



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

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

Sureshot Lake AIS Monitoring and Water Clarity Report

Field Date: July 19, 2021
WBIC: 1021000
Previous AIS Findings: Purple Loosestrife, Variegated Reed Manna Grass, Yellow Iris (awaiting DNR verification)
New AIS Findings: No new AIS found.
Field Crew: Stephanie Boismenu, AIS Coordinator, and Aubrey Nycz, AIS Lead Program Assistant, Oneida County Land and Water Conservation Department
Report By: Aubrey Nycz

Purpose: Water is Wisconsin's most precious resource. It provides an essential lifeline between wildlife, recreation, public trust resources, agriculture, industry, health and safety, and environmental, urban and rural interests throughout the state. With a growing population and a treasured supply of fresh water, the protection of water for designated and beneficial uses is of paramount importance.

Each year, the Oneida County Aquatic Invasive Species (AIS) Program staff conducts AIS early detection monitoring and baseline water quality monitoring in Oneida County waterbodies. In addition, staff conducts AIS monitoring at boat landings, rivers, streams, wetlands, roadsides, culverts, and Organisms in Trade. Monitoring takes place from June through September of each year.

AIS early detection monitoring is the most effective approach to locating pioneer populations of WI Chapter NR 40 regulated AIS, species not widely established, and newly introduced species to Wisconsin. Early detection of AIS is crucial for rapid response, containment, management, preventing their spread, and reducing management costs. Implementation of rapid response activities is vital in maintaining the stability of a waterbodies ecosystem services, habitats, fisheries, recreational opportunities, property values, economy, and human health.

Water quality monitoring provides information on the physical, chemical, and biological characteristics of water. Monitoring aims at assessing the environmental state, detecting trends, and identifying potential problems in the water or watershed. The state of water quality is the result of complex natural and manmade conditions and the consequent of those interactions over time. Evaluating trends determines whether water quality is changing relative to land use

and natural conditions. Water quality data provides important and useful information to lake groups, local and regional resource managers, community stakeholders, and provides guidance with protecting and enhancing our waters, watersheds and development to new approaches to water quality management.

Our monitoring program is in collaboration with the DNR, UW Extension's Citizens Lake Monitoring Network Program, and Great Lakes Indian Fish Wildlife Commission. All AIS staff are trained in the in the DNR's AIS monitoring, identification, collection, verification, reporting, and decontamination protocols.

Data Collected: AIS identification, live specimens, photos, population densities, distribution, locations and GPS coordinates. Other observations may include species size, characteristics, and impact to native habitat. Water quality data includes Secchi disc, dissolved oxygen, temperature, water characteristics, and GPS coordinates.

Areas Observed: Perimeter of whole lake's littoral zone, including beaches and boat landings, inlets and outlets, and under and around docks and piers, and other areas identified as most vulnerable to the introduction of AIS.

Methodology: Searching for AIS in the water and along the shoreline is achieved by slowly canoeing around the entire lake's littoral zone, meandering between shallow and maximum rooting depth or 100' from shore (whichever comes first). Additionally, targeted sites considered high risk of invasive species introductions, such as boat landings, access points, parks, beaches, and inlets receive comprehensive AIS monitoring. Several methods and tools are utilized to achieve the survey: survey from the canoe, walking along the shoreline and shallows, using aqua view scopes, snorkeling to examine underwater solid surfaces, sifting through vegetation, and analyzing plant rake samples, veliger tows, and D-net sediment samples.

Targeted Chapter NR40 Invasive Species Include: Asian clams, banded mystery snails, Chinese mystery snails, Faucet Snails, New Zealand mudsnail, quagga mussels, zebra mussels, rusty crayfish, spiny waterfleas, Eurasian watermilfoil, curly leaf pondweed, flowering rush, non-native phragmites, purple loosestrife, yellow iris, and variegated reed manna grass (*Glyceria Maxima* 'Variegated').

Other priority species include: red swamp crayfish, Japanese knotweed, Japanese hops, European frog-bit, yellow floating heart, water chestnut, Brazilian waterweed, Hydrilla, fanwort, parrot feather, water, hyacinth, water lettuce, and rock snot.

Sureshot Lake Data: Sureshot Lake, located in the Town of Woodruff, Oneida County, is a 19-acre seepage lake with a maximum depth of 27 feet (Figure 1). This year, the water levels were lower than normal, and we reported 23 feet at the recorded deep hole. There is one public boat landing on Sureshot Lake located on Lake Cunard Campground Road (Figure 2). The substrate is 65% sand, 20% gravel, 5% rock, and 10% muck. Along with reporting the depth and substrate, the Wisconsin Department of Natural Resources (DNR) reports that the lake has largemouth bass.

Field Notes (weather): The weather while conducting research on Sureshot Lake was fair. It was sunny, but there was lots of haze from forest fires. At times, this made it difficult to see clearly in the water. The outside temperature was 80 degrees Fahrenheit.

Field Notes (AIS monitoring): We completed a visual meander survey around the entire lake's perimeter, searching both sides of the canoe, and moving in and out between various water depths. Polarized sunglasses were used to aide in looking at the bottom substrate. We looked both in the water and along the shoreline and made note of the plants and animals we observed in the process (see table 1). On the northern side of the lake, we discovered a single Yellow Iris plant. The homeowners were outside, so we spoke with them about possible options for removing this plant. We recorded the invasive that we found on our GPS unit and sent photos of the photo to the DNR, so that they can verify it.

Field Notes (water quality monitoring): To observe the water clarity and quality on Sureshot Lake, we used a depth finder and maps indicating where data had been collected in the past to locate the deep hole. After locating the deep hole, we used a Secchi disk to measure water clarity and a dissolved oxygen meter to measure water quality. 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 are under stress. The dissolved oxygen measurements on Sureshot Lake were comparable to those in years' past. These measurements can be found in table 2. The Secchi disk reading was at 16 feet out of a maximum depth of 23 feet.

Figure 1. Map of Oneida County, WI with Sureshot Lake circled in red.

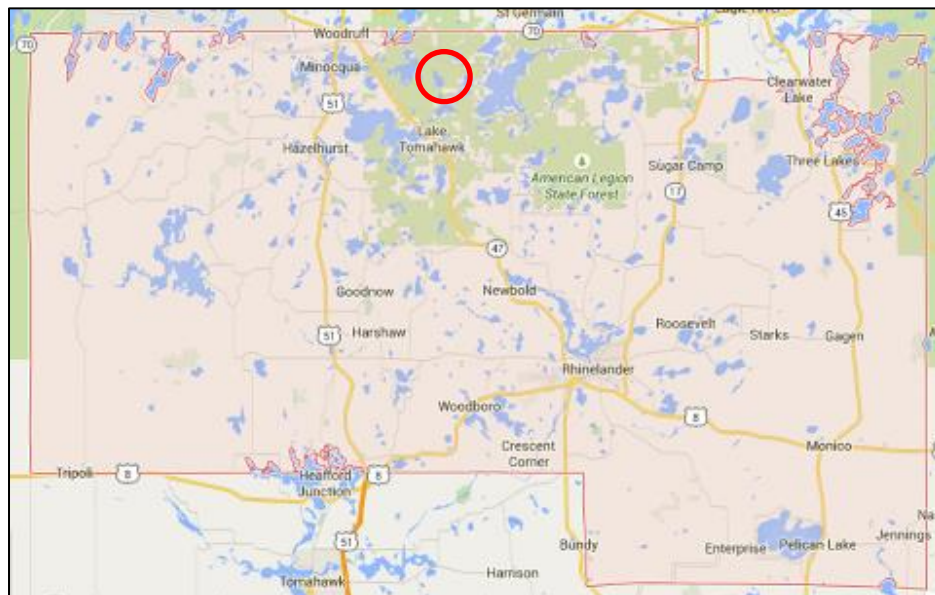


Figure 2. Map of Sureshot Lake



Map Key

● Boat Landing

★ Yellow Iris

⊞ Location of dissolved oxygen and Secchi disk reading
Latitude: 45.850585
Longitude: -89.575118

Table 1. Common plants found in Sureshot Lake while monitoring.






<p>Blue Flag Iris (<i>Iris versicolor</i>)</p> <p>Description: A semi-aquatic to emergent perennial. Flowers are deep blue to purple, 6 parted, 6-8 cm wide. Sepals may have greenish-yellow markings at the base surrounded by a white zone. Leaves are narrow, sword-like; arranged in flattened, fan-like clusters. Flowers stalks (20-80 cm high) are taller than the leaves.</p> <p>Status: Native</p> <p><i>Photo Credit: Wisconsin Department of Natural Resources</i></p>	
<p>Yellow Iris (<i>Iris pseudacorus</i>)</p> <p>Description: A flowering plant with dark green or blue-green leaves and yellow petals. This plant grows to be 3-5 feet tall. The center of the leaves are thick.</p> <p>Status: INVASIVE</p> <p><i>Photo Credit: Stephanie Boismenue</i></p>	
<p>Bullhead Pond Lily (<i>Nuphar variegata</i>)</p> <p>Description: An aquatic plant with heart-shaped leaves that can grow to be 15 inches long. This plant also has a yellow, cup-shaped flower.</p> <p>Status: Native</p> <p><i>Photo Credit: Jomegat's Weblog</i></p>	
<p>Water Shield (<i>Brasenia schreberi</i>)</p> <p>Description: 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.</p> <p>Status: Native</p> <p><i>Photo Credit: Shannon Sharp</i></p>	
<p>White Water Lily (<i>Nymphaea odorata</i>)</p> <p>Description: 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.</p> <p>Status: Native</p> <p><i>Photo Credit: Stephanie Boismenue</i></p>	

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

Depth (Feet)	Millimeters of Mercury (mmHg)	Dissolved Oxygen Levels (mg/L)	Percent of Dissolved Oxygen	Temperature (°F)
2	722.8	8.48	104.0%	78.3
4	722.8	8.53	103.7%	77.5
6	722.8	8.54	103.6%	77.2
8	722.8	8.45	102.1%	76.8
10	722.8	8.37	100.9%	76.6
12	722.8	8.61	102.6%	75.6
14	722.8	10.00	115.2%	72.3
16	722.8	10.18	109.6%	66.2
18	722.8	8.21	85.2%	62.8
20	722.8	4.81	47.6%	58.8
22	722.7	2.27	21.7%	55.8

Resources: <https://dnr.wi.gov/lakes/lakepages/LakeDetail.aspx?wbic=1021000>

Sureshot Lake AIS Monitoring and Water Clarity Report

Field Date: June 11, 2020

WBIC: 1021000

Previous AIS Findings: Purple Loosestrife, Variegated Reed Manna Grass, Yellow Iris

New AIS Findings: Yellow Iris

Field Crew: Aubrey Nycz, AIS Lead Program Assistant, and Rachel Cook, AIS Project Assistant, Oneida County Land and Water Conservation Department

Report By: Aubrey Nycz

Purpose: Water is Wisconsin's most precious resource. It provides an essential lifeline between wildlife, recreation, public trust resources, agriculture, industry, health and safety, and environmental, urban and rural interests throughout the state. With a growing population and a treasured supply of fresh water, the protection of water for designated and beneficial uses is of paramount importance.

Each year, the Oneida County Aquatic Invasive Species (AIS) Program staff conducts AIS early detection monitoring and baseline water quality monitoring on a minimum of 15 lakes in Oneida County. In addition, staff conducts AIS monitoring at boat landings, rivers, streams, wetlands, roadsides, culverts, and Organisms in Trade. Monitoring takes place from June through September of each year.

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Sureshot Lake Data: Sureshot Lake, located in the Town of Woodruff, Oneida County, is a 19-acre seepage lake with a maximum depth of 27 feet (Figure 1). There is one public boat landing on Sureshot Lake located on Lake Cunard Campground Road (Figure 2). The substrate is 65% sand, 20% gravel, 5% rock, and 10% muck. Along with reporting the depth and substrate, the Wisconsin Department of Natural Resources (DNR) reports that the lake has largemouth bass.

Field Notes (weather): The weather while conducting research on Sureshot Lake was not ideal. The outside temperature was 65 degrees Fahrenheit, and at times, we experienced heavy rain and wind. One struggle we had was when there were large waves on the water. This made it difficult to get a close look at the submerged plants.

Field Notes (AIS monitoring): We completed a visual meander survey around the entire lake perimeter, searching both sides of the canoe, and moving in and out between various water depths. Polarized sunglasses were used to aide in looking at the bottom substrate. We looked both in the water and along the shoreline and made note of the plants and animals we observed in the process (see table 1). On the northern side of the lake, we discovered a single Yellow Iris

plant. We recorded the invasive that we found on our GPS unit and collected samples of the plant to report to the DNR (figure 2).

Field Notes (water quality monitoring): To observe the water clarity and quality on Sureshot Lake, we used a depth finder and maps indicating where data had been collected in the past to locate the deep hole. After locating the deep hole, we used a Secchi disk to measure water clarity and a dissolved oxygen meter to measure water quality. 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 are under stress. The dissolved oxygen measurements on Sureshot Lake were comparable to those in years' past. These measurements can be found in table 2. The Secchi disk reading was at 13 feet out of a maximum depth of 27 feet.

Figure 1. Map of Oneida County, WI with Sureshot Lake circled in red.



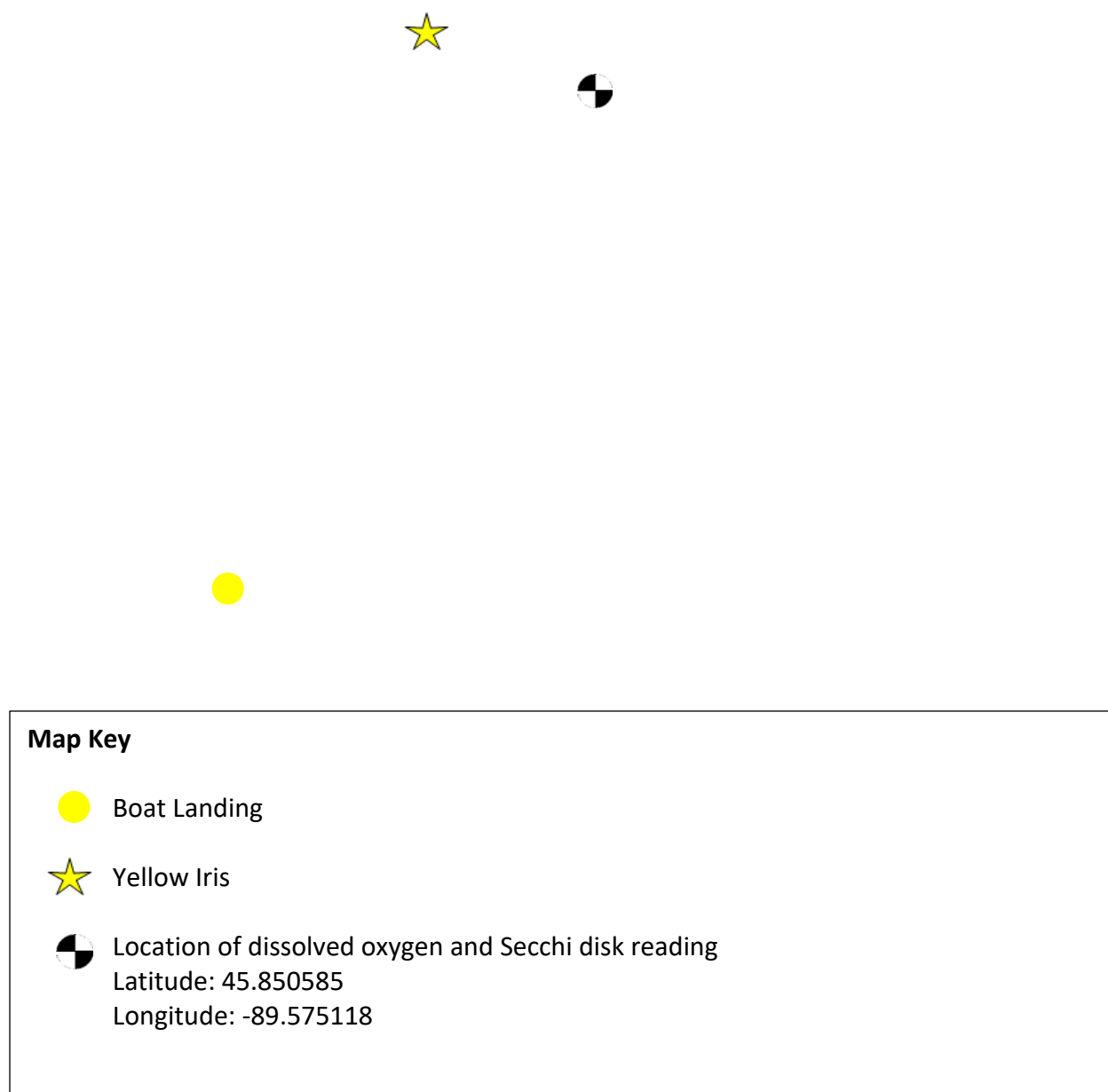


Table 1. Common plants found in Sureshot Lake while monitoring.






<p>Blue Flag Iris (<i>Iris versicolor</i>)</p> <p>Description: A semi-aquatic to emergent perennial. Flowers are deep blue to purple, 6 parted, 6-8 cm wide. Sepals may have greenish-yellow markings at the base surrounded by a white zone. Leaves are narrow, sword-like; arranged in flattened, fan-like clusters. Flowers stalks (20-80 cm high) are taller than the leaves.</p> <p>Status: Native</p> <p><i>Photo Credit: Wisconsin Department of Natural Resources</i></p>	
<p>Yellow Iris (<i>Iris pseudacorus</i>)</p> <p>Description: A flowering plant with dark green or blue-green leaves and yellow petals. This plant grows to be 3-5 feet tall. The center of the leaves are thick.</p> <p>Status: INVASIVE</p> <p><i>Photo Credit: Stephanie Boismenue</i></p>	
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<p>White Water Lily (<i>Nymphaea odorata</i>)</p> <p>Description: 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.</p> <p>Status: Native</p> <p><i>Photo Credit: Stephanie Boismenue</i></p>	

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

Depth (Feet)	Dissolved Oxygen Levels (mg/L)	Percent of Dissolved Oxygen	Temperature (°F)
2	8.26	94.7	66.6
4	8.16	93.9	67.1
6	8.13	93.7	67.2
8	8.1	93.4	67.2
10	10.01	100.2	62.4
12	9.87	102.7	58.4
14	7.93	78.0	53.8
16	5.31	50.1	50.5
18	3.99	36.6	48.4
20	3.73	33.5	46.9
22	1.83	16.1	45.7
24	0.15	1.3	45.1

Resources: <https://dnr.wi.gov/lakes/lakepages/LakeDetail.aspx?wbic=1021000>



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Stephanie Boismenu, AIS Coordinator
Jonna Stephens Jewell, Program Assistant*

Oneida County Courthouse
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Sureshot Lake AIS Boat Launch and Shoreline Surveillance Monitoring Report

Field Date: May 31, 2020
WBIC: 1021000
Previous AIS Findings: Purple Loosestrife and Variegated Reed Manna Grass
New AIS Findings: None
Field Crew: Aubrey Nycz, Lead AIS Project Assistant, Oneida County Land and Water Conservation Department
Report By: Aubrey Nycz

On May 31, 2020, Aubrey Nycz, AIS Lead Project Assistant, visited the Sureshot Lake canoe launch landing located on Cunard Campground Road, in Oneida County, to perform an AIS landing check (Figure 1). The main duties performed at AIS landing checks are to inspect shoreline vegetation, shallow aquatic vegetation, deeper aquatic vegetation (via rake), look for invasive animals, and replace old signs if needed. A GPS unit can be used to mark where the AIS check is performed, and to also mark invasive organisms if found. For today's landing check, I used the GPS on my phone to gather coordinates.

Sureshot Lake is a 19 acre seepage lake with one public canoe launch landing. I chose to monitor this lake because it is the only lake in Oneida County that has had Reed Manna Grass in the past. This invasive species has been removed from the lake, however, I wanted to make sure I did not see it growing near the landing. Later in the summer, I plan to return to Sureshot Lake with a canoe to monitor the entire perimeter of the lake. The shoreline on Sureshot Lake is a combination of sand and muck, and it holds a variety of native plants.

Sureshot Lake contains two kinds of invasive species. According to the Wisconsin Department of Natural Resources, purple loosestrife and reed manna grass are already present in the lake. While monitoring at the canoe landing, I did not observe any of these invasive species.

Figure 1. Map of Oneida County, WI with Sureshot Lake circled in red.

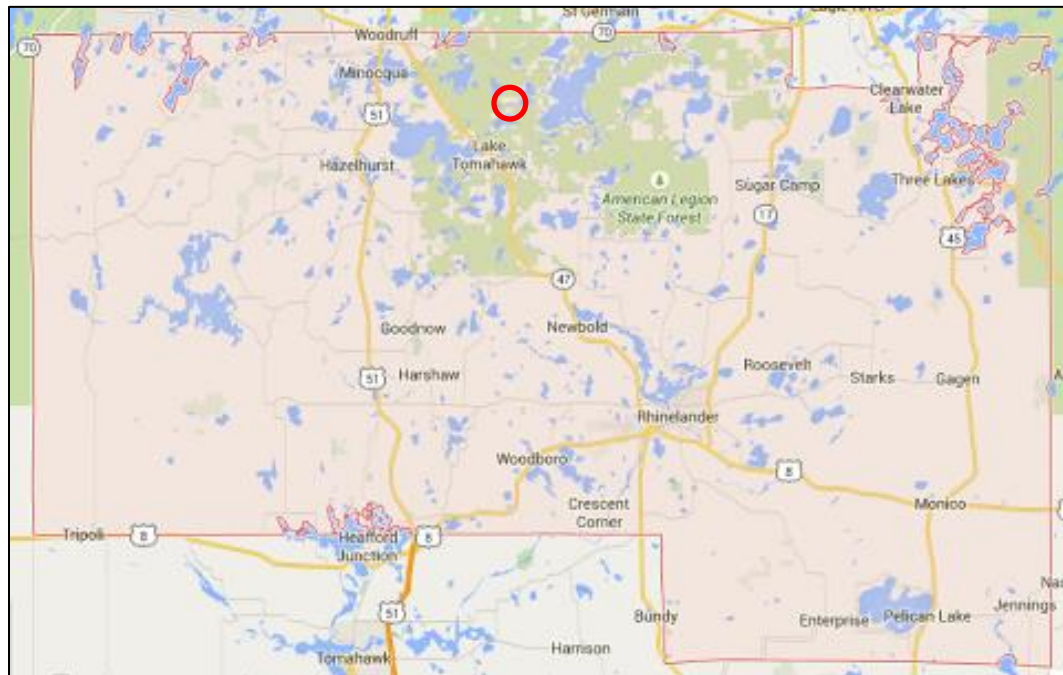
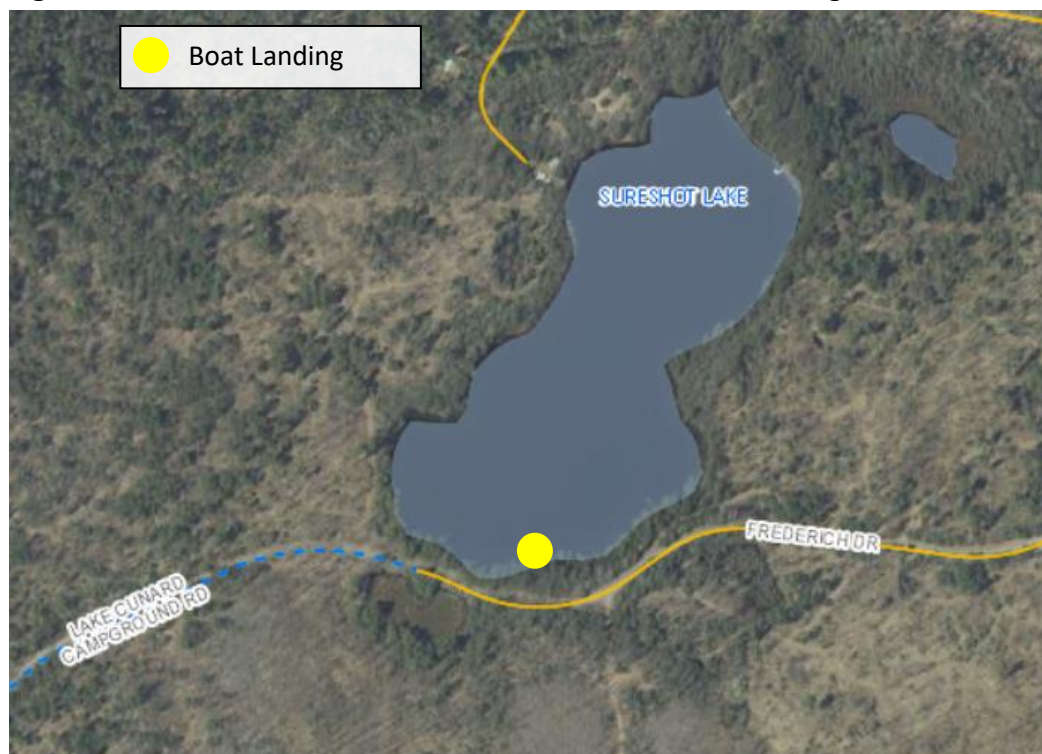


Figure 2. AIS Boat Launch and Shoreline Surveillance Monitoring Location.



Resources: <https://dnr.wi.gov/lakes/lakepages/LakeDetail.aspx?wbic=1021000>



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Stephanie Boismenue, AIS Coordinator
Jonna Stephens Jewell, Program Assistant*

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

Sureshot Lake AIS Monitoring and Water Clarity Report

Field Date: September 23, 2019
WBIC: 1021000
Previous AIS Findings: Purple Loosestrife, Reed Manna Grass, Yellow Iris
New AIS Findings: None
Field Crew: Stephanie Boismenue, AIS Coordinator, and Lauren Radtke, AIS Project Assistant, Oneida County Land and Water Conservation Department
Report By: Lauren Radtke

On September 23, 2019, Stephanie Boismenue and I visited Sureshot Lake to conduct Aquatic Invasive Species (AIS) monitoring (Figure 1). Sureshot Lake, located in Oneida County, is a 19 acre seepage lake with a maximum depth of 27 feet. The substrate is 65% sand, 20% gravel, 5% rock, and 10% muck. Along with reporting the depth and substrate, the Wisconsin Department of Natural Resources (DNR) reports that the lake has largemouth bass. We observed largemouth bass and panfish while out on Sureshot Lake.

We launched our canoe at the boat landing located off of Fredrich Dr. (Figure 2). The weather while conducting research on Sureshot Lake was ideal. The outside temperature was 70 degrees Fahrenheit, the sky was sunny, and the wind was calm.

AIS Monitoring

We completed a visual meander survey around the entire lake perimeter, searching both sides of the canoe, and moving in and out between various water depths. Polarized sunglasses were used to aide in looking at the bottom substrate. We looked both in the water and along the shoreline and made note of the plants and animals we observed in the process. A detailed list of the plants found while we were monitoring can be found in table 2. We did discover some potential yellow iris on the lake.

Water Quality Monitoring

To observe the water clarity and quality on Sureshot Lake, we used a depth finder and maps indicating where data has been collected in the past to locate the deep hole. After locating the







Figure 2. Map of Sureshot Lake with the location of the Secchi disk reading and location of invasive species labeled



Table 1. Dissolved oxygen levels and temperatures at the deep hole.

Depth (Feet)	Dissolved Oxygen Levels (mg/L)	Percent of Dissolved Oxygen	Temperature (°F)
2	8.37	98.5	69.0
4	8.34	97.5	68.3
6	8.42	98.8	67.8
8	8.67	97.6	64.9
10	8.68	96.7	64.0
12	8.42	93.1	63.3
14	5.21	57.1	62.6
16	3.35	36.5	62.1
18	2.08	22.5	61.5
20	0.13	1.4	59.6

Table 2. Plants found in Sureshot Lake while monitoring

<p>Yellow Iris (<i>Iris pseudacorus</i>)</p> <p>Description: A flowering plant with dark green or blue-green leaves and yellow petals. This plant grows to be 3-5 feet tall. The center of the leaves are thick.</p> <p>Status: INVASIVE</p> <p><i>Photo Credit: Stephanie Boismenue</i></p>	
<p>Water Arum (<i>Calla palustris</i>)</p> <p>Description: 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.</p> <p>Status: Native</p> <p><i>Photo Credit: Gowganda Photography</i></p>	
<p>White Water Lily (<i>Nymphaea odorata</i>)</p> <p>Description: 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.</p> <p>Status: Native</p> <p><i>Photo Credit: Stephanie Boismenue</i></p>	
<p>Common Name: Water Shield <i>Brasenia schreberi</i></p> <p>Description: 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.</p> <p>Status: Native</p> <p><i>Photo Credit: Shannon Sharp</i></p>	
<p>Pickereel Weed <i>Pontederia cordata</i></p> <p>Description: An aquatic plant with thin, bright green leaves. Emergent leaves tend to be arrow shaped with 6 parted, blue flowers.</p> <p>Status: Native</p> <p><i>Photo Credit: Jody Partin</i></p>	
<p>Sundew (<i>Drosera spp.</i>)</p> <p>Description: A wetland plant that has flattened green leaves with bright red glands. These glands have a sticky goo to entrap insects that are attracted to the plants fragrance and bright colors.</p> <p>Status: Native.</p> <p><i>Photo Credit: James Henderson</i></p>	

Three-way Sedge (*Dulichium arundinaceum*)

Description: An emergent plant. Leaves are hairless, flat, and up to 6in long and 1/3in wide. Leaf arrangement is alternate and 3-ranked (leaves align in a “three-way” pattern).

Status: Native

Photo Credit: minnesotawildflowers.info



Giant Bur-Reed (*Sparganium eurycarpum*)

Description: Emergent plant about 2-6 feet tall. Erect to ascending alternate leaves along the central stem. Strong keel creating a flattened triangular cross-section of leaf. Bur-like appearance for lower pistillate flowers. Flowers have two stigmas. Flower stalk zig-zags.

Status: Native.

Photo Credit: wildflower.org



Soft-stem Bulrush (*Schoenoplectus tabernaemontani*)

An emergent aquatic plant. Spikes have branching lusters at the top of the stem with 15 to 200 spikelets (flower clusters). 3 to 4 leaves at the base of the stem. Plants form colonies from rhizomes.

Status: Native

Photo Credit: minnesotawildflowers.info



Leather-leaf (*Chamaedaphne calyculata*)

Description: A plant that can grow in riparian habitats as well as wetland sites. Leather-leaf is often mistaken for blueberry, but an easy way to identify Leather-leaf is feeling the coarse textured leaf as well as noticing very little veining present.

Status: Native

Photo Credit: Peter M. Dzuik



Steeplebush (*Spiraea tomentosa*)

Description: Mound-shaped shrub 2-4 feet tall. Usually unbranched. Leaves are alternate, abundant along the stem, and are coarsely toothed along their margins. Central stem terminates in a dense panicle of pink flowers 4-8 inches long.

Status: Native

Photo Credit: wildseedproject.net





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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 August 9th, 2018, Aubrey and I went to Sureshot Lake to implement AIS monitoring along with water clarity and quality assessments. Sureshot Lake is a 19 acre oligotrophic lake located in Oneida County, and has one public boat launch. The lake is mainly surrounded by the American Legion State Forest, but the north end of the lake does have several private lots. Sureshot Lake has a maximum depth of 27 feet, and the substrate is reported to be 65% sand, 20% gravel, 5% rock, and 10% muck. Along with reporting the depth and substrate, the Wisconsin Department of Natural Resources reports that the lake has largemouth bass present. We did observe largemouth bass, and we also observed a variety of panfish as well.

The weather while conducting research on Sureshot Lake was ideal. The outside temperature was 80 degrees Fahrenheit, the sky was sunny, there was 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, 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.

To observe the water clarity and quality of Sureshot Lake, Aubrey and I went to what we thought was the deep hole towards the north end of the lake. Sureshot Lake does not have a bathymetric map, so we attempted to find the deep hole with our sonar unit. After locating the suspected deep hole, 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 Sureshot Lake. The Secchi disk reading was 15.5 feet, and the dissolved oxygen readings can be found in table 2.

Aubrey and I did not observe any new invasive species on Sureshot Lake, however, there were two previously documented invasives still present. We found several clumps of Purple Loosestrife, and also a few scattered Yellow Iris plants as well. The Purple Loosestrife and Yellow Iris plants were mainly found on the northern end of the lake, and were in front of several homes. Besides the Purple Loosestrife and Yellow Iris, the lake seems to be healthy and thriving. While out on Sureshot Lake, we took note of the most common plants we observed, and they can be seen below in table 1.

Another important note is that Sureshot Lake used to have an invasive plant known as Variegated Reed Manna Grass. This is a highly invasive plant and it was pulled soon after it was found in 2015. The Oneida County AIS Team has returned several times in order to watch for the invasive, but since its removal in 2015, no Variegated Reed Manna Grass has been viewed. The Oneida County AIS Team plans on returning in the future to check on the Purple Loosestrife and Yellow iris locations, as well as watching for the possible return of Variegated Reed Manna Grass.

Findings: Taken 12 p.m. – 2:00 p.m. on August 9th, 2018

Aquatic Invasive Species: Purple Loosestrife and Yellow Iris

Secchi: The Secchi reading on this lake was 15.5 feet out of a 27 foot maximum depth. The water color was a brownish color, and was very clear when glancing across the lake.

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

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



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

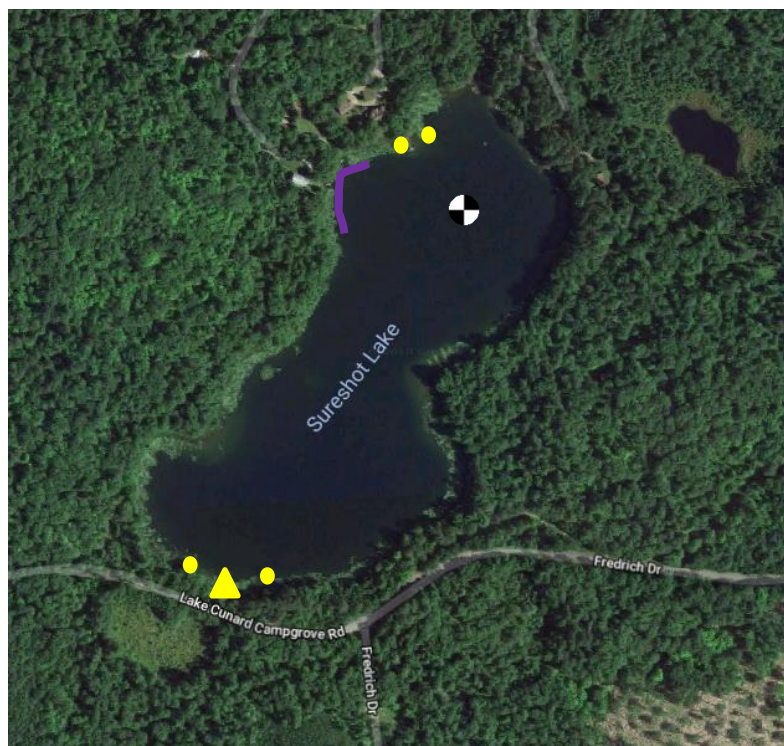
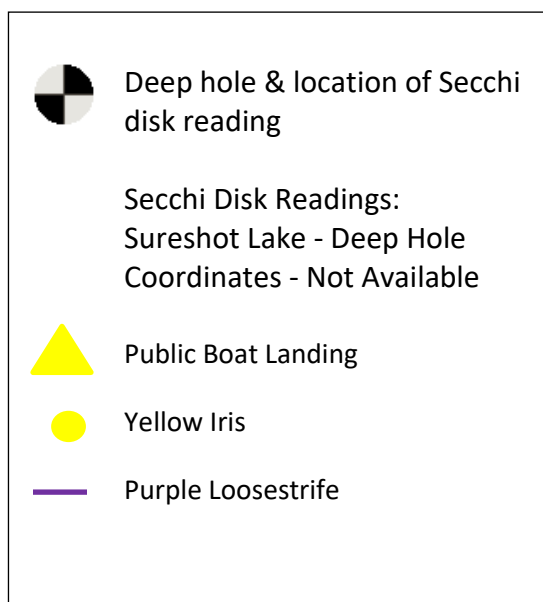


Table 1. Plants found in Sureshot Lake when monitoring.






Common Name Scientific Plant Name	Description	Image
Bullhead Pond Lily (Spatterdock) <i>Nuphar variegata</i>	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>Photo Credit: Jomegat's Weblog</p>
Water Shield <i>Brasenia schreberi</i>	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>Photo Credit: Shannon Sharp</p>
Purple Loosestrife <i>Lythrum salicaria</i>	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>Photo Credit: Dave Britton</p>
White Water Lily <i>Nymphaea odorata</i>	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.	 <p>Photo Credit: Joseph A. Marcus</p>
Yellow Iris <i>Iris pseudacorus</i>	A flowering plant with dark green or blue-green leaves and yellow petals. This plant grows to be 3-5 feet tall. The center of the leaves are thick. This plant is invasive!	 <p>Photo Credit: Dawn Sucee, Ontario Federation of Anglers and Hunters (OFAH)</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	7.71	77.6	99.6
4	7.92	76.4	101.0
6	7.91	75.8	100.2
8	7.88	75.1	99.2
10	7.76	74.2	96.7
12	6.93	72.6	85.0
14	6.73	68.9	79.2
16	4.62	63.1	51.0
18	2.46	57.6	24.5



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

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

Sureshot Lake AIS Monitoring and Water Clarity Report

Field Date: August 11th, 2017
WBIC: 1021000
Previous AIS Findings: Purple Loosestrife, Variegated Reed Manna Grass, Yellow Iris
New AIS Findings: None
Field Crew: Stephanie Boismenue, AIS Coordinator, and Aubrey Nycz, AIS Lead
Program Assistant, Oneida County Land and Water Conservation
Department
Report By: Aubrey Nycz

On August 11th, 2017, Stephanie and I went to Sureshot Lake to implement AIS monitoring along with water clarity and quality assessments. Sureshot Lake is a 19 acre oligotrophic lake located in Oneida County, and has one public, small craft, boat launch. The lake is also partly surrounded by state owned land. Because of this, over half of the lake is not built up with housing, and the shoreline looks natural in many areas. Sureshot Lake has a maximum depth of 27 feet, and the substrate is reported to be 65% sand, 20% gravel, 5% rock, and 10% 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 bluegill and largemouth bass were seen along the shoreline.

The weather while conducting research on Sureshot Lake was fair. The outside temperature was 70 degrees Fahrenheit, the sky was partly cloudy, there was light 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, Stephanie 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 some of the plants growing along the shoreline. One reason for walking parts of the shoreline was to look for variegated reed manna grass. In September of

2015, members of our team found this invasive plant growing along the shoreline, and it was reported to be the only location in Wisconsin to house this grass. When the team found the reed manna grass in 2015, they removed all visible plants by digging and hand pulling. Our team returned to this location in September of 2016 and in August of 2017 to verify that the plant had not continued to grow. Thankfully, we have not found any traces of variegated reed manna grass the past two years that we have monitored this lake.

To observe the water clarity and quality of Sureshot Lake, Stephanie and I went to the deep hole on the north side of the lake. After locating the deep hole with our sonar unit, 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 Sureshot Lake. The Secchi disk reading was 11 feet, and the dissolved oxygen readings can be found in table 2.

Stephanie and I did observe Purple Loosestrife on Sureshot Lake, however, this invasive is already known to have been established here. In order to help control the purple loosestrife population on this waterbody, Stephanie and I removed all loosestrife plants that we found by digging and hand pulling. We also found some iris plants growing along the shoreline, which we believed were yellow iris. Because the plants were not blooming, and we were not able to see the color of the petals, we did not remove the plants. Blue flag iris and yellow iris look very similar when they are not in bloom, therefore, we did not want to mistake a native plant for an invasive one, and remove a healthy plant from the shoreline. The four most common plants we observed were Purple Loosestrife, Water Smartweed, White Water Lilies, and Yellow Iris. These plants can be seen below in table 1.

Findings: Taken 2:00 p.m. – 4:00 p.m. on August 11th, 2017

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

Secchi: The Secchi reading on this lake was 11 feet out of a 27 foot maximum depth. The water color was a brownish 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 Sureshot Lake circled in red (approximate location)



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

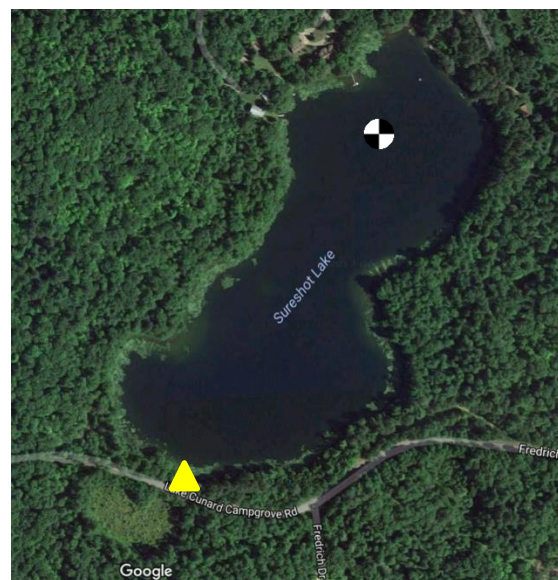
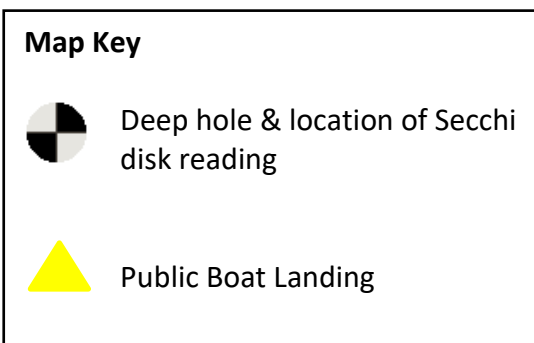


Table 1. Plants found Sureshot Lake when monitoring.





Common Name Scientific Plant Name	Description	Image
Purple Loosestrife <i>Lythrum salicaria</i>	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!	 Photo Credit: Dave Britton
Water Smartweed <i>Persicaria amphibia</i>	An aquatic, floating plant with swollen leaf nodes. Leaves tend to be smooth and rounded. Water smartweed has pink flowers that are raised a few inches above the water. This plant is native.	 Photo Credit: Superior National Forest/CCSA
White Water Lily <i>Nymphaea odorata</i>	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
Yellow Iris <i>Iris pseudacorus</i>	A flowering plant with dark green or blue-green leaves and yellow petals. This plant grows to be 3-5 feet tall. The center of the leaves are thick. This plant is invasive!	 Photo Credit: Dawn Sucee, Ontario Federation of Anglers and Hunters (OFAH)

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

Depth (Feet)	Dissolved Oxygen Levels (mg/L)	Temperature (F)	Percent Dissolved Oxygen
2	7.62	72.0°	92.2%
4	7.56	71.6°	91.2%
6	7.37	71.3°	88.6%
8	7.34	71.2°	88.2%
10	4.81	70.5°	57.4%
12	4.00	70.1°	47.5%
14	0.27	67.6°	3.1%
16	0.13	62.8°	1.4%



Jean Hansen, County Conservationist
Michele Sadauskas, AIS Coordinator
Jonna Stephens Jewell, Program Assistant

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

AIS Incident Report

Variegated Reed Manna Grass (*Glyceria maxima* var. *variegata*) Discovered in Sureshot Lake, Oneida County, WI

Field Date:	September 3, 2015
WBIC:	1021000
Field Crew:	Stephanie Boismenu AIS Lead Program Assistant and Sara Mills, AIS Project Assistants, Oneida County Land & Water
Previous AIS Findings:	None
New AIS Findings:	Variegated Reed Manna Grass (<i>Glyceria maxima</i> var. <i>variegata</i>) Purple Loosestrife (<i>Lythrum salicaria</i>) Yellow Iris (<i>Iris pseudacorus</i>)
Report by:	Stephanie Boismenu, AIS Lead Program Assistant, Oneida County Land & Water Conservation

On September 3, 2015, Sara and I visited Sureshot Lake to follow-up on a report of a suspected AIS population of variegated reed manna grass. We canoed around the lake and located the variegated reed manna grass growing in the littoral zone, adjacent to the border of the Northern Highland American Legion State Forest and private property, located in the North West section of the lake (Map 1 & 2). It was growing in 1-3 feet of water and the substrate was muck. I was able to get out of the canoe and hand-harvest all of the plants that I could find, including its root mass, totaling about 15 individual plants. Unlike other AIS with dense roots systems, I was surprised by its lack of root structure and how easily each plant pulled out of the sediment. Photographs and GPS coordinates were obtained and an AIS Incident Report was completed.

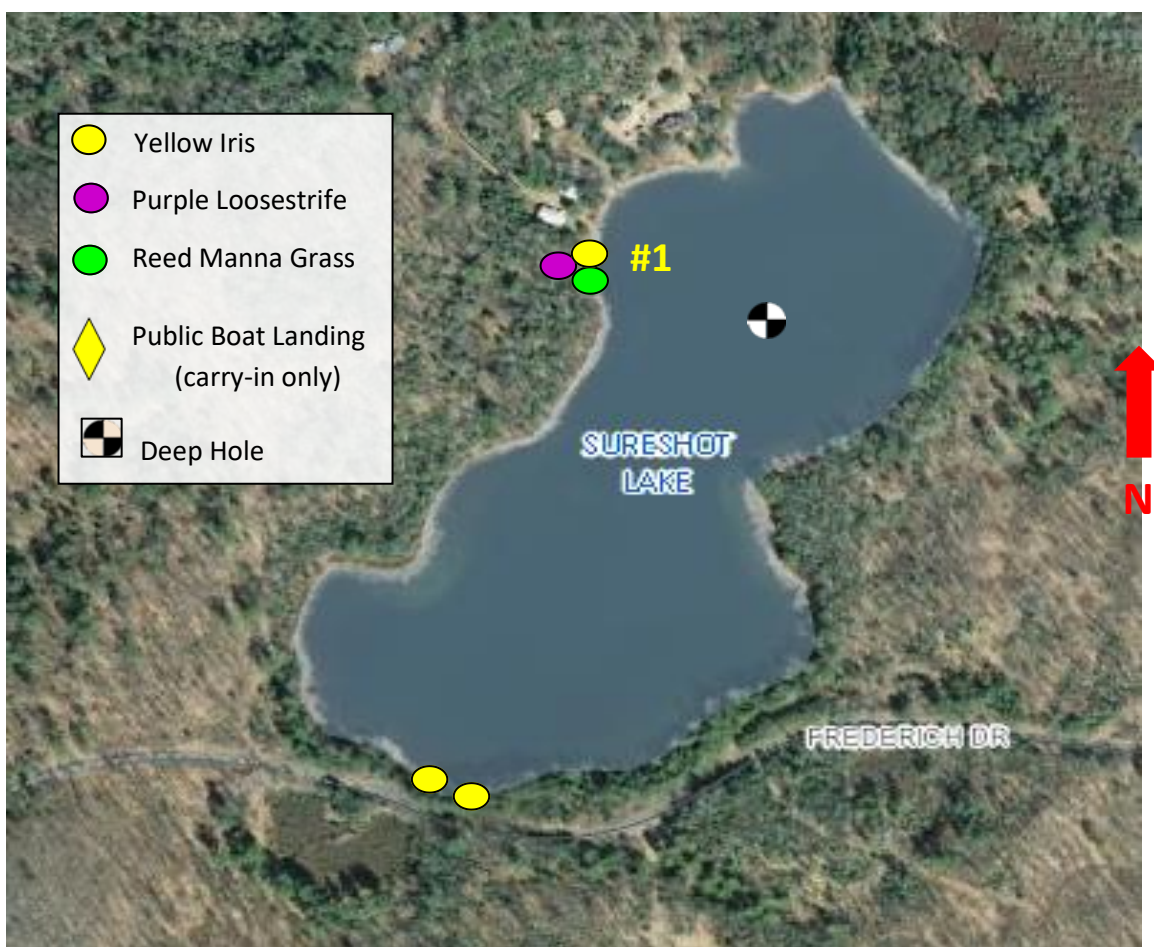
We also found purple loosestrife and yellow iris (#1 on Map 1) next to the variegated reed manna grass and other emergent vegetation. All iris plants were found without flowers. Confirmed yellow iris #1 was found in an approximate 4' by 6' bed. Photographs and GPS coordinates were obtained and AIS Incident Reports was completed. The homeowner adjacent (Map 2) to the stand of plants came to see what we were doing and reported to us that some of the irises blooms are yellow and some bloom blue.

In addition to searching for the variegated reed manna grass, we monitored the entire shoreline for AIS and obtained baseline water quality data from the deep hole. We monitored for AIS via

meandering the shoreline in the canoe, walking along the shoreline, used the aqua scope, looked through vegetation, and checked under and around solid surfaces. We located two potential yellow irises near the canoe launching site (#2 & #3 on Map 1). Yellow iris #2 and #3 (single plants) were not sampled due to lack of identifying features including seed pods. Leaf size and blue-green coloration caused us to believe it to be yellow iris, but they are not definitive identifying features. Before further management, yellow iris #2 and #3 need to be confirmed during the flowering period.

After our visit to Sureshot Lake, we delivered the AIS Incident reports and samples of the variegated reed manna grass, purple loosestrife and yellow iris to the WDNR for verification. All three were given positive identification. All new invasive discoveries are shown in Map 1.

Map 1. Map of Sureshot Lake with locations of newly discovered invasive species



Confirmed yellow iris #1 GPS Coordinates:	45.85080704, -89.57683104
Unconfirmed yellow iris #2 GPS Coordinates:	45.84781068, -89.57745594
Unconfirmed yellow iris #3 GPS Coordinates:	45.84780247, -89.57786003
Confirmed purple loosestrife GPS Coordinates:	45.85090039, -89.57678201
Confirmed reed manna grass GPS Coordinates:	45.85090039, -89.57678201
Deep Hole GPS Coordinates:	45.85066431, -89.57563666

Map 2. Oneida County GIS Map showing property locations.



★ Location of invasive Reed Manna Grass (*Glyceria maxima* var. *variegata*)



Oneida County GIS
Data Mapping



DISCLAIMER
All information is believed accurate but is NOT guaranteed to be without error. This map and its underlying data are intended to be used as a general index to land related information and are not intended for detailed, site-specific analysis.

Variegated reed manna grass (*Glyceria maxima* var. *variegata*) from Sureshot Lake, Oneida County WI.
Photos by Stephanie Boismenu, AIS Lead Program Assistant, Oneida County Land & Water Conservation



Variegated reed manna grass (*Glyceria maxima* var. *variegata*) from Sureshot Lake, Oneida County WI.
Photos by Stephanie Boismenu, AIS Lead Program Assistant, Oneida County Land & Water Conservation



Variegated reed manna grass (*Glyceria maxima* var. *variegata*) from Sureshot Lake, Oneida Coty WI.
Photos by Stephanie Boismenue, AIS Lead Program Assistant, Oneida County Land & Water Conservation



Variegated reed manna grass (*Glyceria maxima* var. *variegata*) from Sureshot Lake, Oneida Coty WI.
Photos by Stephanie Boismenue, AIS Lead Program Assistant, Oneida County Land & Water Conservation



Variegated reed manna grass (*Glyceria maxima* var. *variegata*) from Sureshot Lake, Oneida Coty WI.
Photos by Stephanie Boismenue, AIS Lead Program Assistnt, Oneida County Land & Water Conservation

