

2025 Curlyleaf Pondweed Delineation Survey

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

Surveyed May 5, 2025



Survey, Analysis, & Reporting by:

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Purpose of Survey

This spring survey was conducted at the time of treatment to assess the distribution and density of curlyleaf pondweed (CLP) in designated portions of Crookneck Lake (#49-0133) with a focus on those areas where CLP has been found growing in the past. The later timing of this survey allowed us to better assess the density of CLP, particularly in deeper areas where taller plants were easier to snag on the sampling rake and to see on sonar. This information will help to guide CLP management in 2026 and will be required as a part of the DNR permitting process.

Survey Method

Delineation Survey

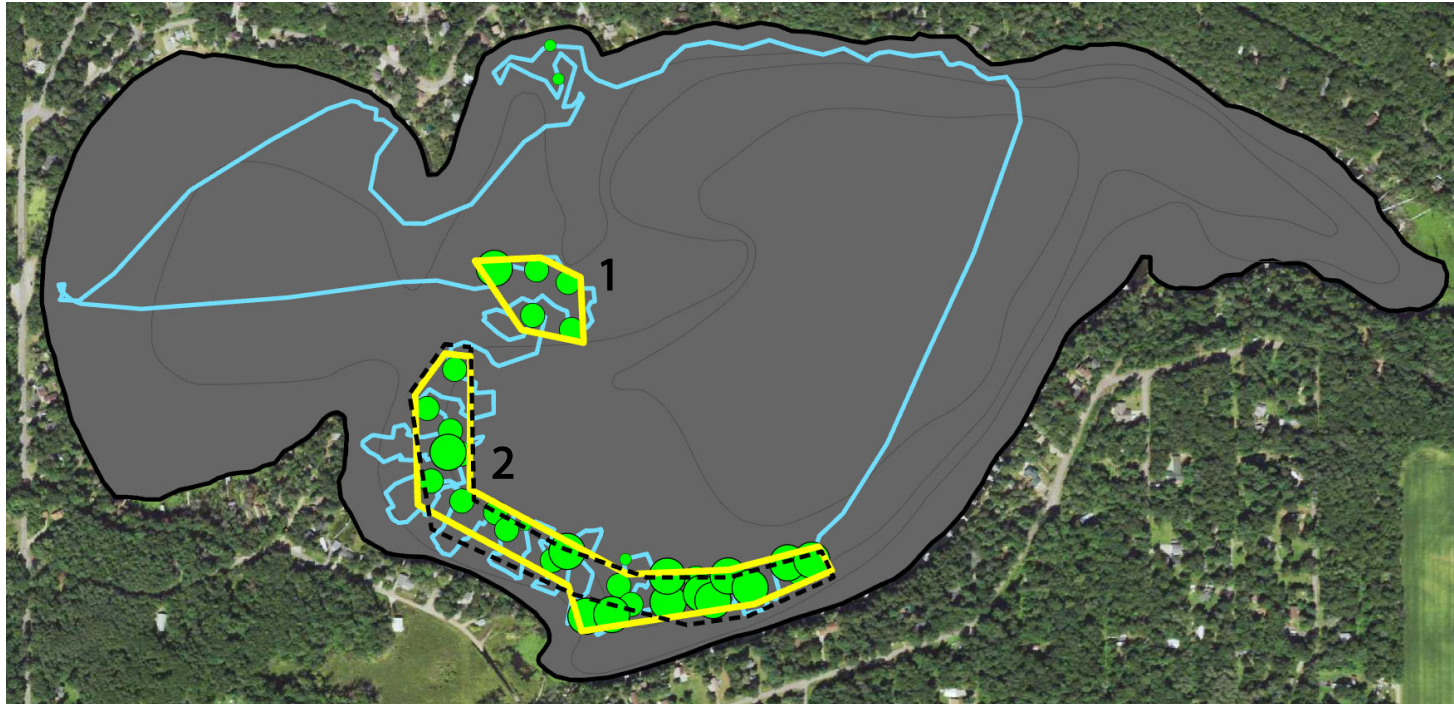
Freshwater Scientific Services surveyed Crookneck Lake on May 5, 2025. During this survey, we navigated a meandering path over the designated search areas while using a combination of surface observations, sonar readings, and rake tosses to locate areas of CLP growth and delineate the edges of potential 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: 2025 *(just prior to treatment)*



Surveyed: May 5, 2025
Methods: Rake, Sonar, Visual
Surveyor: JA Johnson



Plot	Acres	Mean Depth (ft)	Mean CLP Density
1	2.0	11.0	2.2
2	8.1	12.0	2.4

Total 10.1 acres



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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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