



A Stream Enters Jeffers Pond, Scott County, Minnesota, 2017

Aquatic Plant Point-Intercept Survey for Jeffers Pond, Scott County, Minnesota

[Plant Survey Conducted August 7, 2017]

Prepared for:
Prior Lake-Spring Lake
Watershed District



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Aquatic Plant Point-Intercept Survey for Jeffers Pond and Jeffers Fish Pond, Scott County, Minnesota

Summary

Jeffers Pond (MNDNR ID #70-007700) and Jeffers Fish Pond (MNDNR ID# 70-015300) are located in Scott County, Minnesota. An aquatic plant survey was conducted on August 7, 2017 by Blue Water Science to characterize conditions of native aquatic plants and to check the status of non-native Eurasian watermilfoil.

Jeffers Ponds has a high abundance and a fair diversity of submerged aquatic plants. Seven species of rooted submerged plants were observed with coontail the dominant native plant. A majority of the shoreline was ringed with a narrow buffer of native wetland plant species.

Eurasian watermilfoil was the dominant plant. Aquatic plant coverage was about 90% of the lake area.



Figure S1. The shoreline of Jeffers Pond has a walking path around the pond, houses are set back from the pond. Jeffers Pond was sampled by canoe. Here plants were sampled with a sampling rake and on the sample rake are coontail and Eurasian watermilfoil.

Aquatic Plant Point-Intercept Survey for Jeffers Pond, Scott County, Minnesota

Jeffers Pond, Scott County (MnDNR ID: 70-007700)

Size: 39 acres (Jeffers Pond) 13 acres (Jeffers Fish Pond)

Introduction

An aquatic plant survey was conducted on 39 acre Jeffers Pond and 13 acre Jeffers Fish Pond, located in Scott County, on August 7, 2017. The objective of the survey was to characterize the aquatic plant community and to check the status of Eurasian watermilfoil.

Methods

An aquatic plant point-intercept survey of Jeffers Pond and Jeffers Fish Pond was conducted by Blue Water Science on August 7, 2017 and 90 points were sampled. A grid 50m grid that covered both ponds was placed over Jeffers Pond and Jeffers Fish Pond (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 4 with 1 being sparse and 4 being a nuisance. Based on these sample sites, a plant distribution map was constructed.

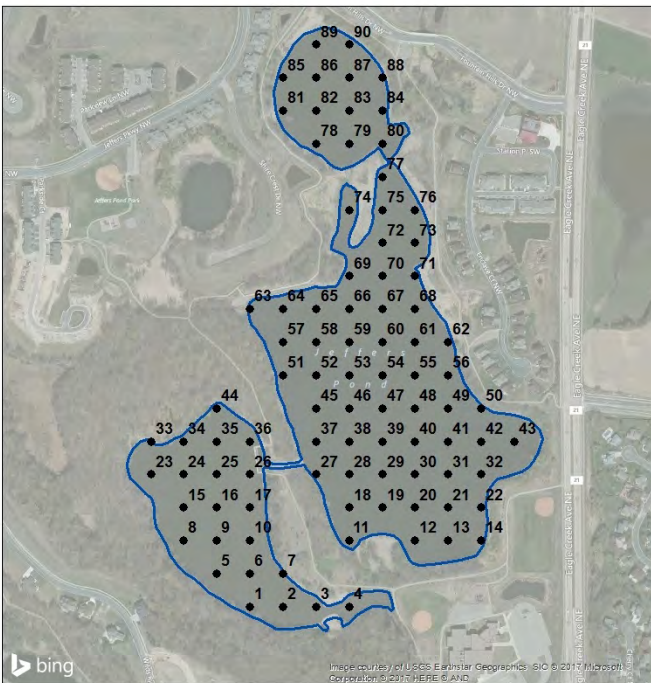


Figure 1. Sample location map for the aquatic plant survey conducted on Jeffers Pond Complex.

Results

Results of the summer aquatic plant survey conducted on August 7, 2017 found there were 7 submerged plant species (Table 1)(Figure 2).

Plant coverage was effectively 100% in Jeffers Pond and 70% coverage in Jeffers Fish Pond

Eurasian watermilfoil was observed in this survey at a majority of sites (76 out of 90 sites).

Maps of aquatic plant distribution and abundance are shown in Figure 2.

Table 1. The percent occurrence of summer aquatic plants for Jeffers Pond Complex on August 7, 2017. 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.

	Jeffers Pond August 7, 2017 (90 sites)		
	% Occurrence	Occurrence	Density
Coontail (<i>Ceratophyllum demersum</i>)	82	74	2.9
Elodea (<i>Elodea canadensis</i>)	42	38	1.5
Eurasian watermilfoil (<i>M. spicatum</i>)	84	76	2.5
Curlyleaf Pondweed (<i>Potamogeton crispus</i>)	1	1	1.0
Flatstem pondweed (<i>P. zosteriformis</i>)	2	2	1.0
Sago pondweed (<i>Stuckenia pectinata</i>)	9	8	1.3
Water Stargrass (<i>Zosterella dubia</i>)	3	3	1.0
Aquatic Plant Coverage (ac)	48		
Total submerged species	7		

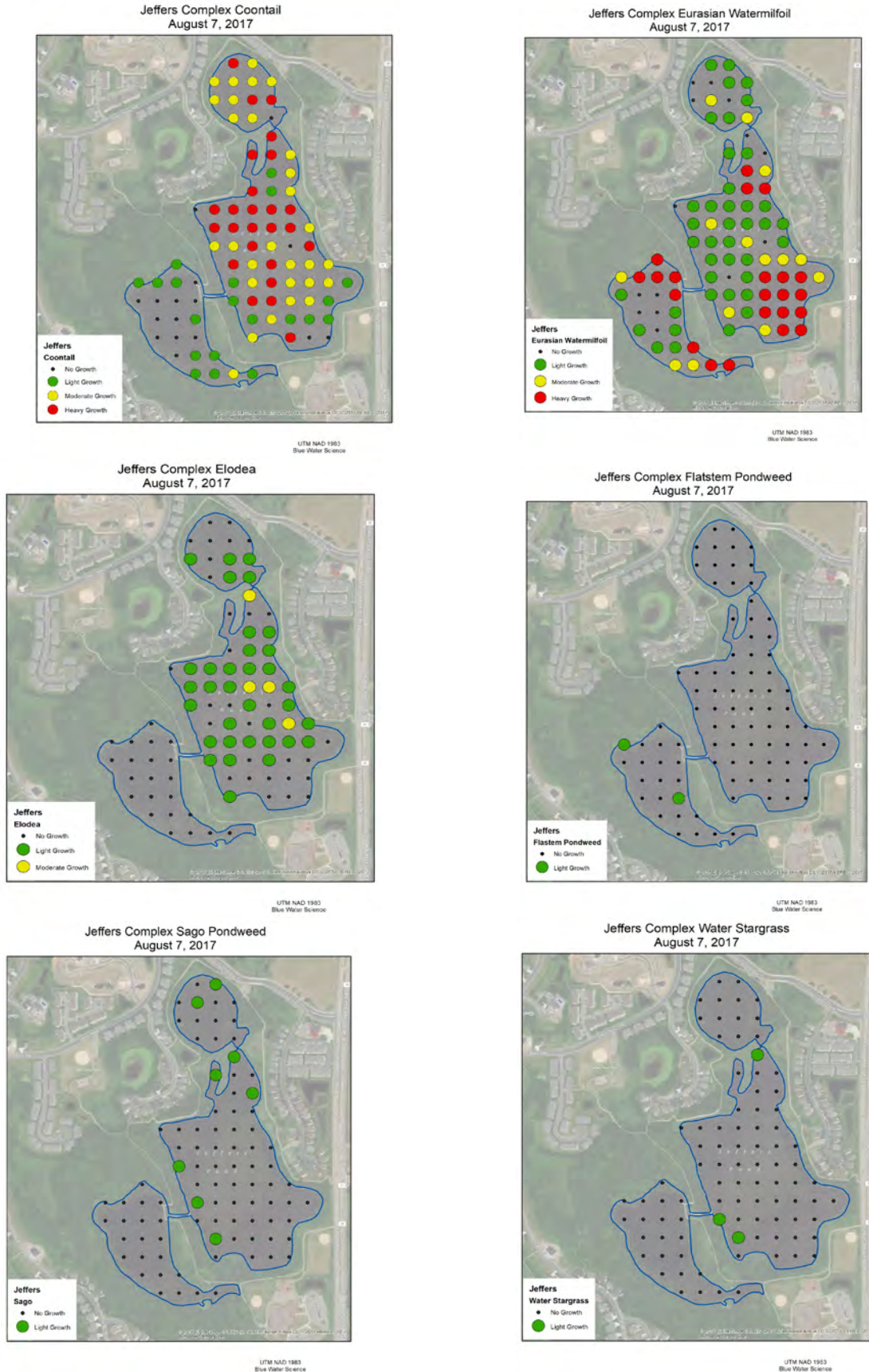


Figure 2. Jeffers Pond aquatic plant richness (upper left) and plant species distribution and abundance maps.

Table 2. Jeffers Pond, individual site data collected on August 7, 2017.

Site	Depth (ft)	Coontail	CLP	Elodea	EWM	Flatstem	Sago	Water stargrass	No Plants
1	2	1			3				
2	3	2			3				
3	2	3			4				
4	2	1			4				
5	7				1				
6	5	1			2				
7	1	1			4				
8	7				1				
9	12								1
10	6				2	1			
11	1	3		2	1				
12	2	4			3				
13	1				4				
14	1				4				
15	10								1
16	11								1
17	6	1			2				
18	1	1			3		2	1	
19	2	3			2				
20	1	1			4				
21	1	1			4				
22	1	2			4				
23	6				2				
24	8								1
25	9								1
26	6				4				
27	3	2	1	1	2			1	
28	4	4		1	1				
29	3	4			1				
30	1	3		1	4				
31	2	3			4				
32	1	1			4				
33	2	1			3	1			
34	5	1			4				
35	6	2			4				
36	5				4				
37	2	2		1	1		2		
38	2	3		1					
39	3	4		1	2				
40	2	3		1	4				
41	1	3		2	4				
42	2	3		1	4				
43	1	2			3				
44	4	1			4				
45	1	4			2				
46	2	3		1	1				
47	4	4			2				
48	3	3		2	3				
49	1	3		3	3				
50	1	3		2	3				
51	2	3		1	2		1		
52	2	3			2				
53	3	4			2				
54	2	3		2	3				
55	2								1
56	1	4		2	2				
57	2	4		1	2				
58	1	4		1	3				
59	2	4		1	2				
60	2	4		3	1				
61	2	4		3	2				
62	1	3		2	2				
63	land								1
64	1	4		1	1				
65	1	4		1	2				
66	3	4		1	1				
67	3	4		2	1				
68	3	4		2	1				
69	2	4			1				
70	1	2		1	4				
71	2	3		2	4				

Table 2. Jeffers Pond, individual site data collected on August 7, 2017.

Site	Depth (ft)	Coontail	CLP	Elodea	EWM	Flatstem	Sago	Water stargrass	No Plants
72	2	2		1	4				
73	1	3		1	3		1		
74	3	4			2		1		
75	4	4			1				
76	3	3							1
77	2	4		3			1	1	
78	2	3			2				
79	3	3		1	2				
80	1			1	3				
81	2	3		1					
82	4	3			3				
83	4	4		1					
84	2	4		1	2				
85	3	3							1
86	4	3					1		
87	4	3			1				
88	4	3			1				
89	5	4			2				
90	4	3			1		1		
Average		2.9	1.0	1.5	2.5	1.0	1.3	1.0	
Occur (90 sites)		74	1	38	76	2	8	3	9
% occur		82	1	42	84	2	9	3	

Plant Conditions in Jeffers Pond, Scott County DOW 70-007700

Coontail and Eurasian watermilfoil were dominate plants and present at most sites around the Jeffers' ponds



Collected by:
Steve McComas,
Blue Water Science

August 7, 2017



General Findings of This Study

- Emergent plants along the shoreline were abundant and offer good wildlife habitat.
- Submerged plants were widespread. The relatively shallow basin offers good growing conditions.
- Eurasian watermilfoil growth was moderate to heavy through much of the lake.
- Eurasian watermilfoil and coontail were the dominant plants. Both species reached the surface at many sites.



Figure 3. Coontail was topping out around most of Jeffers Pond. Adult carp were observed around Jeffers Ponds well (right).

Appendix

Maps and Data From 2016

Jeffers Pond, individual site data collected on August 29, 2016.

Site	Depth (ft)	Coontail	Elodea	EWM	Flatstem	Floatingleaf	NWM	Sago	FA	No Plants
1	2	2	1	3			1			
2	2	2		3						
3	3	1	1	4						
4	2	3		4						
5	2	1		1						
6	3	2	2	4						
7	3	2	1	4	1					
8	3	1		4						
9	2	2		2	1					
10	5	3		3	1					
11	4	3		3						
12	4	2		2	1		3			
13	4	2		3			1			
14	3	1		2						
15	3	1		3						
16	3	1	1	4						
17	3			3						
18	4		1	4						
19	4	2		4						
20	4	3		2			1			
21	4	2	1	3	1					
22	4	3		2						
23	4	2	1	4					1	
24	3	1		3			1			
25	4	1	1	4			1			
26	4	1		4			1			
27	3	1		3			3		1	
28	3	1	1	2			3		1	
29	2	1		3		2	1			
30	4	4								
31	4	2	1	2						
32	4	1		4			2			
33	4	1	1	1			3			
34	4	1	1	3			2		2	
35	4	1	3	1			1			
36	4	3	1	3	1					
37	4	2		4			2			
38	4	1		3			2			
39	4	3		2			1			
40	4	3								
41	3	4								
42	3	4	1							
43	4	4	1		1					
44	4	3	1	3				1		
45	4	1		3			2			
46	5	3		1			3			
47	4	4								
48	4	2	1	4						
49	4	3	2	4						
50	2	2		3						
51	3	4					1			
52	4	4		1						
53	land									1
54	4	4		2			1			
55	4	3		2			1			
56	4	3		2						
Average		2.2	1.2	2.9	1.0	2.0	1.7	1.0	1.3	
Occurrence (55 sites)		53	20	48	7	1	22	1	4	1
% occur		96	36	87	13	2	40	2	7	

Jeffers Pond



Jeffers Lake Species Richness

