



View of the Fishing Pier in Crystal Lake, Scott County, Minnesota, 2019

Aquatic Plant Point Intercept Survey for Crystal Lake, Scott County, Minnesota

[Plant Survey Conducted July 9, 2019]

Prepared for:
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Aquatic Plant Point Intercept Survey for Crystal Lake, Scott County, Minnesota

Summary

Crystal Lake (MnDNR ID #70-006100) is a 30 acre lake located in Scott County, Minnesota. An aquatic plant point intercept survey was conducted on July 9, 2019 by Blue Water Science to characterize conditions of native aquatic plants and to look for the non-native Eurasian watermilfoil.

Crystal Lake has a moderate diversity of submerged aquatic plants, with 7 species of rooted submerged plants found (Table S1). Also the entire shoreline was ringed with wetland plant species.

Coontail was the dominant aquatic plant. White lilies were seen at 60% of the sample sites. No Eurasian watermilfoil was found in this survey, however, curlyleaf pondweed was present at 6 out of 55 sample sites.

Table S1. The percent occurrence of summer aquatic plants for Crystal Lake on July 9, 2019. Percent occurrence is calculated based on the number of times a plant species occurs at a sampling station divided into the total number of stations for the survey.

	Crystal Lake July 9, 2019 (55 sites)		
	% Occurrence	Occurrence	Density
White waterlilies (<i>Nymphaea sp</i>)	60	33	1.67
Coontail (<i>Ceratophyllum demersum</i>)	84	46	2.5
Elodea (<i>Elodea canadensis</i>)	5	3	1.0
Northern watermilfoil (<i>Myriophyllum sibiricum</i>)	4	2	1.0
Curlyleaf pondweed (<i>Potamogeton crispus</i>)	11	6	1.0
Flatstem pondweed (<i>P. zosteriformis</i>)	47	26	1.0
Sago pondweed (<i>Stuckenia pectinata</i>)	2	1	1.0
Stringy Pondweed (<i>Potamogeton sp</i>)	11	6	1.0
Aquatic Plant Coverage (ac)	29.5 (98.2%)		
Total submerged species	7		



Figure S1. White water lilies were common in Crystal Lake.

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Crystal Lake, Scott County (MnDNR ID: 70-006100)

Size: 30 acres (source: PLSLWD website)

Maximum depth: 26 feet (source: PLSLWD website)

Introduction

An aquatic plant survey was conducted on 30 acre Crystal Lake, located in Scott County, on July 9, 2019. The objective of the survey was to characterize the aquatic plant community and to look for Eurasian watermilfoil.

Methods

An aquatic plant point intercept survey of Crystal Lake was conducted by Blue Water Science on July 9, 2019 and 55 points were sampled. Sample points were placed 50 meters apart on a grid that covered the lake (Figure 1). At each sample point, a sampling rake was lowered into the water and a plant sample was taken. The plant species were recorded and the density of each species was assigned. Densities were based on the coverage on the teeth of the rake. Density ratings were from 1 to 3 with 1 being sparse and 3 being a heavy growth. Based on these sample sites, a plant distribution map was constructed.

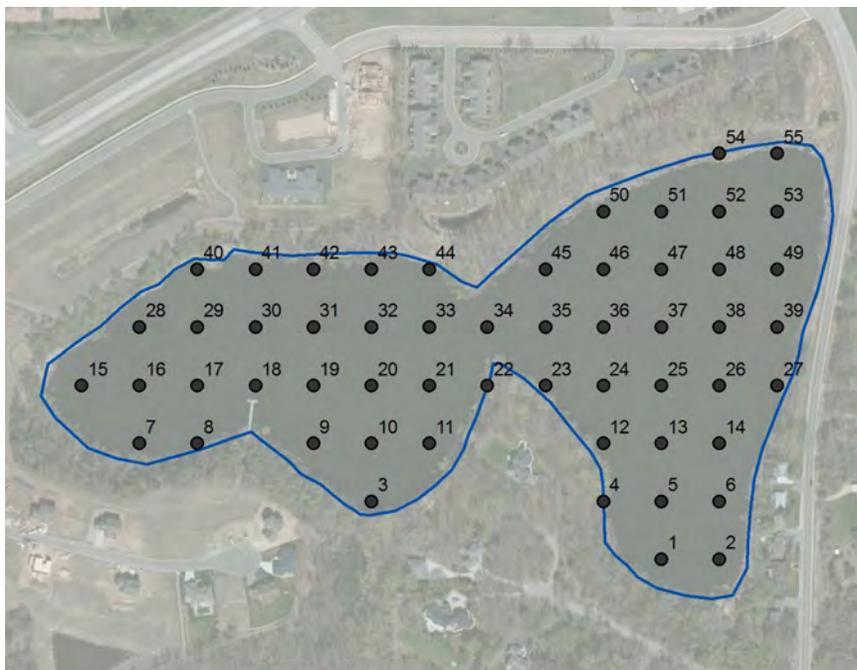


Figure 1. Sample location map for the aquatic plant survey conducted on Crystal Lake.

Results

Results of the summer aquatic plant survey conducted on July 9, 2019 found there were 7 submerged plants (Table 1)(Figure 2). Coontail was the dominant aquatic plant.

Eurasian watermilfoil was not observed in this survey. However, curlyleaf pondweed was sampled at 1 location. A species richness map along with distribution maps of 3 dominant aquatic plants are shown in Figure 3.

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Total submerged species	7		



Figure 2. Coontail was the most common plant found in Crystal Lake in 2016.

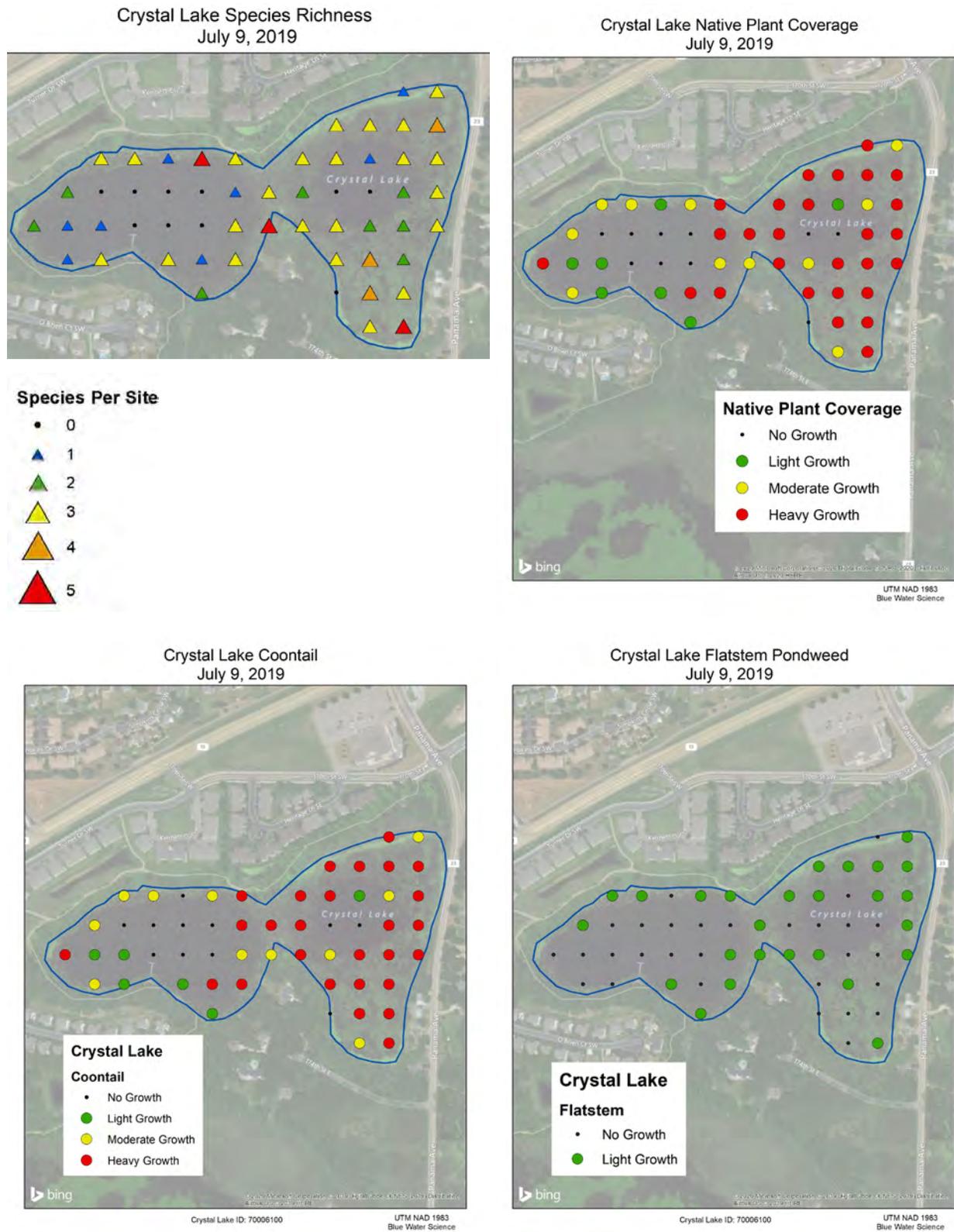


Figure 3. Crystal Lake aquatic plant maps.
Key: green square = light growth, yellow square = moderate growth, and red square = heavy growth.

Table 2. Crystal Lake, individual site data collected on July 9, 2019.

Site	Depth (ft)	White lily	Coontail	CLP	Elodea	Flatstem	NWM	Sago	Stringy	No plants
1	2	2	2		1					
2	2	2	3	1		1			1	
3	4		1			1				
5	2	3	3	1	1					
6	4	1	3						1	
7	6		2							
8	7		1				1		1	
9	7		1			1	1			
10	7		3							
11	6	1	3			1				
12	1	2	3	1						
13	3	2	3			1			1	
14	4	3	3							
15	5		3	1						
16	10		1							
17	9		1							
18	12									1
19	11									
20	10									
21	8		2	1		1				
22	2	1	2	1		1			1	
23	3	2	3			1				
24	4	1	2			1				
25	6	1	3							
26	3	2	3							
27	3	2	3			1				
28	9		2			1				
29	13									
30	14									
31	12									
32	12									
32	11		1							
33	8		3							
34	5	2	3			1				
35	5	1	3							
36	9									
38	6	1	3							
39	3	3	3			1				
40	6	1	2			1				
41	6	1	2			1				
42	6	1								
43	5	1	2			1		1	1	
44	5	1	3			1				
45	2	2	3			1				
46	5	1	3			1				
47	11		1							
48	7	1	2			1				
49	5	3	3			1				
50	3	2	3			1				
51	5	1	3			1				
52	5	2	3			1				
52	5	1	3							
53	4	3	3		1	1				
54	2		3							
55	2	2	2			1				
Average		1.7	2.4	1.0	1.0	1.0	1.0	1.0	1.0	
Occurrence (55 sites)		32	45	6	3	26	2	1	6	9
% Occurrence		58	82	11	5	47	4	2	11	

General Findings of This Study

- Emergent plants along the shoreline were abundant and offer good wildlife habitat.
- Submerged plants and lilies were common and covered about 98% of the bottom area.
- Coontail was the most abundant plant but flatstem pondweed was common as well.
- Plants were found out to a depth of 9 feet.



Figure 4. Curlyleaf pondweed was found in Crystal Lake