

Horseshoe Lake Improvement Association - Lake Fair & Annual Meeting



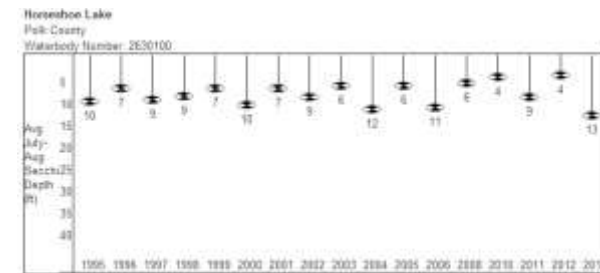
August 30, 2014

Dave Blumer, Lake Educator

Lake Education and Planning Services, LLC

Topics to be Presented

- * EWM Management
 - * 2014 Treatment
 - * Weevil Monitoring
- * Revision of APM Plan
- * Water Quality
- * Shoreland Improvement
- * Purple Loosestrife
- * Lake District Formation



Past secchi averages in feet (July and August only)

2014 EWM Management

2014 Horseshoe Lake Hybrid EWM Final Treatment Details 6-3-2014 (DLB)

Name	Acres	Mean Depth (feet)	Acre-Feet	Target 2,4-D (ppm a.e.)	Navigate Application (pounds)	Navigate Dose (pounds/acre)
HDA 1-14	0.09	5.30	0.48	4.0	27.1	301
HDA 2-14	.11	6.70	0.74	4.0	41.9	381
HDA 3-14	.29	6.70	1.94	4.0	110.4	381
HDA 4-14	1.00	7.50	7.50	4.0	426	426
HDA 5-14	1.00	9.00	9.00	4.0	511	511
HDA 6-14	.30	4.10	1.23	4.0	69	69
HDA 7-14	.68	7.50	5.10	4.0	289	289
HDA 8-14	.11	4.90	0.54	4.0	30	30
HDA 9-14	.93	6.20	5.77	4.0	327	327
HDA 10-14	.77	4.50	3.47	4.0	196	196
HDA 11-14	.34	4.80	1.63	4.0	92	92
HDA 12-14	.63	3.60	2.27	4.0	128	128
HDA 13-14	.61	6.20	3.78	4.0	214	214
TOTAL	6.86		43.44		2467	

2014 Horseshoe Lake Final EWM Treatment Map 6-3-2014 (DLB)

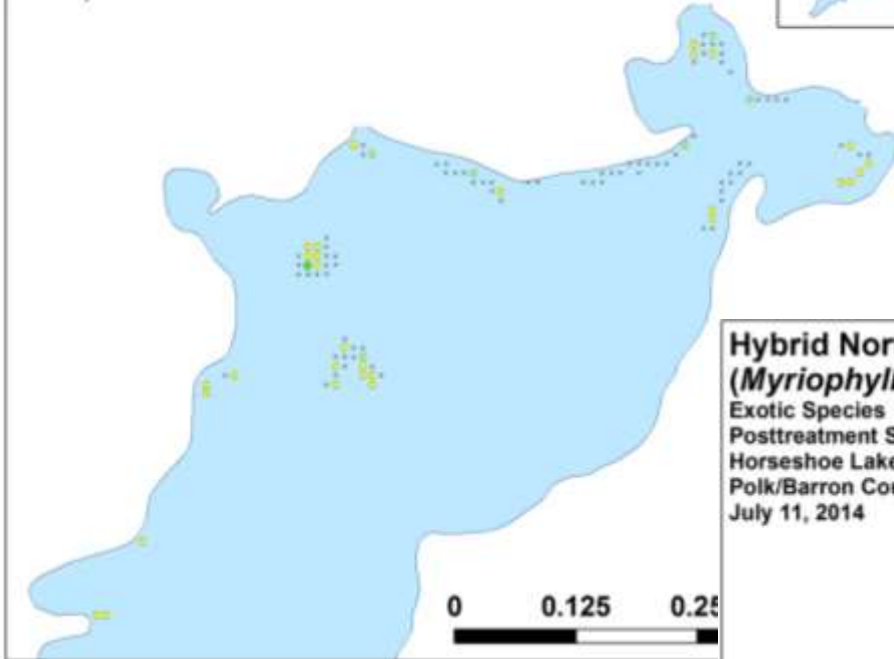


6.86 acres to be treated with granular herbicide at a rate of 4.0 ppm.

-6.86 acres treated on June 6, 2014 by Northern Aquatic Services
-Good results

Hybrid Northern X Eurasian water milfoil (*Myriophyllum sibiricum* X *spicatum*)

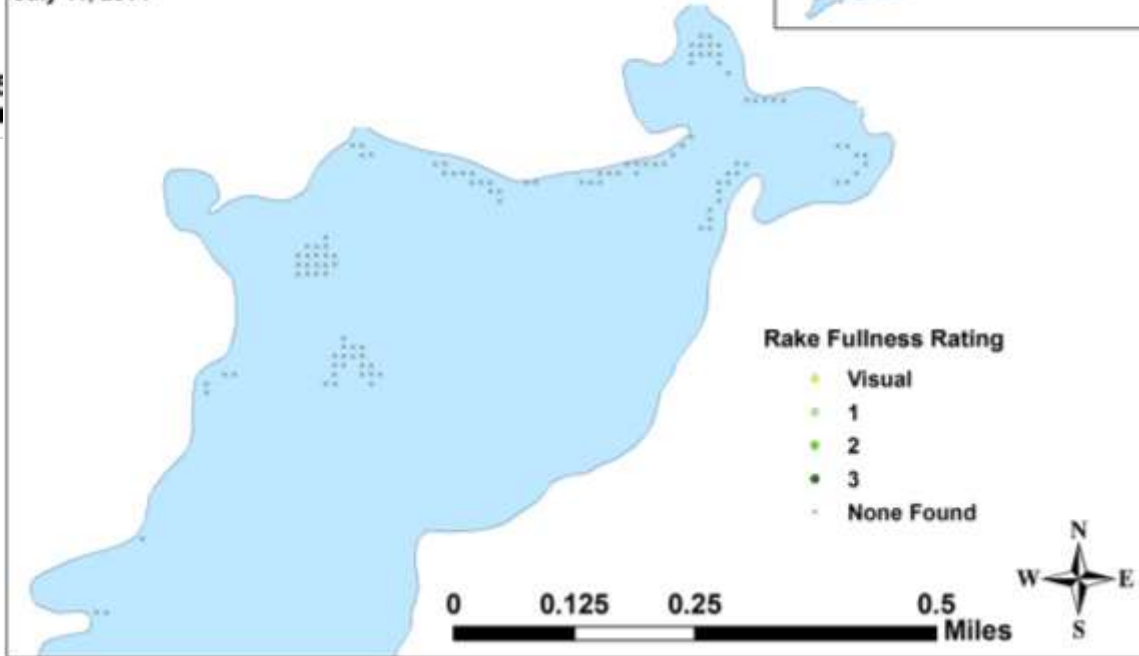
Exotic Species
Pretreatment Survey
Horseshoe Lake
Polk/Barron County, WI
June 1, 2014



Post-treatment Survey Results

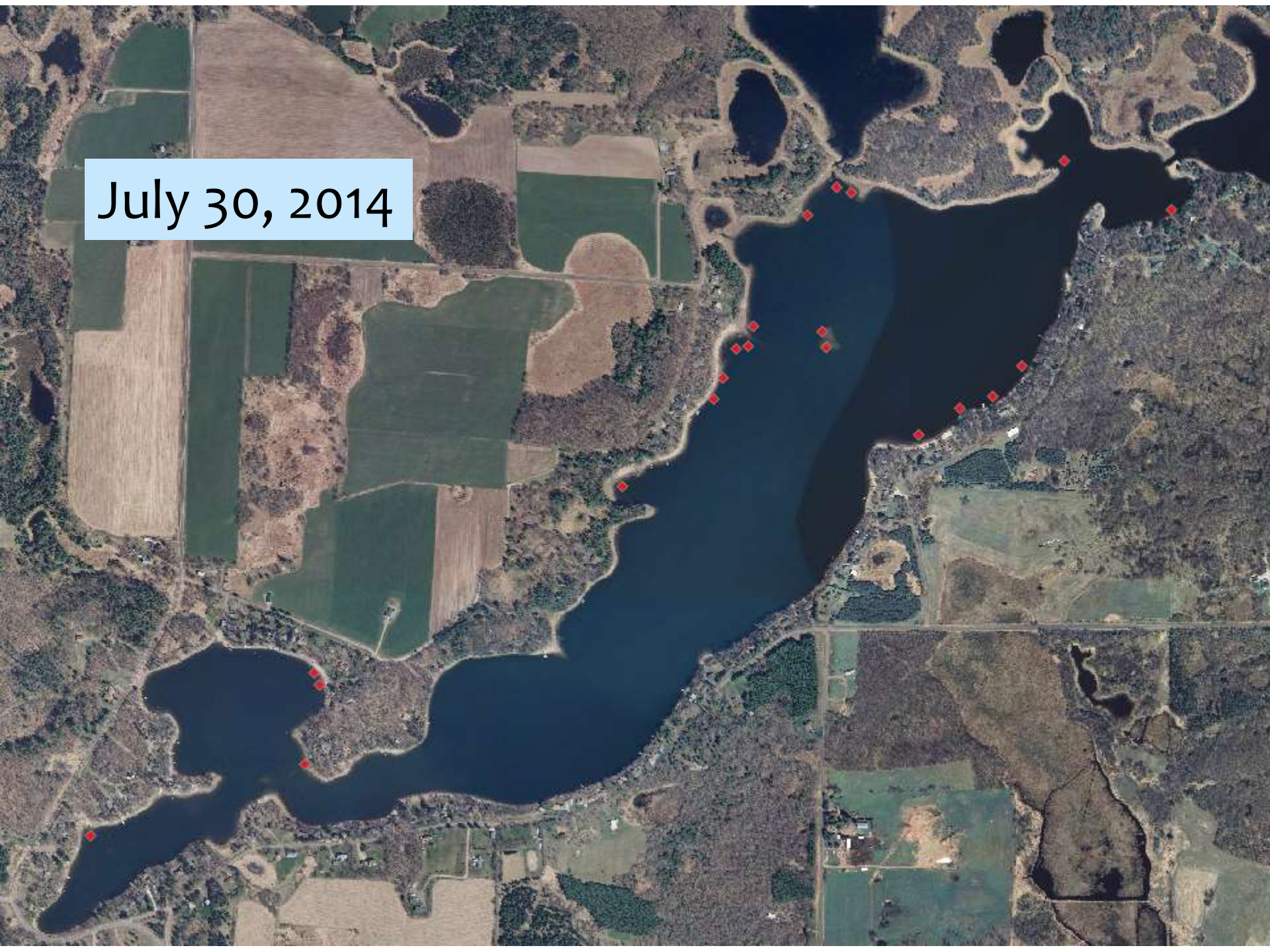
Hybrid Northern X Eurasian water milfoil (*Myriophyllum sibiricum* X *spicatum*)

Exotic Species
Posttreatment Survey
Horseshoe Lake
Polk/Barron County, WI
July 11, 2014



Pre-treatment Survey Results

July 30, 2014



Physical or Diver Removal

Big Trade Lake 2014 Physical Removal

- * Physical removal can still be done this year, and should be!!
- * **Tools Needed**
 - * Boat
 - * Long-handled rake
 - * Butterfly net
 - * Waste receptacle
- * **Anyone still diving?**
- * **Lake Tour and Demonstration after Picnic**
 - * Anyone interested?
- * **Fall survey still to be done**



EWM Weevil Monitoring



None Found!

**More than 100
stems looked at!**



Aquatic Plant Management Plan Revision/Rewrite

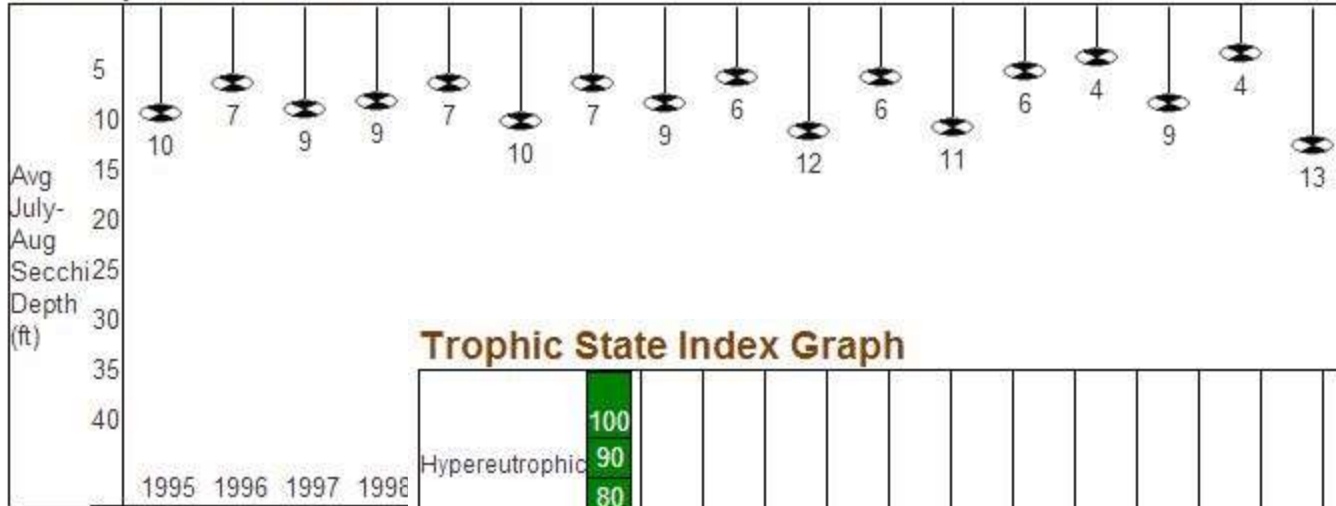
- * Current APM Plan written in 2009-10
- * DNR requires a revision every 5-years
- * Will be reviewed, revised, re-written over the winter
- * Based On:
 - * Whole-lake aquatic plant survey work completed last summer
 - * Review of management results since 2010
 - * Water quality review
 - * Management Alternatives
- * Public review in the spring
- * Possible implementation in 2015 (maybe 2016)

2013 Whole-lake Aquatic Plant Survey Results

Summary Statistics:	2008	2013
Total number of points sampled	515	515
Total number of sites with vegetation	309	329
Total number of sites shallower than the maximum depth of plants	389	372
Frequency of occurrence at sites shallower than maximum depth of plants	79.43	88.44
Simpson Diversity Index	0.93	0.94
Maximum depth of plants (ft)	24.5	21.5
Mean depth of plants (ft)	7.9	8.0
Median depth of plants (ft)	6.5	7.0
Average number of all species per site (shallower than max depth)	2.63	2.49
Average number of all species per site (veg. sites only)	3.31	2.82
Average number of native species per site (shallower than max depth)	2.61	2.47
Average number of native species per site (veg. sites only)	3.28	2.80
Species richness	47	52
Species richness (including visuals)	51	54
Species richness (including visuals and boat survey)	54	61
Floristic Quality Index	44.2	46.2

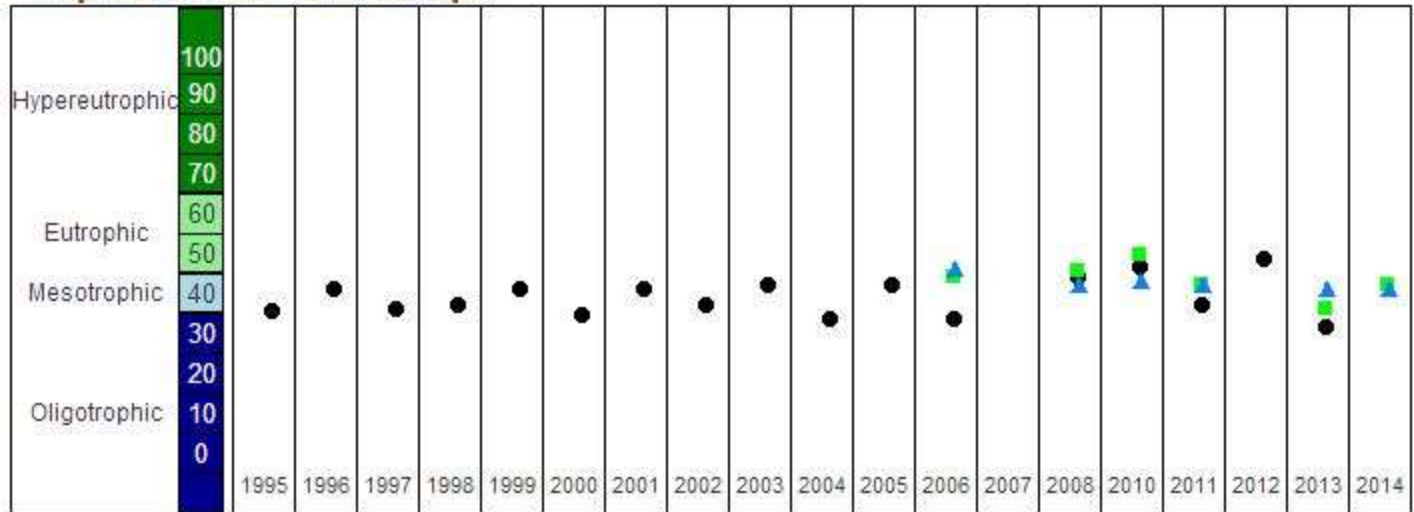
Water Quality

Horseshoe Lake
 Polk County
 Waterbody Number: 2630100



Past secchi averages in feet

Trophic State Index Graph



Monitoring Station: Horseshoe Lake - Deep Hole, Polk County
 Past Summer (July-August) Trophic State Index (TSI) averages:

Improving Water Quality

* Implement Best Management Practices

- * Shoreland restoration
- * Runoff reduction
- * Shoreland buffers
- * Rain gardens/rain barrels
- * Native plantings
- * Water diversions
- * Reduce impervious surfaces
- * Septic system maintenance
- * Repair erosion sites



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The End
Questions?