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

Late-Spring Curlyleaf Pondweed Survey: 2024

Rush Lake *(#71-0147)*
Sherburne County

Surveyed May 23, 2024

Survey, Analysis, and Reporting by:
James A. Johnson – *Aquatic Ecologist, Freshwater Scientific Services, LLC*

Certified Lake Manager
www.NALMS.org

Purpose of Survey

This late-spring survey was conducted around the time of peak curlyleaf pondweed (CLP) abundance to better document areas of CLP growth in the vegetated portion of Rush Lake (#71-0147). In recent years, we have not found much CLP in Rush Lake during early-spring pretreatment surveys. This is common in lakes with a long history of treating CLP, as we often see delayed sprouting of deeply-buried turions in such lakes. Furthermore, because of the early ice-off in 2024, the DNR required all CLP treatments to be completed by April 30 to protect native plants. This meant that we had to complete pretreatment surveys by mid April to allow time for permit review and applicator scheduling. The results from this follow-up, late-spring survey will help to guide and improve future CLP management in the lake. This survey will serve as the Rush Lake delineation for your 2025 permit (no additional CLP survey required next year), and the DNR may not require a new survey for 2 to 3 years (discuss with Chris Jurek to verify).

Going forward, we recommend switching to primarily late-spring CLP surveys in Rush Lake to document areas of CLP for treatment the following spring. If the DNR requests early-spring pretreatment surveys in the future, these surveys should be limited to only those areas that were treated in the previous year, and should be conducted as late as possible to allow time for turions to sprout.

Survey Method

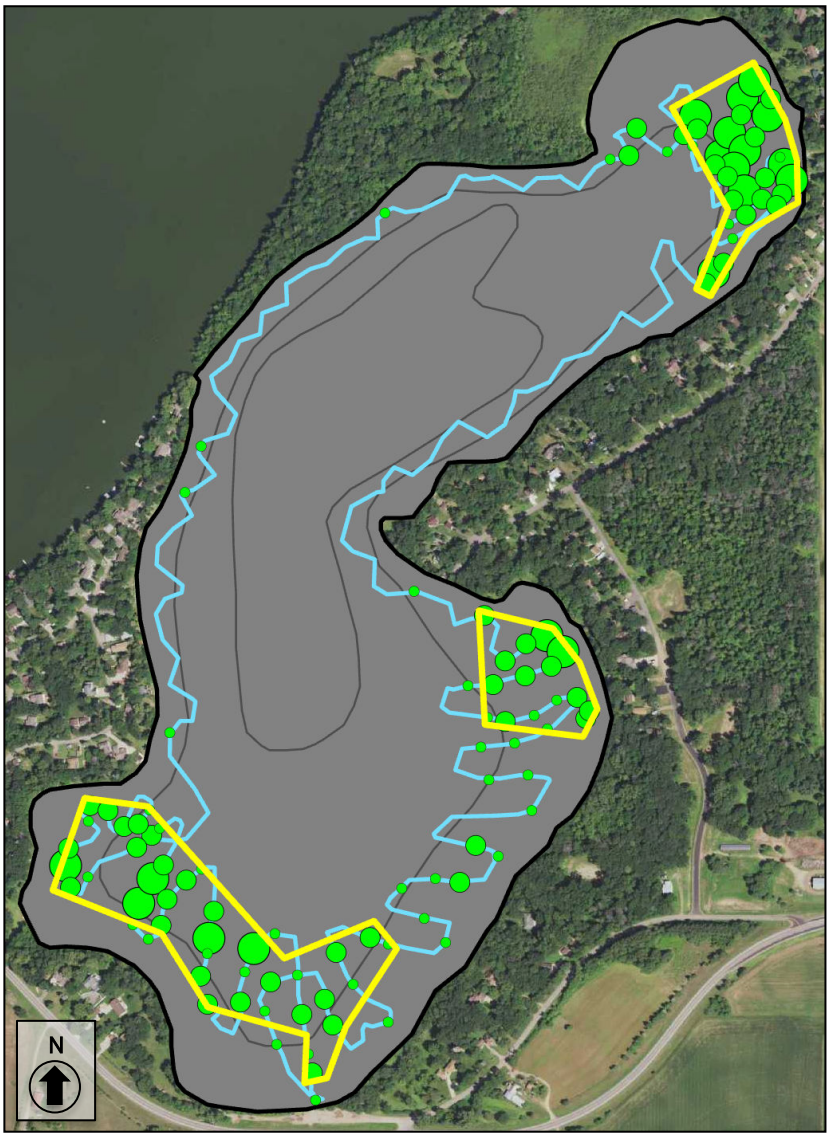
CLP Delineation Surveys

Freshwater Scientific Services surveyed Rush Lake on May 23, 2024. During this survey, we navigated a meandering search path over the vegetated portion of the lake, with additional focus on those areas where we have found denser CLP in the past. While navigating this search path, we used a combination of surface observations, rake tosses, and sonar readings, to locate and delineate areas of CLP growth. Sonar and visual assessments were conducted continuously, with subsequent rake tosses to assess CLP abundance at locations where plants were not identifiable from the surface. When we encountered CLP 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 CLP 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.

Rush Lake
2024 Late-Spring Curlyleaf Pondweed Delineation Survey



Curlyleaf Pondweed

Proposed Plots

CLP Density

1

2

3

Surveyed: May 23, 2024
Methods: Rake, Visual, Sonar
Surveyor: JA Johnson

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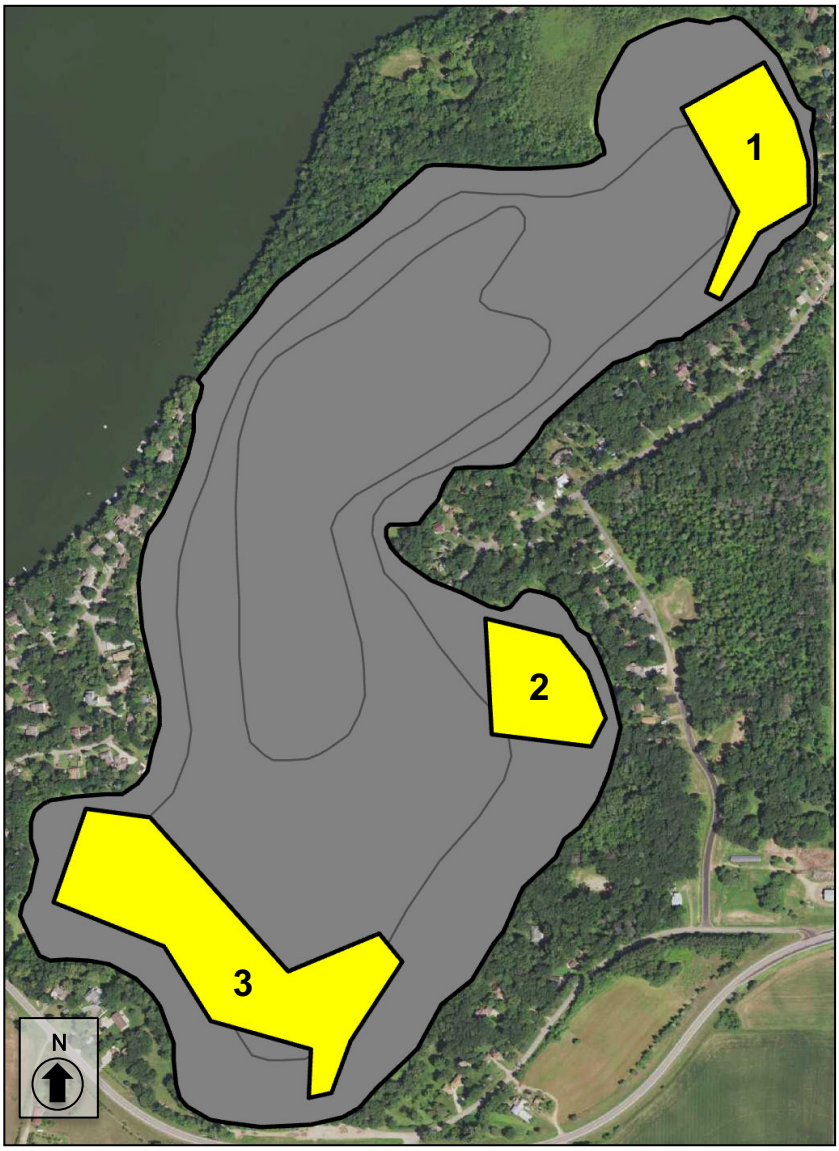

Proposed Plots

Plot	Acres	Mean Depth *(ft)*	Mean CLP *(1-3)*
1	5.87	4.3	2.2
2	4.47	4.1	2.8
3	13.88	5.4	2.4

Total **24.22 acres**

We have limited the total treatment acreage to 24.2 acres, which is the maximum allowed by the DNR (15% littoral).

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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

Christine Jurek
Invasive Species Specialist
Minnesota DNR
christine.jurek@state.mn.us
(320) 223-7847

Wendy Crowell
AIS Management Consultant
Minnesota DNR
wendy.crowell@state.mn.us
(651) 728-0051