



Island in Mud Bay in Prior Lake, April 23, 2024

Curlyleaf Pondweed Delineation and Assessment Surveys for Upper and Lower Prior Lake and Summer Point Intercept Survey for Lower Prior Lake, Scott County, 2024

Curlyleaf Pondweed Delineation: April 23, 2024
Herbicide Treatment: 29.55 acres on May 3, 2024
Curlyleaf Pondweed Assessment Date: May 20, 2024
Point Intercept Survey for Lower Prior: August 23, 2024

Prepared for:
**Prior Lake/Spring Lake
Watershed District
Prior Lake, Minnesota**



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Curlyleaf Pondweed Delineation and Assessment Surveys for Upper and Lower Prior Lake and Summer Point Intercept Survey for Lower Prior Lake, Scott County, 2024

Summary

Early Season Curlyleaf Pondweed Delineation: Curlyleaf pondweed (CLP) distribution and abundance were delineated in Upper and Lower Prior Lakes on April 23, 2024. Based on the curlyleaf pondweed densities in both Upper and Lower Prior, several areas were delineated as having the potential for heavy curlyleaf growth by June (Figure 1).

Curlyleaf densities was mostly light in April but there was the potential for heavy curlyleaf growth in 7 areas and 29.55 acres were delineated for a herbicide treatment.

The curlyleaf pondweed treatment was conducted on May 3, 2024 using diquat on a total of 29.55 acres in Upper and Lower Prior Lake.

Post Treatment Assessment: A follow-up curlyleaf assessment was conducted on May 20, 2024. The May 20 curlyleaf assessment found curlyleaf in the treatment areas was mostly well controlled. Outside of the treatment areas, there were a few sites where heavy curlyleaf pondweed growth was present, however most heavy growth was patchy.

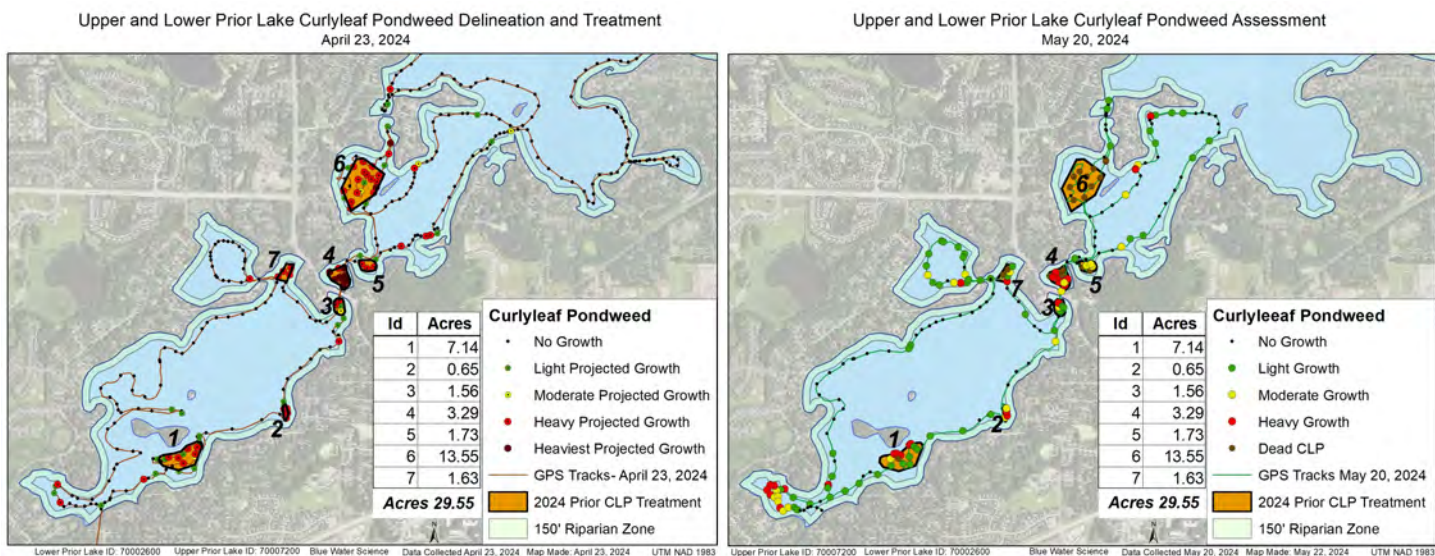


Figure 1. [left] Curlyleaf pondweed delineation survey conducted in Upper-Lower Prior Lake on April 23, 2024. [right] Curlyleaf pondweed assessment survey in Upper-Lower Prior Lake on May 20, 2024.

Curlyleaf Planning for 2025: Treating heavy growth of curlyleaf pondweed based on early season curlyleaf distribution is a challenge. Curlyleaf in April and May has just started to go into a rapid growth phase. However, not all early season curlyleaf growth will result in heavy curlyleaf growth in late May and June. It appears there are factors that limit curlyleaf growth and significant variables are associated with sediment conditions. The question is how to best delineate areas to treat what could be heavy growth in June but not overtreat areas where growth wouldn't be a nuisance for the season.

Currently, for Upper and Lower Prior Lake, the method has been to use past CLP growth history (Figure 2) combined with early season scouting. Then if curlyleaf growth has indications of producing potential heavy growth, those areas are delineated and treatment is considered. That is the approach to be considered for 2025.

Prior Lakes Curlyleaf Pondweed Hotspot Map
CLP Treatment Areas for 2014-2022

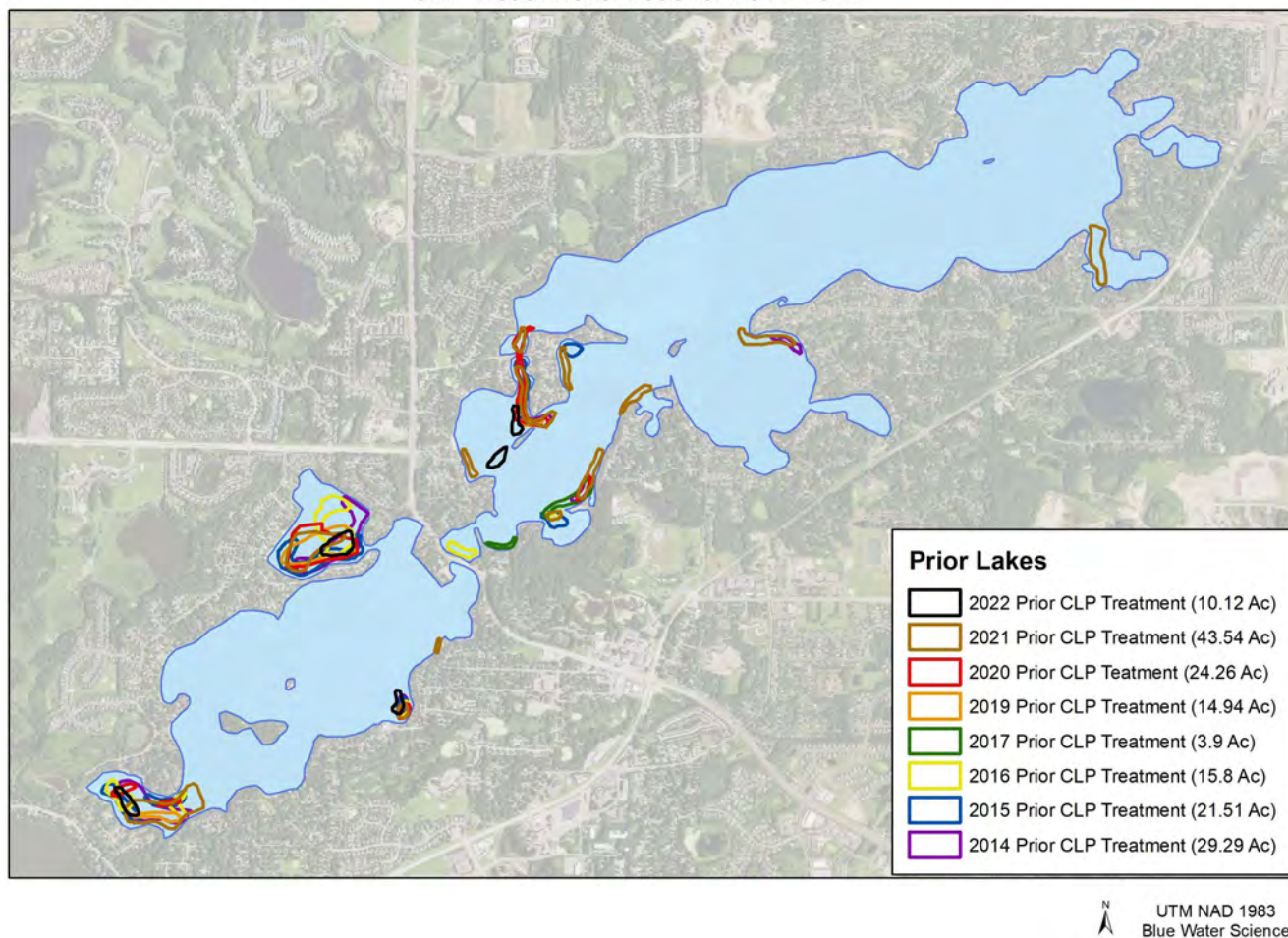


Figure 2. Prior Lake hot spot map for curlyleaf pondweed treatment areas from 2014-2022.

Table 1. Treatment summary from 2009-2024.

Year	Treatment
2009	No treatment
2010	No treatment
2011	No treatment
2012	No treatment
2013	23 acres
2014	29.3 acres
2015	21.5 acres

Year	Treatment
2016	15.8 acres
2017	2.55 acres
2018	No treatment
2019	14.9 acres
2020	24.3 acres
2021	24.15 acres
2022	10.12 acres

Year	Treatment
2023	No treatment
2024	29.55 acres

Point Intercept Survey for Lower Prior Lake: A grid with points spaced 100 meters apart were sampled throughout the growing zone on August 23, 2024 in Lower Prior Lake. A total of 183 sites were sampled to the depth of 22 feet. Plants were observed growing to a depth of 22 feet. Results of the summer aquatic plant point intercept survey found 19 submerged aquatic plant species in Lower Prior (Figure 3).

Native aquatic plants were estimated to cover 41% of the lake bottom (394 acres). Coontail was the dominant aquatic plant and water celery was second most common. The 19 aquatic plant species found in this survey represent a good diversity for Lower Prior Lake in summer.

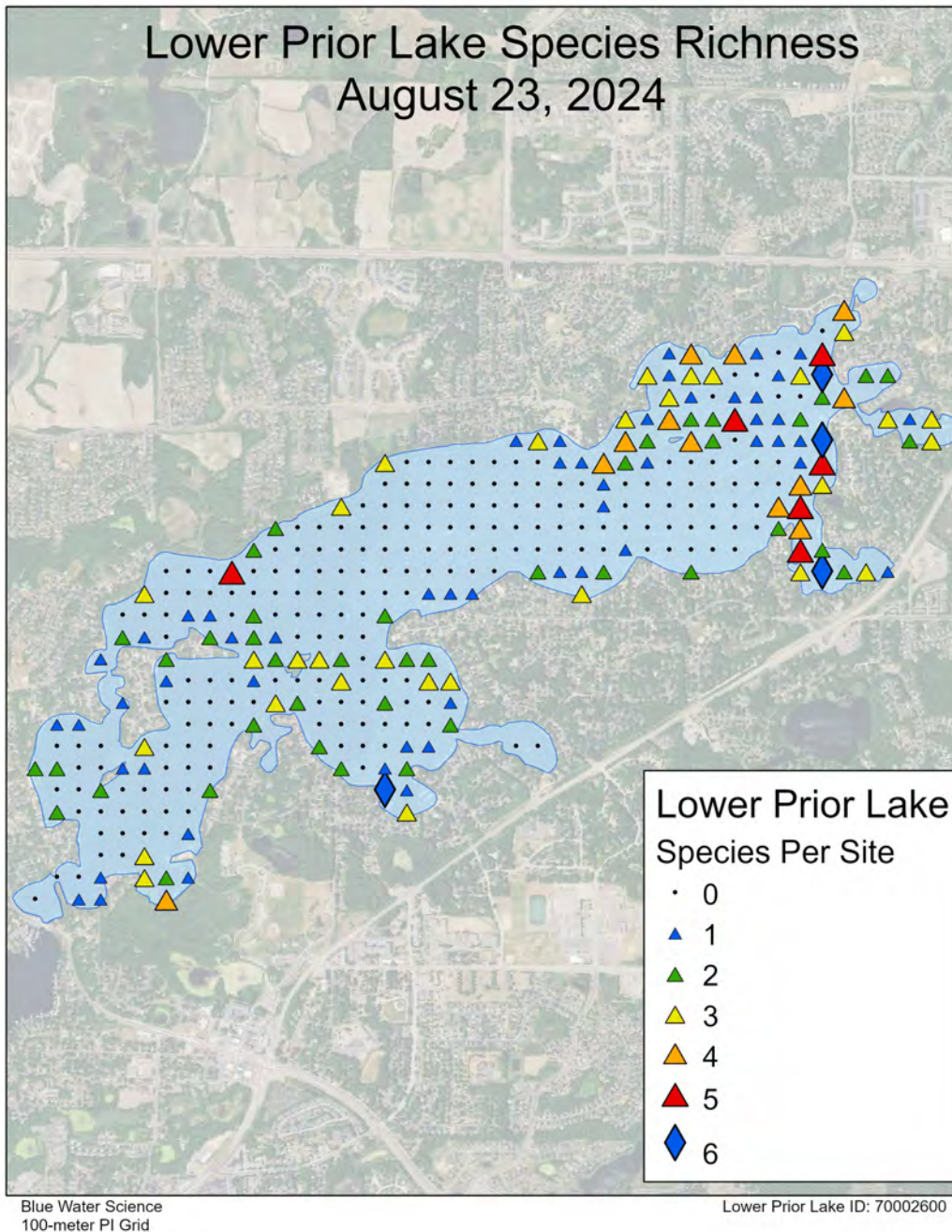


Figure 3. Point intercept survey results for species richness(number of species per site).

Summary of Aquatic Plant Point Intercept Surveys

Four previous point intercept surveys have been recently conducted in Lower Prior and 4 point intercept surveys have been conducted in Upper Prior Lake (Table 2).

In both Lower and Upper Prior the number of aquatic plant species and the coverage have increased since 2015 (Table 2).

Table 2. Prior Lake aquatic plant number of sites where a species was sampled for 2015, 2018, 2020, 2021, 2022, 2023, and 2024 point intercept surveys.

Lower Prior	Occurrence of Plants				
	2015	2018	2020	2022	2024
Duckweed (<i>Lemna sp</i>)		1			
Watermeal (<i>Wolffia spp</i>)					1
Coontail (<i>Ceratophyllum demersum</i>)	62	129	63	102	93
Braun's stonewort (<i>Chara braunii</i>)					5
Chara (<i>Chara sp</i>)	9		8	17	9
Chara - 2 (<i>Chara sp</i>)					1
Elodea (<i>Elodea canadensis</i>)	5	2	1	1	
Water stargrass (<i>Heteranthera dubia</i>)	3	22	7	17	40
Star duckweed (<i>Lemna trisulca</i>)		4	3	12	
Northern watermilfoil (<i>Myriophyllum sibiricum</i>)	10	52	4	1	23
hybrid watermilfoil (<i>M. sp</i>)		2			
Eurasian watermilfoil (<i>M. spicatum</i>)	38	16	32	101	17
Naiads (<i>Najas flexilis</i>)		4	2		3
Nitella (<i>Nitella sp</i>)		2	1	5	
Cabbage (<i>Potamogeton amplifolius</i>)	4	2	4	2	9
Curlyleaf pondweed (<i>P. crispus</i>)		10	7	5	1
Illinois Pondweed (<i>P. illinoensis</i>)	6	11		6	18
Whitestem pondweed (<i>P. praelongus</i>)	7	4		3	3
Claspingleaf (<i>P. Richardsonii</i>)	6	10	9	4	9
Stringy pondweed (<i>P. sp</i>)		1	3	10	1
Flatstem pondweed (<i>P. zosteriformis</i>)	10	26	32	22	15
Buttercup (<i>Ranunculus aquatilis</i>)					1
Sago (<i>Stuckenia pectinata</i>)		1	1		1
Water celery (<i>Vallisneria americana</i>)	37	46	46	47	58
Number of submerged species	12	18	16	19	19
Estimated aquatic plant coverage (ac)	220 ac	375 ac	262 ac	388 ac	394 ac
Max depth of vegetation (ft)	15 ft	20 ft	19 ft	20 ft	22 ft
Percent coverage of plants (%)	23%	39%	27%	41%	42%

Upper Prior	Occurrence of Plants				
	2015	2018	2020	2021	2023
Coontail (<i>Ceratophyllum demersum</i>)	5	29	33	25	58
Elodea (<i>Elodea canadensis</i>)	2	17	3	2	
Bearded stonewort (<i>Lychnothamnus barbatus</i>)				1	
Northern Watermilfoil (<i>Myriophyllum sibiricum</i>)			6	1	
Eurasian watermilfoil (<i>M. spicatum</i>)	11	17	5	25	32
Naiads (<i>Najas flexilis</i>)		4		2	
Curlyleaf pondweed (<i>Potamogeton crispus</i>)			3	3	2
Stringy pondweed (<i>P. filiformis</i>)				9	
Stringy pondweed (<i>P. sp</i>)		2	2		2
Sago pondweed (<i>Stuckenia pectinata</i>)	2	1		2	
Star Duckweed (<i>Lemna trisulca</i>)					1
Water celery (<i>Vallisneria americana</i>)					1
Number of submerged species	4	6	6	9	6
Estimated aquatic plant coverage (ac)	33 ac	74 ac	82 ac	116 ac	143 ac
Max depth of vegetation (ft)	6 ft	8 ft	10 ft	11 ft	13ft
Percent coverage of plants (%)	9%	19%	21%	30%	37%

Curlyleaf Pondweed Delineation and Assessment Surveys for Upper and Lower Prior Lake And Summer Point Intercept Survey for Lower Prior Lake, Scott County, 2024

Lower Prior (MnDNR ID#70002600)
 Lake area: 956 acres
 Littoral area: 373 acres
 Maximum depth: 60 feet

Upper Prior (MnDNR ID#70007200)
 Lake area: 386 acres
 Littoral area: 329 acres
 Maximum depth: 50 feet

Introduction

Upper and Lower Prior Lakes combined have an area of 1,343 acres with a total littoral area of 732 acres (MnDNR). An initial curlyleaf pondweed delineation was conducted on April 23, 2024 including both Upper and Lower Prior. Curlyleaf was then treated on May 3, 2024 and a follow-up curlyleaf pondweed assessment was conducted on May 20, 2024 to characterize the status of curlyleaf pondweed at it's peak growing period.

A summer point intercept aquatic plant survey was conducted in August to evaluate the entire plant community in Lower Prior Lake (Figure 4).

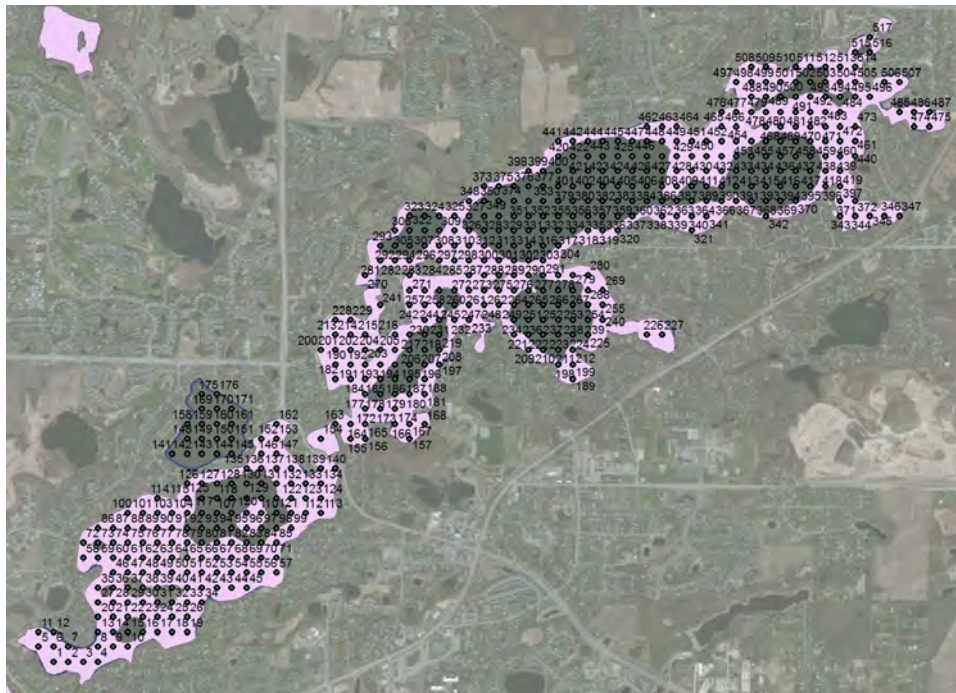


Figure 4. Point intercept 100 meter grid on Upper and Lower Prior Lake.

Methods

Curlyleaf Pondweed Delineation: At the time of the spring CLP delineations, only a fraction of the peak curlyleaf biomass is present. For spot treatments, the areas to be treated should be delineated prior to curlyleaf developing peak biomass. Curlyleaf stem counts on a rake sampler were used to identify areas that had a potential to produce dense curlyleaf. After a short sweep of about 1-foot (30 cm), 4 curlyleaf stems or more per rake sample generally indicated some CLP plants had developed runners and would likely produce heavy growth in the next few weeks. Alternatively, sites where 3 stems or less were collected per rake sample were not predicted to produce dense growth at the peak growing period. These areas were not targeted for treatment. This delineation method was used for spot lake treatments in Gleason Lake and has worked for other lakes as well (McComas et al, 2015*).

Curlyleaf Pondweed Assessment: A CLP assessment was conducted by Blue Water Science on May 20, 2024. The assessment is a post-treatment evaluation, it involved surveying the entire lake nearshore area, observing CLP growth, and sampling aquatic plants with rakes. 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 nuisance. Plant density chart is shown below.

Survey Methods for the Point Intercept Survey An aquatic plant point intercept survey of Lower Prior Lake was conducted by Blue Water Science on August 23, 2024. Sample points were spaced 100 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 ranged from 1 to 3 with 1 being sparse and 3 being heavy growth. Based on these sample sites, a plant distribution map was constructed.



*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.

Curlyleaf Pondweed Delineation on April 23, 2024 and Assessment on May 20, 2024 in Upper and Lower Prior Lake

Results: A delineation survey on April 23, 2024, sampled a total of 425 sites around Upper and Lower Prior Lake with rake sampling. Curlyleaf was found at 95 out of 425 sample sites including 58 sites with curlyleaf growth projected to be abundant in June.

A total of 29.55 acres in Upper and Lower Prior Lake areas were delineated as having the potential to develop moderate to heavy growth conditions by June (Figure 5). A total area of 29.55 acres of CLP in Prior Lake was permitted for treatment based on criteria where treatment was either 150 feet or more from shore or treatment was in front of public property.

On May 20, 2023, a curlyleaf assessment was conducted. A total of 208 sites were sampled (Figure 5). Control was good to poor in the treated areas. For example, Treatment Area 4 had poor CLP control. A few spots of moderate to heavy growth were observed in untreated areas (Figure 5). CLP conditions on May 20, 2024 are shown in Figure 5.

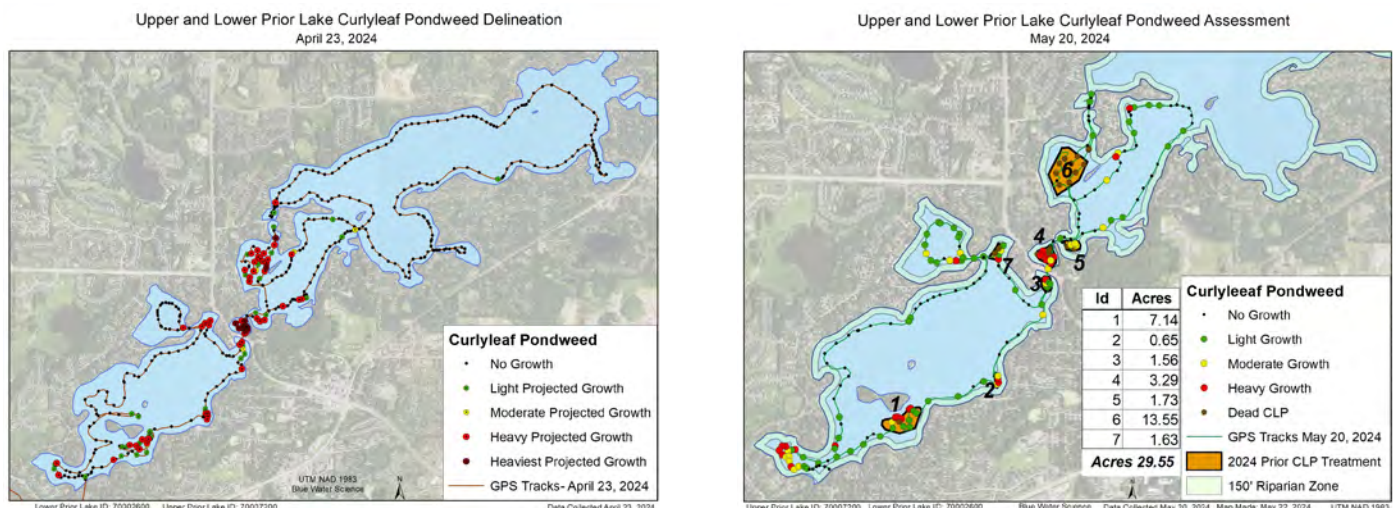


Figure 5. Map of curlyleaf pondweed delineation is shown on the left (April 23, 2024) and the curlyleaf assessment is shown on the right (May 20, 2024).



Heavy curlyleaf pondweed growth on May 20, 2024.



Status of Eurasian watermilfoil on April 23, 2024 and on May 20, 2024 in Upper and Lower Prior Lake

At the time of the curlyleaf pondweed delineation and assessment surveys, data was also collected on the status of Eurasian watermilfoil (EWM) in Upper and Lower Prior Lakes. In April EWM growth was mostly light to heavy with an average density of 2.3 out of 3. EWM was found at 6 out of 425 sites on April 23, 2024.

On May 20, 2024 Eurasian was found at 1 sites out of 208 sample sites. EWM decreased slightly in occurrence and abundance since April.

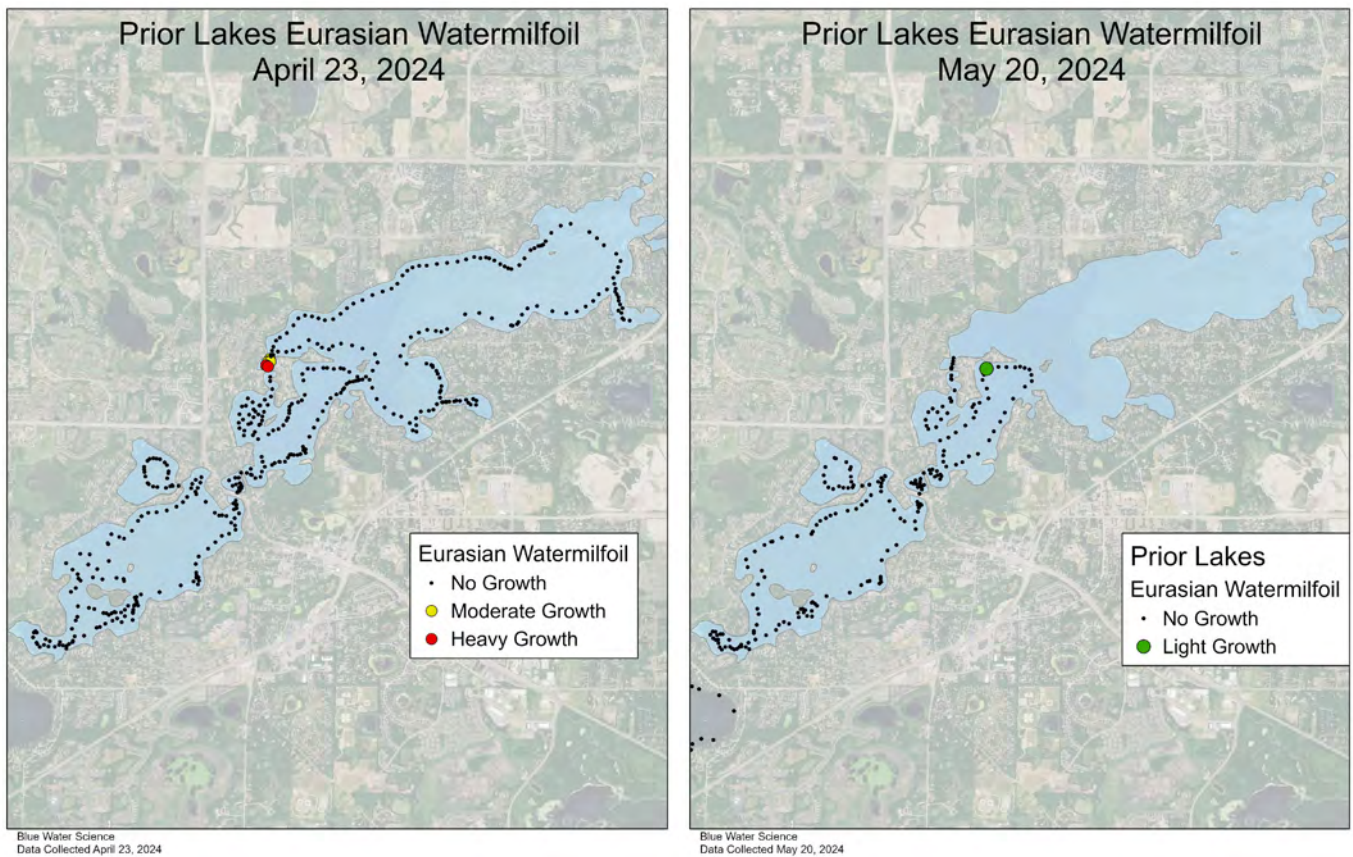


Figure 6. Map of Eurasian watermilfoil growth on April 23, 2024 (left) and the Eurasian watermilfoil growth on May 20, 2024 (right).

Point Intercept Aquatic Plant Survey for Lower Prior Lake

Results: A point intercept aquatic plant survey was conducted on Lower Prior Lake on August 23, 2024. The dominant plants were coontail and water celery. Aquatic plants grew to a water depth of 22 feet in Lower Prior. A summary of the occurrence of aquatic plants is shown in Table 3. Aquatic plants covered approximately 394 acres in Lower Prior in 2024 (Figure 7) compared to approximately 388 acres in 2022, 262 acres in 2020, 375 acres in 2018, and 220 acres in 2015.

Species richness defined as number of species per sample site ranged from 1 to 5 species. The east end of Lower Prior had better diversity than the west end (Figure 7). Maps of individual species distribution are shown in Figure 8.

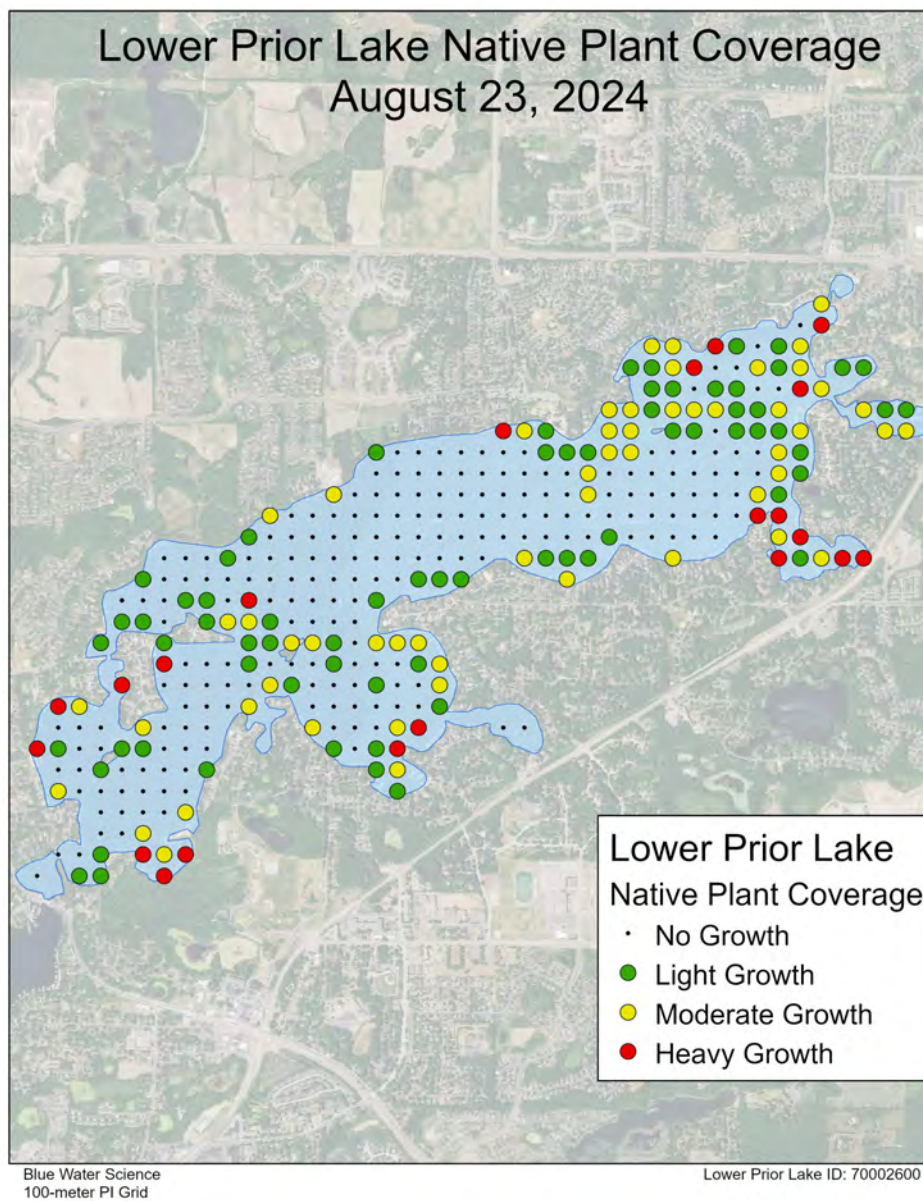


Figure 7. Native Plant Coverage in Lower Prior Lake in summer 2024.

Table 3. Lower Prior Lake aquatic plant number of sites where a species was sampled for 2015, 2018, 2020, 2022, and 2024 point intercept surveys.

Lower Prior	Occurrence of Plants				
	2015	2018	2020	2022	2024
Duckweed (<i>Lemna sp</i>)		1			
Watermeal (<i>Wolffia spp</i>)					1
Coontail (<i>Ceratophyllum demersum</i>)	62	129	63	102	93
Braun's stonewort (<i>Chara braunii</i>)					5
Chara (<i>Chara sp</i>)	9		8	17	9
Chara - 2 (<i>Chara sp</i>)					1
Elodea (<i>Elodea canadensis</i>)	5	2	1	1	
Water stargrass (<i>Heteranthera dubia</i>)	3	22	7	17	40
Star duckweed (<i>Lemna trisulca</i>)		4	3	12	
Northern watermilfoil (<i>Myriophyllum sibiricum</i>)	10	52	4	1	23
hybrid watermilfoil (<i>M. sp</i>)		2			
Eurasian watermilfoil (<i>M. spicatum</i>)	38	16	32	101	17
Naiads (<i>Najas flexilis</i>)		4	2		3
Nitella (<i>Nitella sp</i>)		2	1	5	
Cabbage (<i>Potamogeton amplifolius</i>)	4	2	4	2	9
Curlyleaf pondweed (<i>P. crispus</i>)		10	7	5	1
Illinois Pondweed (<i>P. illinoensis</i>)	6	11		6	18
Whitestem pondweed (<i>P. praelongus</i>)	7	4		3	3
Claspingleaf (<i>P. Richardsonii</i>)	6	10	9	4	9
Stringy pondweed (<i>P. sp</i>)		1	3	10	1
Flatstem pondweed (<i>P. zosteriformis</i>)	10	26	32	22	15
Buttercup (<i>Ranunculus aquatilis</i>)					1
Sago (<i>Stuckenia pectinata</i>)		1	1		1
Water celery (<i>Vallisneria americana</i>)	37	46	46	47	58
Number of submerged species	12	18	16	19	19
Estimated aquatic plant coverage (ac)	220 ac	375 ac	262 ac	388 ac	394 ac
Max depth of vegetation (ft)	15 ft	20 ft	19 ft	20 ft	22 ft
Percent coverage of plants (%)	23%	39%	27%	41%	42%

Point Intercept Survey Individual Species Distribution and Abundance

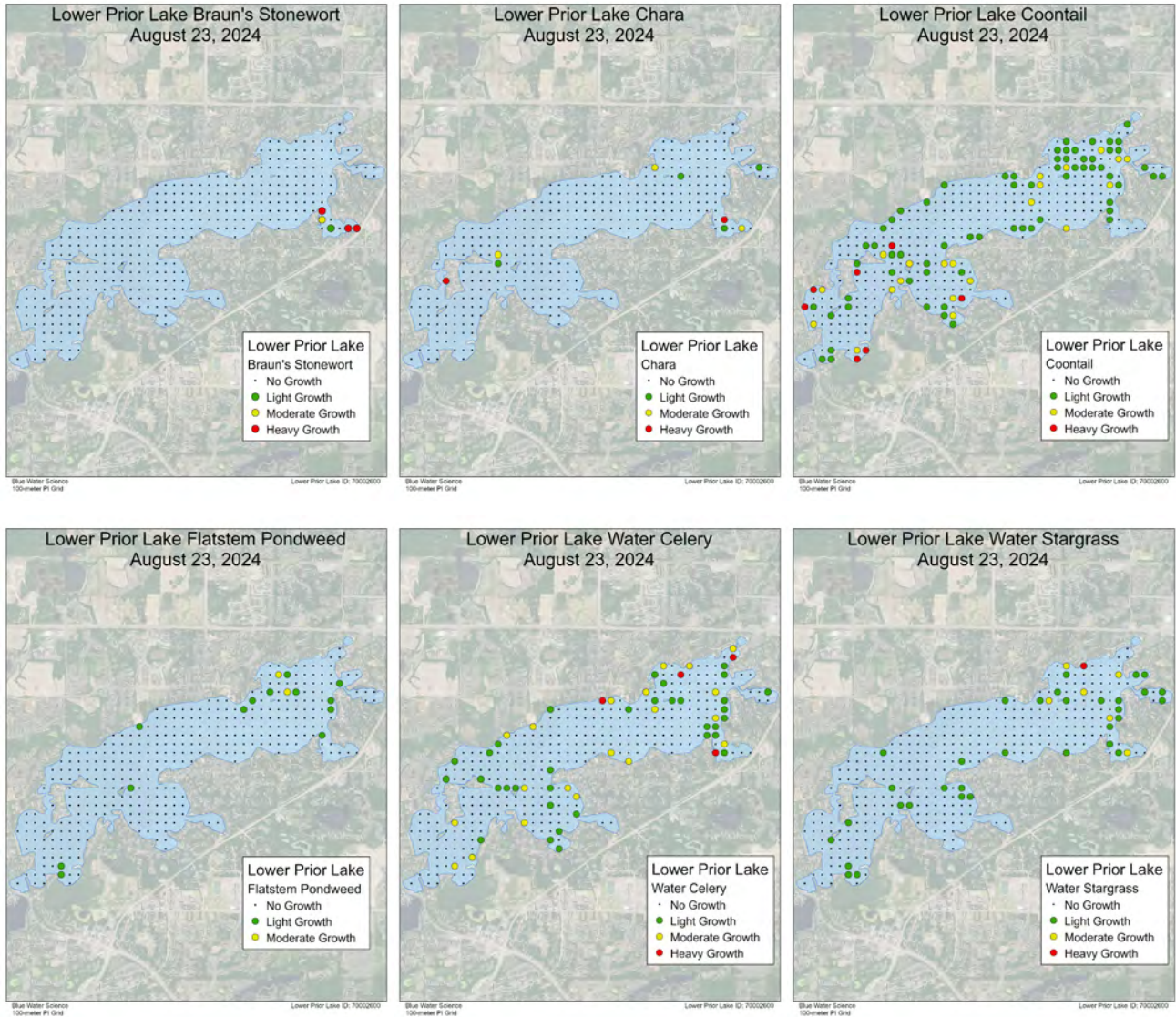


Figure 8. Maps of individual plant species on August 23, 2024.

Lower Prior Lake Point Intercept Survey Statistics: A summary of plant statistics from the point intercept survey is shown in Tables 4 and 5 and Figure 9. A total of 214 points were sampled and plants were found out to 20 feet of water which included 190 sample points out to 20 feet. Plant occurrence and abundance for individual sites are shown in the appendix.

Table 4. MnDNR Template Statistics

Total # Points Sampled	201
Depth Range of Rooted Veg	4-22 feet
Maximum Depth of Growth (95%) in feet	18
# Points in Max Depth Range	162
# Points in Littoral Zone (0-15 feet)	127
% Points w/ Submersed Native Taxa	92
Mean Submersed Native Taxa/Point	2.1
# Submerged Native Taxa	17
# Submersed Invasive Taxa	2
Max Depth of EWM in feet	14
% Frequency of EWM	13
Mode Rake Abundance of EWM	1
Max Depth of CLP in feet	13
% Frequency of CLP	1
Mode Rake Abundance of CLP	NA

Table 5. Aquatic plants sampled by depth.

Depth Bin (Feet)	# points sampled (0-22 ft)	% Sampling points with submersed species observed
0	0	0%
1	0	0%
2	0	0%
3	0	0%
4	2	100%
5	0	0%
6	6	100%
7	19	100%
8	8	100%
9	7	100%
10	13	85%
11	21	100%
12	11	91%
13	13	77%
14	19	95%
15	8	63%
16	15	73%
17	9	67%
18	11	45%
19	5	40%
20	10	30%
21	3	33%
22	3	33%
	183	

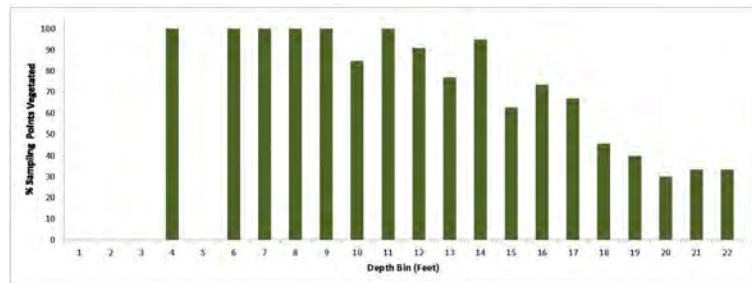


Figure 9. Graph of plant presence at each depth for sampled points.

Point Intercept Aquatic Plant Survey Comparisons for 2015, 2018, 2020, 2021, 2022, 2023, and 2024

Table 6. Prior Lake aquatic plant number of sites where a species was sampled for 2015, 2018, 2020, 2021, 2022, 2023, and 2024 point intercept surveys.

Lower Prior	Occurrence of Plants				
	2015	2018	2020	2022	2024
Duckweed (<i>Lemna sp</i>)		1			
Watermeal (<i>Wolffia spp</i>)					1
Coontail (<i>Ceratophyllum demersum</i>)	62	129	63	102	93
Braun's stonewort (<i>Chara braunii</i>)					5
Chara (<i>Chara sp</i>)	9		8	17	9
Chara - 2 (<i>Chara sp</i>)					1
Elodea (<i>Elodea canadensis</i>)	5	2	1	1	
Water stargrass (<i>Heteranthera dubia</i>)	3	22	7	17	40
Star duckweed (<i>Lemna trisulca</i>)		4	3	12	
Northern watermilfoil (<i>Myriophyllum sibiricum</i>)	10	52	4	1	23
hybrid watermilfoil (<i>M. sp</i>)		2			
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Naiads (<i>Najas flexilis</i>)		4	2		3
Nitella (<i>Nitella sp</i>)		2	1	5	
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Curlyleaf pondweed (<i>P. crispus</i>)		10	7	5	1
Illinois Pondweed (<i>P. illinoensis</i>)	6	11		6	18
Whitestem pondweed (<i>P. praelongus</i>)	7	4		3	3
Claspingleaf (<i>P. Richardsonii</i>)	6	10	9	4	9
Stringy pondweed (<i>P. sp</i>)		1	3	10	1
Flatstem pondweed (<i>P. zosteriformis</i>)	10	26	32	22	15
Buttercup (<i>Ranunculus aquatilis</i>)					1
Sago (<i>Stuckenia pectinata</i>)		1	1		1
Water celery (<i>Vallisneria americana</i>)	37	46	46	47	58
Number of submerged species	12	18	16	19	19
Estimated aquatic plant coverage (ac)	220 ac	375 ac	262 ac	388 ac	394 ac
Max depth of vegetation (ft)	15 ft	20 ft	19 ft	20 ft	22 ft
Percent coverage of plants (%)	23%	39%	27%	41%	42%

Upper Prior	Occurrence of Plants				
	2015	2018	2020	2021	2023
Coontail (<i>Ceratophyllum demersum</i>)	5	29	33	25	58
Elodea (<i>Elodea canadensis</i>)	2	17	3	2	
Bearded stonewort (<i>Lychnothamnus barbatus</i>)				1	
Northern Watermilfoil (<i>Myriophyllum sibiricum</i>)			6	1	
Eurasian watermilfoil (<i>M. spicatum</i>)	11	17	5	25	32
Naiads (<i>Najas flexilis</i>)		4		2	
Curlyleaf pondweed (<i>Potamogeton crispus</i>)			3	3	2
Stringy pondweed (<i>P. filiformis</i>)				9	
Stringy pondweed (<i>P. sp</i>)		2	2		2
Sago pondweed (<i>Stuckenia pectinata</i>)	2	1		2	
Star Duckweed (<i>Lemna trisulca</i>)					1
Water celery (<i>Vallisneria americana</i>)					1
Number of submerged species	4	6	6	9	6
Estimated aquatic plant coverage (ac)	33 ac	74 ac	82 ac	116 ac	143 ac
Max depth of vegetation (ft)	6 ft	8 ft	10 ft	11 ft	13ft
Percent coverage of plants (%)	9%	19%	21%	30%	37%

Aquatic Plant Distribution and Abundance for 2015, 2018, 2020, 2021, 2022, 2023, and 2024

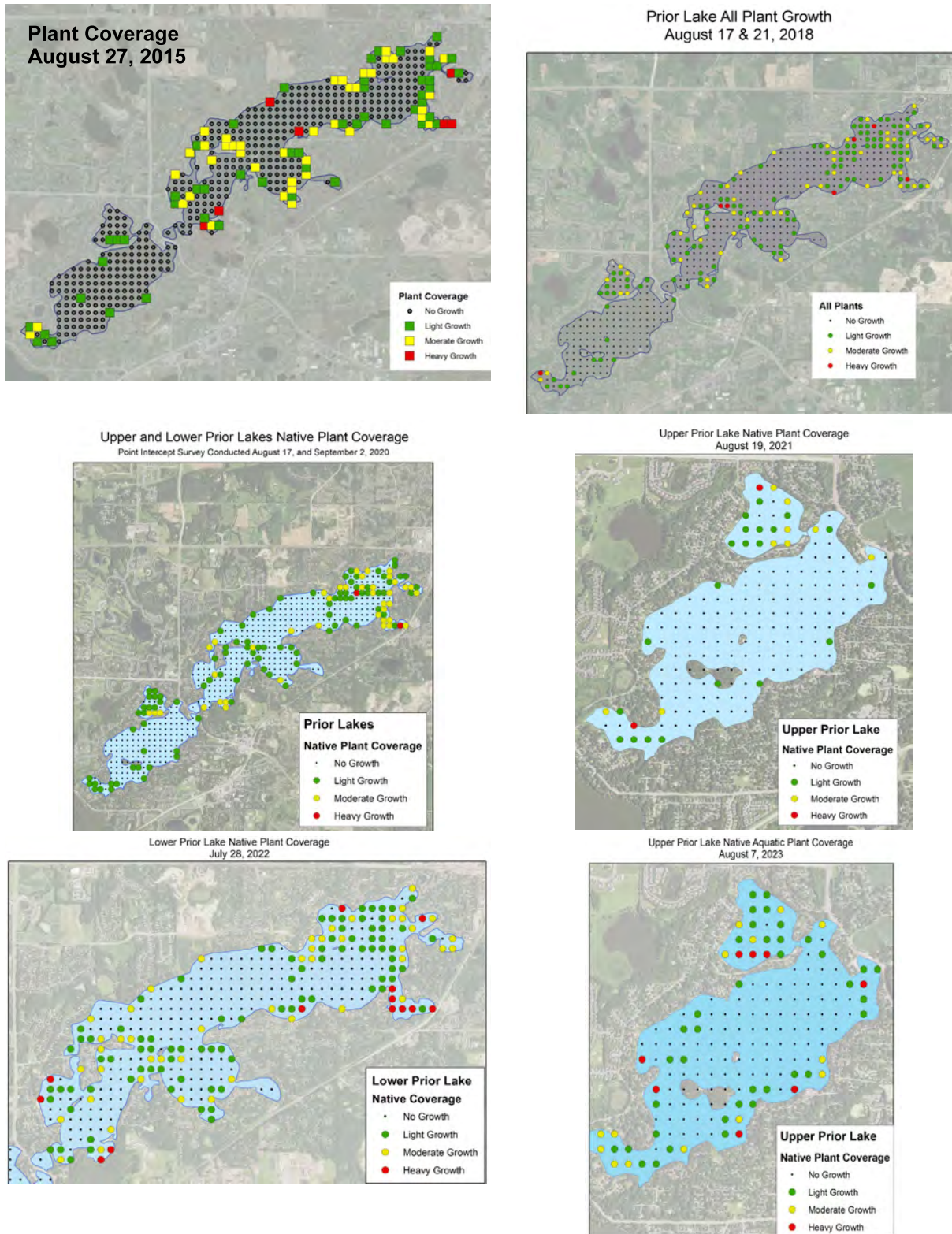


Figure 10. Maps of plant coverage for 2015 through 2024.

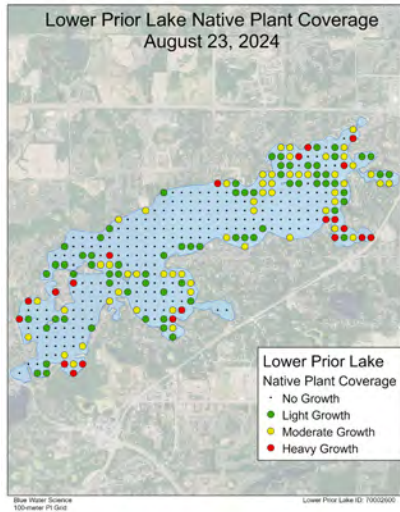


Figure 10. Concluded. Maps of plant coverage for 2015 through 2024.

APPENDIX

Lower Prior Lake aquatic plant occurrence for the point intercept survey conducted on August 23, 2024.

Site	Depth (ft)	Water meal	Butter cup	Cab-bage	Chara	Chara 2	Clasp-ingleaf	Coon-tail	CLP	EWM	Flat-stem	Illinois	Naiad	NWM	Braun-stone-wort	Sago	Star-duck-weed	Stringy	Water-celery	Water-star-grass	White-stem	ZM	No plants	
154	14																						1	
155	14							1																
156	13							1															1	
157	7	1					1	3						1			1						1	
163	10																						1	1
164	15																							1
165	13							1															1	
166	7						3				1									1			1	
167	7							2												1			1	
168	7							3															1	
172	18																							1
173	17																							1
174	7										1								2	1			1	
180	20																							1
181	9																		2				1	
182	12							2		1														
183	15																							1
184	19																							1
188	17																							1
189	13							1		1									1				1	
191	16																							1
192	8							1												1			1	
193	17																							1
197	10													1					1				1	
198	8			1		1		1		1				1					1				1	
199	16							2															1	
200	12							3		1														
201	14							1		1														1
204	11						1																	1
205	14							1																1
208	20																							1
209	14							1		1														1
211	22							1																
212	7			3															1				1	
213	15																							1
215	13																							1
216	10							1											2	1			1	
220	13													1					2				1	
224	15							2															1	
225	20							3															1	
226	21																							1
227	26																							1
228	12							3																
229	13							2															1	
230	18																							1
232	18																							1
233	10							2						1									1	
240	8			1															1					
241	7				3																		1	
242	13																							1
246	16																							1
247	13							2										1			1		1	
248	12							1												1			1	
252	10						1												1				1	
255	14							2															1	
256	9							3															1	
260	17							1																
261	18																							1
264	13							1	1					1									1	
268	11							1		1											1		1	
269	12													1					2	1			1	
270	9													1										
271	11							1						1										
272	6				1														1	1			1	
273	8									1									1				1	
274	8						1	2											1				1	

Lower Prior Lake aquatic plant occurrence for the point intercept survey conducted on August 23, 2024.

Site	Depth (ft)	Water meal	Butter cup	Cabbage	Chara	Chara 2	Clasp-ingleaf	Coon-tail	CLP	EWM	Flat-stem	Illinois	Naiad	NWM	Braunstone-wort	Sago	Star-duck-weed	Stringy	Water-celery	Water-star-grass	White-stem	ZM	No plants
275	10										1			1					2			1	
276	14							1										1				1	
277	16																						1
278	13							2											1	1		1	
279	15							2						1								1	
280	12																		2	1		1	
281	11						1												1			1	
282	17													1								1	
283	18																						1
284	9													1					1			1	
285	11							2											1			1	
286	4				2			1														1	
287	16							1														1	
288	20																						1
289	23																						1
292	20																						1
295	19							1															
296	15							1															
297	18																						1
298	16							3						1								1	
299	20																						1
300	24																						1
304	18							1											1				
305	9						1					1							1			1	
318	15																			1			
319	14							1														1	
320	17							1														1	
321	8		1											1					2			1	
324	20																						1
325	8			1				1		1									1	1		1	
337	22																						1
338	9																		2	1		1	
339	18							1															
340	18							1														1	
341	16							1						1								1	
342	15							2												1		1	
343	6											1		1					3			1	
344	6				1							1	1		1				1	1		1	
345	7													1						2		1	
346	7				2									1	3							1	
347	6														3							1	
348	16							1											1				
364	22																						1
365	16							1														1	
366	23																						1
371	10							1		1		1			2					1		1	
372	7				3														2			1	
373	11							1											2			1	
374	25																						1
387	12																						1
388	23																						1
395	21																						1
396	7											3							1			1	
397	11							1			1				3				1			1	
398	11							1			1								2			1	
409	10																						1
410	21							2															
418	14											2	1						1			1	
419	11						1	1											1	1		1	
420	26																						1
428	23																						1
429	13																						1
430	11											2										1	
438	20																						1
439	11											1							2	2	1	1	
440	7											1							1	1		1	
441	12							1		1									1			1	
442	24																						1
445	26																						1
447	24																						1

Lower Prior Lake aquatic plant occurrence for the point intercept survey conducted on August 23, 2024.

Site	Depth (ft)	Water meal	Butter cup	Cabbage	Chara	Chara 2	Clasp-ingleaf	Coon-tail	CLP	EWM	Flat-stem	Illinois	Naiad	NWM	Braunstone-wort	Sago	Star-duck-weed	Stringy	Water-celery	Water-star-grass	White-stem	ZM	No plants
448	23																						1
449	20							1															
450	9																		1				1
451	14							1		1	1							1					1
452	14							2										1					1
453	11																		2				
454	23																						1
460	19							2															1
461	12							1			1	1							1	1			1
462	11																		3				
463	16							1											2	1			1
464	14							1															
465	14							2		1	1									1			1
466	7																		1	2			1
467	7							1				1							1	1			1
468	13				1														1				1
469	19																						1
470	12																	1					
471	16																			1			1
472	17							1															1
473	11						2				1	1							1	1	1		1
474	8			2				1															
475	7							1															
476	11						1															1	1
477	7				2																		1
478	14							1		1	1									1			1
479	14							2											1				1
480	14							1			2												1
481	14							1			1					1	1				2		1
482	11							1															
483	16							1															
484	10									1									2				1
485	7							1				2									1		
486	4				1																		
487	6																		1	1	1		
488	11							1		1									1				1
489	20							1															
490	24																						1
491	17							1															
492	16							1															
493	19																						1
494	23																						1
495	11						3	2															1
496	11							2			1			1				1					1
497	14											1		1					1				1
498	18							1															1
499	14							1			2									1			1
500	10							1			1								3				1
501	24																						1
502	24																						1
503	17							2															1
504	11			1			1	1															1
505	11						2	1						1					1	2			1
506	12			1																	1		1
507	13			1																	1		1
508	10																						
509	6						1	1				1							2		2		1
510	7						1					1							2	3			1
511	18							1															
512	16																						1
513	16							1															
514	7						2	1				1		1					1				1
515	25																						1
516	10			1								2							3				1
517	10							1		1			1						2				1
Average		1.0	1.0	1.3	1.8	1.0	1.4	1.4	1.0	1.0	1.1	1.3	1.0	1.0	2.4	1.0	1.1	1.0	1.5	1.2	1.0	1.0	
Occur (183 sites out to 22 ft)		1	1	9	9	1	16	93	1	17	15	18	3	23	5	1	13	1	58	40	3	113	55
% occur		1	1	5	5	1	9	51	1	9	8	10	2	13	3	1	7	1	32	22	2	62	

Common Aquatic Plants in Prior Lake

Chara (*Chara sp*)



Claspingleaf pondweed (*Potamogeton richardsonii*)



Coontail (*Ceratophyllum demersum*)



Curlyleaf Pondweed (non-native)(*Potamogeton crispus*)



Eurasian watermilfoil (non-native)(*Myriophyllum spicatum*)



Flatstem pondweed (*Potamogeton zosteriformis*)



Naiad (*Najas* sp)



Northern watermilfoil (*Myriophyllum sibiricum*)



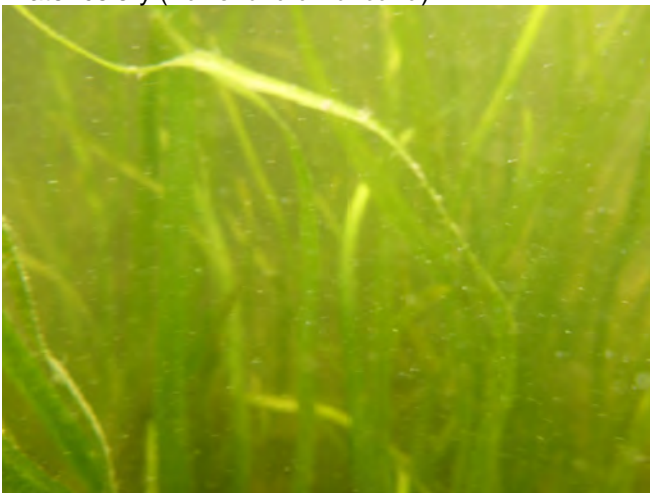
Sago pondweed (*Stuckenia pectinata*)



Stringy pondweed (*Potamogeton pusillus*)



Water celery (*Vallisneria americana*)



Water stargrass (*Heteranthera dubia*)

