Sevenmile Lake

Land & Water Conservation Department

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Sevenmile Lake AIS Monitoring and Water Clarity Report

Field Dates:	August 12th, 2020
WBIC:	1605800
Previous AIS Findings:	Narrow-leaf cattail, Rusty Crayfish
New AIS Findings:	Chinese Mystery Snails
Field Crew:	Aubrey Nycz, AIS Project Leader, and Rachel Cook, AIS Project Assistant, Oneida County Land and Water Conservation Department
Report By:	Aubrey Nycz & Rachel Cook

On August 12th, 2020, Aubrey and I went to Sevenmile Lake for AIS monitoring and to assess water clarity and quality. Sevenmile Lake is a 518-acre mesotrophic drainage lake in Oneida and Forest Counties. It has two public boat landings – one located on the north-eastern side of the lake at the end of 7 Mile Lake Road, and the other located on the south-western side of the lake off of Wesley Road (seen in Figure 2). The shoreline of Sevenmile Lake is occupied by private residents as well as public lands and walking trails. Parts of the lake are surrounded by the Chequamegon-Nicolet National Forest, the Haymeadow Flowage State Natural Area, and the Pat Shay Lake State Natural Area. The lake has a maximum depth recorded at 43ft, however, due to high water levels, we recorded the deep hole at 45ft. The substrate is reported to be 70% sand, 5% gravel, 5% rock, and 10% muck. Along with reporting the depth and substrate, the Wisconsin Department of Natural Resources also reports that the lake has musky, largemouth bass, smallmouth bass, northern pike, walleye, and panfish present.

We chose to monitor Sevenmile Lake because part of it is in Forest County. Butternut Lake, located in Forest County and only 3.5 miles away from Sevenmile Lake has spiny waterfleas in it, so we wanted to check for signs of spiny waterfleas in Sevenmile Lake. Thankfully, we did not observe any spiny waterfleas, but this would be a good lake to do spiny waterflea sampling on in the future.

The weather while conducting research on Sevenmile Lake was ideal. The outside temperature was 75 degrees Fahrenheit, the sky was clear and sunny and there was no wind. It was easy to

maneuver the canoe in and out of the shallow areas and visualize things under the surface of the water. We began monitoring at the boat landing at Wesley Road and paddled around the lake in a clockwise direction. Aubrey and I did a complete shoreline scan while meandering in and out with the canoe 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. Our monitoring path included Sevenmile Lake and the channel leading to the Hay Meadow Flowage.

To observe the water clarity and quality of Sevenmile Lake, Aubrey and I went to the deep hole towards the middle 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 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. Both of these measurements were normal for this lake, and there should be no concern for the water health on Sevenmile Lake. The Secchi disk reading was 7.5 feet and the dissolved oxygen readings can be found in table 2.

We did find two invasive species on Sevenmile Lake. There was evidence of rusty crayfish in the shallow, sandy areas. We saw parts of crayfish molts which had the characteristic color markings of the species (black bands around the claws). We also saw many Chinese mystery snails around the lake, which have not been verified here before. We collected a few to take back as samples. Although we found these invasive species on the lake, there were also many native plants and animals present, including plants like White Water Lily, Bullhead Pond Lily, Blue Vervain, and Coontail. The plants commonly seen on Sevenmile Lake are listed below in Table 1.

Findings: Taken 10:00 a.m. – 2:00 p.m. on August 12th, 2020

Aquatic Invasive Species:
We found evidence of rusty crayfish as well as Chinese mystery snails in the sandy, shallow areas around the perimeter of the lake.

Secchi:
The Secchi reading on this lake was 7.5 feet out of a 45 foot maximum depth. The water levels were high, which was how we were able to find a 45 foot deep hole, as opposed to the previously recorded 43 foot deep hole. The water had a red color, but was fairly clear. The reddish tint to the water can be attributed to high iron levels in the lake.

Dissolved Oxygen: These measurements can be seen in Table 2

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

Figure 2. Map of Sevenmile Lake with boat landings, dam, and location of Secchi disk reading labeled. This lake is located in both Oneida and Forest Counties. The yellow line on the map separates the two counties. The western side of the lake is in Oneida County and the eastern side of the lake is in Forest County.

Deep hole and location of Secchi disk reading

Boat landings

Dam

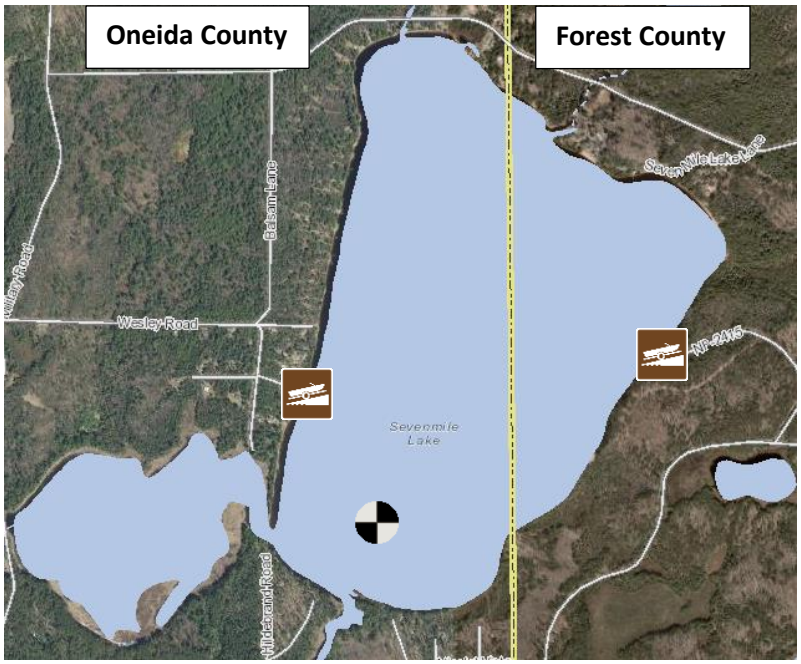

Table 1. Plants found in Sevenmile Lake while monitoring.

Common Name **Scientific Plant Name**	**Description**	**Image**
Blue Vervain *Verbena hastate*	A flowering plant with a square stem and toothed leaves. Flower petals are blue with 5 petals. This plant is native.	 Photo: Stephanie Boismenue
Bullhead Pond Lily *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
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: Stephanie Boismenue
Coontail *Ceratophyllum demersum*	An aquatic plant that is heavily branched and light green to brown in color. This plant grows to be 2 m tall, has whorled leaves that branch once or twice, and is bushy at the tip. This is native.	 Photo: illinoiswildflowers.info

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

Depth (Feet)	Dissolved Oxygen Levels (mg/L)	Temperature (F)	Percent Dissolved Oxygen
2	8.31	76.4	99.9
4	8.46	74.9	98.1
6	8.32	74.1	93.8
8	8.26	73.7	92.1
10	7.92	73.1	88.0
12	6.70	71.9	76.8
14	4.85	69.3	56.5
16	2.70	66.2	30.7
18	0.57	63.0	6.3
20	0.27	57.7	2.7
22	0.52	52.9	5.0
24	0.43	51.4	4.1
26	0.31	50.5	2.9
28	0.06	49.3	0.6
30	0.04	49.0	0.4
32	0.04	48.6	0.3
34	0.03	48.2	0.3
36	0.03	48.0	0.3
38	0.03	47.6	0.3
40	0.03	47.3	0.2
42	0.03	47.2	0.2