

2015-19 Minong Flowage Aquatic Plant Management Plan

2015 Minong Flowage Association Annual Meeting
June 13, 2015
Minong Town Hall

Presentation prepared by Dave Blumer, Lake Educator
Lake Education and Planning Services, LLC

Chronological History of Aquatic Plant Management

- 2002 – Eurasian Watermilfoil (EWM) first found in the Minong Flowage
- 2003 – DNR plant survey identifies 106 acres of EWM
- 2003-2008
 - “Experts” predict that only about 100 acres every year will have dense EWM growth
 - EWM continues to spread in the Minong
 - Neighboring lakes begin to grumble about inaction on the Minong
- 2008-2009 – Minong Flowage Association (MFA) contracts with SEH to complete an Aquatic Plant Management Plan (APMP)

History continued:

- 2009

- 336 acres of dense growth EWM documented in fall of 2008
- Another 200 acres identified as appropriate habitat for EWM
- APMP approved by MFA and WDNR
- 3-year Implementation grant applied for
 - Only one year of the three gets funded
- First year of EWM management
 - Approximately 68 acres chemically treated in the spring
 - Mostly experimental and for clearing navigation channels
- Another 3-year grant is applied for and awarded for 2010-2012

- 2010

- Second year of EWM management
 - Approximately 119 acres chemically treated in the spring
 - Approximately 6.3 acres up in the wild rice beds east of Smith Bridge was chemically treated in the fall with full Tribal support.

History continued:

- 2011

- Third year of EWM management
 - Tribal Entities object to the proposed chemical treatment
 - Concerned about impacts to wild rice
 - WDNR/GLIFWC/Voit Task Force/MFA/SEH get together to discuss treatment plan
 - St. Croix Band of Objibwe do not support treatment
 - WDNR approves the chemical application permit anyway
 - Approximately 87 acres were chemically treated in the spring

- 2012

- Fourth year of EWM management expected
 - Approximately 20 acres of chemical management proposed
 - St. Croix Band of Objibwe again object to chemical management of EWM
 - Voit Task Force passes a formal resolution not support any chemical management on the Minong Flowage
 - Stakeholders Discussion held again, but fail to change the outcomes
 - Pending drawdown for dam repair proposed
 - WDNR denies the chemical application permit
- No chemical treated of EWM completed
- Grant funding extended through 2014

A lot going on between 2009 and 2012

Management History - Minong Flowage 2008-2014							
Task	2008	2009	2010	2011	2012	2013	2014
APM Plan	X						S
AIS Control Grant		X					
AIS Education Grant					X		X
Spring EWM Treatment		68 acres	119 acres	87 acres	P (22 acres)		
Fall EWM Treatment			6.3 acres			P (16.3 acres)	
Land Owner Treatments		X	X	P	P		
Pre Treatment Plant Survey		X	X	X	X	X*	
Post Treatment Plant Survey		X	X	X		X*	
Summer EWM Survey							X
Whole-lake PI Plant Survey	X				X		X
CLP Survey	X				X		X
Residual Testing		X	X	X	P		
Weevil Monitoring		X	X	X	X		
Weevil Rearing				X	X		
Fall EWM Bed Mapping	X	X	X	X	X	X	X
Wild Rice Mapping	X	X	X	X	X		X
Dam Repair/Drawdown						X	
Lake Tour		X	X	X	X		P

X - Completed

P - Proposed

X* - not really a pre or post

S - Started

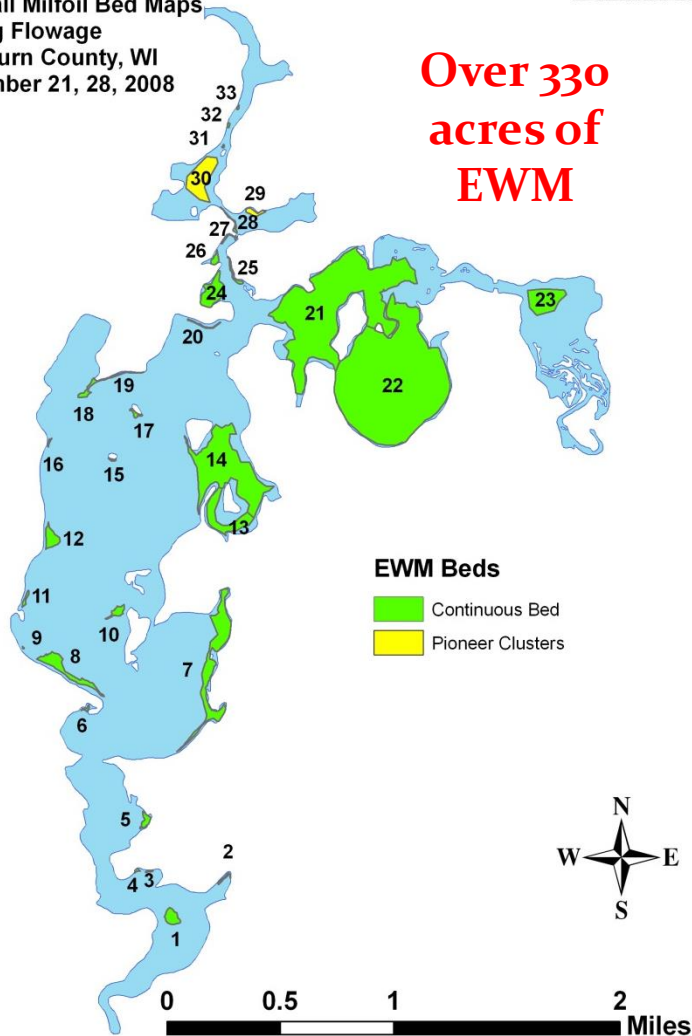
2008 to 2012 EWM Comparison

Eurasian water-milfoil (*Myriophyllum spicatum*)

Late Fall Milfoil Bed Maps
Minong Flowage
Washburn County, WI
September 21, 28, 2008



Over 330
acres of
EWM

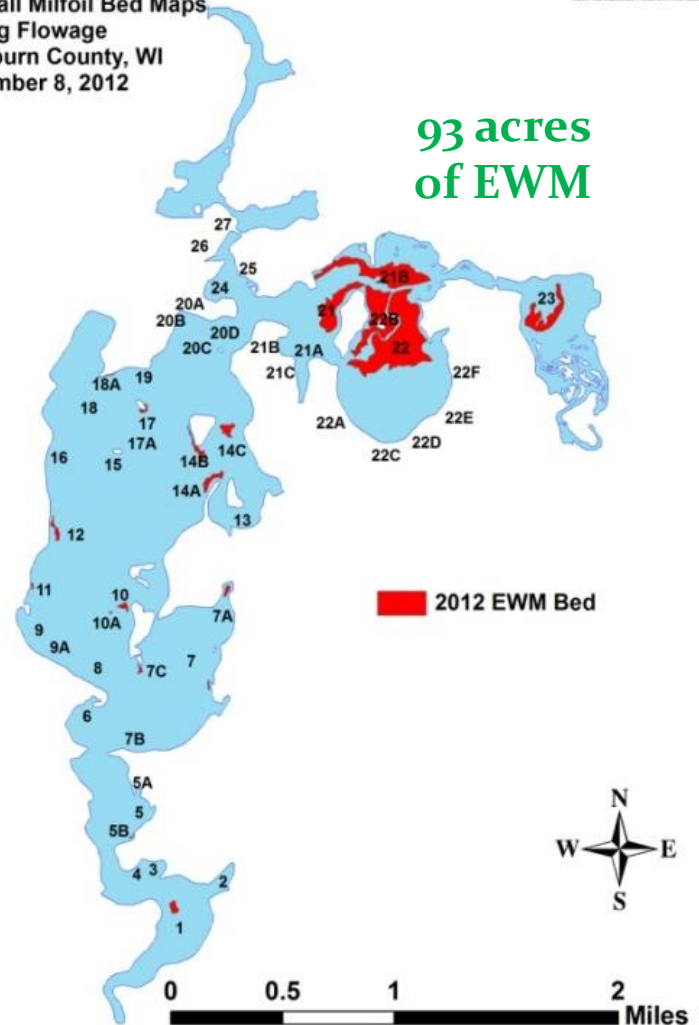


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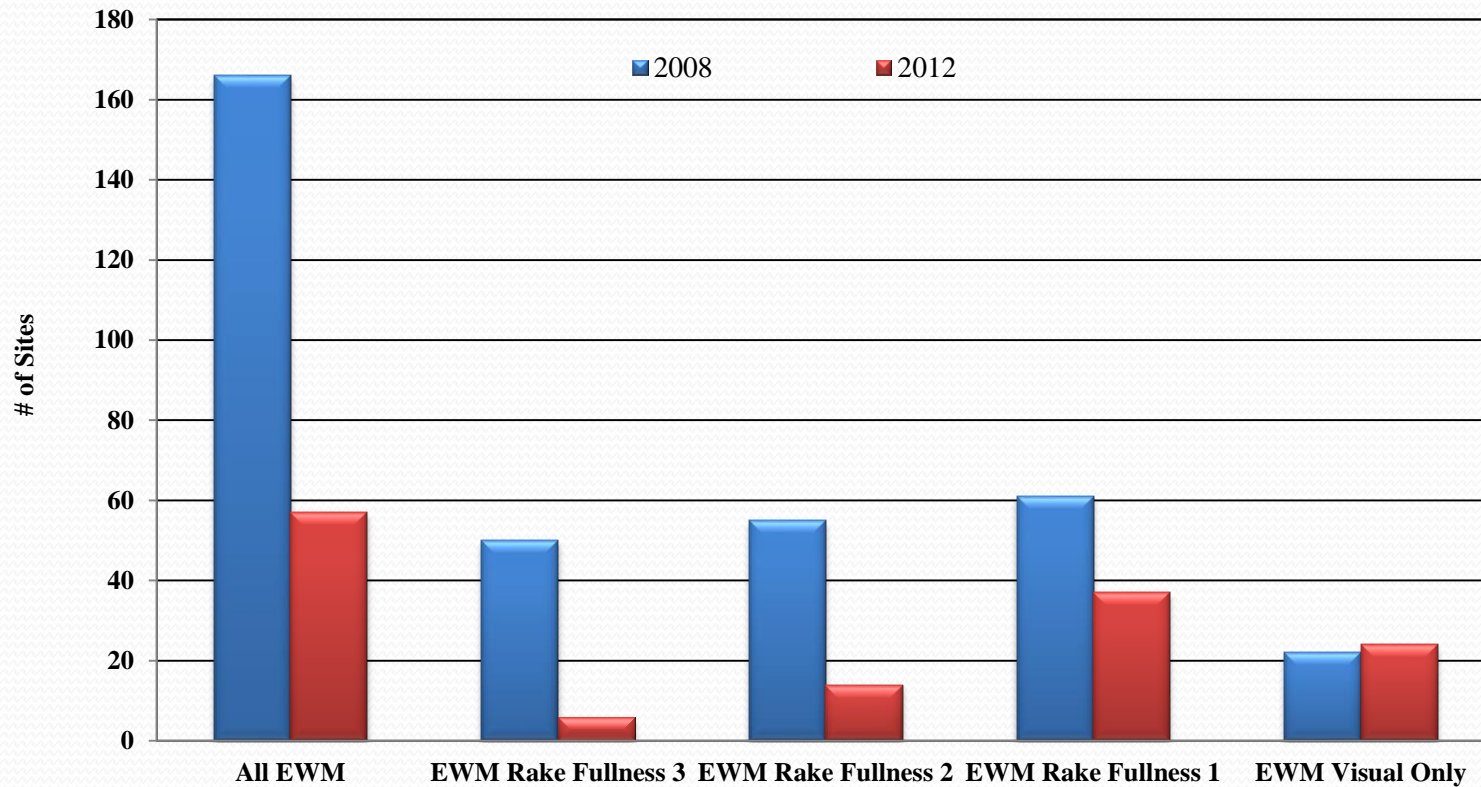
Late Fall Milfoil Bed Maps
Minong Flowage
Washburn County, WI
September 8, 2012



93 acres
of EWM



**2008-2012 EWM Rake Fullness Differences
Minong Flowage, Douglas/Washburn Counties
July 28-August 1, 2008 and July 21-23, 2012**



History continued:

- 2013
 - 5-1/2 foot drawdown of the Minong Flowage begins in April
 - Original plan to complete the dam repairs and fill up the Minong again by late October
 - No chemical management of EWM
 - Summer drawdown does little to impact EWM
 - By September, EWM is present on over 200 acres of the lake bottom, approximately 90 acres of this is on dry ground!
 - Drawdown gets extended through February 2014 because of delays in the dam repair project
 - MFA/DNR/ Tribal Entities agree to no chemical management of EWM in 2014 to see how native plants and invasive plants respond to the winter drawdown
- 2014
 - Almost no EWM is found in the spring and into June
 - Almost no native aquatic plants either
 - No chemical management of EWM completed
 - Approximately 15 acres dense growth EWM identified in the fall
 - Wild rice has a good year
 - Dye Study to mimic a small-scale herbicide application completed
 - Development of new APMP started, supported by regular Stakeholders Discussion

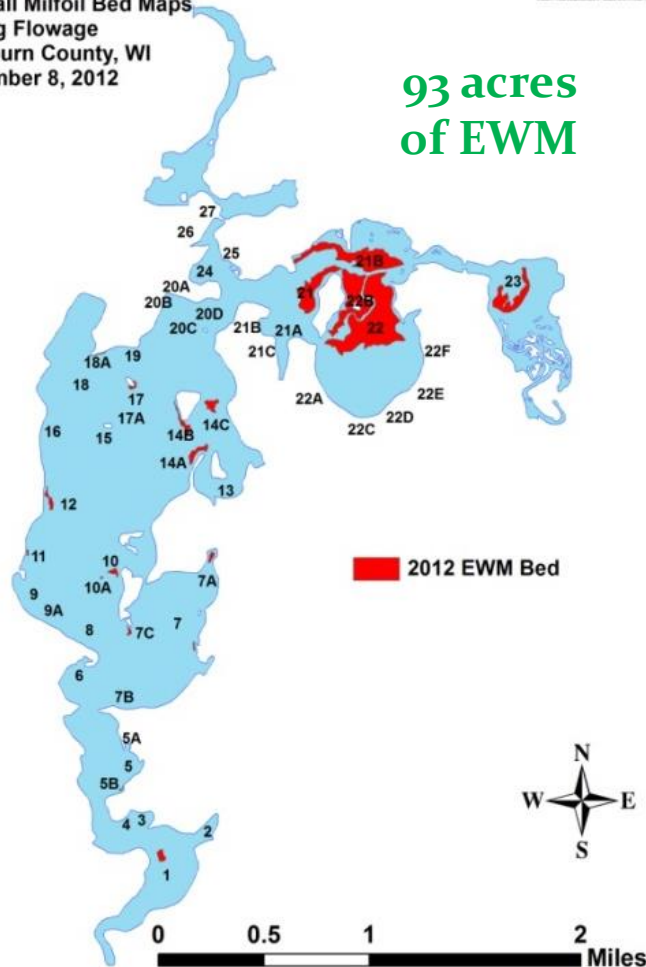
2012 to 2014 EWM Comparison

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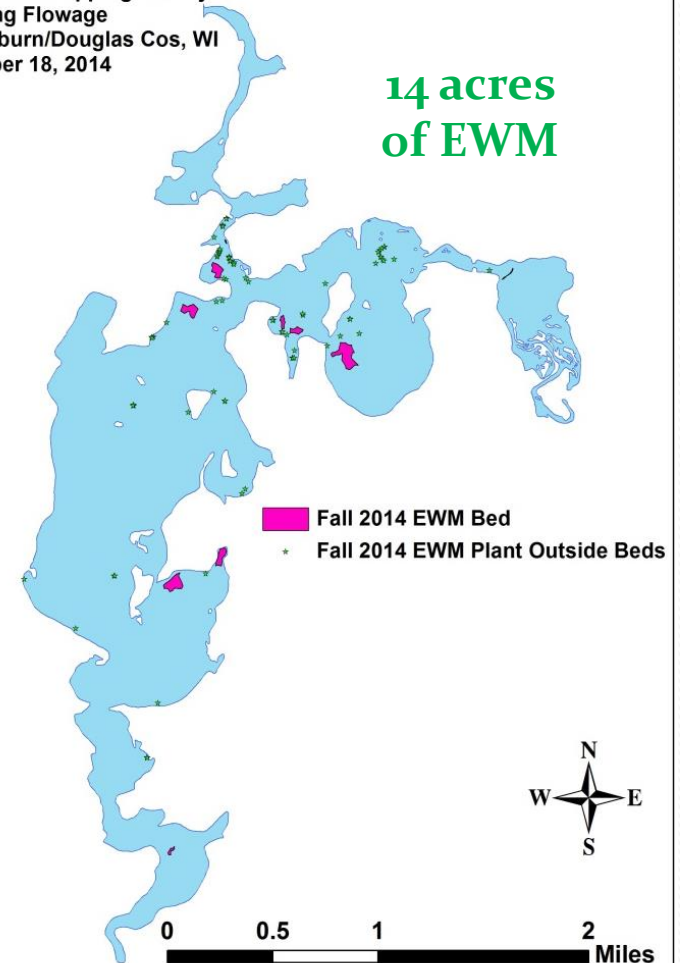


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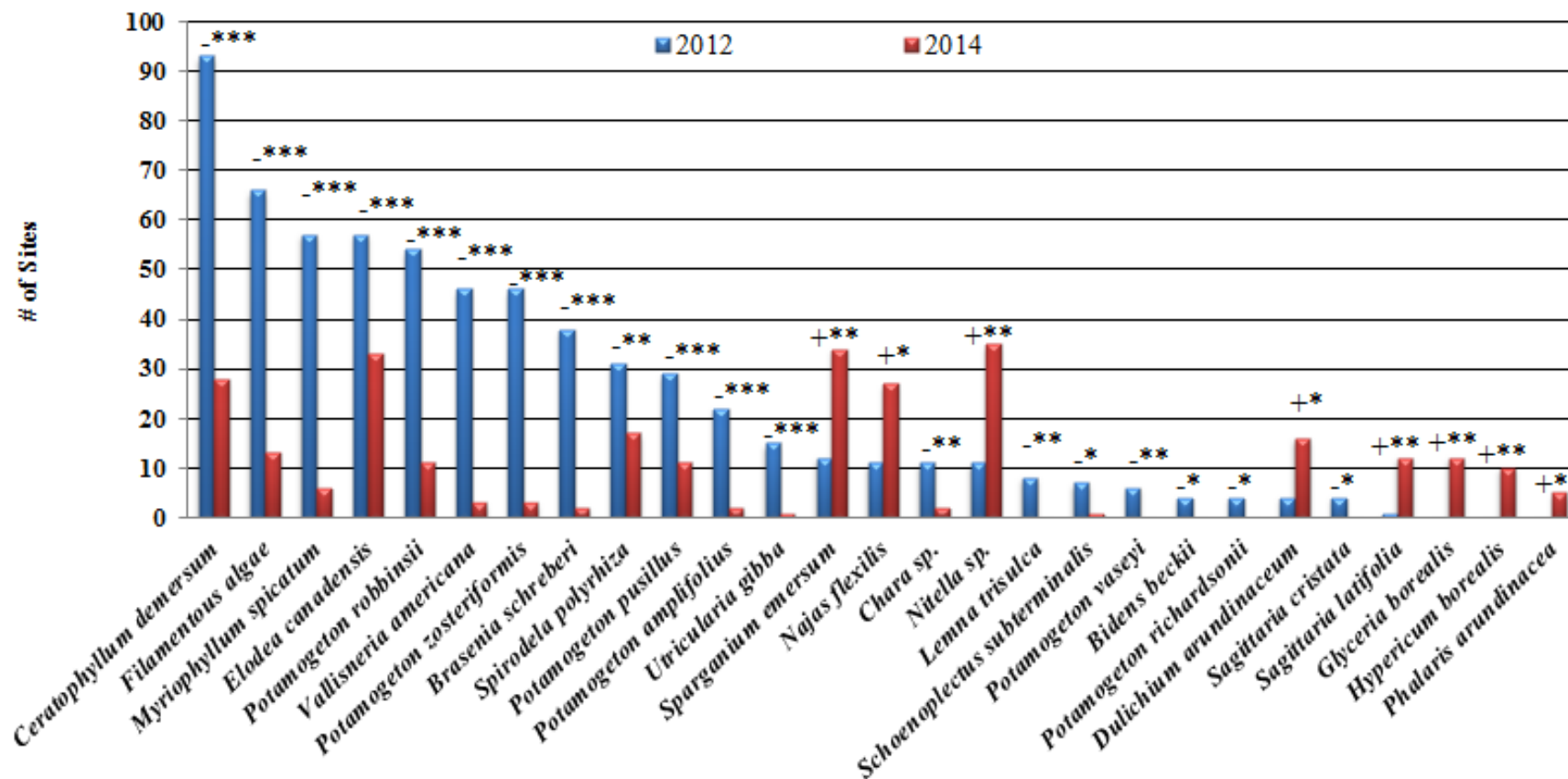
EWM Bed Mapping Survey
Minong Flowage
Washburn/Douglas Cos, WI
October 18, 2014



14 acres
of EWM



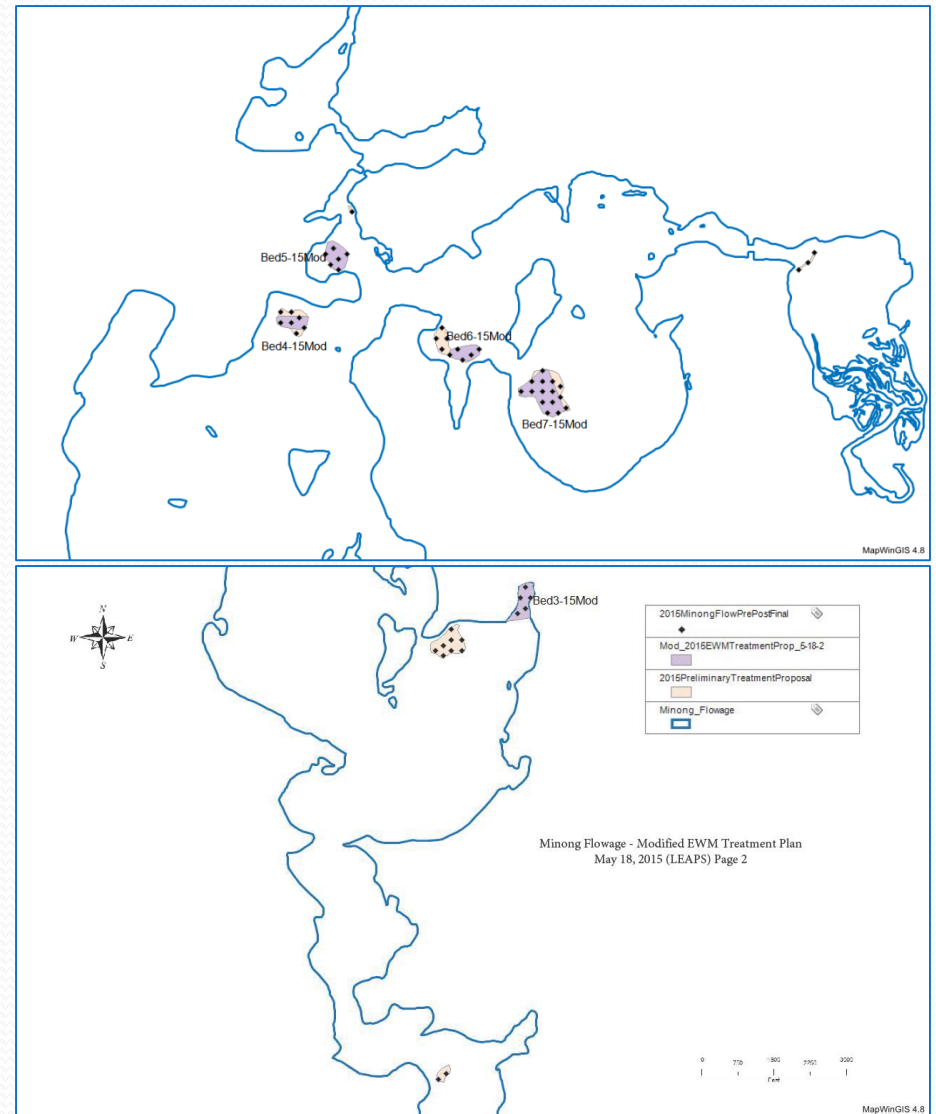
Species with Significant Changes Minong Flowage, Douglas/Washburn Counties July 21-23, 2012 and August 15-17, 2014



Significant differences = * $p < .05$, ** $p < .01$, *** $p < .005$

2015 EWM Management Efforts

- 21 acres proposed for treatment
- 15.69 approved
 - 4.71 acres treated with liquid 2,4-D
 - 10.98 acres treated with liquid diquat
- Dye applied with the herbicide
- Dye Study to mimic a large-scale, chemical treatment in Serenity Bay
- **APMP completed**
 - Public review (April and May)
 - MFA approval (today)
 - WDNR approval



General Goals of the 2015-19 Minong Flowage Aquatic Plant Management Plan

- **Goal 1** – Increase the involvement of Stakeholders in EWM and CLP Management planning and implementation.
- **Goal 2** – Protect and enhance the native aquatic plant community.
- **Goal 3** – Minimize the negative impact of EWM to the native aquatic plant community through the implementation of management actions.

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General Goals of 2015-19 Minong Flowage Aquatic Plant Management Plan

- **Goal 4** – Minimize the negative impact of CLP and purple loosestrife to the native aquatic plant community through monitoring and the implementation of management actions.
- **Goal 5** – Reduce the threat that a new aquatic invasive species will be introduced and go undetected in the Minong Flowage and that existing AIS will be carried to other lakes.
- **Goal 6** - Improve the level of knowledge property owners and lake users have related to aquatic invasive species and their impact to the lake.

General Goals of the 2015-19 Minong Flowage Aquatic Plant Management Plan

- **Goal 7** - Improve the level of knowledge property owners and lake users have related to how their actions impact the aquatic plant community, lake community, water quality.
- **Goal 8** - Complete APM Plan implementation and maintenance for a period of five years following adaptive management practices.
- **Goal 9** - Evaluate and summarize the results of management actions implemented during the entire 5-year timeframe of this plan

Integrated Approach to EWM Management

- Physical removal by volunteers
- Contracted physical removal
- Diver Aided Suction Harvest (DASH)
- Small-scale application of a contact herbicide
- Small-scale application of a systemic herbicide
- Large-scale application of a systemic herbicide
- Whole bay application of a systemic herbicide
- Implementation of a 5 foot drawdown
- Support of biological control options

Objectives for EWM Management

- The total amount of moderate to dense growth EWM should not exceed 10% of the littoral zone in any given year (approximately 100 acres)
- Approximately 80 acres of EWM in “**shallow water stump fields**” are difficult to manage in any way other than by drawdown
 - Once these areas reach a certain density as measured by a rake fullness rating, a winter drawdown will be considered
- Until the amount of documented moderate to dense growth EWM outside of the shallow water stump fields exceeds 20 acres, chemical management will not occur
 - Subject to some exceptions
- Managed areas of the Minong Flowage may not be chemically treated in two consecutive years

Shallow Water Stump Fields



Basic Components of the APMP

- **Ten Management Areas**

- Shallow water stump fields
- Wild Rice/East Basin
- Serenity Bay
- North Basin
- Cranberry Flowage
- Channel from Cranberry
- Central Basin
- County Park
- East Bay
- Deep Water Near Dam

- **Five Management Levels**

- EWM beds <3 acres
 - Isolated (no treatment)
 - Block navigation
 - Near public boat access of swimming area
- EWM beds >3 acres but <9 acres
 - Rake fullness rating <2.0
 - Rake fullness rating >2.0
- EWM beds > 9 acres
 - Rake fullness rating <2.0
 - Rake fullness rating >2.0
- Whole bay
 - >1.9
- Land Owner Treatments
 - Criteria in a future slide

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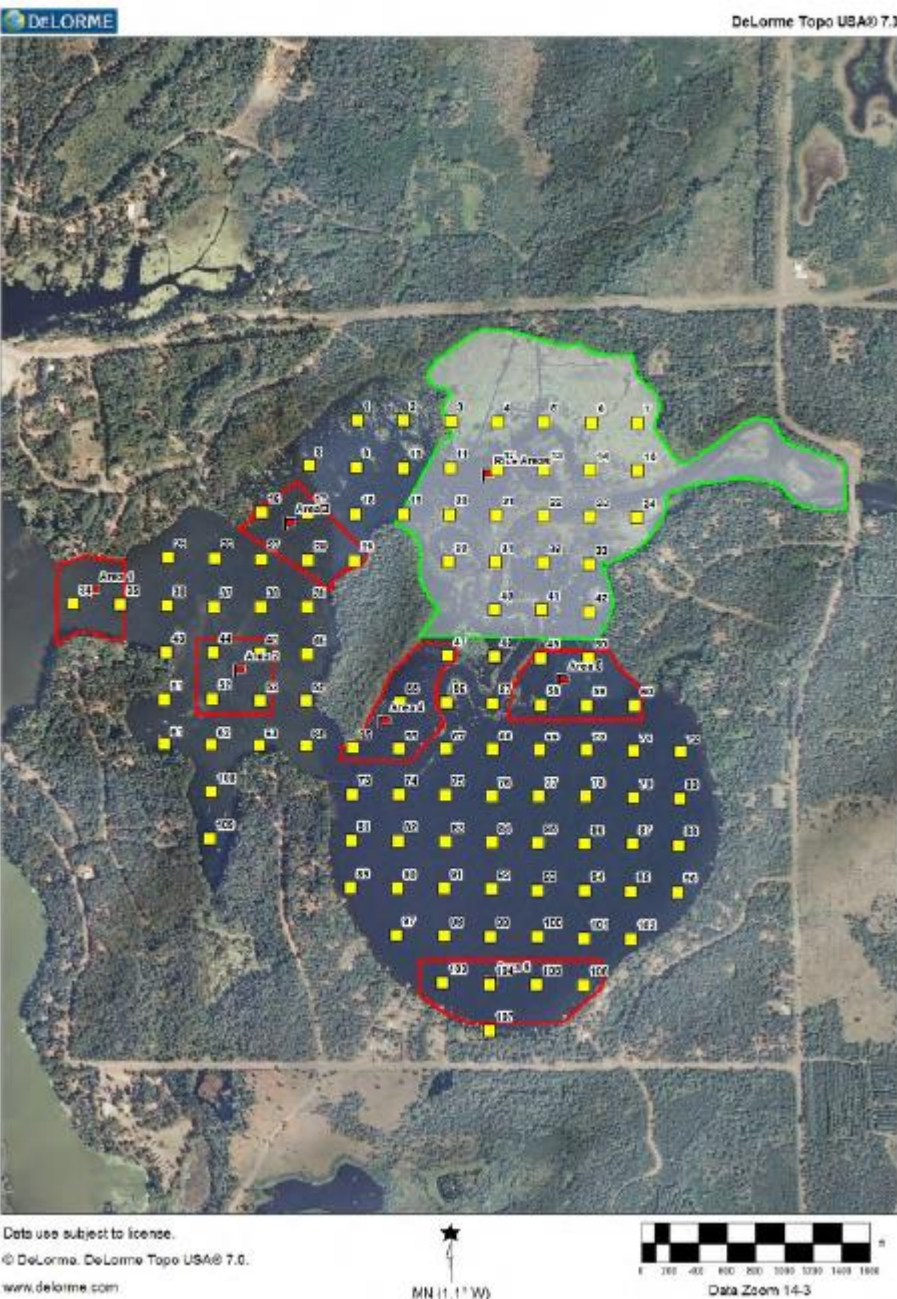
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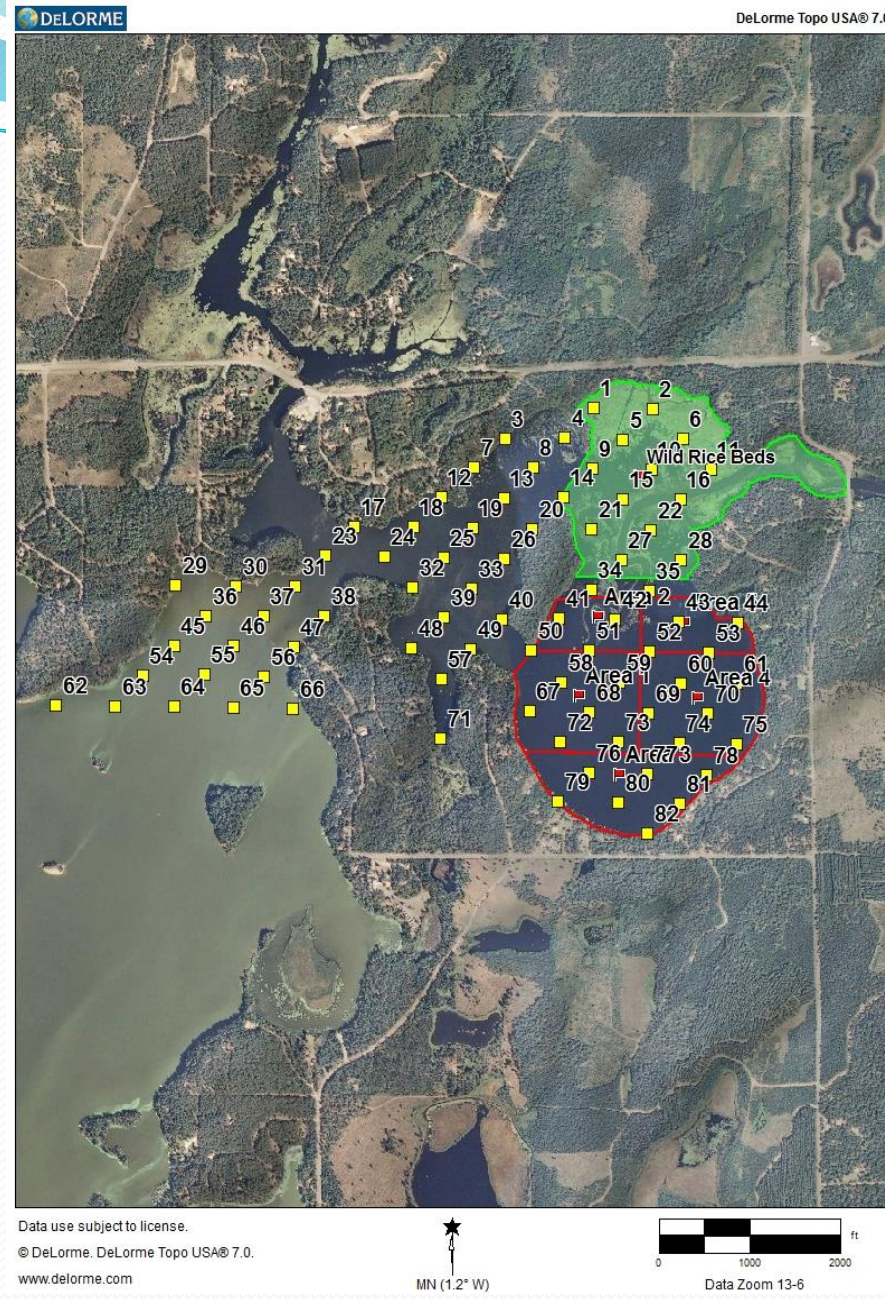
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Landowner Treatment Criteria

- Must have photo documentation of nuisance growth of EWM in the proposed treatment area from the year prior to the request
- Must estimate the amount of area to be managed
 - Usually less than a half acre
- Can only request treatment of EWM
- Requests must be made in writing before May 10
- All requests will be evaluated by a resource professional retained by the MFA
- If approved, treatment will be added to the larger MFA sponsored treatment
 - Property owner will cover the cost of the added treatment area



Small-scale Dye Study – Fall 2014



Large-scale Dye Study – Summer 2015



The End
Questions?