

Early-Spring Curlyleaf Pondweed Delineation

Crooked Lake (# 02-0084)
Anoka County, MN

Surveyed April 30, 2019



Survey, Analysis, and Reporting by:

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Certified Lake Manager
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Purpose of Survey

This early-spring survey was designed to locate and delineate areas of curlyleaf pondweed (CLP) throughout Crooked Lake (#02-0084) to identify areas of CLP that may be considered for treatment in 2019. This information will help to guide CLP management in Crooked Lake, and is required as a part of the DNR permitting process.

Survey Method

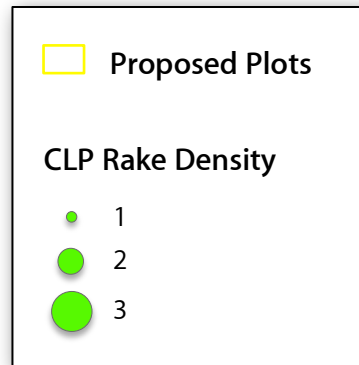
Delineation Surveys

Freshwater Scientific Services surveyed nearshore areas out to the deep edge of plant growth in Crooked Lake on April 30, 2019. During this survey, we navigated a meandering search path through the search area while using a combination of surface observations, sonar readings, and rake tosses to locate and delineate areas of CLP growth. When we encountered CLP, 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 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.

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Surveyed: Apr 30, 2019
Methods: Visual, Sonar, Rake
Surveyor: JA Johnson



Map produced for the
Crooked Lake Area Association by:



15771 Creekside Lane
Osseo, MN 55369
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 Potential Management Plots

| Plot | Area (acres) | Mean Depth (ft) | Mean EWM Density (1-3) |
|------|--------------|-----------------|------------------------|
| 1 | 1.9 | 4.3 | 2.0 |
| 2 | 1.4 | 3.0 | 1.7 |
| 3 | 3.1 | 3.1 | 2.3 |

Total 6.4

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SCIENTIFIC SERVICES

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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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