



Swamp Lake, Scott County, Minnesota (Google Earth)

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# Aquatic Plant Point-Intercept Survey for Swamp Lake, Scott County, Minnesota

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[Plant Survey Conducted August 31, 2016]

Prepared for:  
Prior Lake-Spring Lake  
Watershed District



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**March 16, 2017**

# Aquatic Plant Point-Intercept Survey for Swamp Lake, Scott County, Minnesota

## Summary

Swamp Lake (MnDNR ID #70-011100) is a 53 acre lake located in Scott County, Minnesota. An aquatic plant survey was conducted on August 31, 2016 by Blue Water Science to characterize conditions of native aquatic plants and to look for the non-native Eurasian watermilfoil.

Swamp Lake has a low diversity of submerged aquatic plants, with 3 species of rooted submerged plants found. Also the entire shoreline was ringed with native wetland plant species.

No Eurasian watermilfoil was found in this survey.



**Figure S1. Coontail, shown underwater, was the most common plant sampled in Swamp Lake in 2016.**

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Swamp Lake, Scott County (MnDNR ID: 70-011100)

Size: 53 acres (source: PLSLWD website)

Maximum depth: 4 feet (source: PLSLWD website)

## Introduction

An aquatic plant survey was conducted on 53 acre Swamp Lake, located in Scott County, on August 31, 2016. 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 Swamp Lake was conducted by Blue Water Science on August 31, 2016 and 71 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 5 with 1 being sparse and 5 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 Swamp Lake.



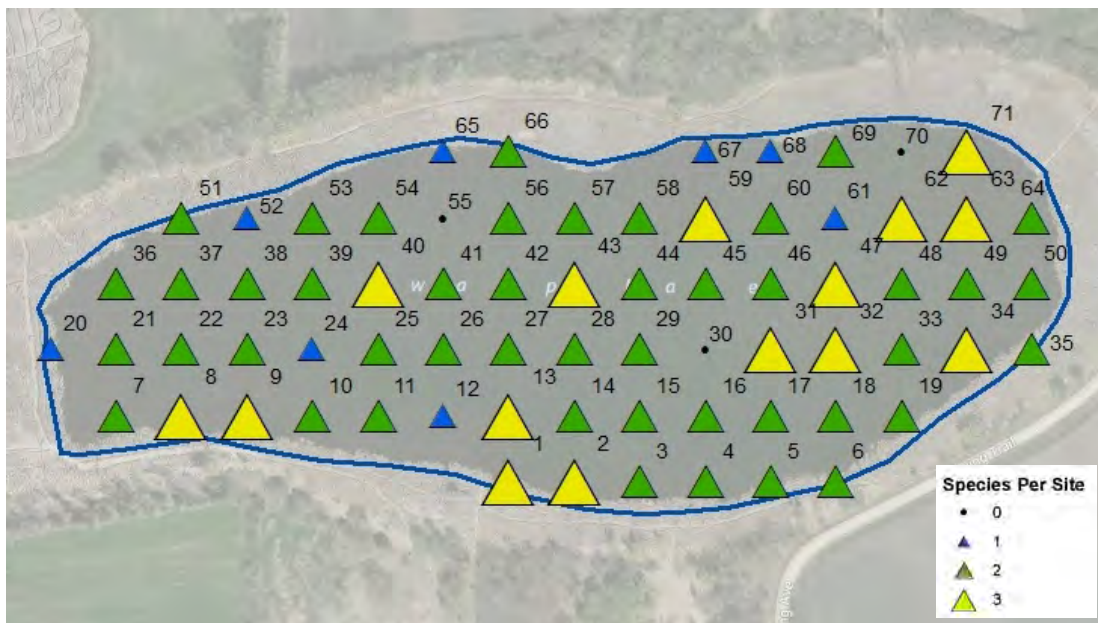
# Results

Results of the summer aquatic plant survey conducted on August 31, 2016 found there were 3 submerged plants (Table 1)(Figure 2).

Eurasian watermilfoil was not observed in this survey.

**Table 1. The percent occurrence of summer aquatic plants for Swamp Lake on August 31, 2016. 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.**

	Swamp Lake August 31, 2016 (71 sites)		
	% Occurrence	Occurrence	Density
White waterlilies ( <i>Nymphaea sp</i> )	61	43	1.9
Coontail ( <i>Ceratophyllum demersum</i> )	96	68	1.9
Flatstem pondweed ( <i>Potamogeton zosteriformis</i> )	8	6	1.3
Sago pondweed ( <i>Stuckenia pectinata</i> )	37	26	1.4
Aquatic Plant Coverage (ac)	50.8 (96%)		
Total submerged species	3		



**Figure 2. Swamp Lake species richness map.**

Swamp Lake Coontail  
August 31, 2016



Swamp Lake Sago Pondweed  
August 31, 2016

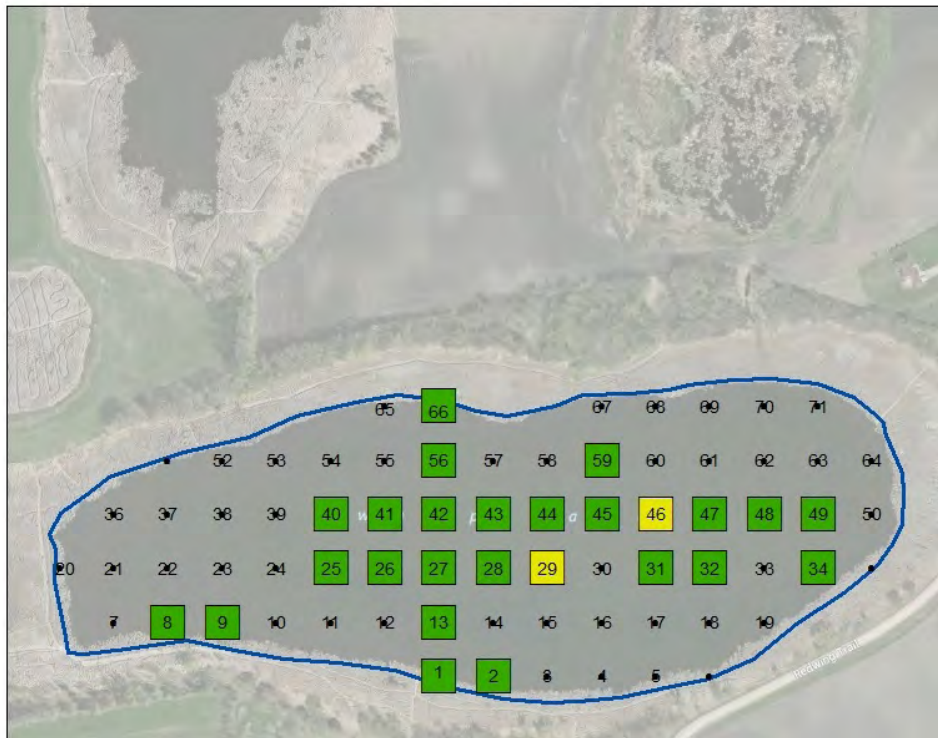


Figure 3. Swamp Lake coverage maps for coontail and sago pondweed.  
Key: green square = light growth, yellow square = moderate growth, and red square = heavy growth.

**Table 2. Swamp Lake, individual site data collected on August 31, 2016.**

Site	Depth (ft)	White lily	Coontail	Flatstem	Sago	No Plants
1	2	1	1		1	
2	2	2	1		1	
3	2	3	2			
4	2	3	2			
5	1	3	1			
6	1	3	1			
7	3	3	3			
8	2	2	2		1	
9	2	3	2		1	
10	3	3	3			
11	3	1	2			
12	3		1			
13	3	1	1		1	
14	3	1	1			
15	3	1	2			
16	3	1	2			
17	3	1	1			
18	3	1	1			
19	3	3	2			
20	2		3			
21	3	2	2			
22	3	1	2			
23	4	2	3			
24	4		3			
25	3		3		2	
26	4		2		1	
27	4		1		1	
28	4		1		2	
29	4		1		3	
30	3					1
31	3	2	1		1	
32	4	1	1		1	
33	3	1	2			
34	4	2	1		2	
35	3	3	2			
36	3	3	3			
37	2	2	2			
38	3	3	2			
39	4	1	1			
40	4	1	1		1	
41	4		1		1	
42	4		1		1	
43	4	1	2		2	
44	4		1		1	
45	4		1		1	
46	4		2		3	
47	4	1	3		2	
48	4		2		2	
49	4		2		2	
50	3	4	4			
51	2	4	4			
52	3		3			
53	3	1	2			
54	3	1	1			
55	3					1
56	4		1		1	
57	4	2	1			
58	4	2	1			
59	4	1	2		1	
60	3		1	1		
61	4		2			
62	4	1	1	1		
63	4	2	2	1		
64	3		2	1		
65	3		3			
66	3		3		1	
67	3		3			
68	3		3			
69	3		3	2		
70	3					1
71	4	1	2	2		
Average		1.9	1.9	1.3	1.4	
Occurrence (71 sites)		43	68	6	26	3
% occurrence		61	96	8	37	

## General Findings of This Study

- Swamp Lake has a shoreline with mostly native vegetation which offers good wildlife habitat.
- Submerged plants covered about 96% of the bottom area.
- Coontail was the dominant aquatic plant and white lilies were common as well.
- Swamp Lake has the potential to have good water quality based on the abundant aquatic plant community.



**Figure 4. Coontail, a native plant, was found throughout most of Swamp Lake in 2016.**