

2018 Eurasian Watermilfoil Delineation

Rush Lake (#71-0147)
Sherburne County, MN

Surveyed July 5, 2018



Survey, Analysis, and Reporting by:

James A. Johnson – *Aquatic Ecologist, Freshwater Scientific Services, LLC*



Certified Lake Manager
www.NALMS.org

Funding Provided by:

Three Lake Improvement District – Clear Lake, MN

Purpose of Survey

This survey was conducted to locate and delineate areas of Eurasian watermilfoil (EWM) in Rush Lake (#71-0147). This information will help to guide EWM management in the lake and is required as a part of the DNR permitting process for herbicide treatments or hand-pulling.

Survey Method

EWM Delineation Survey

Freshwater Scientific Services surveyed Rush Lake on July 5, 2018. During this survey, we navigated a meandering path over the vegetated portion of Rush Lake, as well as a small portion of Briggs Lake near the channel to Rush. 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 visual and rake 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 plants (stem count) retrieved on the rake. The recorded water depths and density scores were linked to the appropriate GPS locations and then mapped using desktop GIS software.

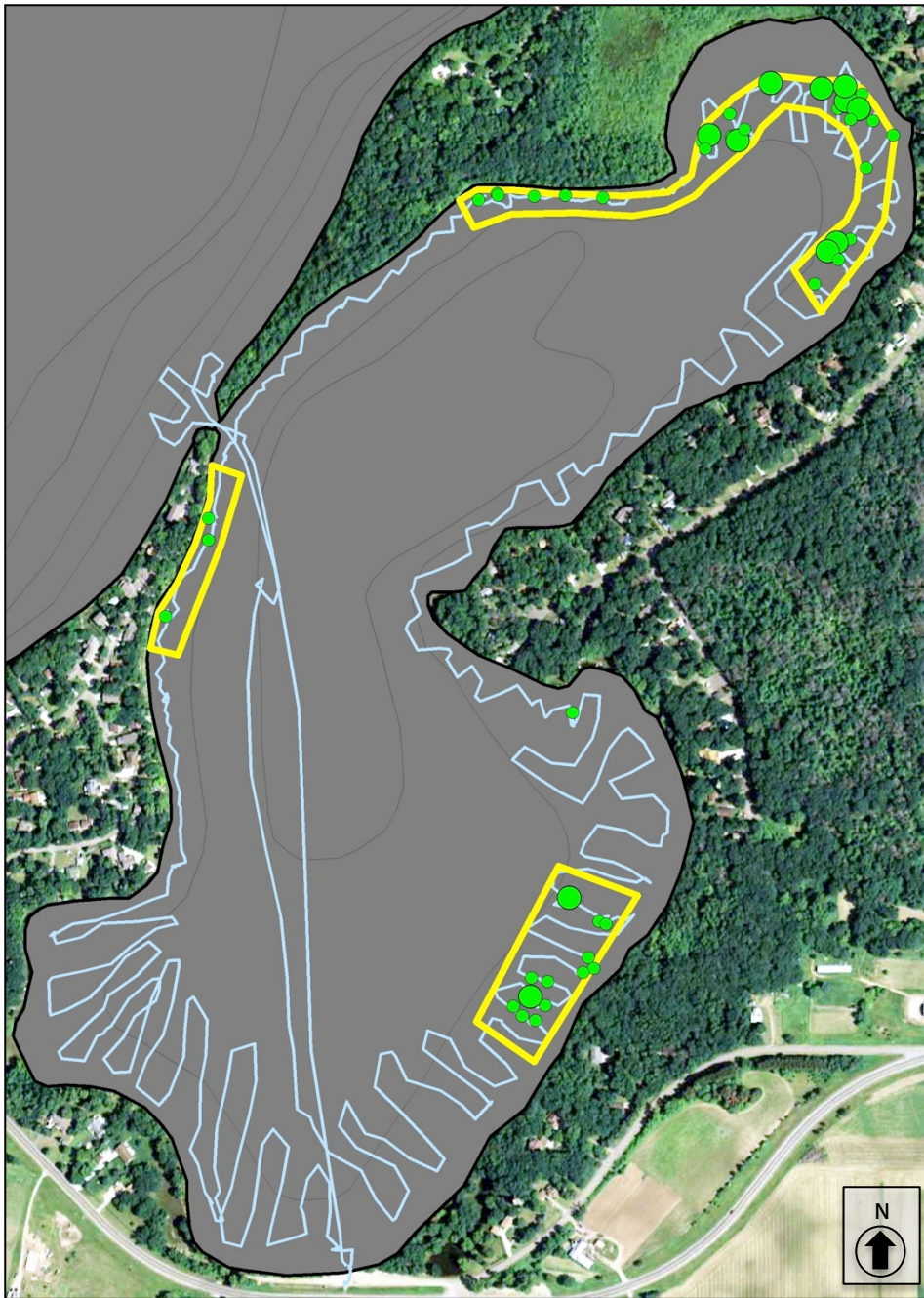
Results & Management Context

Water clarity on the day of the survey was very poor. However, all of the plant growth we observed was in areas shallower than 4 ft, and all of the EWM we found was visible on or just below the surface of the water. However, there may be additional areas of shorter or very sparse EWM plants that were not found due to the poor visibility.

The EWM management implemented in 2017 in the far southern portion of the lake (in and around the lily beds adjacent to the outlet structure) appears to have been extremely effective; we found no EWM remaining in this portion of the lake during the 2018 survey. However, we observed a substantial increase in the extent and density of EWM in the northern end of the lake, and some EWM persisting along the southeastern shore. We also found several solitary EWM plants remaining along the western shore, just south of the channel to Briggs Lake.

Given the extent of the EWM in the northern and southeastern portions of the lake (plots 1 and 2) and the persistence of the few EWM plants near the channel (plot 3), we recommend using herbicide to control EWM in these areas. Plots 1 and 3 are quite narrow. Consequently, it will be more difficult to maintain the herbicide concentration and exposure time needed to control EWM in these areas. You should discuss treatment strategies for small and narrow plots with your applicator to ensure effective control.

Rush Lake (#71-0147)
Eurasian Watermilfoil Delineation Survey: July 5, 2018



Eurasian Watermilfoil

- Surveyed Path
- ▭ Proposed Treatment Plots

Density Rating (1-3)

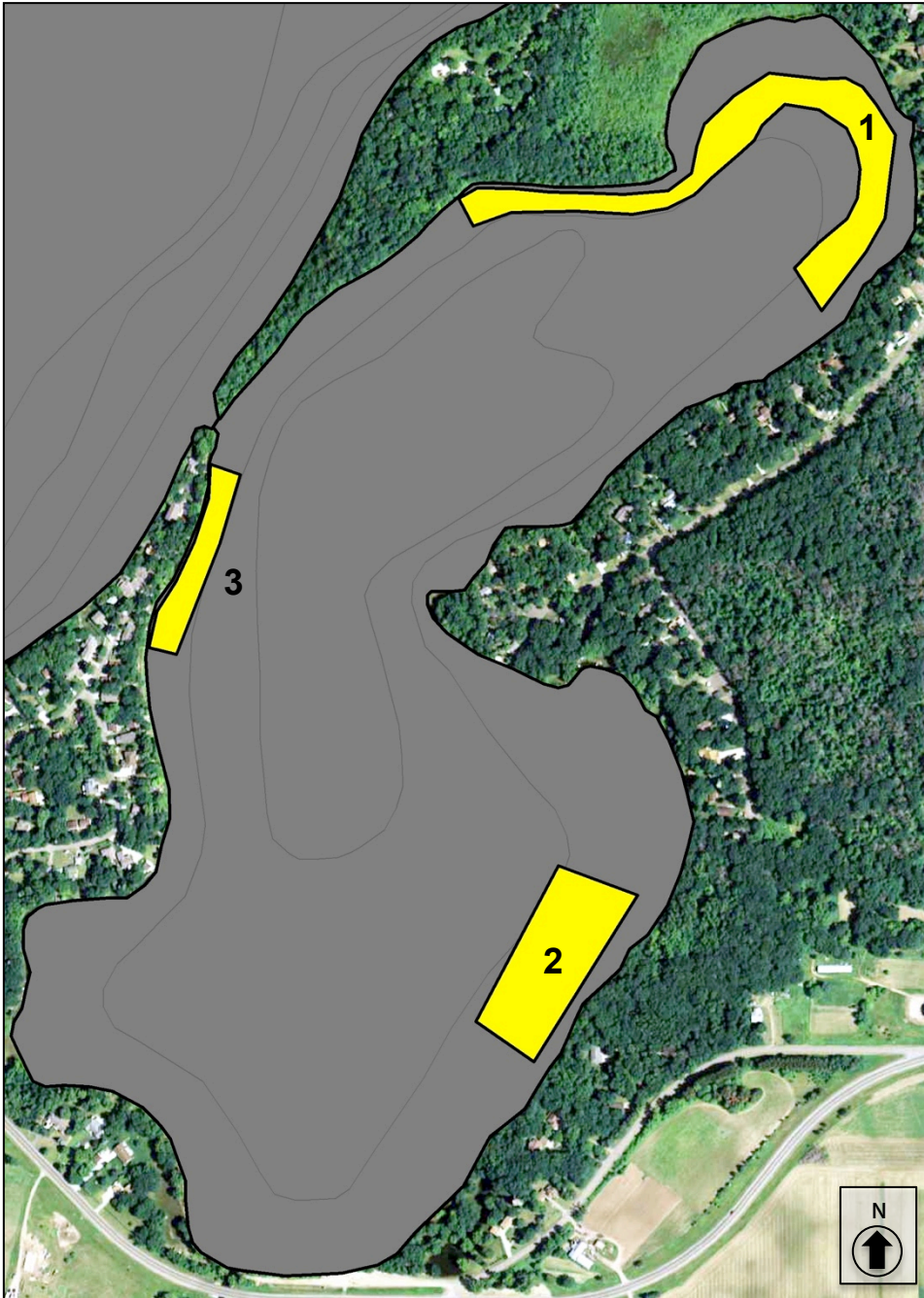
- 1
- 2
- 3

Surveyed: July 5, 2018
Method: Visual, Rake, Sonar
Surveyor: JA Johnson



15771 Creekside Lane
Osseo, MN 55369
fixmylake.com
(651) 336-8696

Rush Lake (#71-0147)
Eurasian Watermilfoil Delineation Survey: July 5, 2018



Eurasian Watermilfoil

 Proposed Treatment Plots

Plot	Area (acres)	Mean Depth (ft)	Mean EWM Density (1-3)
1	6.4	2.5	1.3
2	4.4	2.5	1.0
3	1.6	2.3	1.2

Total 12.4

Surveyed: July 5, 2018
 Method: Visual, Rake, Sonar
 Surveyor: JA Johnson

 **Certified Lake Manager**
www.NALMS.org

 **freshwater**
 SCIENTIFIC SERVICES

15771 Creekside Lane
 Osseo, MN 55369
fixmylake.com
 (651) 336-8696

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>

Christine Jurek

Invasive Species Specialist

Minnesota DNR

christine.jurek@state.mn.us

(320) 223-7847

Wendy Crowell

AIS Management Coordinator

Minnesota DNR

wendy.crowell@state.mn.us

(651) 259-5085