



Bone Lake, April 7, 2025

Curlyleaf Pondweed Delineation for Bone Lake, Washington County, Minnesota

Curlyleaf Pondweed Delineation: April 7, 2025

Prepared for:
Comfort Lake-Forest Lake
Watershed District



April 8, 2025

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Curlyleaf Pondweed Delineation for Bone Lake, Washington County, Minnesota

ID: 82005400

Size: 221 acres (MnDNR)

Littoral area: 124 acres (MnDNR)

Maximum depth: 30 ft (MnDNR)

Overview

Bone Lake is located within Washington County. A meander curlyleaf pondweed (CLP) survey was conducted on April 7, 2025 to characterize the status of CLP. A total of 163 sites were sampled and CLP was observed in 28 sites out to 6 feet of water depth. One treatment area totaling 3.66 acres was recommended for treatment (Figures 1 and 2).

Methods

Curlyleaf Pondweed Management Approaches Using Herbicides: The MnDNR policy is to treat CLP before lake water temperatures reach 60F. The objective is to treat CLP before the native plants begin growing which is around 60F. Because a contact herbicide is generally used for curlyleaf control, the contact herbicide should kill growing plants (including native plants) on contact. In water temperatures less than 60F, CLP is typically the only active growing plant. Therefore the broad spectrum contact herbicide is somewhat selective for CLP at cooler lake temperatures.

However at the time of the spring curlyleaf delineation in April, only a fraction of the peak curlyleaf biomass is present compared to what could be present in June, at its peak. Therefore, CLP growth surveyed in April is delineated prior to curlyleaf developing peak biomass.

Predicting curlyleaf growth at its peak abundance in June is based on curlyleaf stem counts on a rake sampled in April. After a short sweep of about 1-foot (which samples about 0.1 m²), CLP stems on a rake sample are counted. Growth potential is shown in the table below. This early season survey method used for determining curlyleaf pondweed spot herbicide treatments is similar to the methodology published in a peer reviewed journal (McComas et al, 2015)*.

Rake Sample	Early Season Density (stems/m ²)	Potential Future Growth	Map Color Code
1-2 stems	10-20 stems/m ²	Light	Green
3 stems	30 stems/m ²	Moderate	Yellow
4+ stems	40+ stems/m ²	Heavy	Red

Methods for Aquatic Plant Nearshore Meandering Survey: A meandering survey was conducted using a meandering path around the entire lake. At each sample point, plants were sampled with a rake sampler.

*McComas, S.R., Y.E. Christianson, and U. Singh. 2015. Effects of curlyleaf pondweed control on water quality and coontail abundance in Gleason Lake, Minnesota. *Lake and Reservoir Management*, 31:109–114.

Results

Curlyleaf Pondweed Delineation Results: On April 7, 2025 the initial curlyleaf pondweed delineation survey sampled a total of 163 sites (Figure 1). Curlyleaf pondweed was found at 28 sites with light to heavy projected growth to occur in June. A treatment area of 3.66 acres was recommended for treatment (Figure 2).

Bone Lake Curlyleaf Pondweed Delineation
April 7, 2025

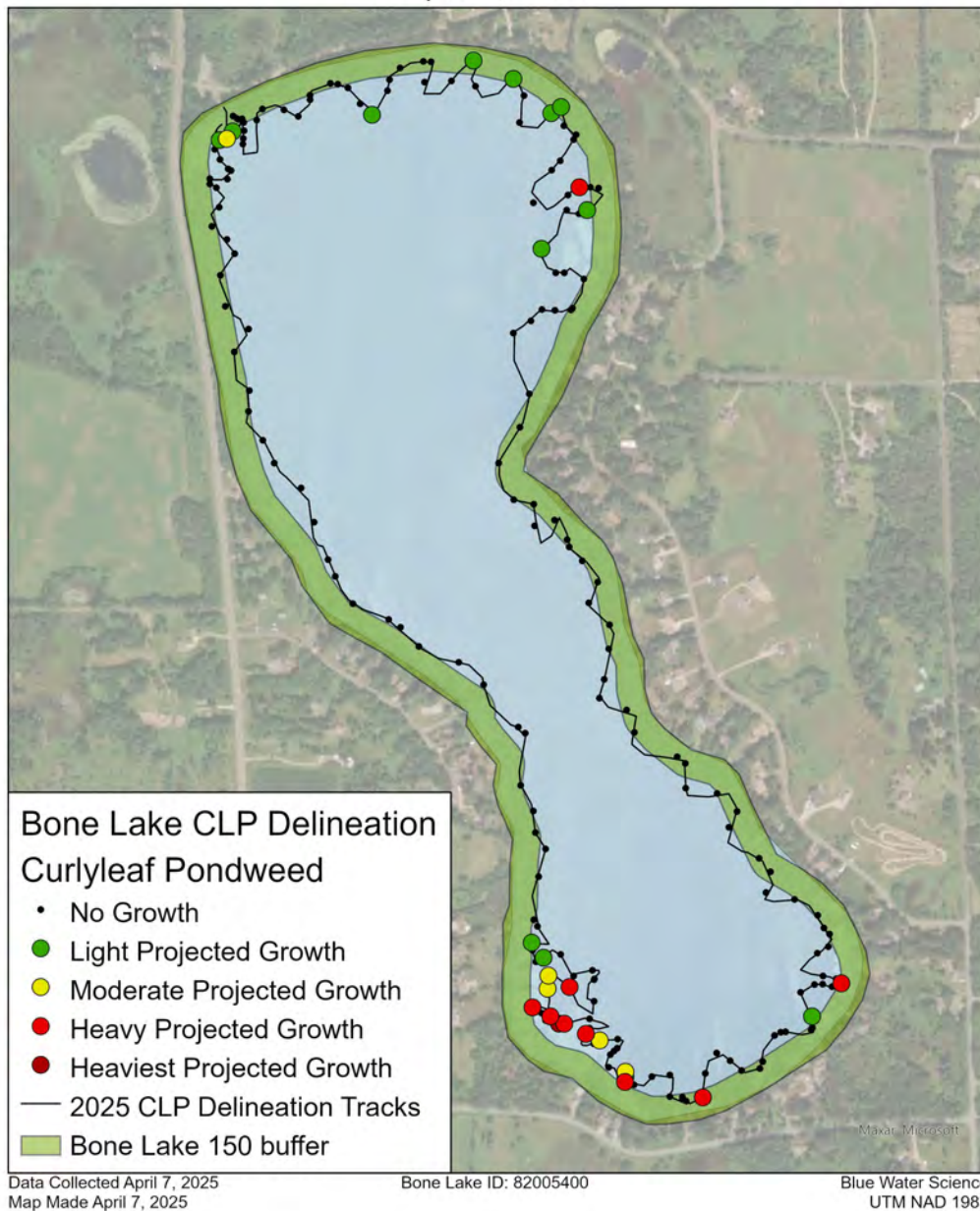


Figure 1. Bone Lake potential growth of curlyleaf pondweed on April 7, 2025.

Bone Lake Curlyleaf Pondweed Treatment Area April 7, 2025

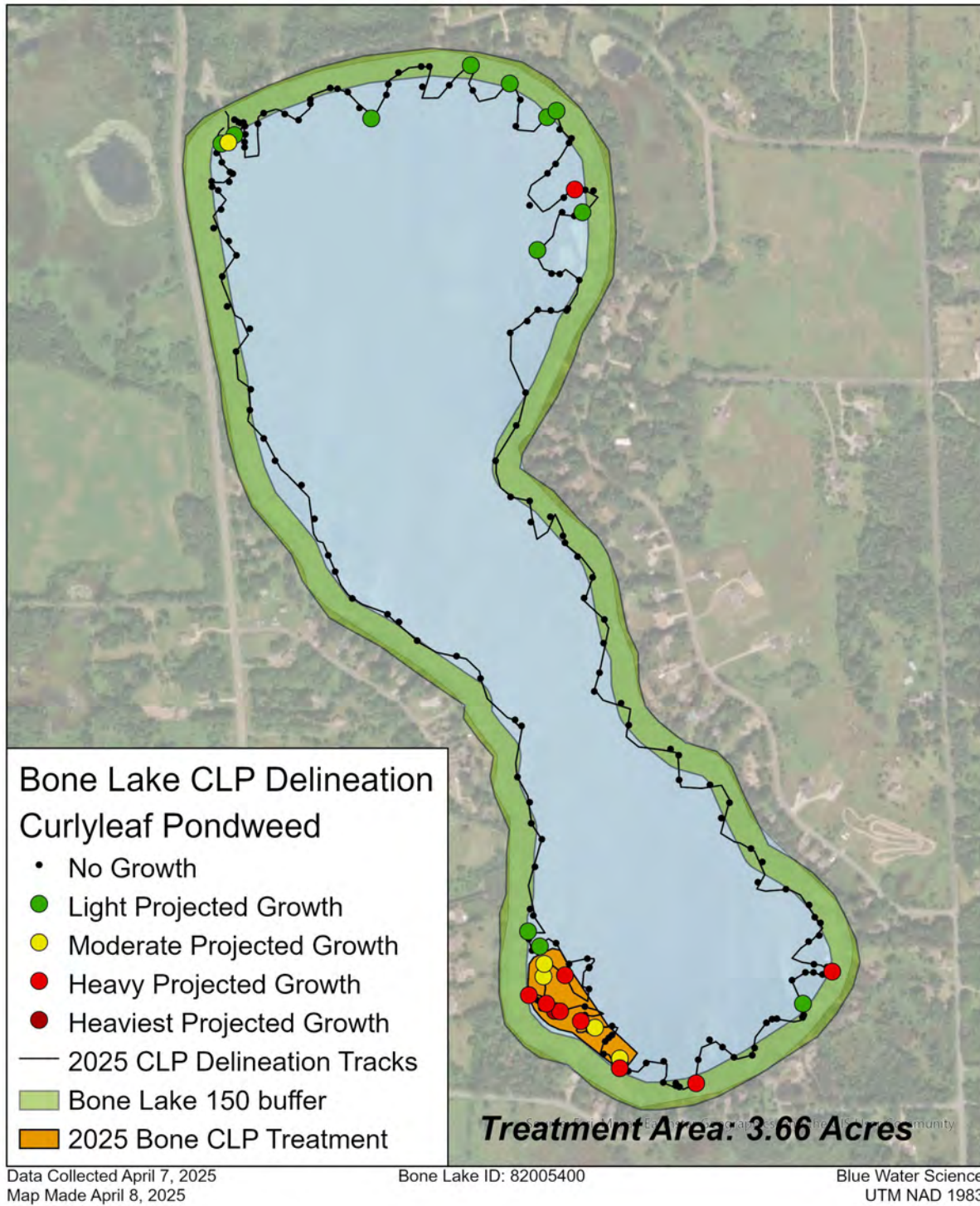


Figure 2. Bone Lake potential treatment map of curlyleaf pondweed on April 7, 2025.

APPENDIX

2025 MEANDER DELINEATION: Bone Lake individual site data collected by Blue Water Science on April 7, 2025.

Site	Depth (ft)	CLP stems
2	5	1
3	5	3
6	6	1
26	5	1
34	5	1
37	6	1
40	4	1
41	4	1
49	5	4
52	5	1
55	5	1
100	3	6
102	5	
107	6	1
120	5	5
128	5	8
129	5	3
130	5	2
137	5	3
140	5	10
141	5	
142	5	
143	5	4
145	5	5
147	4	15
149	4	
150	4	4
151	6	3
152	6	3
153	6	4
160	5	1
163	6	1
Average		3.4
Occurrence (163 sites)		28