



Eurasian water-milfoil (*Myriophyllum spicatum*)

Exotic Species
Minong Flowage
Washburn County, WI
April 29, 2016

Rake Fullness Rating

- Visual
- 1
- 2
- 3
- None Found



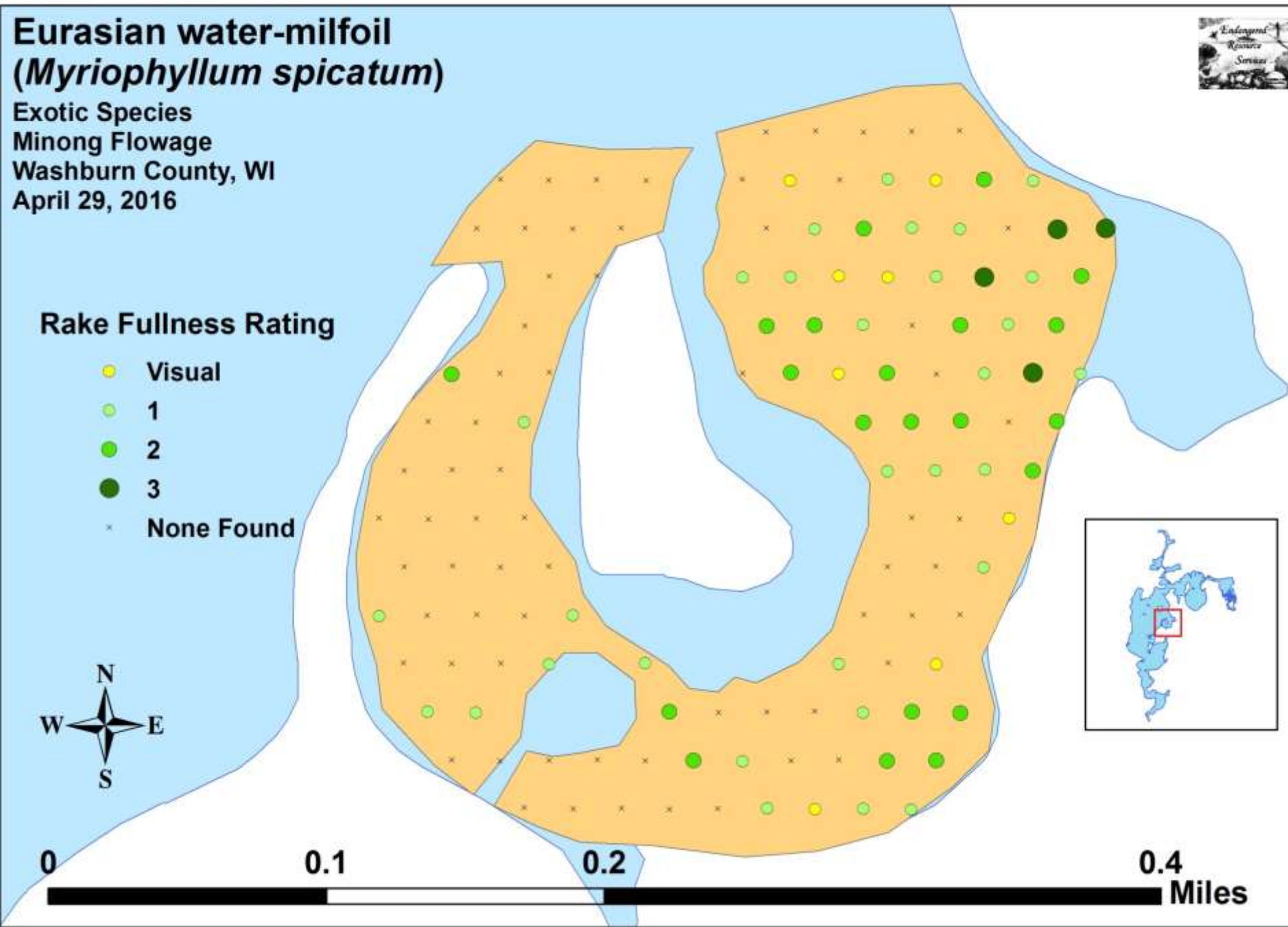
0

0.1

0.2

0.4

Miles



16 Minong Flowage Preliminary Spring EWM Chemical Treatment Proposal (January 22, 2016 LEAP

Treatment Area Characteristics					Eurasian Watermilfoil — 2,4-D (DMA 4)		
Treatment Location	Site Name	Acreage	Mean Depth (feet)	Volume (acre-feet)	Treatment a.i. ppm	Treatment application (gal)	Application rate (gal/ac-ft)
WDNR Bay	Bed1-16	26.90	4.0	106.52	1.5	114.0	1.07
Total		26.90		106.52		114.0	
					EWM Treatment (26.9 acres); early spring application		

Estimated Herbicide Cost (DMA 4) = 114 gallons x \$40/gallon = \$4,560.00

DMA 4 (liquid, 2,4-D)

- a Treated at 1.50 parts per million (1.07 gal/acre-ft)
- b Treated at 2.00 parts per million (1.42 gal/acre-ft)
- c Treated at 2.50 parts per million (1.78 gal/acre-ft)
- d Treated at 3.00 parts per million (2.13 gal/acre-ft)
- d Treated at 3.50 parts per million (2.48 gal/acre-ft)
- d Treated at 4.00 parts per million (2.84 gal/acre-ft)(max

Navigate (granular, 2,4-D)

- a Treated at 1.50 parts per million (21.3 lbs/acre-ft)
- b Treated at 2.00 parts per million (28.4 lbs/acre-ft)
- c Treated at 2.50 parts per million (35.5 lbs/acre-ft)
- d Treated at 3.00 parts per million (42.6 lbs/acre-ft)
- d Treated at 3.50 parts per million (49.7 lbs/acre-ft)
- d Treated at 4.00 parts per million (56.8 lbs/acre-ft)(max

Reward (liquid diquat) (EWM)

Max Label Rate = 2 gallons/acre

Max Application Rate = 0.37 parts per million

Eurasian water-milfoil (*Myriophyllum spicatum*)

Exotic Species
Posttreatment Survey
DNR Landing Bay - Minong Flowage
Washburn County, WI
June 15, 2016



Rake Fullness Rating

- Visual
- 1
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- × None Found



Native Species Richness

Pretreatment Survey
DNR Landing Bay - Minong Flowage
Washburn County, WI
April 29, 2016

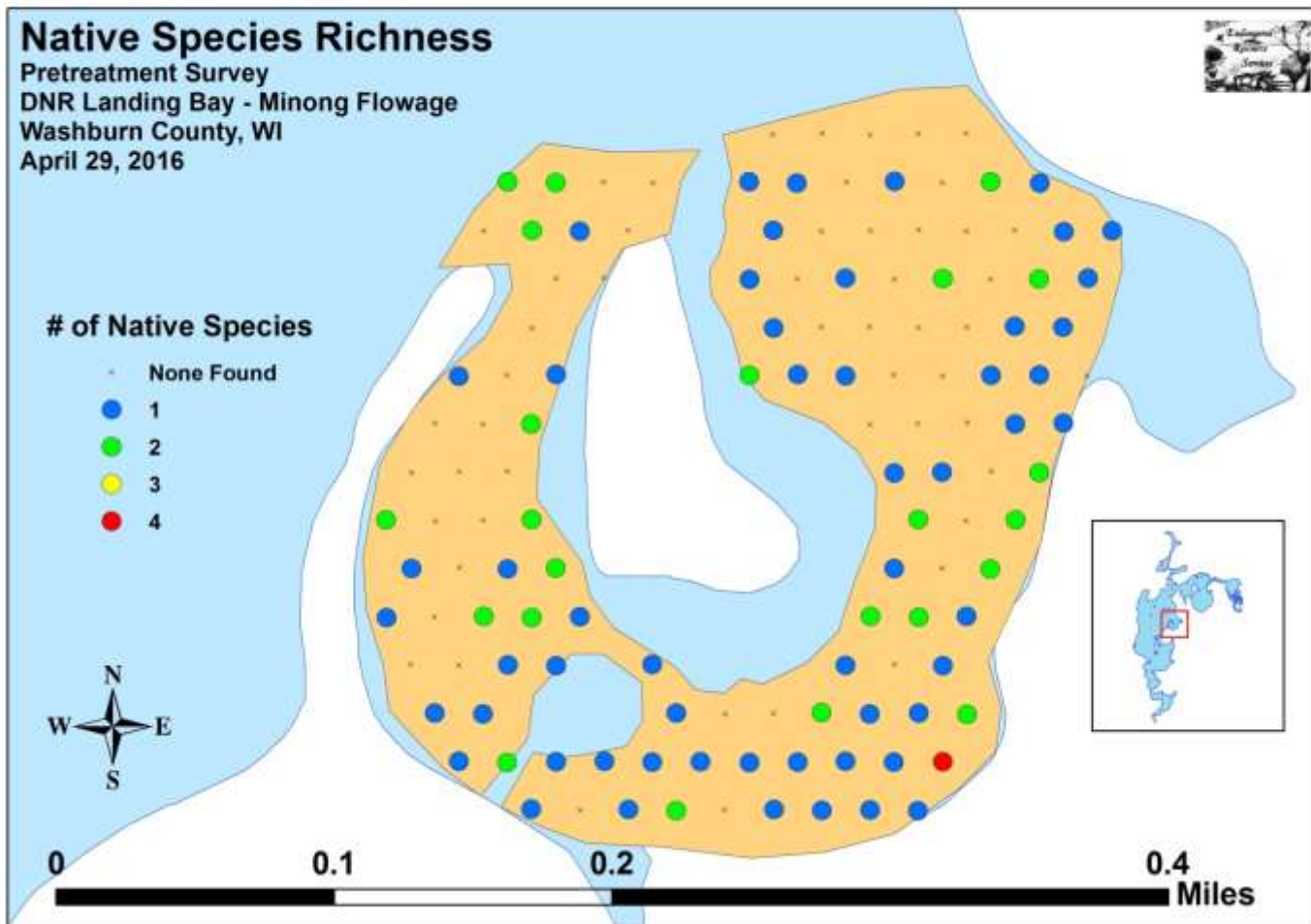


of Native Species

- None Found
- 1
- 2
- 3
- 4



0 0.1 0.2 0.4 Miles



Native Species Richness

Posttreatment Survey
DNR Landing Bay - Minong Flowage
Washburn County, WI
June 15, 2016

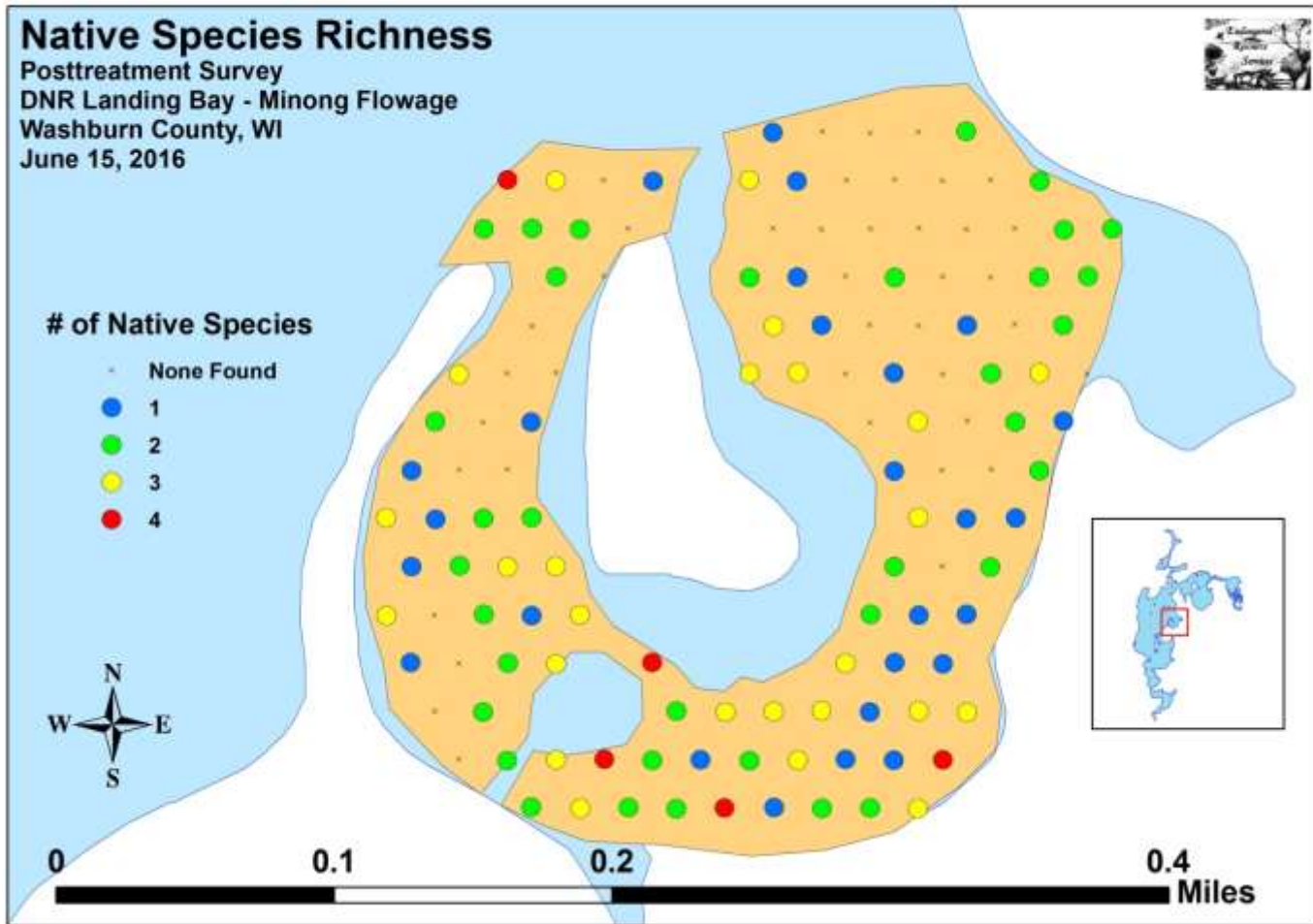


of Native Species

- None Found
- 1
- 2
- 3
- 4



0 0.1 0.2 0.4 Miles



Total Rake Fullness

Pretreatment Survey
DNR Landing Bay - Minong Flowage
Washburn County, WI
April 29, 2016

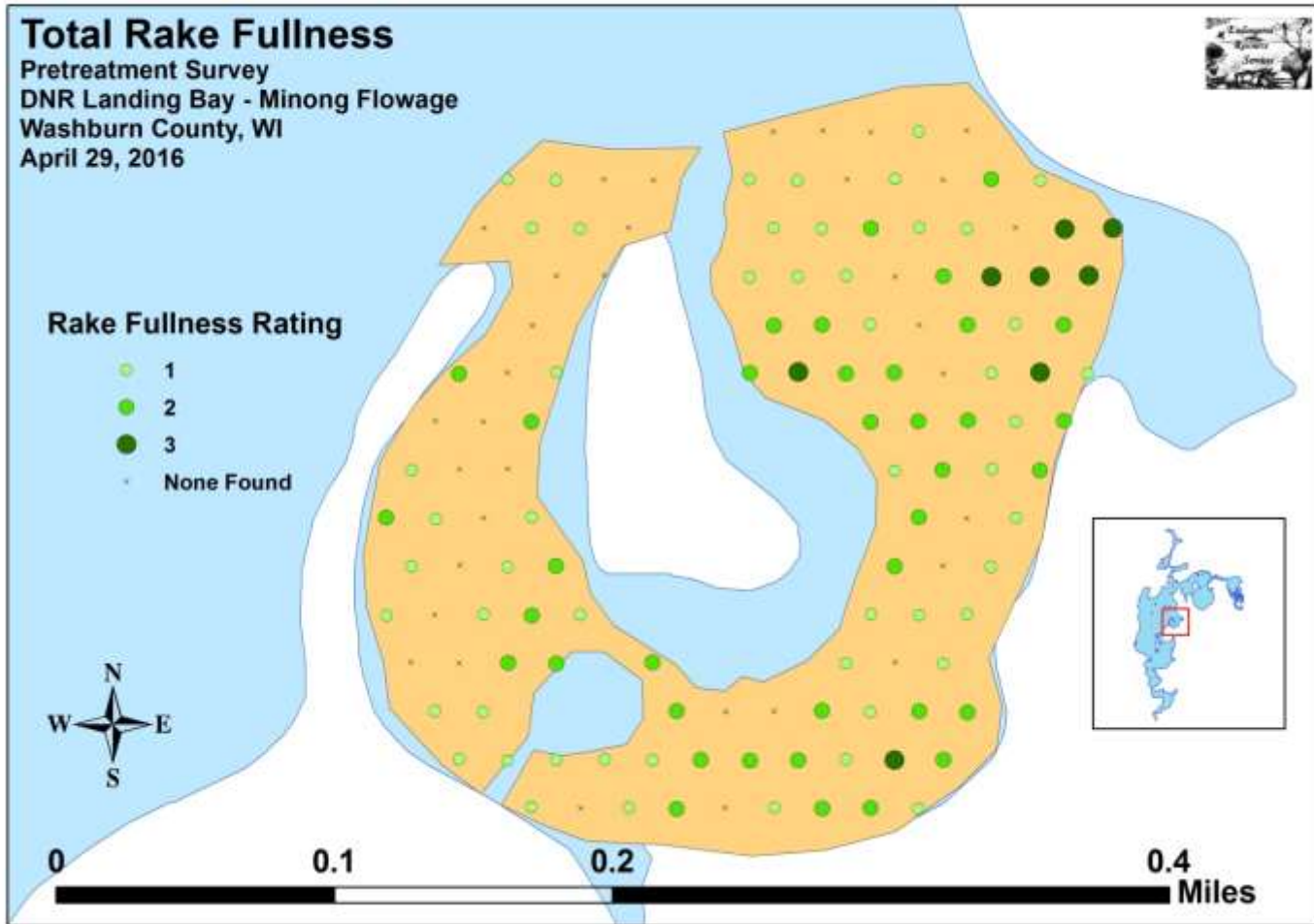


Rake Fullness Rating

- 1
- 2
- 3
- None Found



0 0.1 0.2 0.4 Miles



Total Rake Fullness

Posttreatment Survey
DNR Landing Bay - Minong Flowage
Washburn County, WI
June 15, 2016

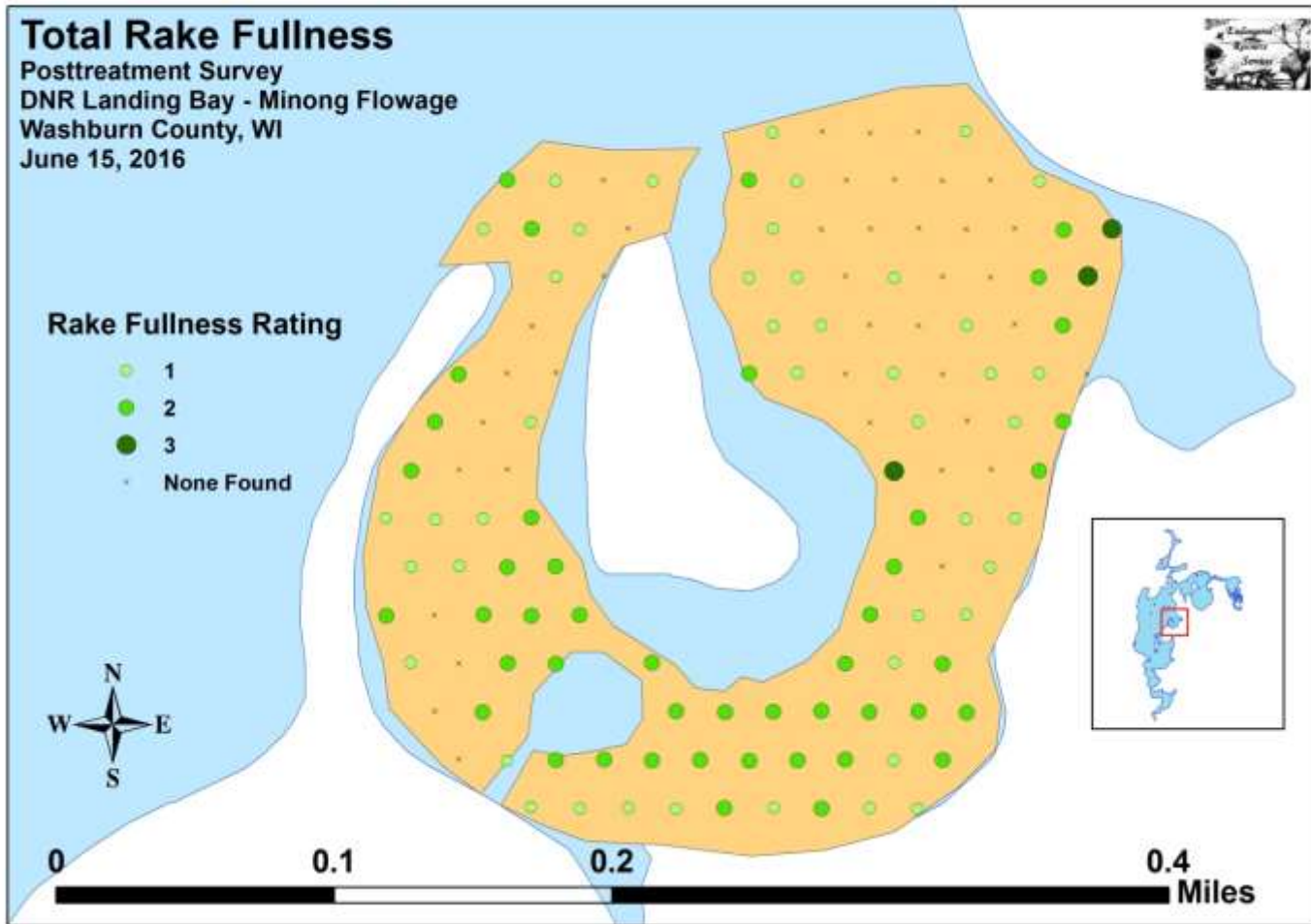


Rake Fullness Rating

- 1
- 2
- 3
- None Found



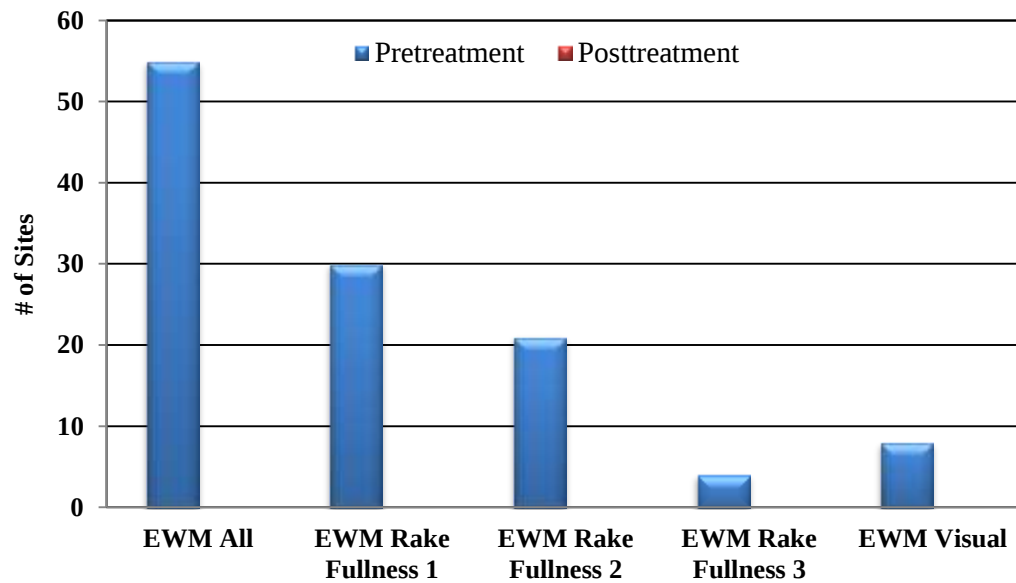
0 0.1 0.2 0.4 Miles



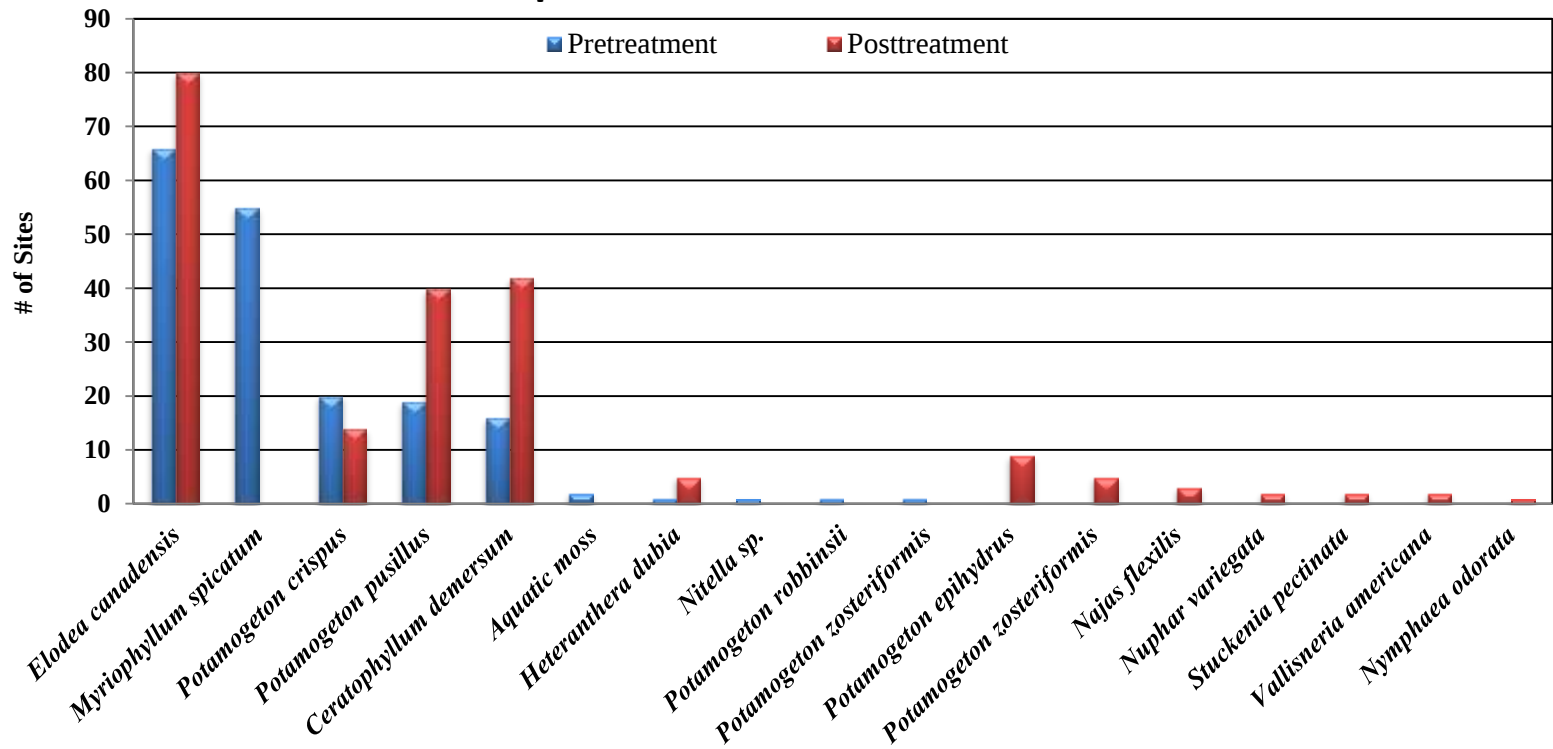
**Table 2: Pre/Post Survey Summary Statistics
Minong Flowage, Washburn and Douglas Counties
April 29 and June 15, 2016**

Summary Statistics:	Pre	Post
Total number of points sampled	131	131
Total number of sites with vegetation	97	92
Total number of sites shallower than the maximum depth of plants	131	129
Frequency of occurrence at sites shallower than maximum depth of plants	74.05	71.32
Simpson Diversity Index	0.74	0.76
Floristic Quality Index	5.7	5.5
Mean Coefficient of Conservatism	15.1	18.1
Maximum depth of plants (ft)	6.0	6.5
Mean depth of plants (ft)	4.3	4.5
Median depth of plants (ft)	4.5	5.0
Average number of all species per site (shallower than max depth)	1.37	1.59
Average number of all species per site (veg. sites only)	1.86	2.23
Average number of native species per site (shallower than max depth)	0.80	1.48
Average number of native species per site (native veg. sites only)	1.33	2.10
Species richness	9	12
Mean rake fullness (veg. sites only)	1.55	1.55

**Pre/Post EWM Rake Fullness Results
Minong Flowage, Washburn County
April 29 and June 15, 2016**



Pre/Post Differences for All Species Minong Flowage, Washburn County April 29 and June 15, 2016

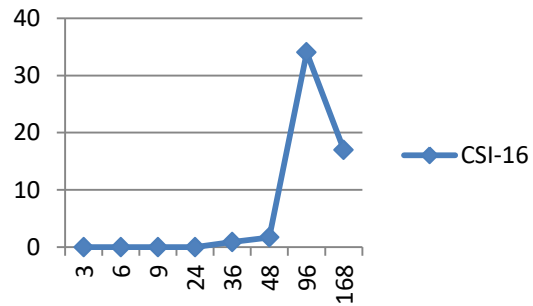


2016 Minong Flowage Revised Chemical Concentration Testing Plan 4-27-2016 (LEAPS)

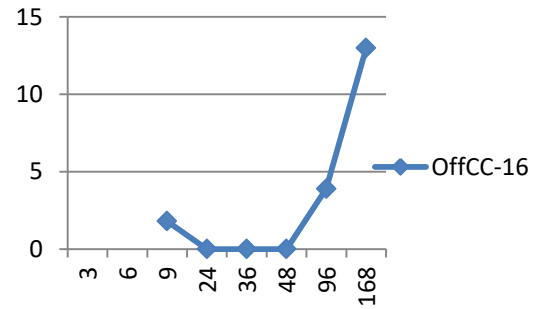
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Minong Flowage SE	
Minong Flowage SW	
Horseshoe Lake NE	



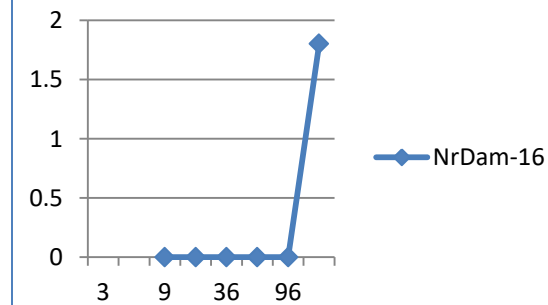
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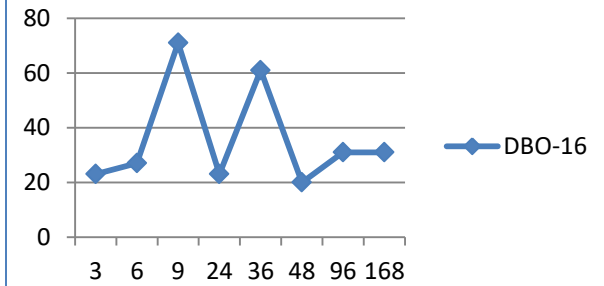
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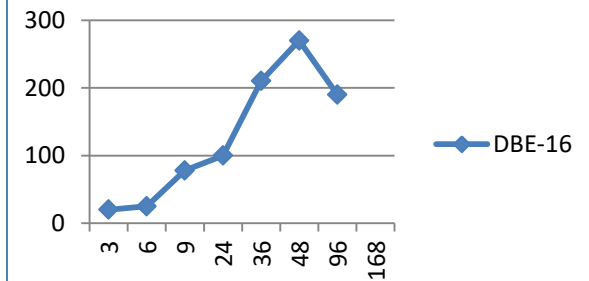
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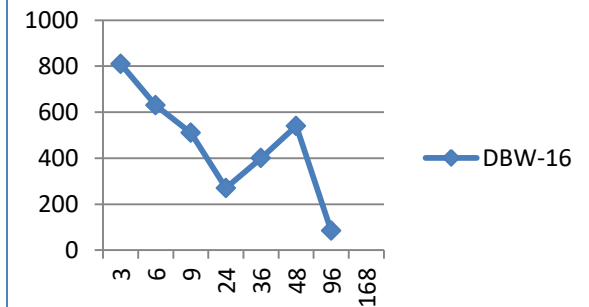
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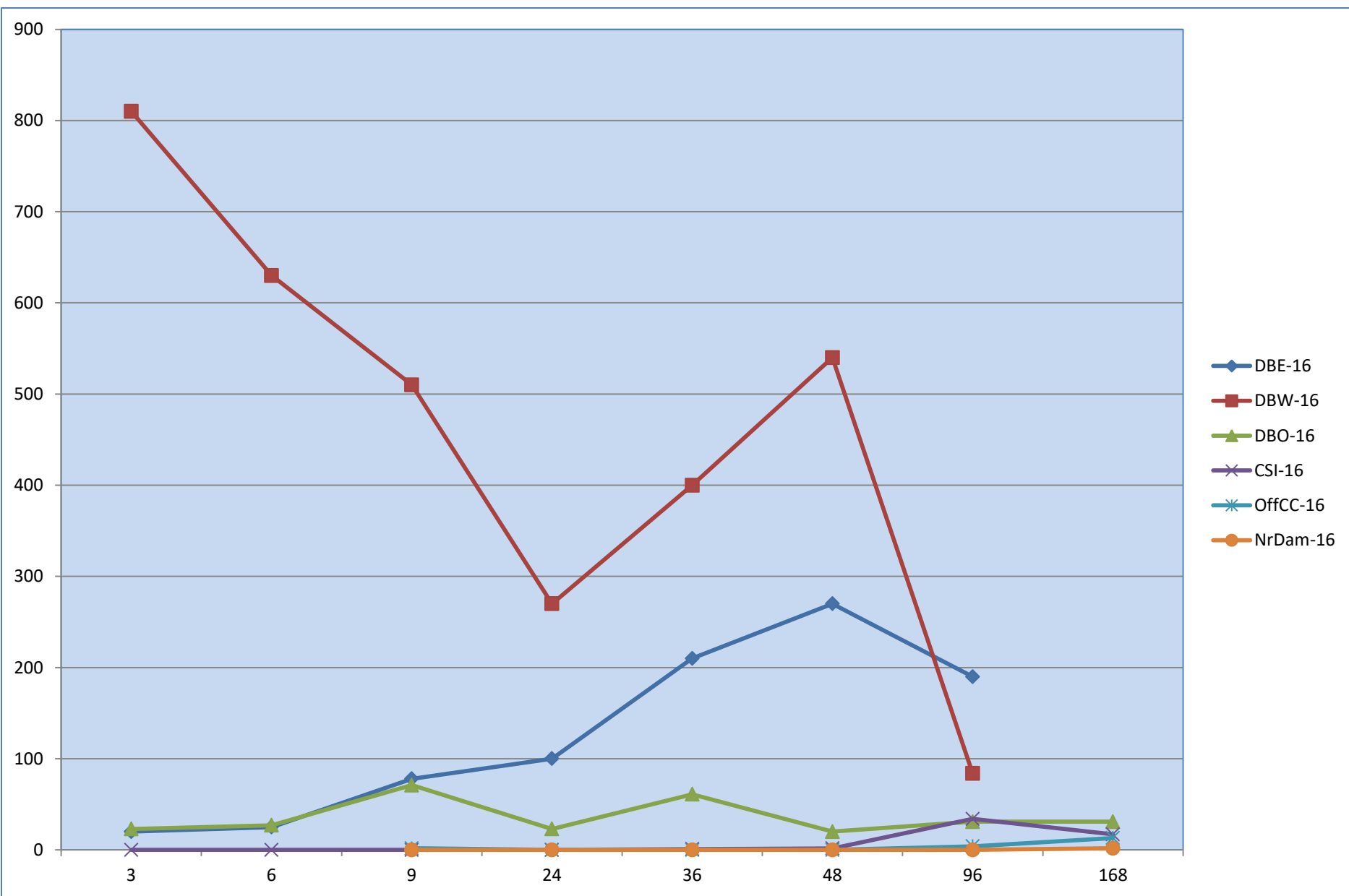


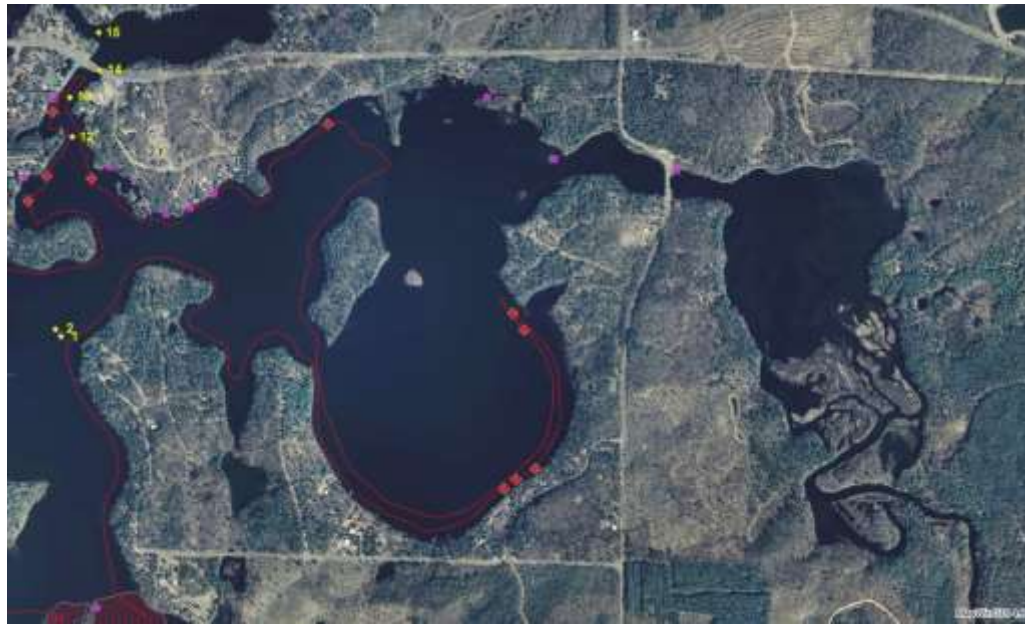
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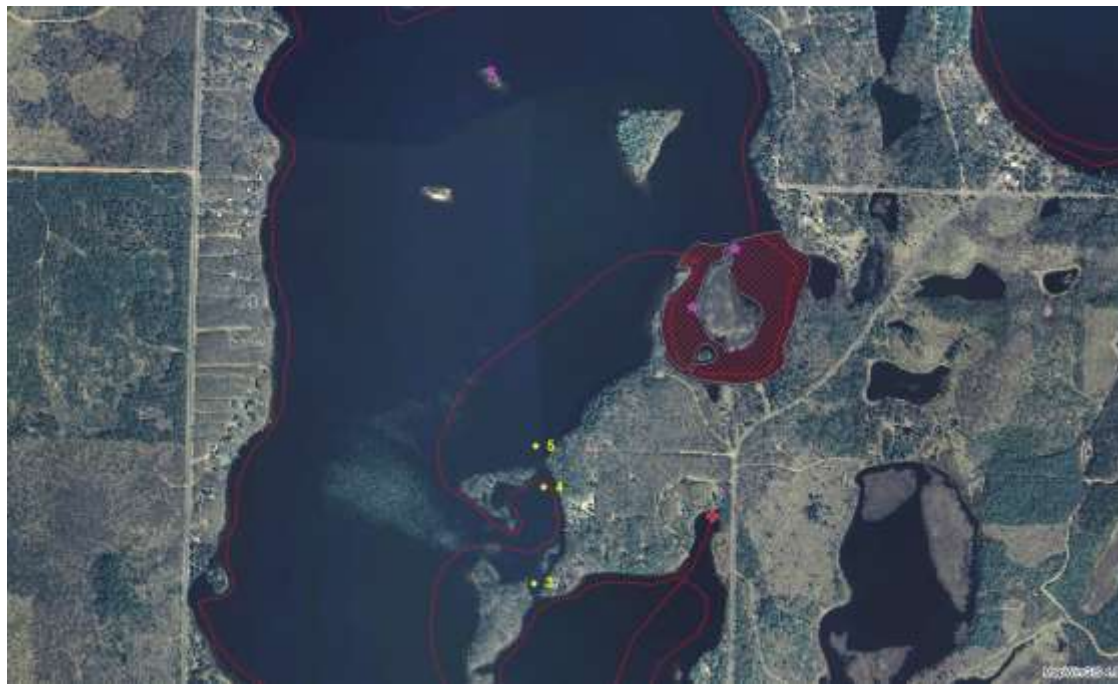


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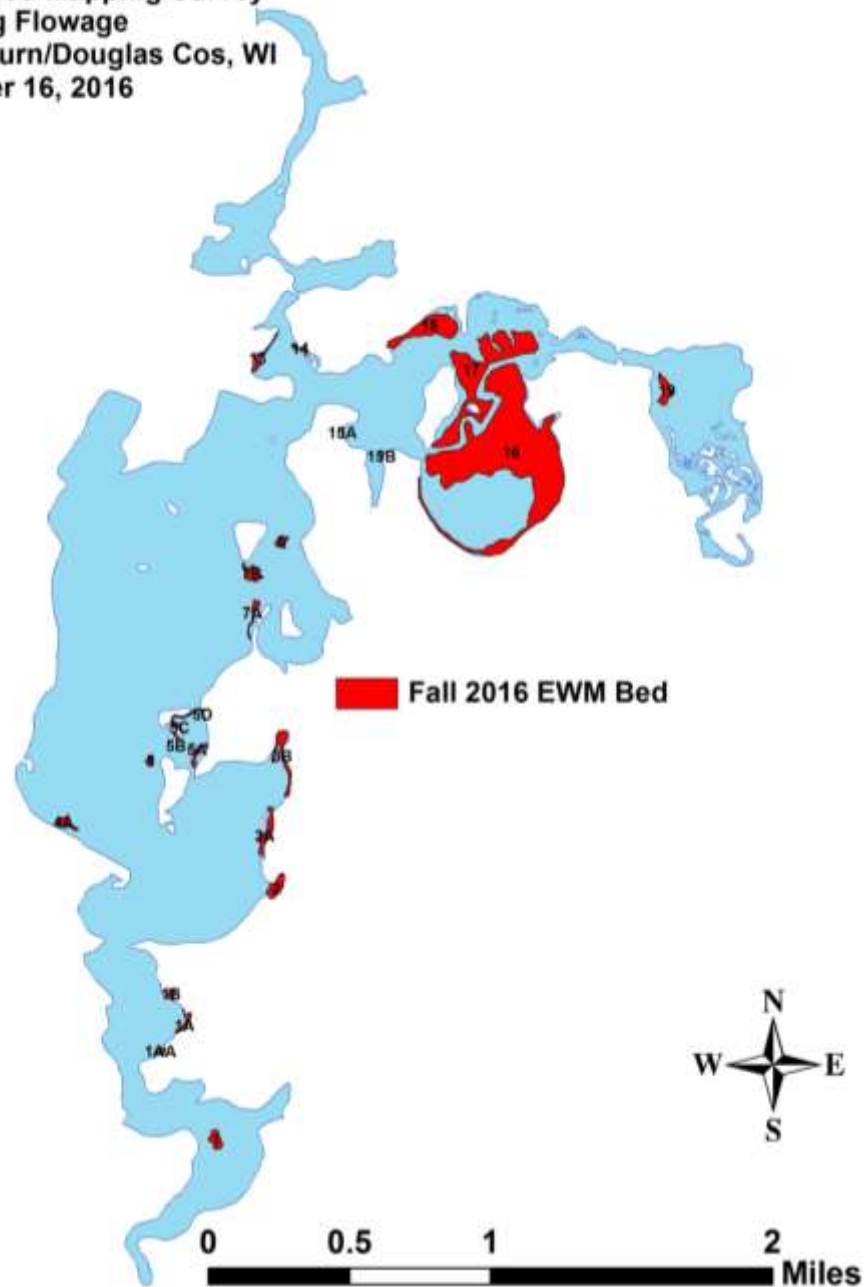






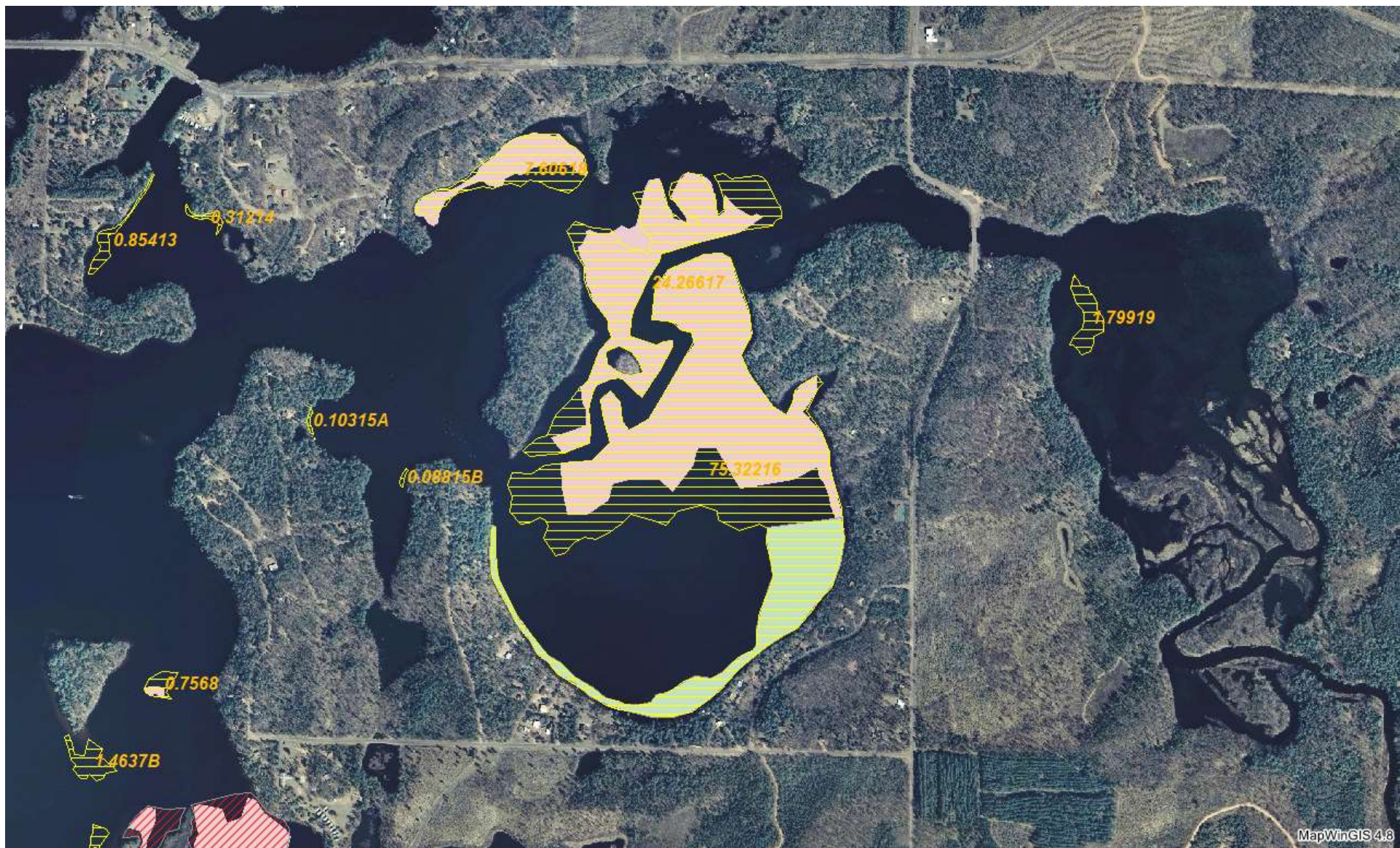
Eurasian water-milfoil (*Myriophyllum spicatum*)

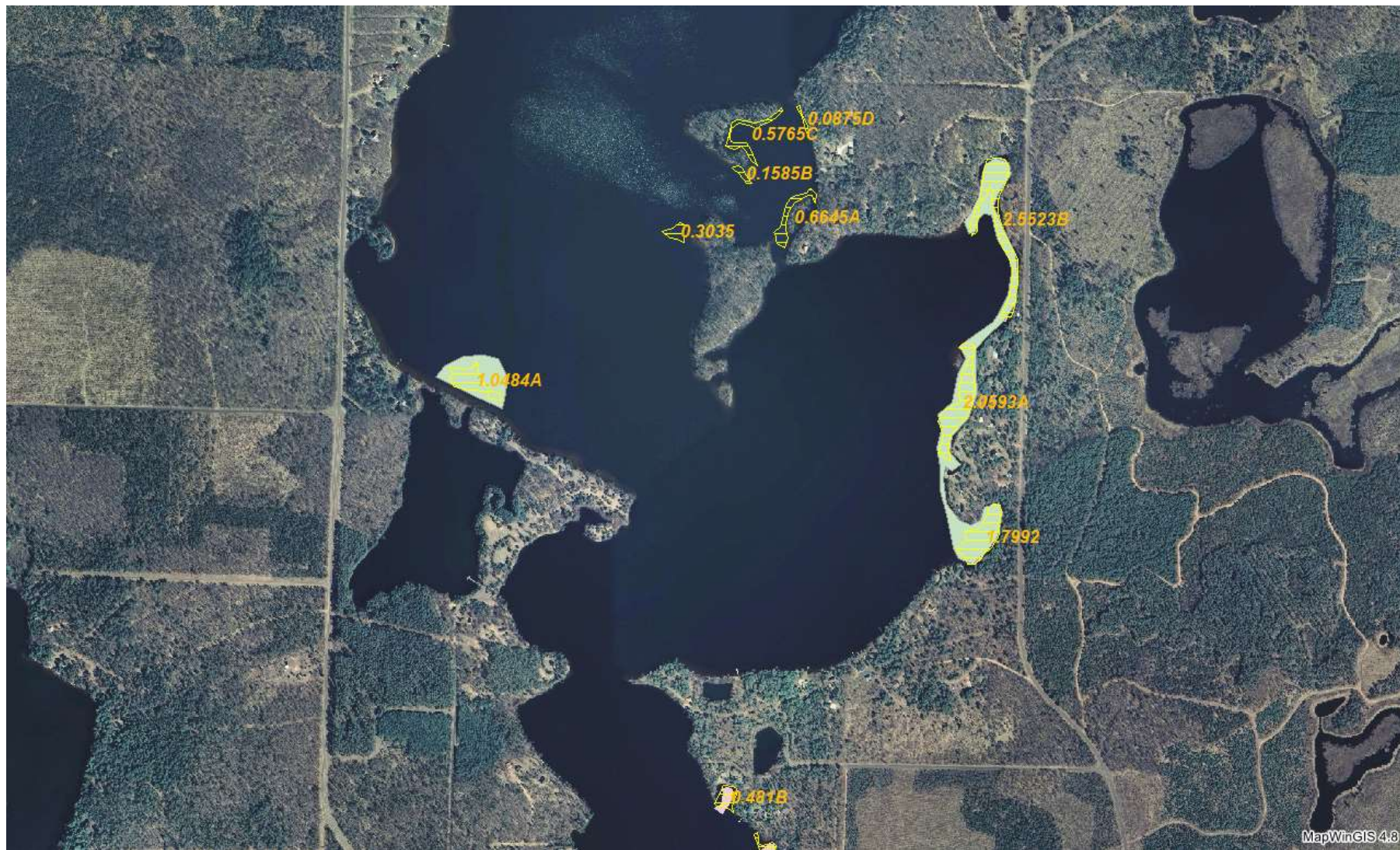
EWM Bed Mapping Survey
Minong Flowage
Washburn/Douglas Cos, WI
October 16, 2016



Bed Number	2016 Area in Acres	2015 Area in Acres	2014 Area in Acres	2016 Change in Acreage from 2015	2016 Change in Acreage from 2014	2016 Mean Rake Fullness	Field Notes
1	1.40	0.50	0.32	+0.90	+1.08	2	Main Basin
1A	.81	0.58	0	+0.23	+0.81	<1	Main Basin
1AA	.33	-	-	+0.33	+0.33	<1	Main Basin
1B	.48	0.31	0	+0.17	+0.48	1	Main Basin
2	1.80	1.40	0	+0.40	+1.80	1	Main Basin
3	-	0	2.68	-	-2.68		
3A	2.06	-	-	+2.06	+2.06	<1	Main Basin
3B	2.55	1.96	1.42	+0.59	+1.13	1	Main Basin
4	-	0	0	-	-		
4A	1.05	-	-	+1.05	+1.05		
5	.30	0	0	+0.30	+0.30	<1	Main Basin
5A	.66	-	-	+0.66	+0.66	<1	Main Basin
5B	.16	-	-	+0.16	+0.16	<1	Main Basin
5C	.58	-	-	+0.58	+0.58	<1	Main Basin
5D	.09	-	-	+0.09	+0.09	<1	Main Basin
6	-	16.39	0	-16.39	-		
7	-	1.23	0	-1.23	-		
7A	.74	-	-	+0.74	+0.74	<1	Main Basin
7B	1.46	-	-	+1.46	+1.46	<1	Main Basin
8	.76	0.18	0	+0.58	+0.76	<1	Main Basin
9	-	0	0	-	-		
10	-	0	0	-	-		
11	-	0	0	-	-		
12	-	0	1.90	-	-1.90		
13	.85	0	1.57	+0.85	-0.72	<1	Channel to Cranberry
14	.31	0	0.05	+0.31	+0.26	<1	Channel to Cranberry
15	-	0	0	-	-		
15A	.10	0	0.57	+0.10	-0.47	<1	North Basin
15B	.09	0	0.85	+0.09	-0.76	<1	North Basin
16	75.32	43.08	4.58	+32.24	+70.74	1	Serenity Bay
17	24.27	19.43	0	+4.84	+24.27	1	Serenity Bay
18	7.61	5.30	0	+2.31	+7.61	1	North Basin
19	1.80	-	0.10	+1.80	+1.70	2	Wild rice beds in the East of Smith Bridge
Total	125.58	90.36	14.02	+35.03	+111.54		







2017 Minong Flowage Potential Spring EWM Chemical Treatment (November 9, 2016 LEAPS)

Treatment Area Characteristics					Eurasian Watermilfoil — Diquat (Reward)		
Treatment Location	Site Name	Acreage	Mean Depth (feet)	Volume (acre-feet)	Treatment a.i. ppm	Treatment application (gal)	Application rate (gal/acre)
South Shore Serenity Bay	Bed16-South	15.62	5.0	78.10	NA	31.2	2.00
East Bay	Beds2-3A-3B	9.97	3.5	34.90	NA	19.9	2.00
County Park Flat	Bed4A	3.28	4.0	13.12	NA	6.6	2.00
Total		28.87		126.12	NA	57.7	

EWM Treatment (28.87 acres); early spring application

Estimated Herbicide Cost (Reward) = 58 gallons x \$150/gallon = \$8,700.00

Estimated Herbicide Cost (DMA 4) = 225 gallons x \$40/gallon = \$9,000.00

Reward (liquid diquat) (EWM)

Max Label Rate = 2 gallons/acre

Max Application Rate = 0.37 parts per million

DMA 4 (liquid, 2,4-D)

a Treated at 1.50 parts per million (1.07 gal/acre-ft)

b Treated at 2.00 parts per million (1.42 gal/acre-ft)

c Treated at 2.50 parts per million (1.78 gal/acre-ft)

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d Treated at 4.00 parts per million (2.84 gal/acre-ft)(max label rate)