

# 2023 LAKE COUNTY LITTORAL VEGETATION SURVEYS

## BACKGROUND AND METHOD

For the average lake user, aquatic plants can be difficult to identify, so invasive species may go unnoticed until it's too late. For that reason, robust aquatic plant inventories performed by professionals on high-risk lakes are an important component of the Lake County AIS prevention plan. Lake County SWCD conducts a thorough survey on around five lakes per year.

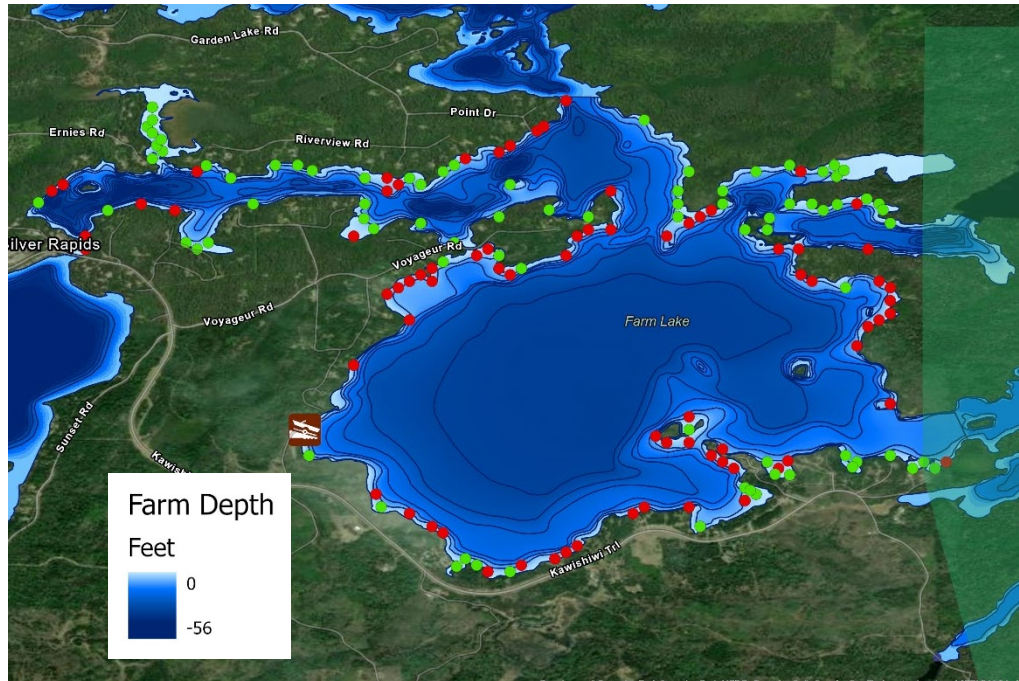
Our survey design is a modified point-intercept method; sites are selected in a grid pattern across the lake, but are limited to the littoral zone, which is where we would expect to find the most plants growing. We determine the littoral zone based on the average secchi readings of the lake. Once at a sampling site, a standard double-sided garden rake head on a tether is tossed from the boat once and then pulled back in. The abundance of plant matter found on the rake is noted as follows:

- 0: None
- 1: Trace
- 2: Sparse
- 3: Medium
- 4: Dense

Plants are then removed from the rake for identification. Included in the diversity numbers are additional species observed in the water near the boat, but they are not factored into the abundance score. Despite our efforts, some plants are ultimately only identified to the family or genus level.

Results of the 2023 surveys are summarized in the following pages.

# FARM LAKE



Date: 7/24, 7/25, 8/1, 8/18, & 9/7, 2022

Area: 1,292 acres

Percent littoral: 36%

Number of sites surveyed: 160

Survey crew: Nate S., Liz A., Jill S., Lauren R., Sylvia S.

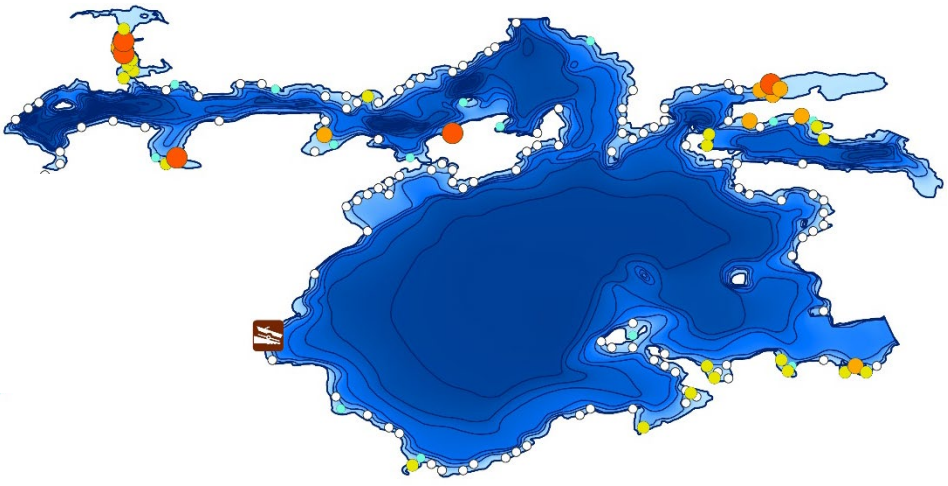
Avg Secchi: 6 ft.

Notes: Farm Lake has low water clarity due to bog staining. The only AIS present are rusty crayfish and northern clearwater crayfish. Most vegetation can be found in the narrow channels where the two branches of the Kawishiwi River flow before converging again.

- No Vegetation Observed
- Vegetation Present

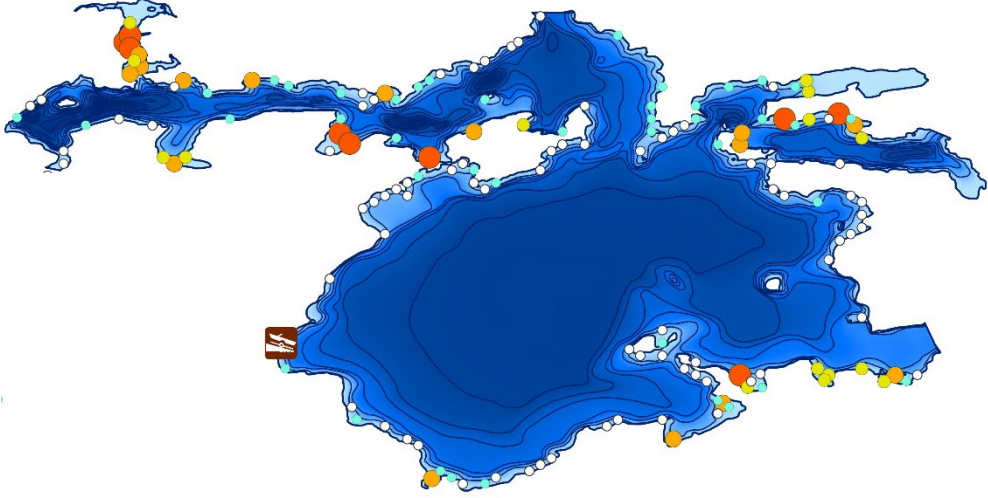
## Abundance Score

- 0
- 1
- 2
- 3
- 4



## Species Diversity

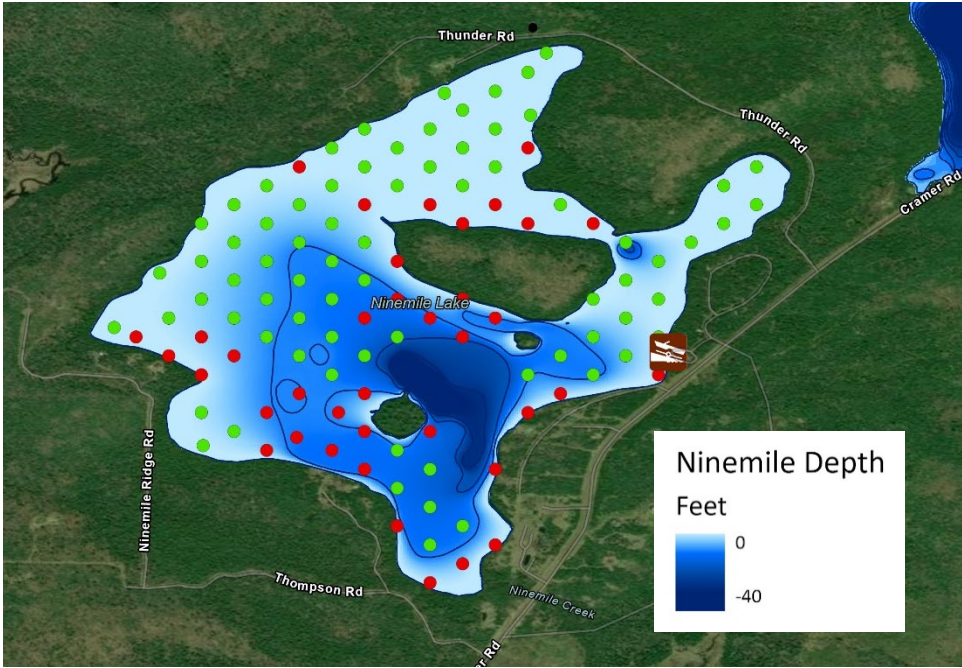
- 0
- 1 - 3
- 4 - 5
- 6 - 8
- 9 - 13



Species	Common Name	Total Observations	Percent Frequency
<b>Nymphaea odorata</b>	White Water Lily	37	23.1
Zizania palustris	Wild Rice	32	20.0
Potamogeton amplifolius	Large-leaf Pondweed	28	17.5
Freshwater sponge	Freshwater Sponge	24	15.0
Carex	Sedge	20	12.5
Brasenia shreberi	Watershield	18	11.3
Nuphar variegata	Yellow Pond Lily	18	11.3
Potamogeton epiphydrus	Ribbon-leaf Pondweed	16	10.0
Sparganium	Burreed	13	8.1
Sparganium fluctuans	Floating-leaf Burreed	12	7.5
Utricularia vulgaris	Common Bladderwort	12	7.5
Sagittaria latifolia	Broad-leaf Arrowhead	11	6.9
Other		11	6.9
Ceratophyllum demersum	Coontail	10	6.3
Potamogeton natans	Floating-leaf Pondweed	10	6.3
Scirpus	Bulrush	10	6.3
Vallisneria americana	Water Celery	10	6.3
Potamogeton robbinsii	Fern Pondweed	9	5.6
Potamogeton spirillus	Spiral-fruited Pondweed	8	5.0
Elodea canadensis	Canadian Waterweed	7	4.4
Sagittaria	Arrowhead	7	4.4
Typha latifolia	Broad-leaf Cattail	7	4.4
Myriophyllum	Watermilfoil	3	1.9
Drepanocladus	Water Moss	2	1.3
Equisetum	Horsetail	2	1.3
Najas flexilis	Slender Naiad	2	1.3
Potamogeton praelongus	White-stemmed Pondweed	2	1.3
Typha sp	Cattail	2	1.3
Bidens beckii	Water Marigold	1	0.6
Ceratophyllum echinatum	Spiny Hornwort	1	0.6
Filamentous algae	Filamentous Algae	1	0.6
Potamogeton zosteriformis	Flat-stem Pondweed	1	0.6

Table 1: Farm Lake Observed Species

# NINEMILE LAKE



Date: 8/3 & 8/4, 2023

Area: 297 acres

Percent littoral: 97%

Number of sites surveyed: 112

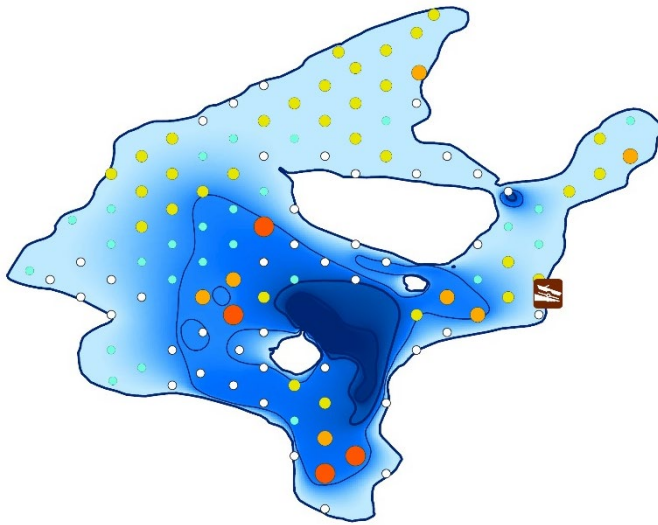
Survey crew: Nate S., Elizabeth W., Liz A

Avg Secchi: 7.9 ft.

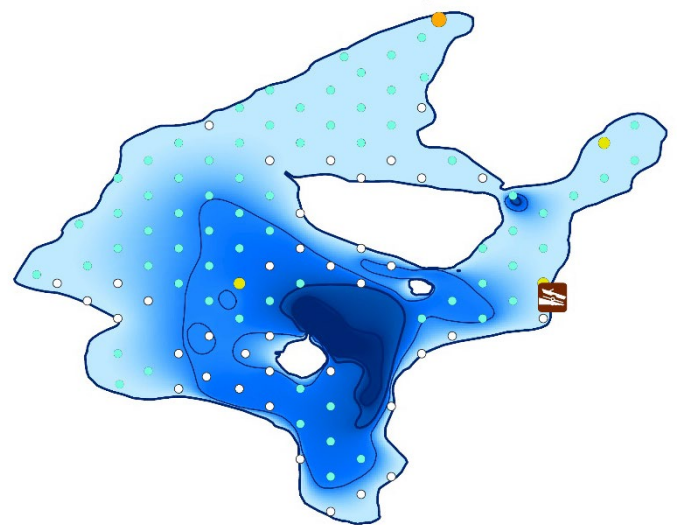
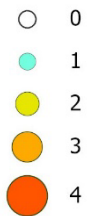
Notes: Ninemile has no known AIS. This is a popular boating lake and has a USFS campground next to the boat ramp. Except for a limited area, the lake is very shallow. Vegetation was found at most of the sites sampled, but the diversity of the plant life was fairly low.

● No Vegetation Observed

● Vegetation Present



Abundance Score



Species Diversity



Species	Common Name	Total Observations	Percent Frequency
<i>Najas flexilis</i>	Slender Naiad	44	39.3
<i>Potamogeton praelongus</i>	White-stemmed Pondweed	25	22.3
<i>Potamogeton robbinsii</i>	Fern Pondweed	12	10.7
<i>Sagittaria</i>	Arrowhead	12	10.7
<i>Nymphaea odorata</i>	White Water Lily	10	8.9
<i>Equisetum</i>	Horsetail	7	6.3
<i>Potamogeton epihydrus</i>	Ribbon-leaf Pondweed	7	6.3
<i>Vallisneria americana</i>	Water Celery	5	4.5
<i>Sparganium</i>	Burreed	4	3.6
<i>Bidens beckii</i>	Water Marigold	1	0.9
<i>Nuphar variegata</i>	Yellow Pond Lily	1	0.9
<i>Potamogeton natans</i>	Floating-leaf Pondweed	1	0.9
<i>Sagittaria latifolia</i>	Broad-leaf Arrowhead	1	0.9
<i>Scirpus</i>	Bulrush	1	0.9

Table 2: Ninemile Observed Species