

2024 Spring Curlyleaf Pondweed Delineation Survey

Crookneck Lake (# 49-0133)
Morrison County, MN

Surveyed April 14, 2024



Survey, Analysis, and Reporting by:

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Purpose of Survey

This spring survey was conducted to assess the distribution and density of curlyleaf pondweed (CLP) in Crookneck Lake (#49-0133) with a focus on those areas where CLP has been found growing in the past. This information will help to guide CLP management in 2024 and is required as a part of the DNR permitting process.

Survey Method

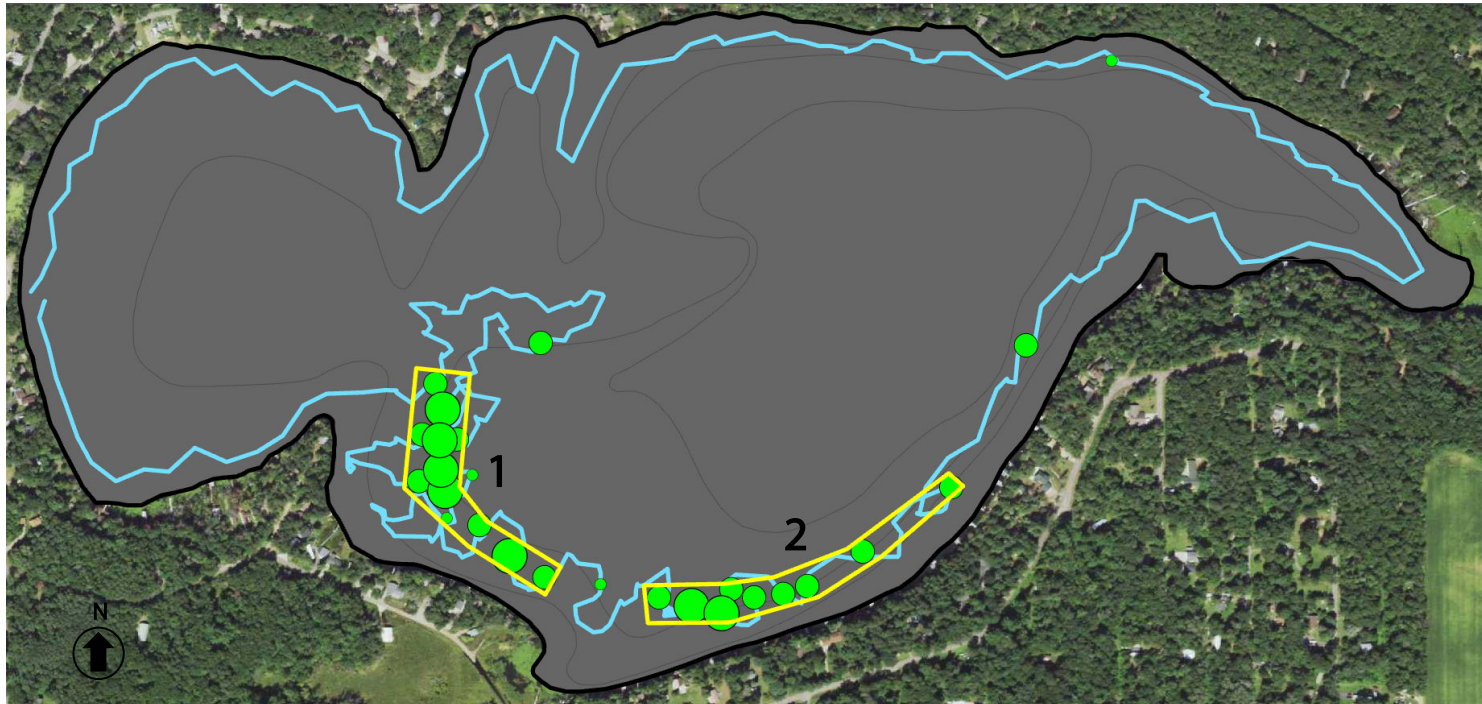
Delineation Survey

Freshwater Scientific Services surveyed Crookneck Lake on April 14, 2024. During this survey, we navigated a meandering path over the designated search areas while using a combination of surface observations, sonar readings, and rake tosses to locate areas of CLP growth and delineate the edges of potential treatment plots.

At each sampled location, 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. We used a hand-held Garmin GPS unit (GPS-MAP78) to record each of the sampled locations, and documented water depth, native plants present, CLP height, and CLP abundance (rake density rating; 1 to 3 scale as described below). The recorded water depths, plant heights, and rake densities were linked to the appropriate GPS locations and then mapped using desktop GIS software.

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

Crookneck Lake (#49-0133) Curlyleaf Pondweed Delineation: 2024



Curlyleaf Pondweed

- Surveyed Path
- ▭ Treatment Plot

CLP Density

- 1
- 2
- 3

Plot	Acres	Mean Depth (ft)	Mean CLP Density
1	3.6	11.0	2.3
2	3.3	11.0	2.2

Total 6.9 acres

Surveyed: April 14, 2024
Methods: Rake, Sonar, Visual
Surveyor: JA Johnson



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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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