2018 WI Lake Partnership Convention

Eurasian Watermilfoil – The Plant We Love to Hate

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WISCONSIN
DEPT. OF NATURAL RESOURCES

The Management Challenge

Finding the balance between:

- Law
- Science
- Community expectations

Aquatic Plant Management In Wisconsin

Eurasian watermilfoil (EWM)

A “successful” plant found worldwide

Northern (sibiricum) our primary native

Likes high nutrient, shallow lakes with lower water clarity

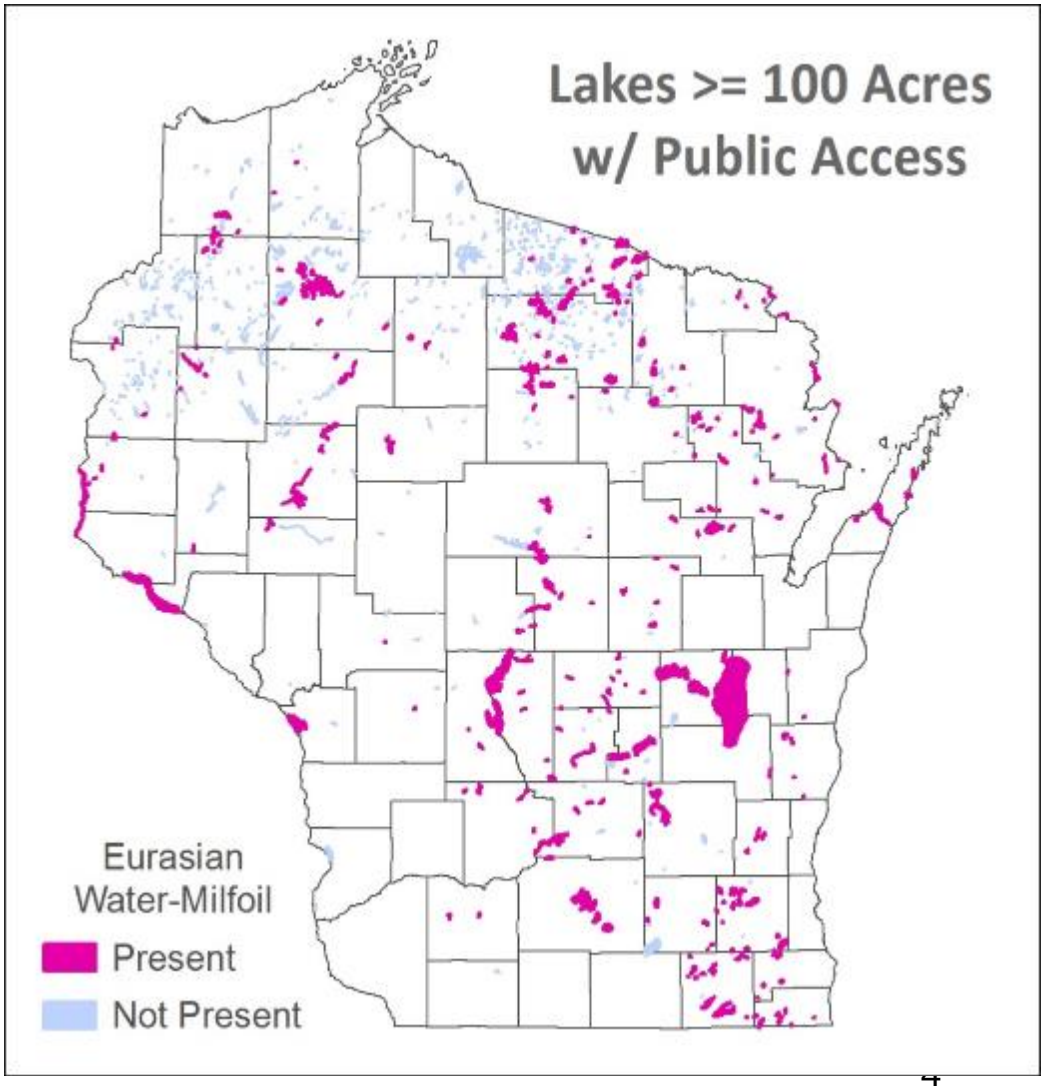
Surface matting that impedes lake use and displaces native plants can sometimes result

Plants provide many benefits to fish, wildlife and water quality

Trends and Trajectory

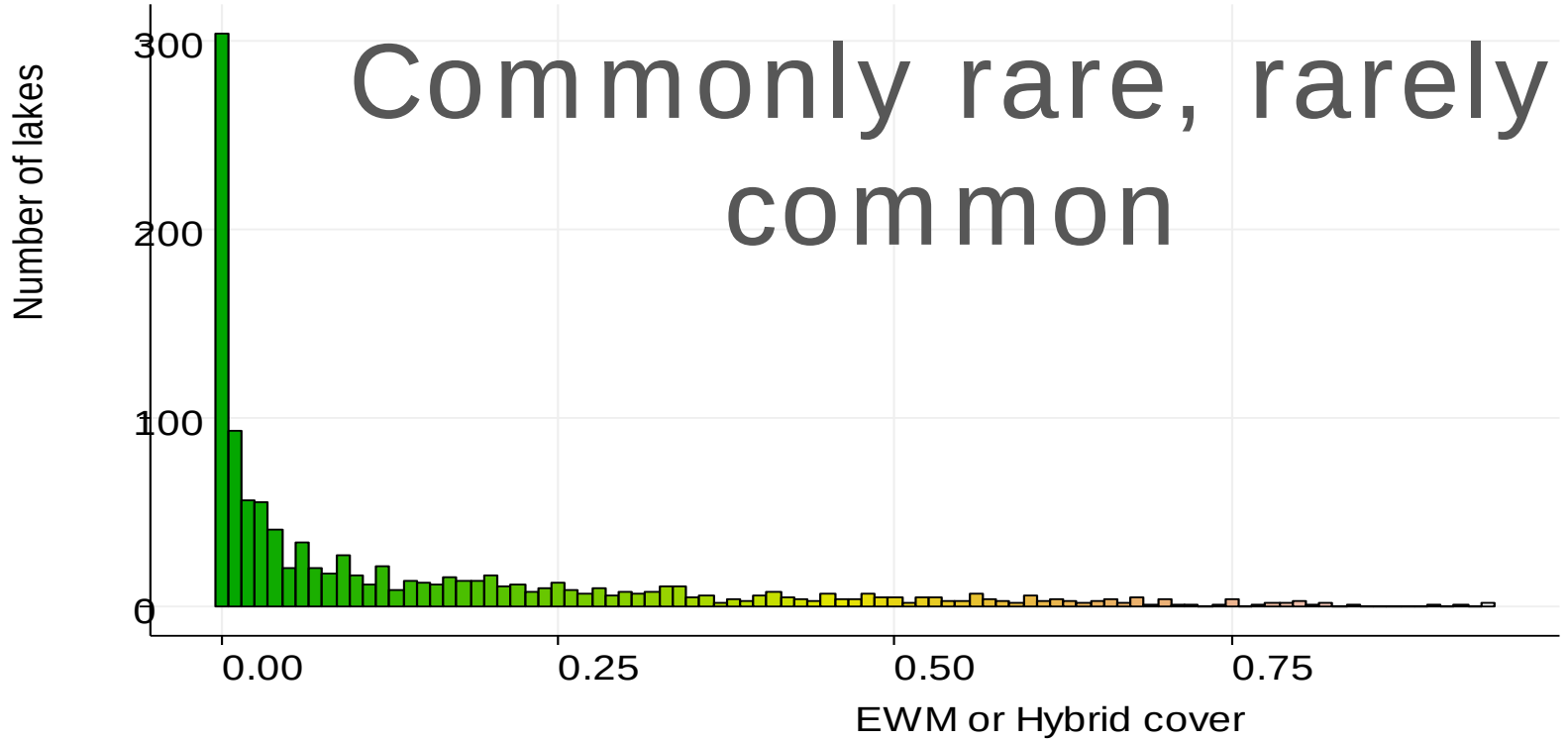
Found in southern counties in 1960s

Currently in ~ 700 lakes statewide



Trends and Trajectory

"Behaves" in most lakes – most often less than 10% of a lake's plant cover



What's DNR's EWM "policy"?

State Law & Administrative Code

NR40 Restricted Invasive Species

- Don't move it
- Contain its spread
- Manage it where it is to limit impacts
  - Science-based decision-making
  - Local management plans
  - Integrated Pest Management (IPM)
  - Protect and promote native plants
  - Don't create or add to water quality problems

AIS Control Strategy

Education, Planning and Prevention

Early Detection & Response

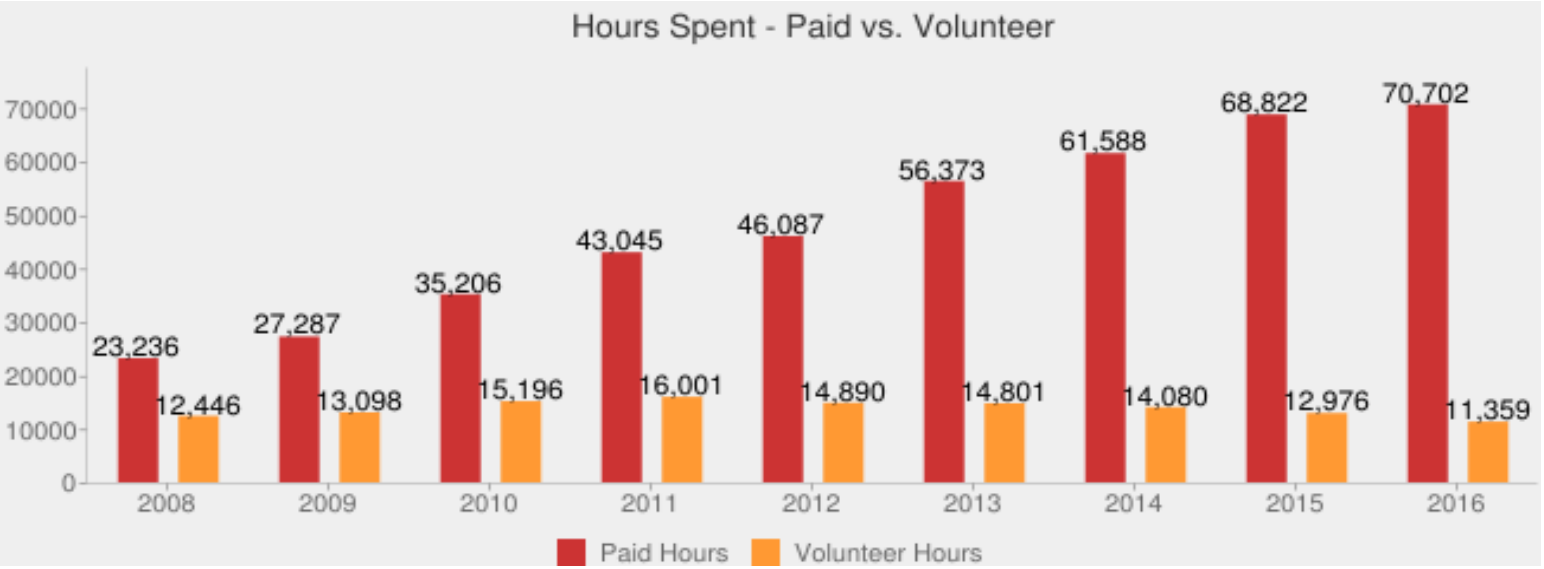
Control of Established Populations

Containment and Maintenance

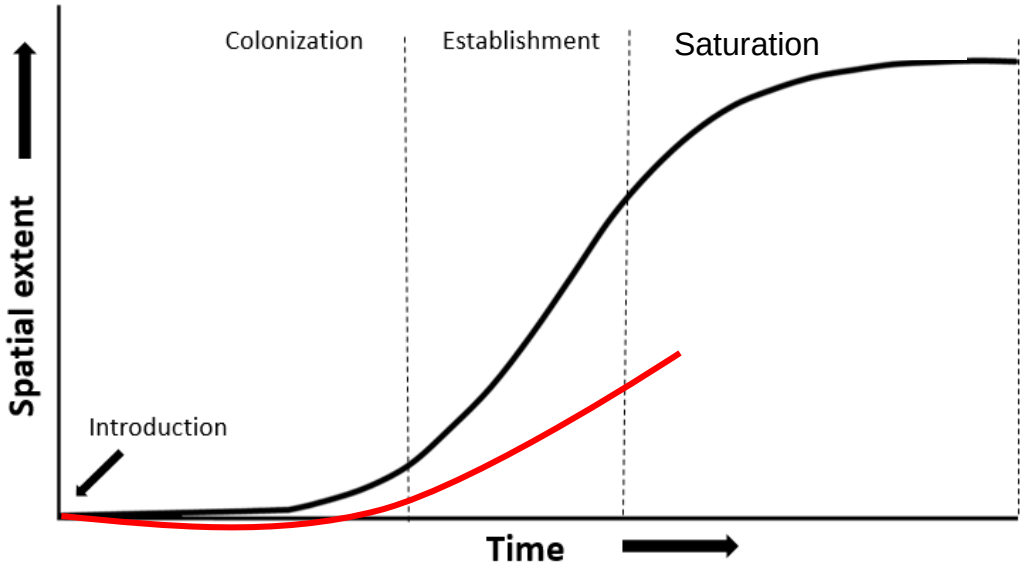
Research and Demonstration

Not Species Specific!

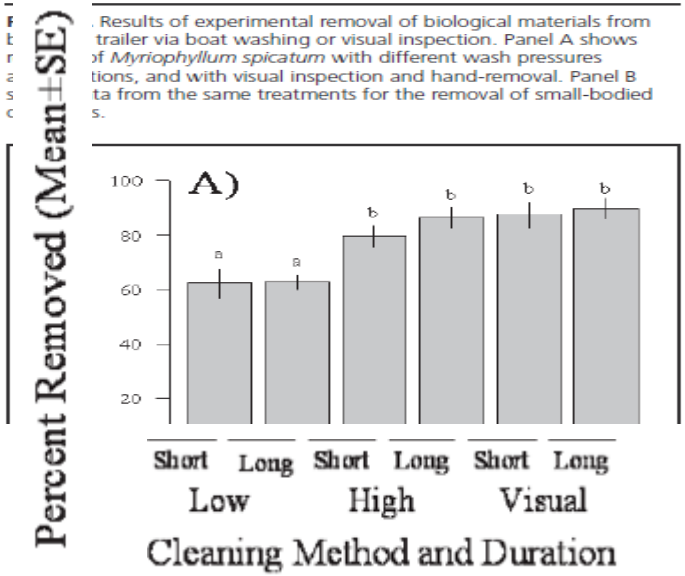
Prevention Strategies



Prevention Works!



5 Year Rate of Spread Study
Slowed but not Stopped



Visual and hand removal effective for EWM

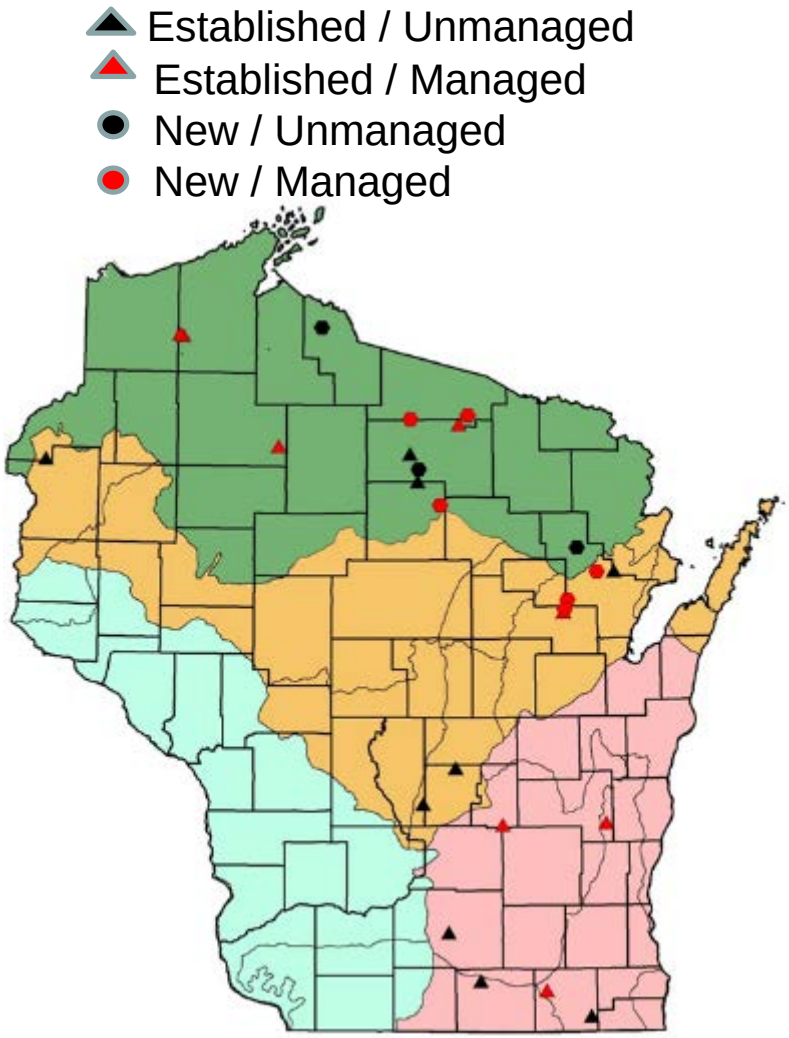
EWM Research Studies

Unmanaged vs Managed

Established vs New

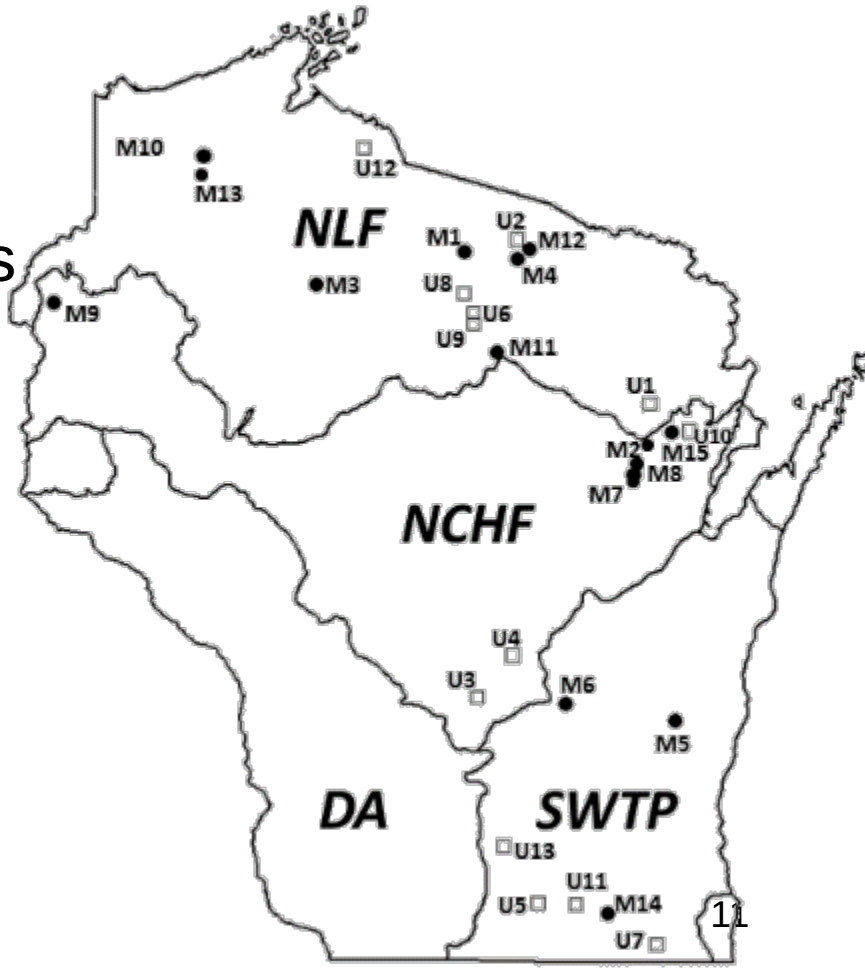
Herbicide Effectiveness

Large & Small Treatments

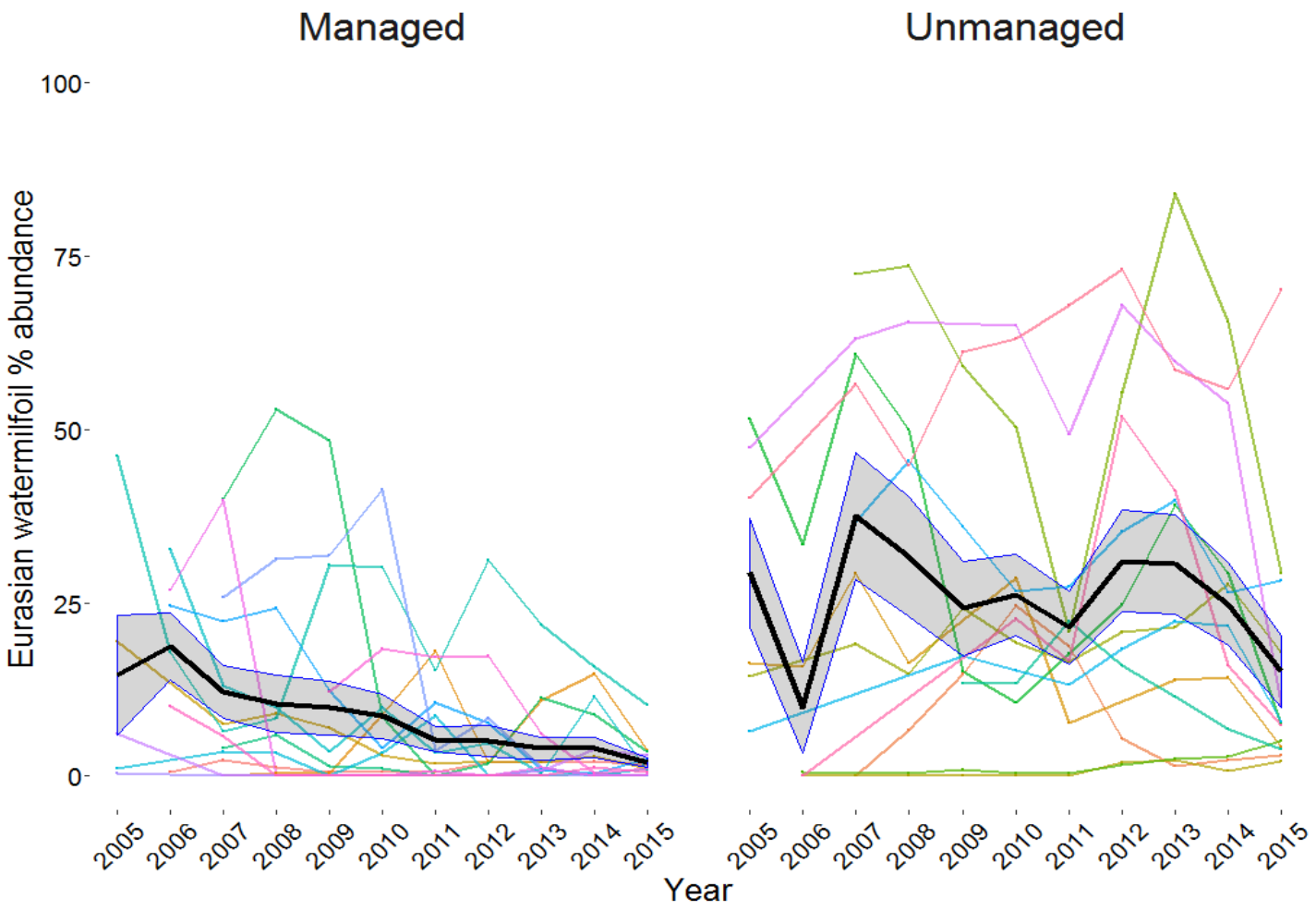


Long-term EWM Management

- Monitored 28 lakes for 11 years
- Managed & unmanaged lakes
- New and established populations
- “Strategic adaptive management”
  - 2,4-D, hand-pulling, harvesting

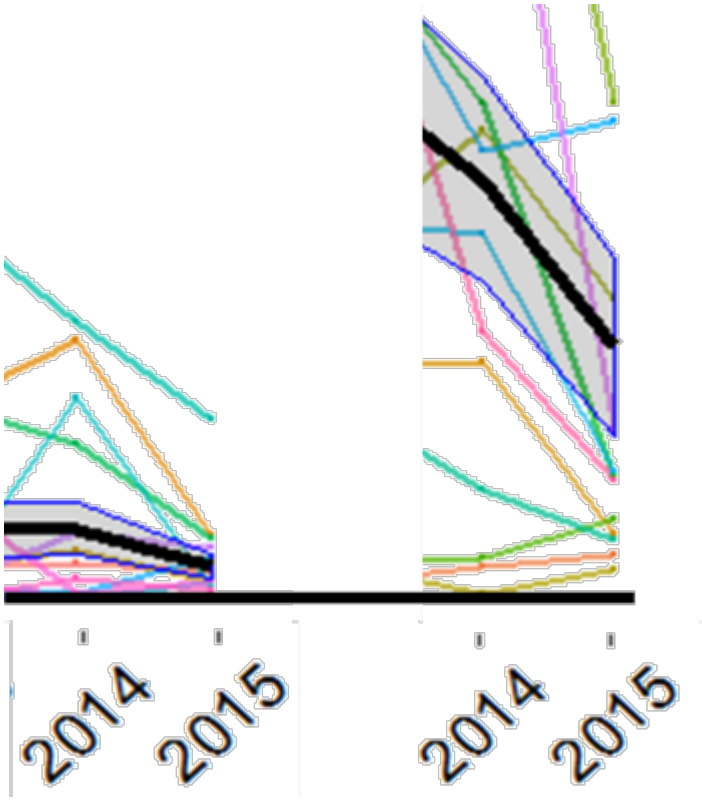


Long-term EWM Management



Managed Systems Results

- After 10 years of active management, EWM levels were **8% lower** than in unmanaged lakes.
- Treatment efficacy was variable
- Occasional large native impacts



Herbicide Effectiveness Study

Herbicides and Required Exposure Time for Control

- **2,4-D: > 18 hours**
- **Triclopyr: > 18 hours**
- **Endothall: > 18 hours**
- **Diquat: > 1 hour**
- **Fluridone: > 60 days**

Concentration Exposure Time (CET)

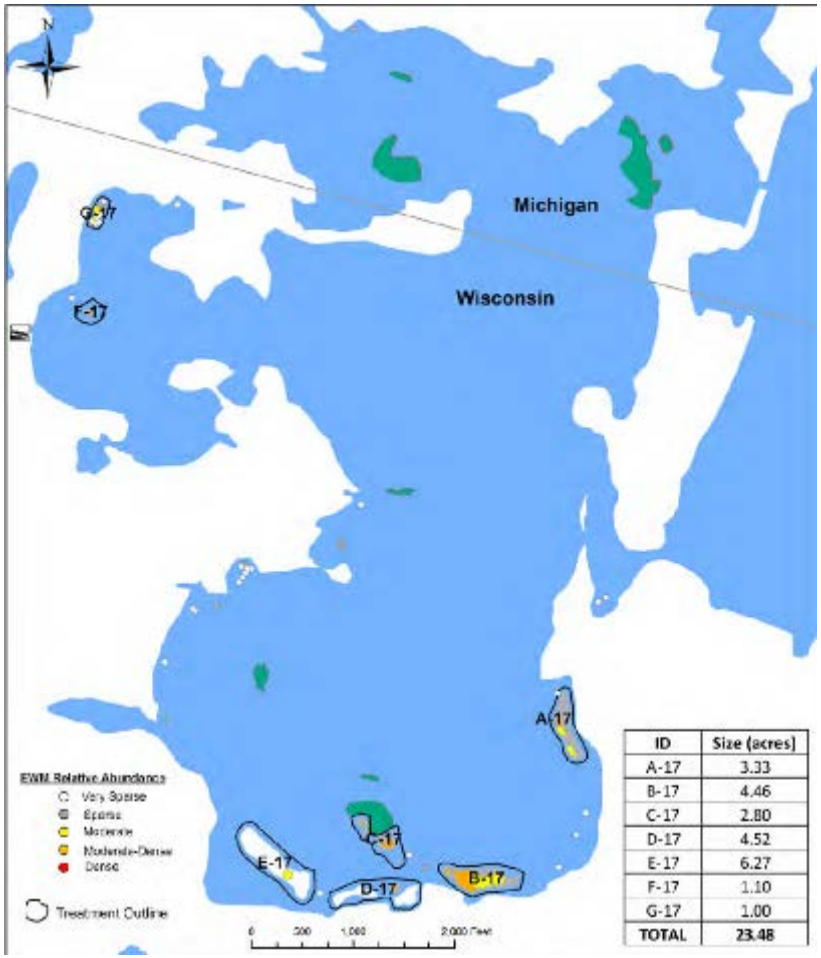
Small-scale Treatments

Half of treatments had no measurable effect due to rapid dissipation & low CET

There seems to be a minimum threshold (> 5 acres?) but very site dependent

Multiple spot treatments can have large-scale effects

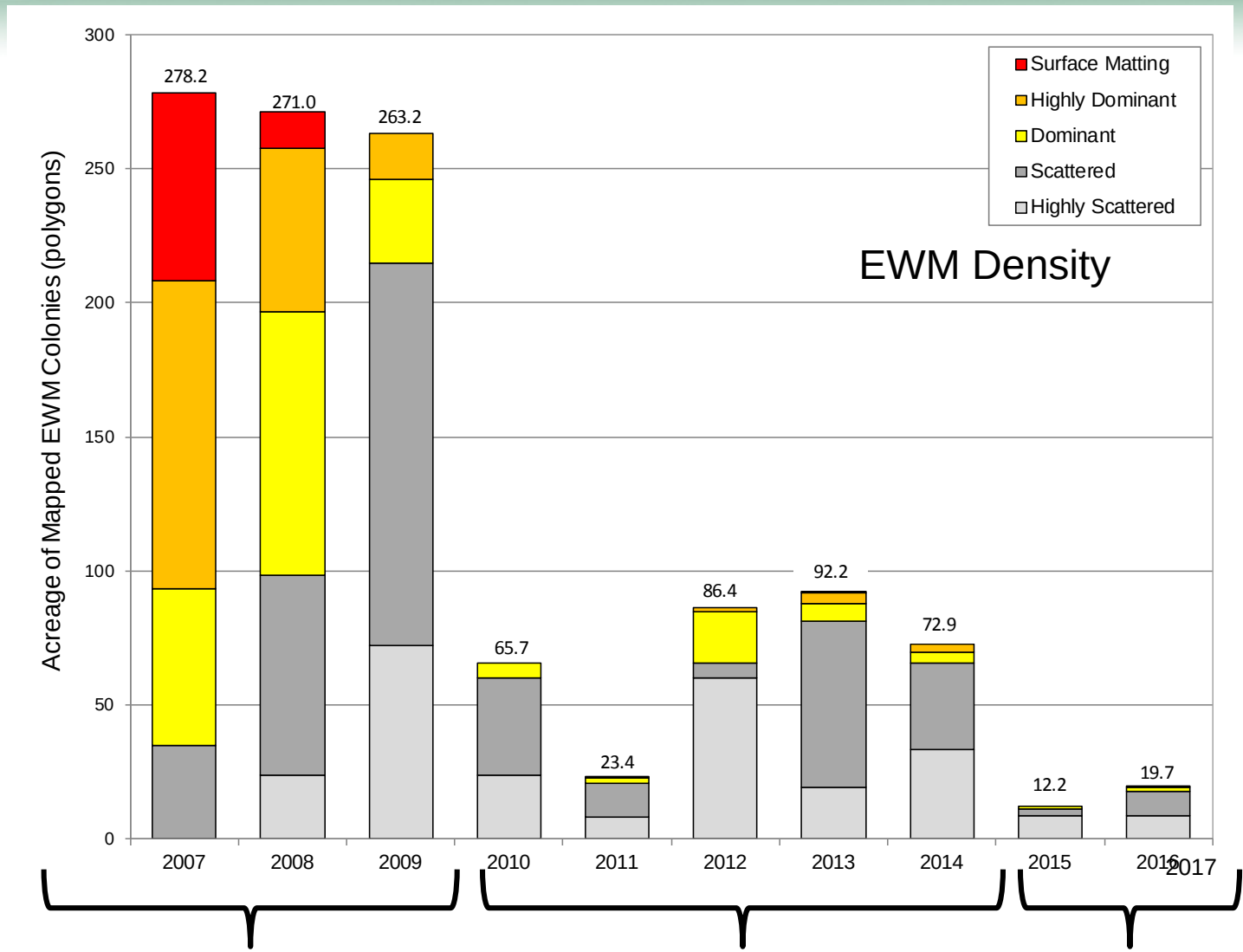
Scattered ‘new’ invasion



ID	Size (acres)
A-17	3.33
B-17	4.46
C-17	2.80
D-17	4.52
E-17	6.27
F-17	1.10
G-17	1.00
TOTAL	23.48

Eagle River Chain – Project Results

"Newly" Established Population

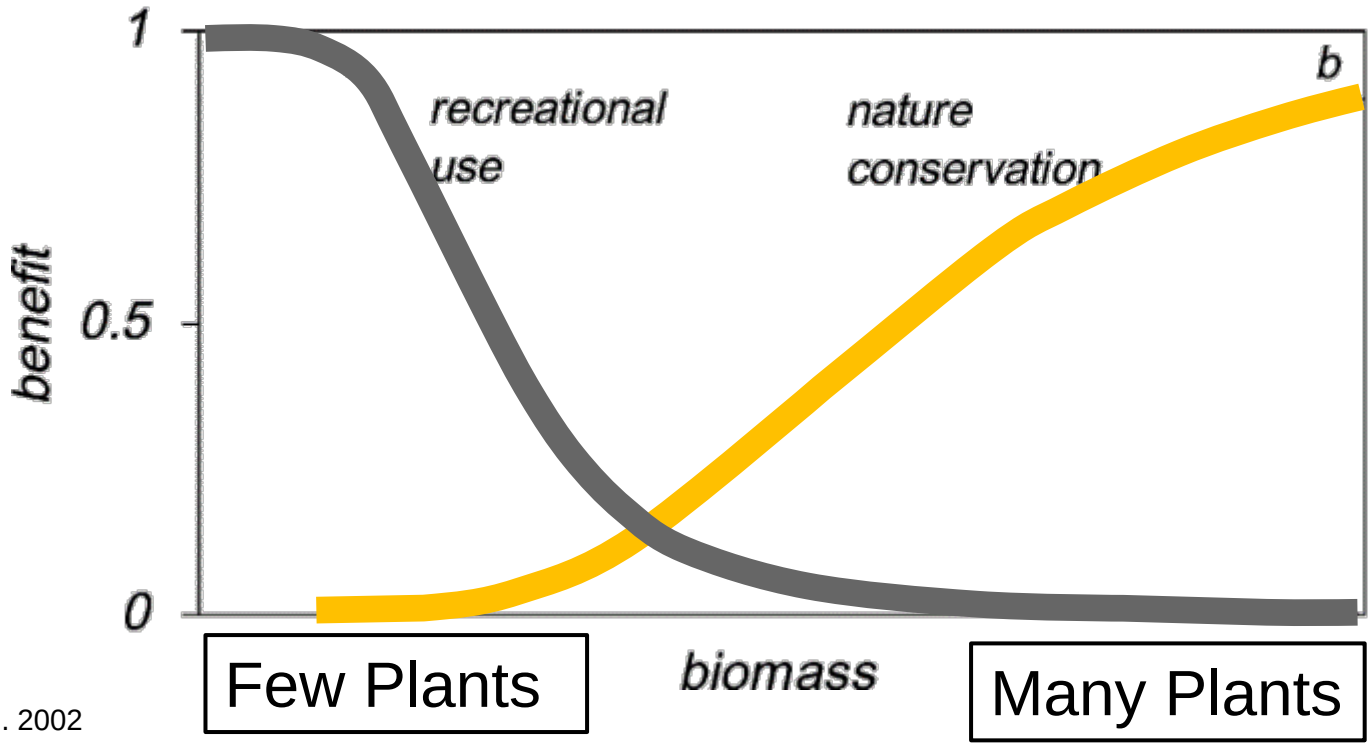


Slide Courtesy of Onterra Inc.

Conclusions

- Herbicide treatments can be very effective – outcomes highly variable
- Better results for “newer” populations - less effective over time
- Evidence of increased hybridity, herbicide resistance and shift to tolerant species
- An integrated approach is best

Community Stakeholders Disagree



Van Nes et al. 2002

Aquatic Plant Management (APM) Strategic Analysis

- Process to address unresolved conflicts concerning alternative uses of available resources
- Inform future discussion and decisions on APM and AIS control
- Formation of APM Advisory Group

Discussion

Thank You!