



Elodea was Common in Lake Tetonka on July 13, 2017. No Eurasian Watermilfoil was Found.

Eurasian Watermilfoil Assessment in Lake Tetonka, Le Sueur County, MN, July 13, 2017

Prepared for:
Le Sueur County and
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November 28, 2017

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Summary: Eurasian watermilfoil (EWM) was verified in Lake Tetonka on October 14, 2016 at the public access (Figure 1). A removal effort using handpulling by scuba divers was conducted in late October. An Eurasian watermilfoil assessment was conducted on July 14, 2017 to determine if EWM was present, and if present, it's distribution. No Eurasian watermilfoil was observed in the July 13, 2017 survey (Figure 2). Coontail and elodea were the most common plants found in the July survey.

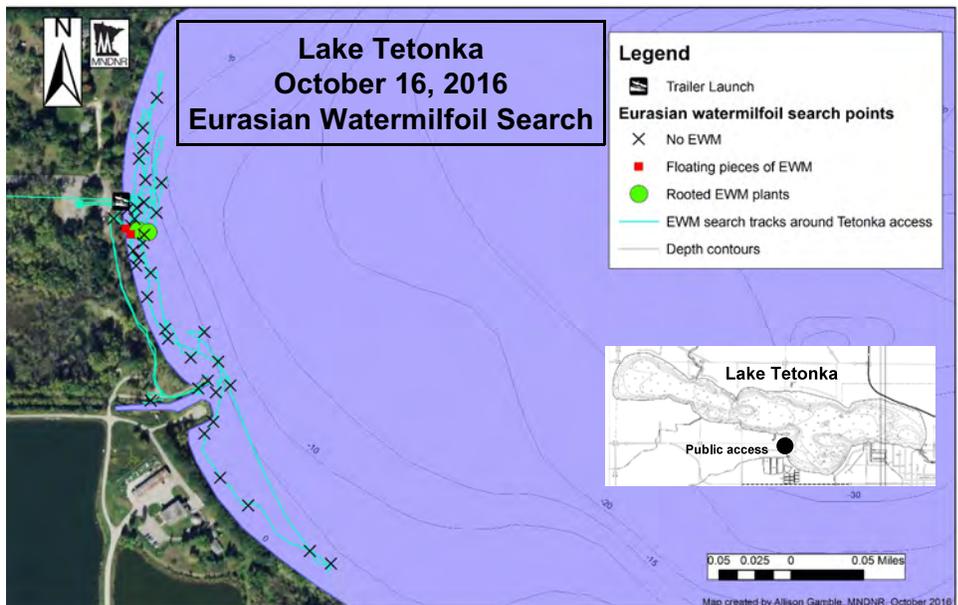


Figure 1. October 14, 2016 Eurasian watermilfoil search locations.

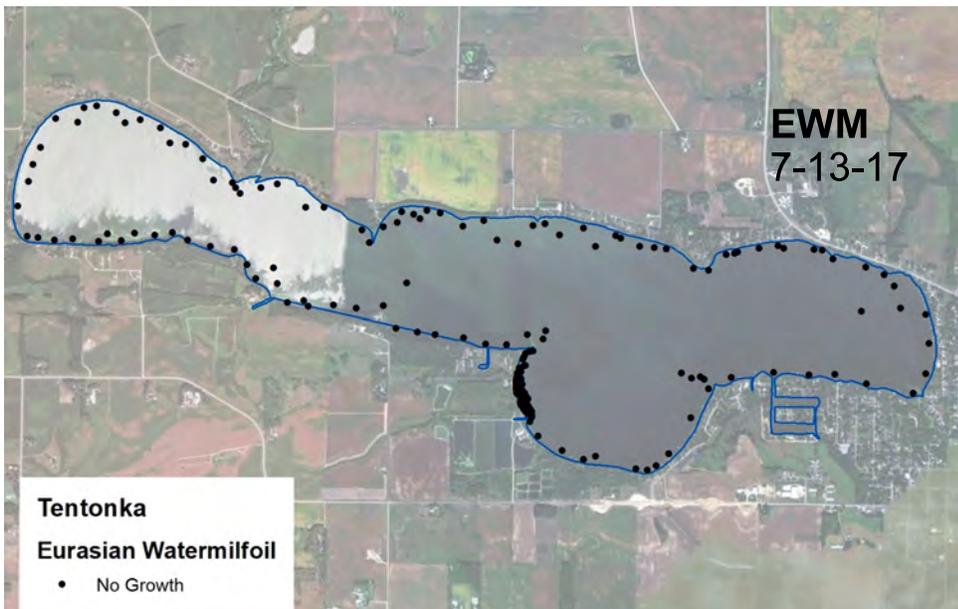


Figure 2. No Eurasian watermilfoil was found on July 13, 2017. The black dots represent sample site locations.

Results of the July 13, 2017 Assessment: A meandering aquatic plant survey using a rakehead sampler on a telescoping pole was conducted around the nearshore area of Lake Tetonka (1,358 acres) on July 13, 2017. A total of 211 points were sampled. No Eurasian watermilfoil was found in the survey. A total of 9 aquatic plant species were found including the invasive yellow iris at one site. Coontail and elodea were common and curlyleaf pondweed was present at 13% of the sites (28 out of 211 sites). Coontail was found growing to a depth of 10 feet.

Table 1. Summary of EWM search results for Lake Tetonka on July 13, 2017.

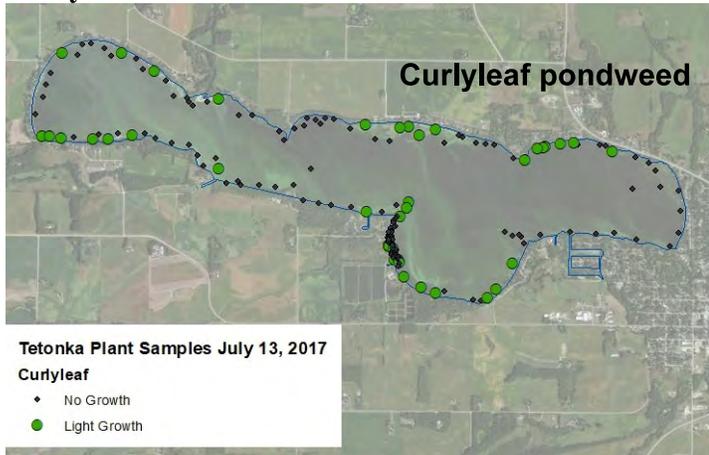
	Number of Occurrences	% Occurrence (based on 211 sample sites)
AIS		
Curlyleaf pondweed	28	13
Eurasian watermilfoil	0	0
Flowering rush	0	0
Yellow iris	1	0.5
Native Plants		
Claspingleaf pondweed	2	1
Coontail	63	30
Elodea	65	31
Sago pondweed	27	13
Stringy pondweed	33	16
Water celery	48	23
Water stargrass	2	1
Filamentous algae	52	25



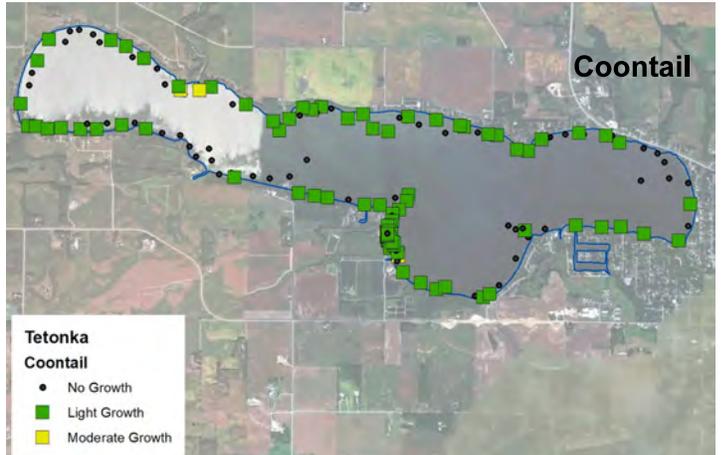
Figure 3. Aquatic plant conditions in 2017.

Nearshore Aquatic Plant Maps for Lake Tetonka, July 13, 2017

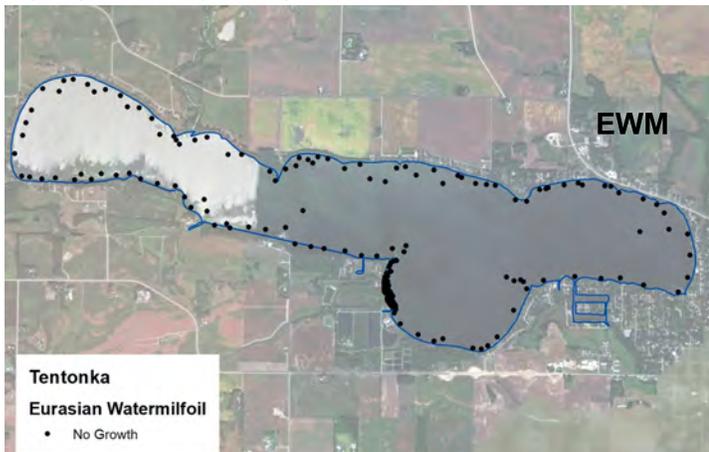
Curlyleaf Pondweed



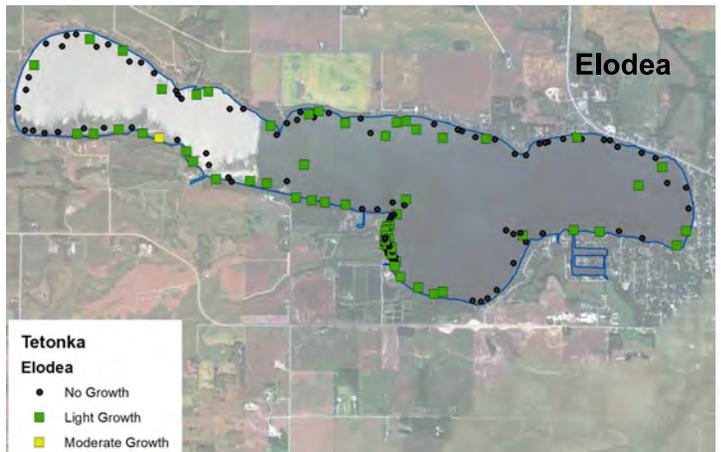
Coontail



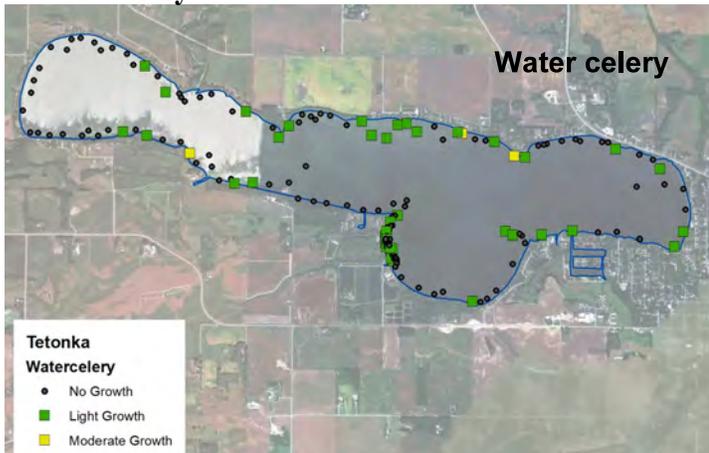
Eurasian Watermilfoil



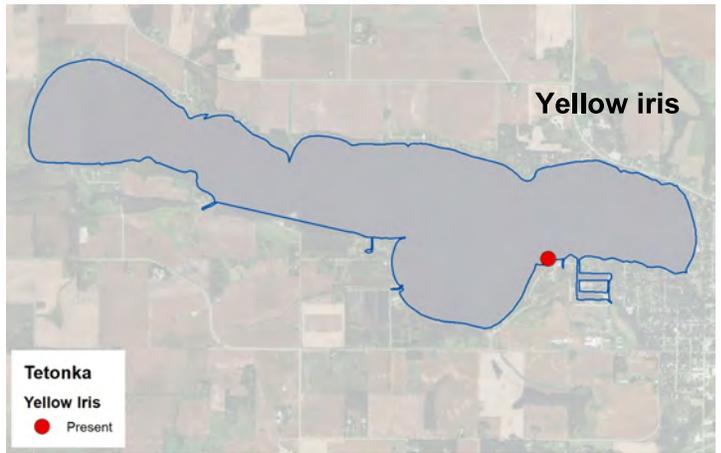
Elodea



Water Celery



Yellow Iris



EWM Growth Potential Based on Lake Sediment Characteristics

Lake Tetonka lake sediments were collected and analyzed in 2014 to determine the growth potential of EWM in Lake Tetonka. EWM can produce heavy growth when lake sediments are high in ammonia nitrogen (greater than 10 mg/kg). Surprisingly, the sediment nitrogen was mostly low to moderate indicating that future EWM growth in Lake Tetonka would likely be mostly light to moderate.

Based on Secchi disc seasonal averages, aquatic plant growth is predicted to grow to twice the average Secchi disc transparency. Potential heavy EWM growth is predicted to occur to about 3/4 of the maximum growth depth. Using a 5-foot seasonal Secchi average, EWM could grow to a depth of 10 feet and heavy growth out to about 7 feet.

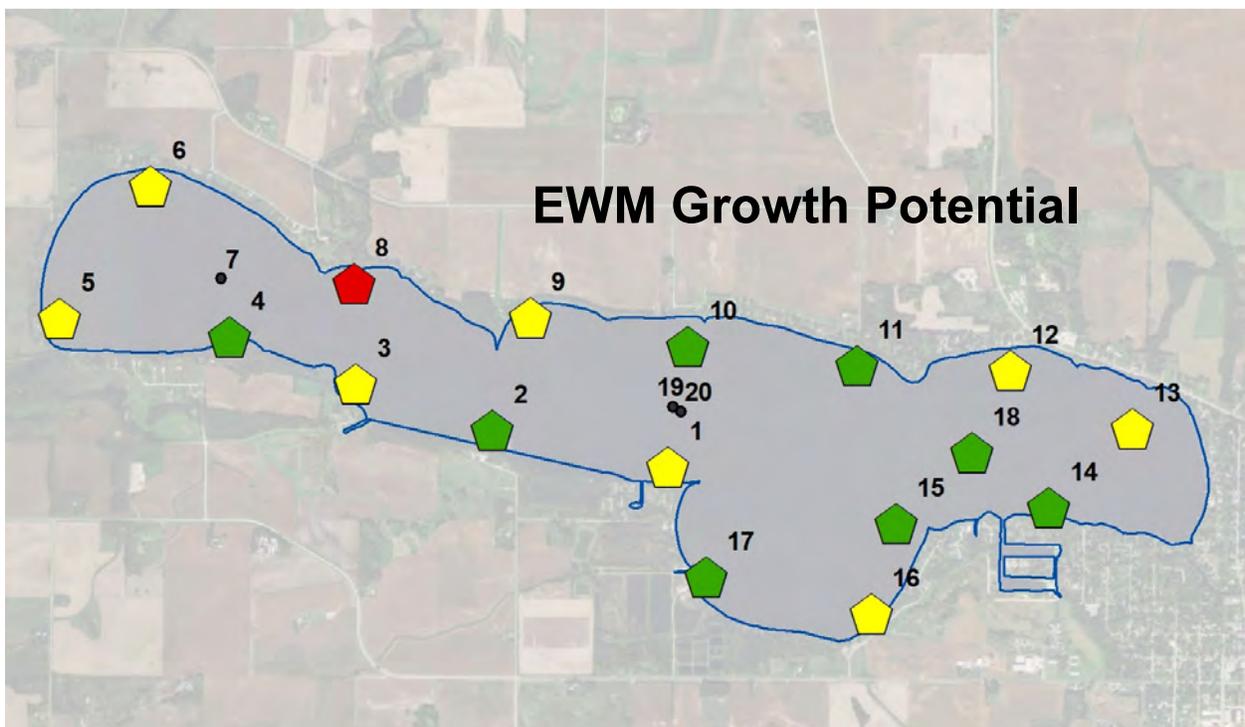


Figure 4. EWM growth potential based on lake sediment characteristics.

Key: green = light growth, yellow = moderate growth, and red = heavy growth.

APPENDIX



Individual sample site aquatic plant data. Plant densities are rated on a scale of 1 - 4, with 4 the most abundant.

Site	Depth (ft)	Yellow iris	Clasp-ingleaf	Coon-tail	Curly-leaf	Elodea	Sago	Stringy	Water celery	Water star-grass	Algae
1	5			1							
2	5										
3	4			1							
4	4			1					2		
5	3			1				1			
6	3			2					1		1
7	4			1							
8	3							1			1
9	3			1	1	1					
10	3				1			1			
11	3								1		
12	4			1							
13	4										
14	4										
15	5			1	1	1					
16	5			1		1					
17	5			1		1					1
18	8										
19	6					1					1
20	6			3							
21	5			1							1
22	6			1							1
23	7			1		1					
24	7			1							
25	7										
26	5										1
27	4										1
28	4								1		1
29	3			1					2		1
30	4			1					1		
31	3								1		
32	4										
33	4			1					1		
34	5			2	1						

Site	Depth (ft)	Yellow iris	Clasp-ingleaf	Coon-tail	Curly-leaf	Elodea	Sago	Stringy	Water celery	Water star-grass	Algae
35	4										
36	4										
37	4										
38	4										
39	4							1			
40	3								1		1
41	3				1			1	1		
42	4							1	1		
43	5				1						
44	7			11				1			
45	7			3	1	1		3			
46	3				2		2	1			
47	6										
48	5					1		1			
49	5			2	1	1					
50	5			1	2	1					
51	5			1	1	1					
52	7			1		1					
53	5								1		1
54	6			2							
55	5			1	1		1				
56	7				1		1				
57	7				1						
58	5							1			1
59	6			1		1					1
60	5								1		1
61	4								1		1
62	6										1
63	5	1						1	1		1
64	5			1		1		1	1		1
65	5			1		1		1			
66	6			1				1			
67	4			1				3			
68	4			1		1	1	1	2		

Site	Depth (ft)	Yellow iris	Clasp-ingleaf	Coon-tail	Curly-leaf	Elodea	Sago	Stringy	Water celery	Water star-grass	Algae
69	8					1			1		
70	6			1				2			
71	4							1			1
72	6										1
73	7					2					
74	5					1			1		
75	4										1
76	5										1
77	4			1	1		2		1		
78	3										1
79	4			1			2				
80	5						1	1			
81	4			1	1	2					1
82	4				2		1				
83	4				1						
84	4				2		1				
85	4			1	1						1
86	5			1	1			1	2		
87	4			1					3		
88	4			1					1		
89	4			2		1	1				
90	4										1
91	4			1					3		
92	4			1				1	2		
93	4					2					
94	4			1	1		2				
95	5				1	2			2		
96	4		2	1	1	2	2	2	1		
97	3				1	2		1	1		
98	5			1		1			1		1
99	5			1				1	2		
100	3			1	2		2		1		
101	4			1		2		1			
102	4						2				
103	4			1		1	1	1			
104	11										
105	5			1		2					
106	4			2			2				
107	11										
108	6			1					1		
109	4		2	1					2		
110	5			1		1					
111	4			1					2		
112	8										
113	4			2	1	2					
114	3			3		2	1				
115	15										
116	10			3							
117	4			2			2				
118	7					1			1		
119	4										2
120	4			1	1				1		
121	7										
122	4			1		1					1
123	5			1	1		1				
124	14										
125	5					1		1			1
126	4										1
127	4									1	
128	7										1
129	4			1	1			1			2
130	7			1		1					1
131	10										1
132	9										
133	4			1						1	
134	4			1	2						1
135	4			2	2		1				
136	4			2	1		3				
137	5			1			1				
138	4			1	1	1	1				
139	9										
140	4			2	1	2					
141	10										
142	5			1	1	1			1		
143	12										
144	4			2		1	1		2		
145	4		1			3					
146	11										
147	5					1			3		

Site	Depth (ft)	Yellow iris	Clasp-ingleaf	Coon-tail	Curly-leaf	Elodea	Sago	Stringy	Water celery	Water star-grass	Algae
148	3					1					1
149	12										
150	5										
151	4					1					
152	12										
153	4									2	1
154	8					2				1	
155	6					2	1				1
156	20										
157	7					2					1
158	6					2					
159	7					1					
160	5					1	1	1			
161	5					1	1				
162	4				1	1			1		1
163	5					1			1		1
164	5										
165	8				1	1	1				1
166	6				1	1					1
167	5				2	1	1			1	1
168	4								1		1
169	4										
170	4					1					
171	4									1	
172	8										
173	5					2		1			
174	4							1			
175	6					2		1			
176	5										
177	3					1		1		2	1
178	5										
179	5					1		1			
180	5										
181	5					1				1	
182	8										
183	7					2		1			
184	5					1		1			
185	4					2					
186	2					1		1			1
187	4					1					
188	7										
189	6					1					
190	5							1			1
191	5							2	1		
192	4										
193	2							1			1
194	3										
195	3										1
196	3									1	
197	5										
198	8							2			
199	4										
200	4								1		
201	5										
202	5							1			
203	7										
204	6							2		2	
205	6							1		1	
206	6										
207	4										
208	4							1			1
209	5							1			
210	5										1
211	6							1			
Average		1.0	2.0	1.4	1.2	1.3	1.4	1.2	1.4	1.0	1.0
Occur (211 sites)		1	2	63	28	65	27	33	48	2	52
% occur		0	1	30	13	31	13	16	23	1	25