

2021 Eurasian Watermilfoil Delineation Survey

Lake Shamineau (#49-0127)
Morrison County, MN

Surveyed September 9, 2021



Survey, Analysis, and Reporting by:

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Certified Lake Manager
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Purpose of Survey

This survey was conducted to locate and delineate the edges of any patches of Eurasian watermilfoil (EWM) in Lake Shamineau. The results of this survey will help to assess the effectiveness of recent management actions and guide future management decisions.

Survey Method

Delineation Survey

Freshwater Scientific Services surveyed the vegetated portion of Lake Shamineau on Sept 9, 2021. During this survey, we navigated a meandering search path that covered areas from shore out to the deep edge of plant growth. While navigating this search path, we used a combination of surface observations, sonar readings, and rake tosses to locate and delineate areas of EWM growth. When we encountered EWM plants, we marked the location, recorded the water depth, and rated the density of the growth using density scores as described in the table below.

Score	Visual	Rake
1	Light / Solitary plants	1-2 stems
2	Moderate / Scattered dense patches	3 to 9 stems
3	Dense / Uniform dense growth	10+ stems

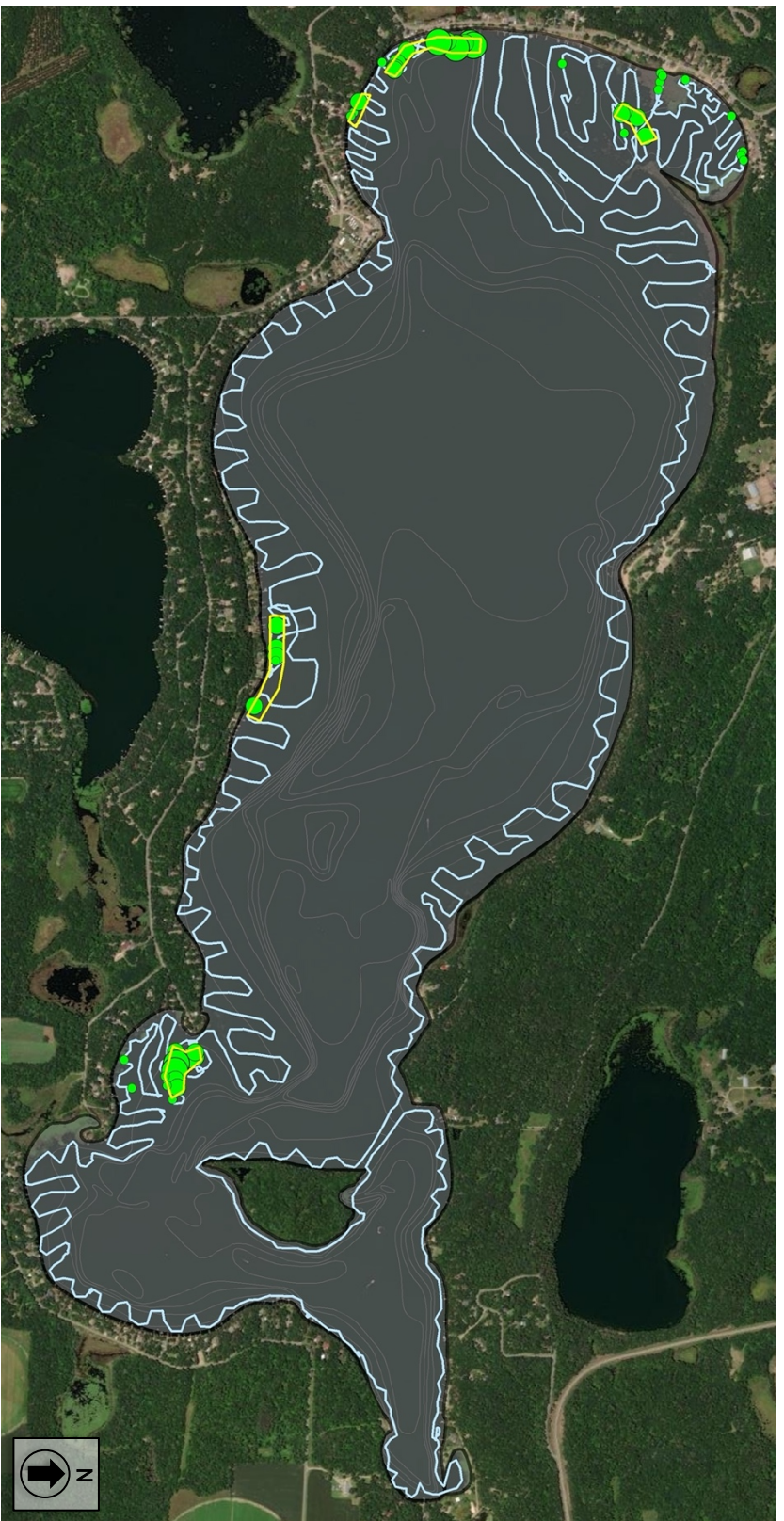
For rake samples, we dragged a sampling rake over approximately 10 square feet of lake bottom and recorded the EWM density based upon the number of EWM plants retrieved on the rake (stem count). The recorded water depths and density scores were linked to the appropriate GPS locations and then mapped using desktop GIS software.

Findings

Previously managed areas of EWM appear to be well controlled. However, we found several locations where the EWM density warrants treatment with herbicide. In particular, we found two new areas along the southern shore where EWM has established patches of denser growth. We have marked these areas for potential treatment and highly recommend treating these areas in the fall of 2021 to limit spread and minimize any herbicide damage to lilies and bulrush in the vicinity of plot 4.

We have also included a map and table of potential hand-pull locations where only a few solitary EWM plants were found.

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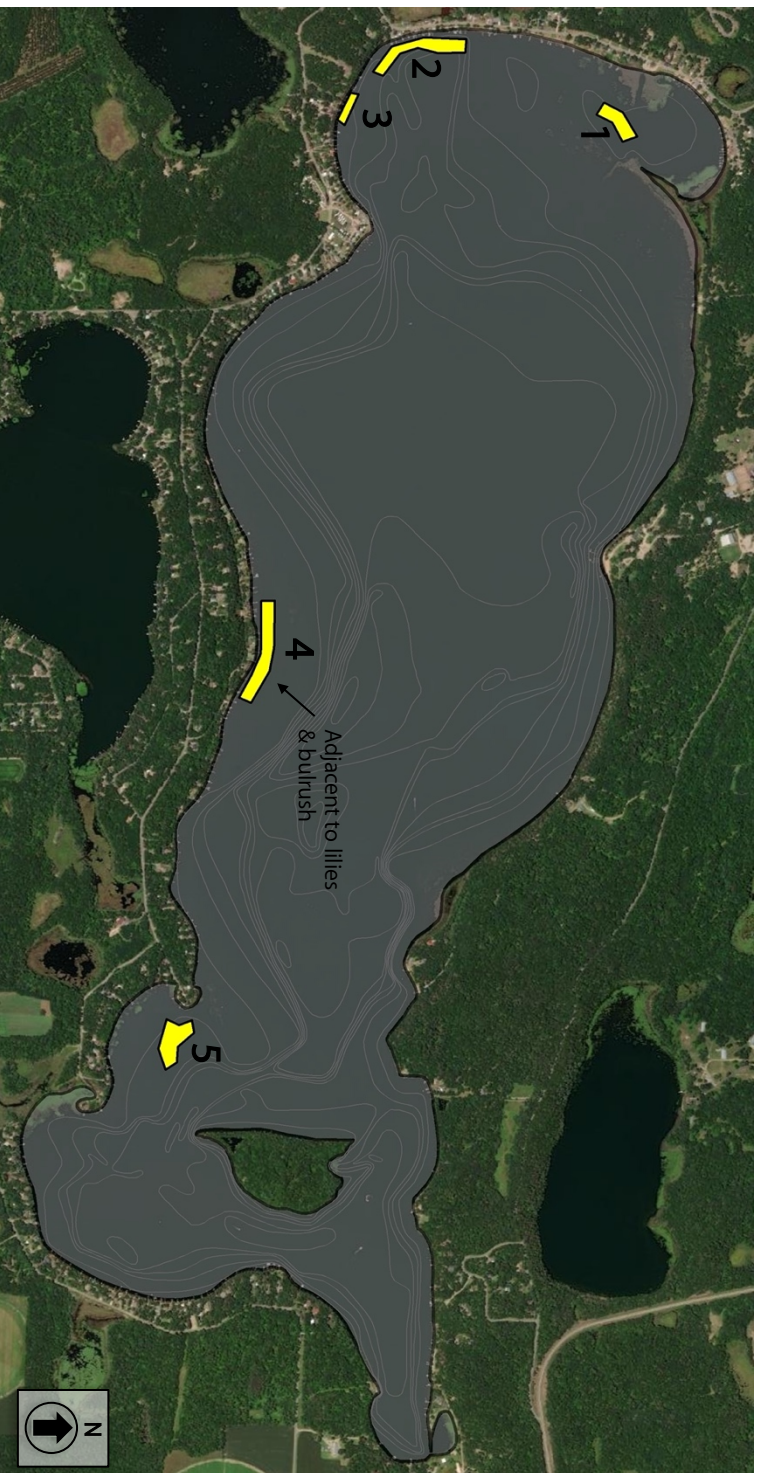
Surveyed: Sept 9, 2021
Method: Visual, Sonar, Rake
Surveyor: JA Johnson



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— Surveyed Path
▭ Proposed Management Plot
● EWM Density (1-3)
1
2
3

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 Proposed Plots

Plot	Area (acres)	Avg Depth (ft)	Avg EWM Density (1-3)
1	2.0	5.4	1.7
2	3.7	7.6	2.4
3	0.8	4.4	1.3
4	4.4	5.0	1.7
5	3.1	9.3	2.0

Total 14.0 acres

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Lake Shamaineau (#49-0127) 2021 Eurasian Watermilfoil Hand-Pull Locations



● Hand-Pull Sites

Point	Lat	Long	Depth (ft)
1	46.262140	-94.632240	3.0
2	46.262191	-94.632128	4.9
3	46.262121	-94.631842	4.6
4	46.262074	-94.631486	5.2
5	46.262914	-94.631962	4.3
6	46.264386	-94.630375	3.6
7	46.264757	-94.628764	3.9
8	46.264713	-94.628618	5.2
9	46.264790	-94.628394	3.9
10	46.259048	-94.632578	5.2
11	46.245970	-94.587259	4.9
12	46.246232	-94.585986	3.9

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Online Resources & Contacts

Minnesota Administrative Rules for Aquatic Plant Management

<https://www.revisor.mn.gov/rules/?id=6280>

Minnesota DNR – Aquatic Plant Management Regulations & Permit Application Forms

<http://www.dnr.state.mn.us/apm/index.html>

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