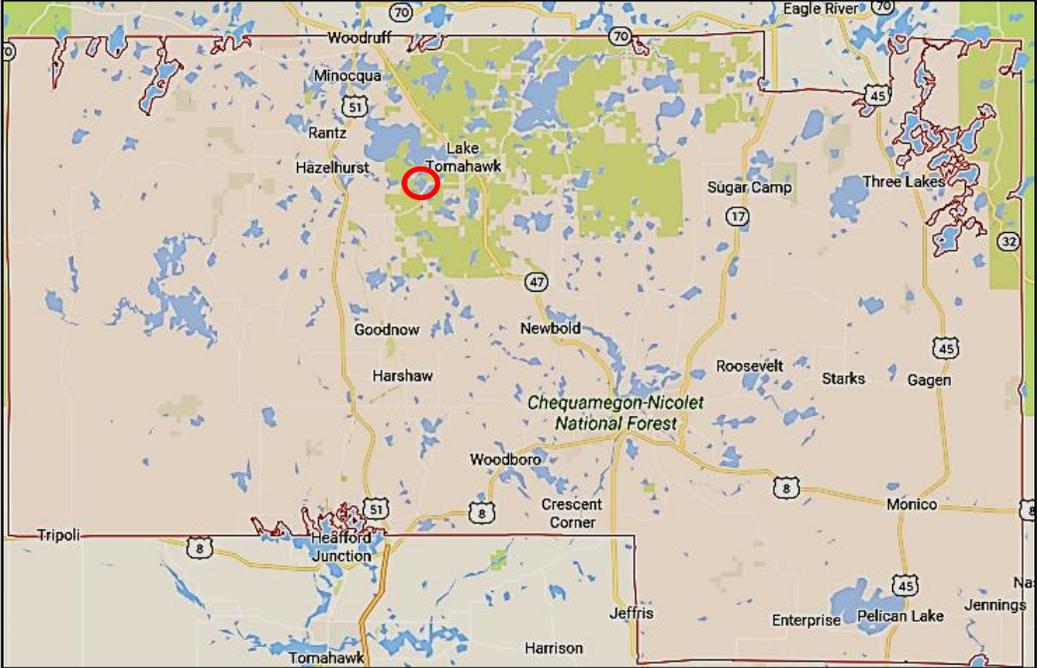


Figure 2. Map of Little Lake Tomahawk with canoe landing and location of Secchi disk reading labeled.



**Table 1.** Plants found in Little Lake Tomahawk when monitoring.

Common Plant Name Scientific Plant Name	Description	Image
<p>Water Shield <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>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>Bladderwort <i>Utricularia spp.</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>White Water Lily</p> <p><i>Calla Palustris</i></p>	<p>A native plant 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>Fern-leaf Pondweed</p> <p><i>Potamogeton robbinsii</i></p>	<p>A stiff, robust plant that produces only underwater leaves. It is usually dark-green with flat closely spaced leaves pointing away from the stem on two sides. Fern pondweed is also able to stabilize bottom sediments. Fern pondweed is known to provide habitat for small aquatic animals used as food by predator fishes, especially northern pike. This plant is native.</p>	 <p>Photo Credit: UWSP</p>
<p>Large Leaf Pondweed</p> <p><i>Potamogeton amplifolius</i></p>	<p>An aquatic plant with sickle-shaped submergent leaves. Leaves tend to be 4-7cm wide and 8-20cm long. This plant is native.</p>	 <p>Photo Credit: Dan Busemeyer</p>
<p>Pickerel Weed</p> <p><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>Northern Water Milfoil <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>
<p>Coontail <i>Ceratophyllum demersum</i></p>	<p>An aquatic plant that is often heavily branched and light green to brown in color. This plant typically grows to be 2 meters tall and has whorled leaves that branch once or twice. Coontail can appear to be bushy at the tip. This plant is native.</p>	 <p>Photo Credit: <a href="http://illinoiswildflowers.info">illinoiswildflowers.info</a></p>
<p>Eurasian Water Milfoil <i>Myriophyllum Spicatum</i></p>	<p>An aquatic plant with 12 or more pairs of leaflets per leaf. Leaves are very fine and tend to resemble a feather. The stem on this plant is reddish in color. This plant is invasive!</p>	 <p>Photo Credit: Ian Shackelford</p>
<p>Purple Loosestrife <i>Lythrum salicaria</i></p>	<p>A flowering plant with a square or 6-sided stem and smooth leaves. Flowers tend to be a pinkish purple with 6 petals. This plant is invasive!</p>	 <p>Photo Credit: Dave Britton</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	8.21	74.8	102.0%
4	8.19	74.9	102.7%
6	8.13	74.8	101.9%
8	8.14	74.8	102.0%
10	8.06	74.4	100.6%
12	8.14	73.8	100.8%
14	8.42	72.3	102.8%
16	11.13	69.0	131.1%
18	12.54	61.8	136.0%
20	11.85	56.3	120.3%
22	11.45	52.8	111.2%
24	10.2	49.4	94.9%
26	8.73	47.8	79.5%
28	6.0	46.2	53.5%
30	5.11	45.1	44.8%
32	3.83	44.4	33.3%
34	0.89	43.4	7.6%
36	0.08	42.7	0.7%