Curlyleaf Pondweed in Mitchell Lake: 2018
(WBIC# 27-0070)
Hennepin County, MN

Spring Delineation Survey – May 17, 2018

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

Prepared for Riley Purgatory Bluff Creek Watershed District – May 2018
Survey & Analysis Methods

Spring Delineation Survey
Freshwater Scientific Services, LLC completed delineation survey for CLP in Mitchell Lake (#27-0070) on May 17, 2018. During this survey, we navigated a meandering search path over the littoral portion of the lake 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.

<table>
<thead>
<tr>
<th>Score</th>
<th>Visual</th>
<th>Rake</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Light / Solitary plants</td>
<td>1-2 stems</td>
</tr>
<tr>
<td>2</td>
<td>Moderate / Scattered dense patches</td>
<td>3 to 9 stems</td>
</tr>
<tr>
<td>3</td>
<td>Dense / Uniform dense growth</td>
<td>10+ stems</td>
</tr>
</tbody>
</table>

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.
Mitchell Lake (#27-0070)
Spring Delineation of Curlyleaf Pondweed: May 17, 2018

Surveyed: May 17, 2018
Methods: Rake, Sonar, Visual
Surveyor: JA Johnson

Map created for Riley Purgatory Bluff Creek Watershed District by:

© 2018 – Freshwater Scientific Services, LLC
**Mitchell Lake (#27-0070)**

*Spring Delineation of Curlyleaf Pondweed: May 17, 2018*

---

### Curlyleaf Pondweed

- **Proposed Treatment Plots**
- **Primary Plot (15%/13.0 acres)**

### Surveyed: May 17, 2018

**Methods:** Rake, Sonar, Visual

**Surveyor:** JA Johnson

**Certified Lake Manager**

Map created for Riley Purgatory Bluff Creek Watershed District by:

---

<table>
<thead>
<tr>
<th>Plot</th>
<th>Area (acres)</th>
<th>Avg Depth (ft)</th>
<th>Avg CLP Density (0-3)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>24.7</td>
<td>7.8</td>
<td>2.1</td>
</tr>
<tr>
<td>2</td>
<td>3.0</td>
<td>6.4</td>
<td>2.9</td>
</tr>
<tr>
<td>3</td>
<td>3.4</td>
<td>5.3</td>
<td>2.9</td>
</tr>
<tr>
<td>4</td>
<td>3.0</td>
<td>6.3</td>
<td>2.4</td>
</tr>
<tr>
<td>5</td>
<td>1.9</td>
<td>7.9</td>
<td>2.0</td>
</tr>
</tbody>
</table>

---

© 2018 – Freshwater Scientific Services, LLC
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

Keegan Lund
Invasive Species Specialist
Minnesota DNR
keegan.lund@state.mn.us
(651) 259-5828

Wendy Crowell
AIS Management Coordinator
Minnesota DNR
wendy.crowell@state.mn.us
(651) 259-5085