Fish Lake Public Access, Scott County, Minnesota, on June 5, 2017

Curlyleaf Pondweed Assessment Survey for Fish Lake, Scott County, 2017

Assessment Date: June 5, 2017

Prepared for:
Prior Lake/Spring Lake
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Curlyleaf Pondweed Assessment Survey for Fish Lake, Scott County, 2017

Curlyleaf Assessment Survey: A curlyleaf pondweed (CLP) delineation survey was conducted in Fish Lake on June 5, 2017. The assessment survey found curlyleaf pondweed at 43 out of the 62 sites sampled around the nearshore plant growing zone (littoral area) of Fish Lake. CLP growth ranged from light to heavy with the heaviest growth on the west side of Fish Lake. No treatment was conducted in 2017.

Overall curlyleaf growth has been mostly light to heavy in the last few years with the heaviest growth typically on the west side of Fish Lake.

Management considerations for 2018 include an early season CLP delineation with the option to treat curlyleaf in the NW area by the public access. Then a June assessment should follow-up to check the status of treated and untreated areas.
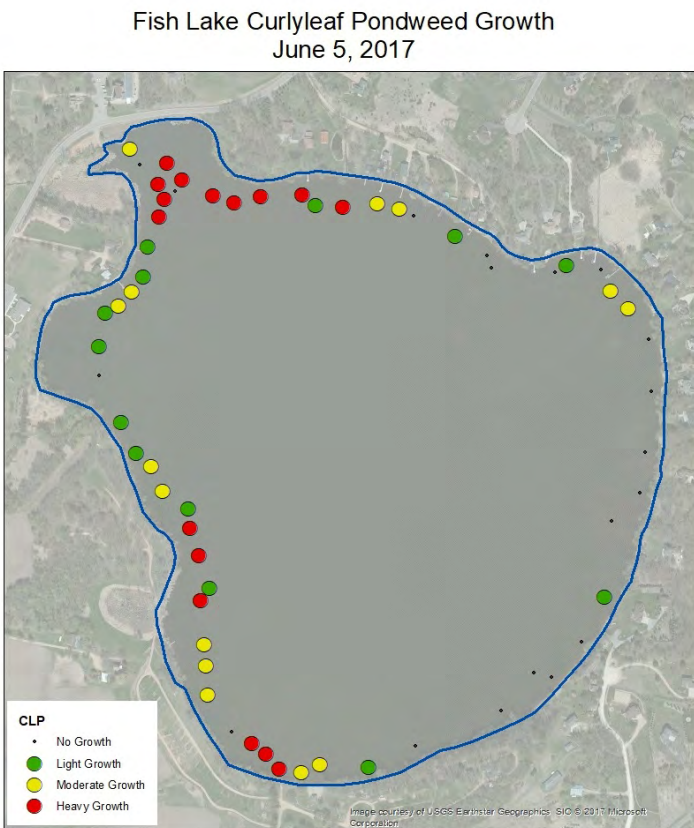

Figure S1. [left] CLP coverage on June 5, 2017.
Key: green dots = light growth, yellow dots = moderate growth, and red dots = heavy growth.
[right] CLP was growing to the surface in a number of areas around Fish Lake on June 5, 2017.

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Introduction

Fish Lake has a surface area of 173 acres with a littoral zone of 74 acres. Aquatic plant surveys have been ongoing since 2005.

Methods

In 2017, 62 sites around Fish Lake were monitored in a meandering pattern and plants were

sampled with a rake sampler. At each sampling site, water depth, plant species, and abundance of the plant species were recorded (Figure 1).

A chart showing density ratings is shown in Figure 2.

Figure 1. Meandering site map for Fish Lake on June 5, 2017.

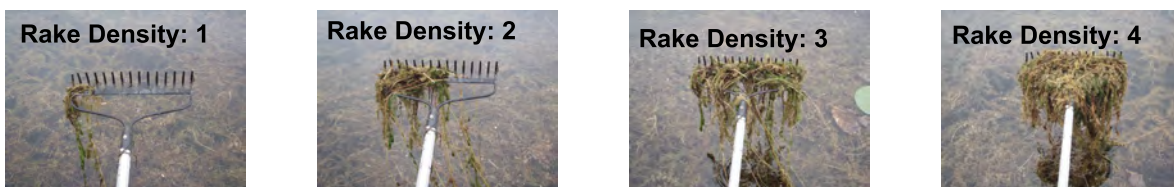## Chart of Aquatic Plant Density Ratings

Figure 2. Aquatic plant density ratings from 1 to 4.

Results

Curlyleaf Pondweed Assessment in Fish Lake, June 5, 2017: A total of 62 sites were sampled with rake sampling on June 5, 2017 around the nearshore area of Fish Lake. Curlyleaf was found at 43 sample sites out of the 62 that were monitored (Table 1). A total of 7 aquatic plant species were observed. Curlyleaf was the dominant plant and coontail was also common. Herbicide treatments were not conducted in 2017.

Table 1. Aquatic plant densities based on rake sampling for June 5, 2017. Densities are based on a scale from 1 to 4 with 4 being the densest. FA = filamentous algae. Site locations are shown in Figure 1.

Site	Depth (ft)	White lilies	Spatterdock	Coontail	CLP	Flatstem	NWM	Stringy	FA	No plants
1	5			2	4				3	
2	4			2	4				3	
3	5			3	4				3	
4	6			2	4				2	
5	4			2	4				2	
6	5			3	4				3	
7	6			3	2				1	
8	6				4				3	
9	6				3					
10	5				3					
11	6									1
12	6				2					
13	6									1
14	10									1
15	5									1
16	4			3	2				2	
17	4			2					1	
18	6				3					
19	8				3					
20	5			2		2				
21	6							1	2	
22	6			2						
23	4			2		1	1			
24	10									
25	5			3	1	2	1			
26	4			2			2		2	
27	4			2		1	1		3	
28	12									1
29	7			2		2			2	
30	8			3					2	
31	6			3	1		1		3	
32	5				3				3	
33	4			3	3		1			
34	5			2	4				3	
35	6			2	4				4	
36	7			2	4				4	
37	7			3					4	
38	7			3	3				4	
39	6				3					
40	7			3	3					
41	5		1		4					
42	6		2	3	1					
43	5		3		4					
44	6		2		4					
45	8		3		2					
46	6		3		3					
47	6		3		3					
48	3	3		3	1				3	
49	4				2	4			2	
50	5			4					4	
51	4			4	1				4	
52	4			4	1				4	
53	5			3	3				2	
54	5			3	3					
55	5			3	1		1			
56	5			2	2	1	2			
57	5				4					
58	5				4					
59	5								2	1
60	5				4					
61	5			2					2	
62	4			2	3					
Average		3.0	2.4	2.6	2.9	1.9	1.3	1.0	2.7	
Occurrence (62 sites)		1	7	36	43	7	8	1	30	6

Curlyleaf Conditions in Fish Lake, June 5, 2017: Heavy curlyleaf growth did produce several beds of surfacing curlyleaf (Figures 3 and 4). In areas of light and moderate growth, curlyleaf was patchy. Curlyleaf was not treated in 2017.
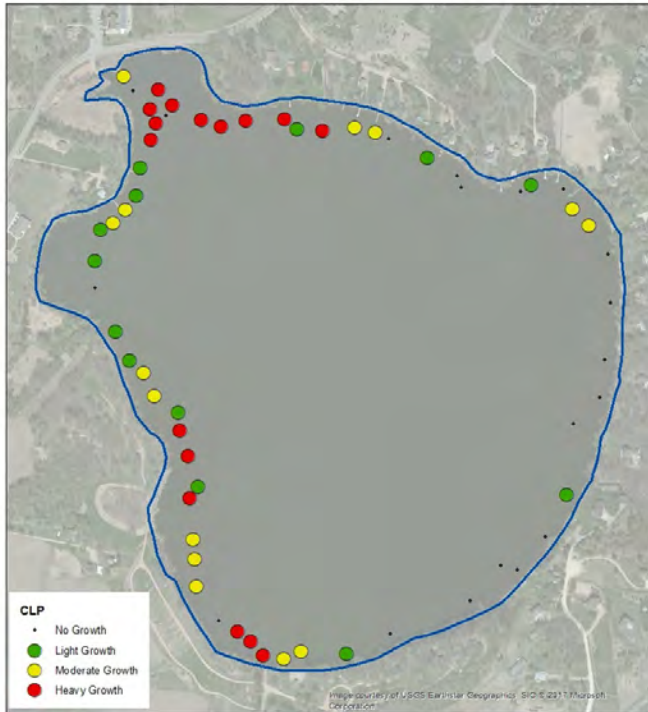

Figure 3. Curlyleaf delineation in Fish Lake on June 5, 2017.
Key: Black dots = no curlyleaf pondweed, green dots = potential light growth with 1-2 stems per rake, and red dots = potential heavy growth based on 4 stems or more per rake sample.

Figure 4. [left] CLP reached the surface in multiple areas around Fish Lake on June 5, 2017. [right] CLP and coontail at a density of a "2" each.

2017 Summary: A CLP assessment survey was conducted in Fish Lake on June 5, 2017. The assessment survey found curlyleaf pondweed at 43 out of the 62 sites sampled around the entire perimeter of Fish Lake. CLP growth was mostly moderate to heavy. No treatment was conducted in 2017. Overall curlyleaf growth has been mostly light to heavy in the last few years.

Previous Curlyleaf Pondweed Conditions

April 18, 2005

June 10, 2009

April 2010

June 2010
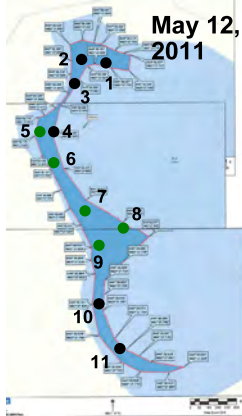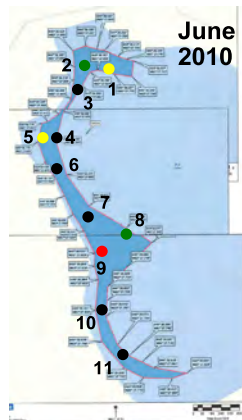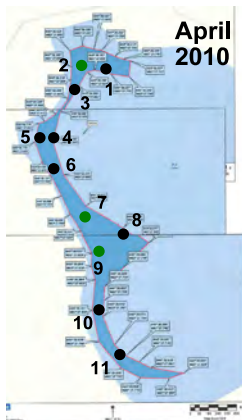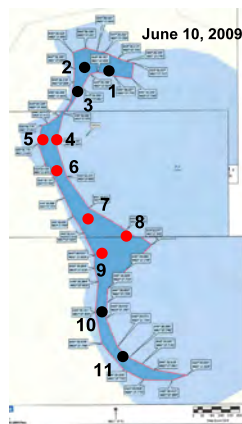

May 12, 2011
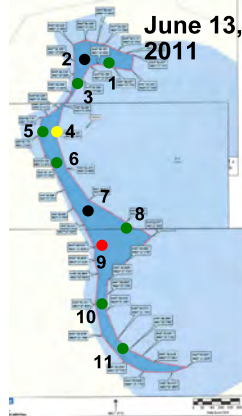
June 13, 2011

Figure 9. 2005: April 18, 2005. Shaded areas represent aquatic plant growth.
2009: June 10, 2009.
2010: April 27, 2010 (left) and June 2, 2010 (right).
2011: May 12, 2011 (left) and June 13, 2011 (right).
Key: green shading = light growth, yellow shading = moderate growth, and red shading = heavy growth. Except years 2005.
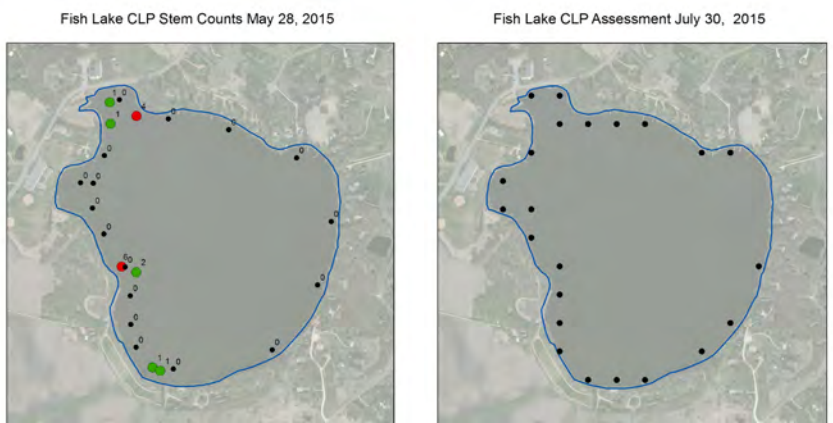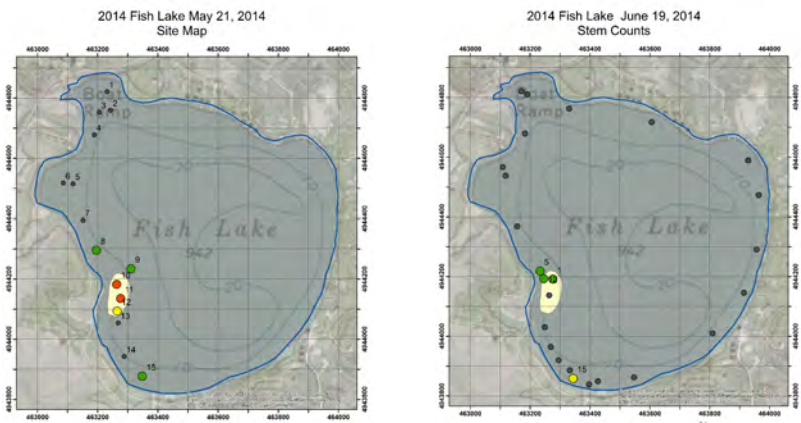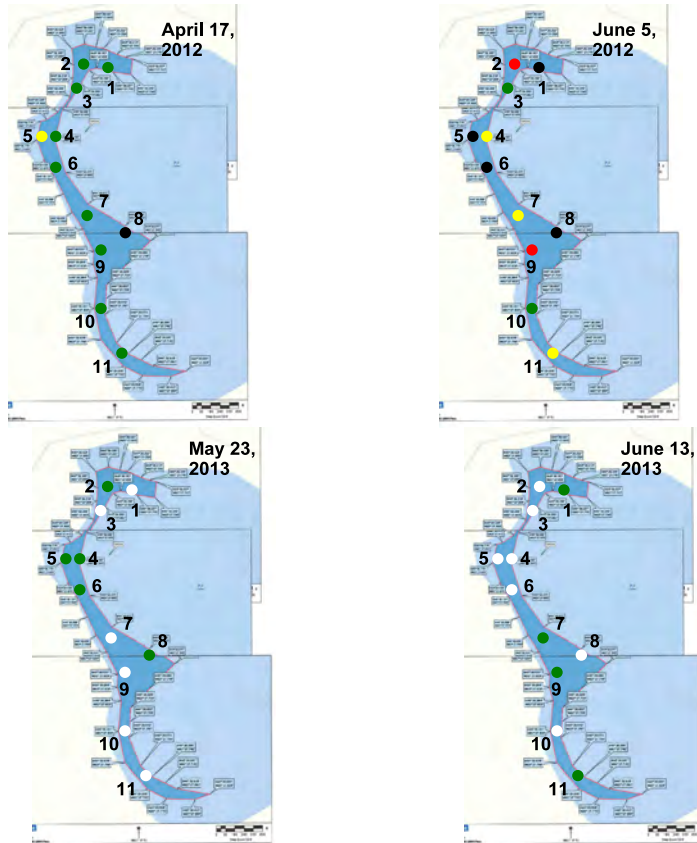
Figure 9. 2012: April 17, 2012 (left) and June 5, 2012 (right). 2013: May 23, 2013 (left) and June 13, 2013 (right). 2014: May 21, 2014 (left) and June 21, 2014 (right). 2015: May 28, 2015 (left) and July 30, 2015 (right). Key: green shading = light growth, yellow shading = moderate growth, and red shading = heavy growth. Except years 2005.