

Home Lake Security

Early Detection and Response to Eurasian Watermilfoil



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Laura Herman, UWEX, Stevens Point

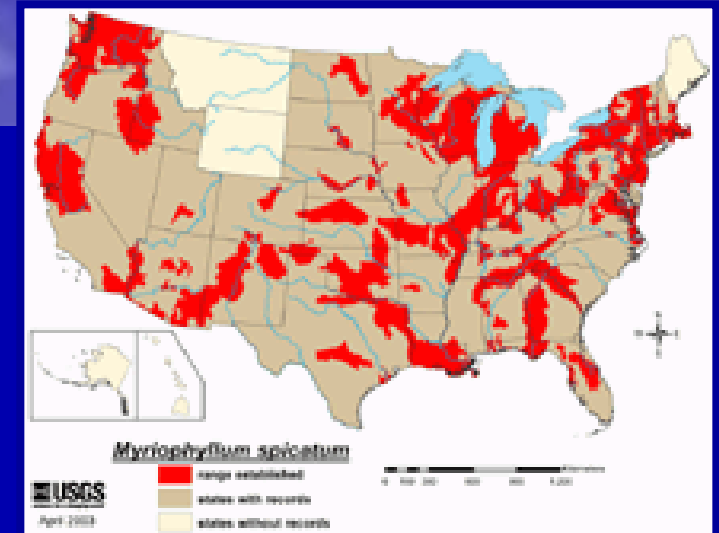
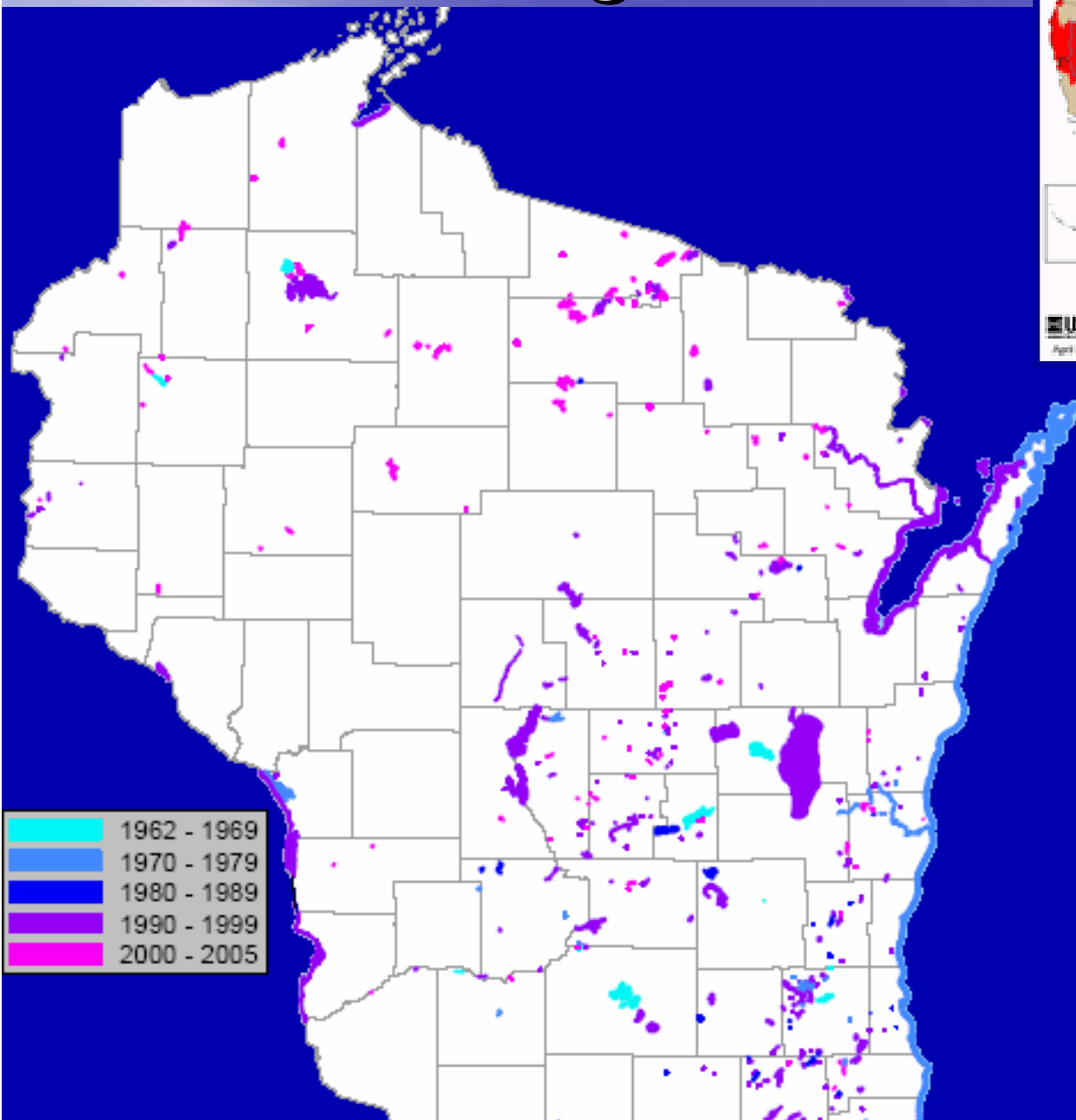
Scott Provost, DNR, Wisconsin Rapids

Carroll Schaal, DNR, Madison

Jane Swenson, Pike Chain, Bayfield Co.

Roger & Lorna Wilson, St. Croix Flowage,
Douglas Co.

We know in general:



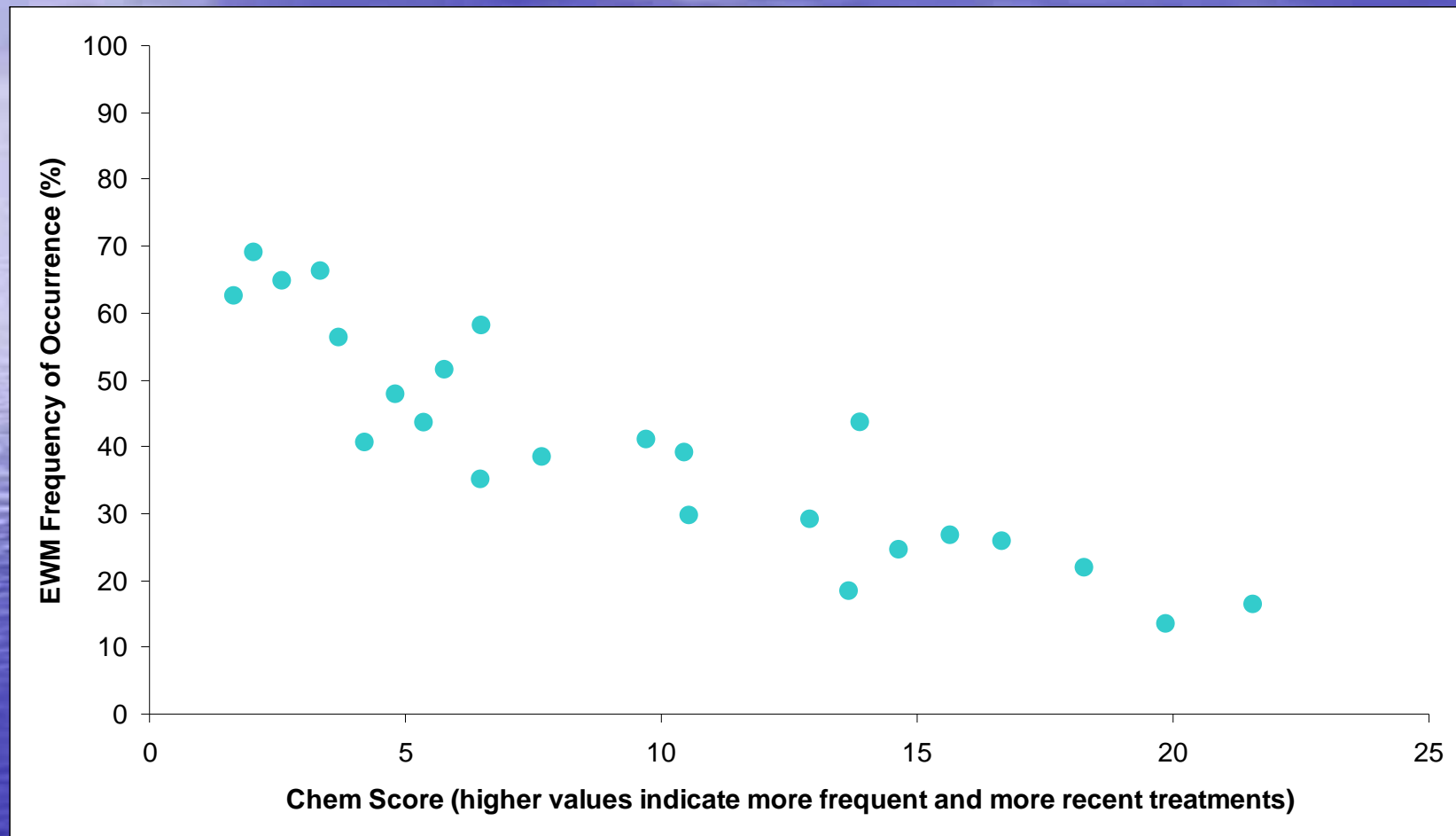
Present in >425
lakes in WI
Historically more
problematic in
SE WI

Has management history in WI affected current EWM status?

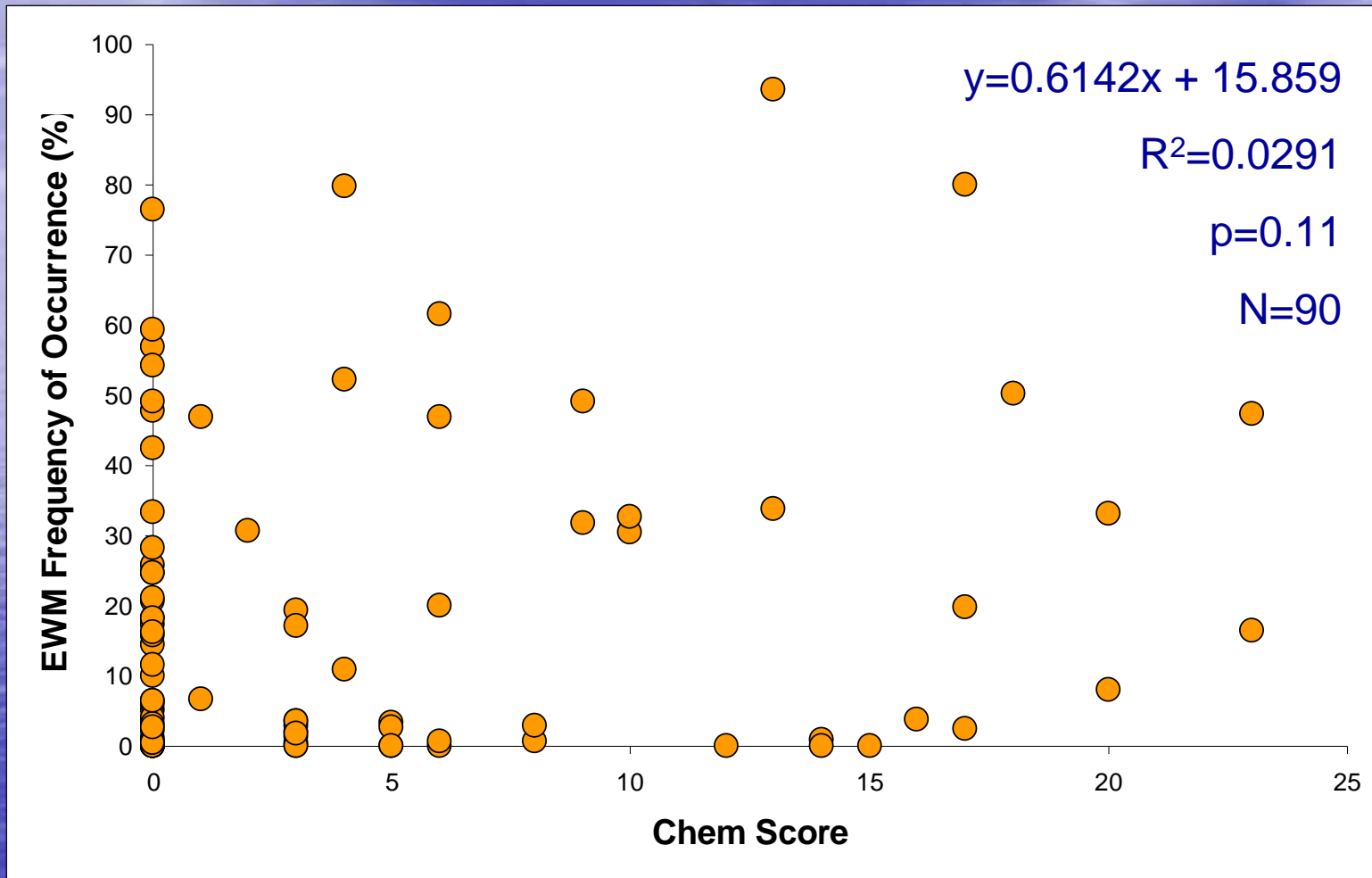
Quantifying Chemical Management History

- Point Assignment System used to reflect frequency and timing of management
 - 0 points: no control
 - 3 points each: control in 2004, 2005
 - 2 points each: control in years 2000-2003
 - 1 point each: control in years 1995-1999
 - +2 if continuous management from 2000-2004/5
 - +1 if management occurred *only* prior to 1995

In an ideal world...

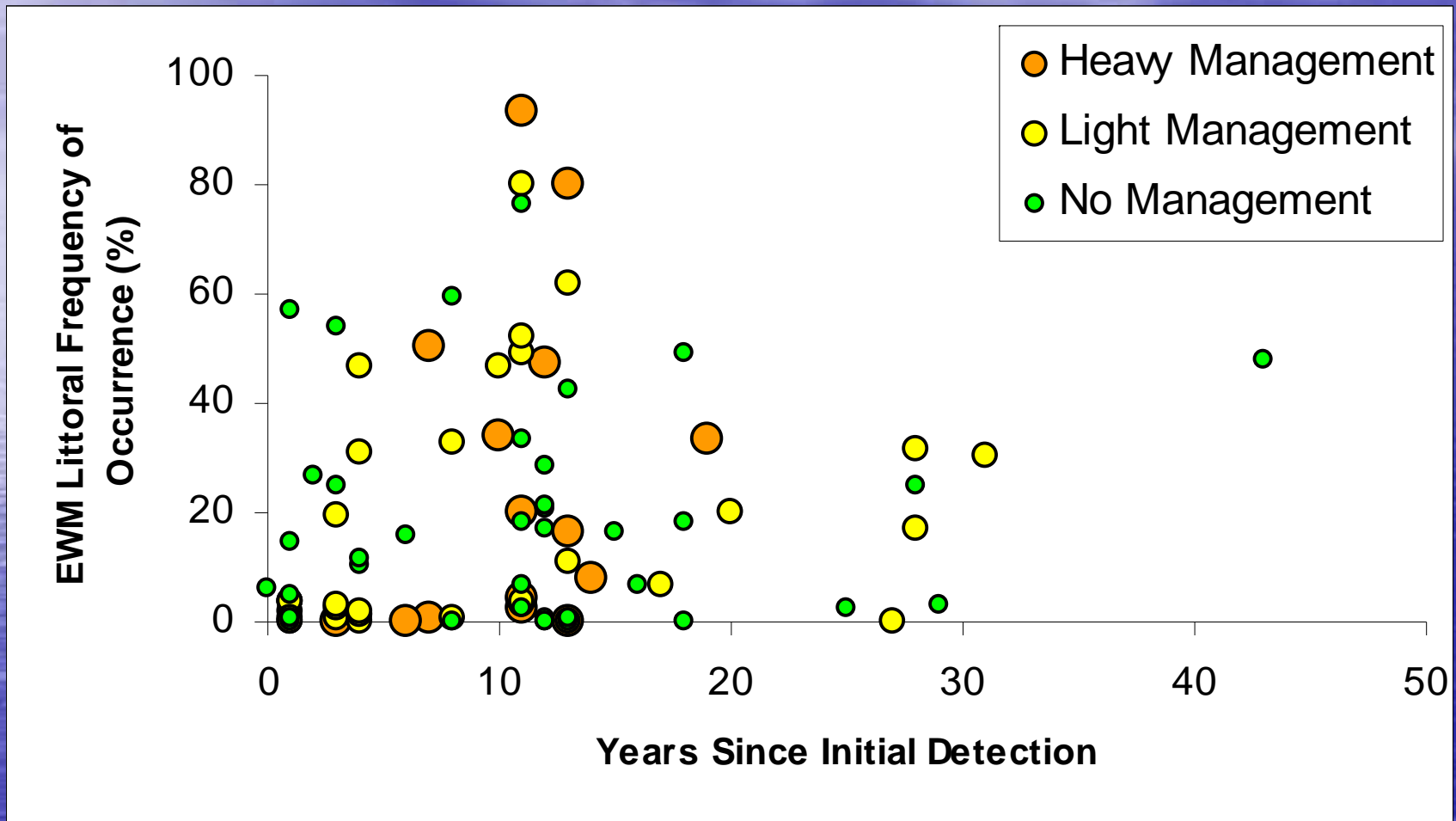


What we actually see...



The intensity of past management in WI bears no relationship to EWM frequency.

Of 43 lakes with no management: 16% are >35% freq, 47% are <10%



Any management approach can result in wide variation in current EWM

AIS Control Strategy

- **Education, Planning and Prevention** – reduce the spread, develop control plans
- **Early Detection & Response** – Find & eliminate the pioneers before establishment
- **Control of Established Infestations** – Significantly reduce & contain populations, restore native plant communities

Early Detection & Response Process Over View

- Identify & notify DNR
- Develop control response, issue permits if needed, request grant \$ set aside
- Conduct control / treatment, implement response plan
- Complete grant application
- Report and file claims
- Reimburse 75% up to \$10,000

EWM Management Phases

Rule of "5"

**Physical Description
of EWM Distribution**

Scattered Plants
Manual Removal
Monitor

**Large Patches
or Parent Colonies**

< 10,000 s.f.
Quarantine/Monitor
Manual Removal
Barriers or Chemicals

> 10,000 s.f. to 5 acres
Selective Chemicals
Weevil

> 5 acres
Selective Chemicals
Harvesting, Drawdown
Weevil

Out Competing Native Plants

- Reproduces by seeds, runners & fragmentation
- Begins to grow at colder temperatures and lower light levels
- Possesses canopy growth pattern
- Not susceptible to native pathogens

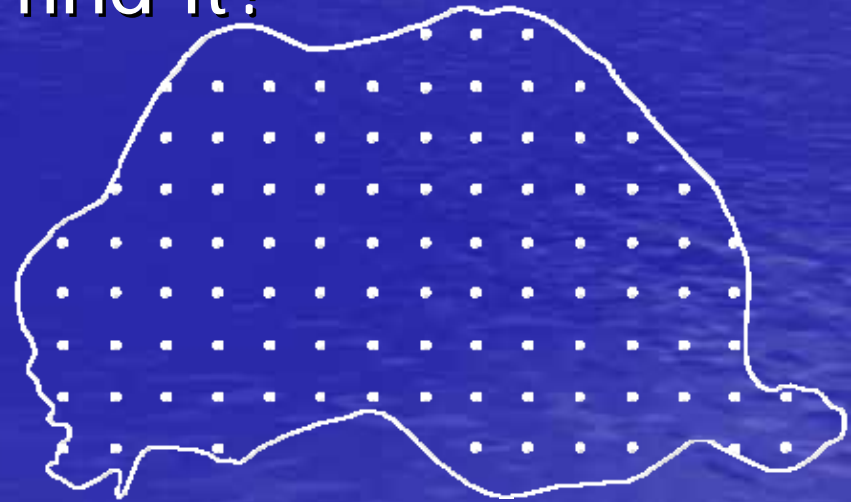


What factors affect EWM dominance/presence?

- Intermediate levels of total phosphorus - most abundant in mesotrophic and moderately eutrophic lakes (Madsen 1998)
- Low % forest cover/high dissolved inorganic carbon and high alkalinity (Buchan and Padilla 2000)
- Ecoregion
- Year of introduction
- Max depth/ shallow drainage lakes and impoundments
- Change in water levels/other littoral disturbances

Step A1: Early Detection

- Education, Awareness, Identification, Training, Surveillance, Communication
- Get training - Clean Boats/Clean Waters
- Grants are available
- Join the Citizen Lake Monitoring Network
- What will you do if you find it?



What Will You Do ?

EWM Contingency Planning

- Who is your DNR contact?
- Assemble a response team:
 - Monitors, educators, communicators, financial managers,
 - Can someone run a GPS unit?
 - Divers, snorklers, boat drivers
- Reputable consultants & applicators lined up?
- Estimate costs and establish a “contingency fund” & fund raising strategy
- Signage and enhance boat inspections

Step A2: WE FOUND IT!

Pretreatment

- Collect specimens in a bag of ice or cooler
- Record location in GPS or temporary marker.
- Contact DNR to verify, consider longer term bouys.
- DNR establishes intercept point grid map for eventual whole lake survey
- Define bed precisely with GPS
- Work w/ DNR and experts to develop response plan and authorize a EDR grant.
- Raise lake user awareness. Sign landings, etc.

Step B: Treatment

Consider All Options

- Scattered vs clumped
- Careful hand pulling
- Herbicides: Contact vs. Systemic
- Seasonal timing
- Plan for repeated treatments
- Integrate hand pulling w/ monitoring
- Bottom barrier?
- Weevils?

Monitor and Quarantine

- Low costs
- High risk of continued spreading of plant
- Markers and/or buoys require local ordinance or DNR law enforcement approval



Diving/Manual Removal



Washington State DEQ Website
has good information on this topic

www.ecy.wa.gov/programs/wq/plants/management/manual_strategies.html

- Can be fairly selective and effective if roots are removed
- Fragments must be collected
- Labor intensive
- Ongoing maintenance method
- Tools & methods evolving

Plant Barriers

- Difficult to work with and maintain.
- Limited experience, potentially very effective
- Requires Chap 30 permission.
- A technology that could improve.



Step C: Post Treatment

- Rinse and Repeat
 - (Monitor, map, treat, repeat)
- Monitor & Educate
- Complete whole lake baseline plant survey & develop a long term management plan.

Early Detection & Response Grants 2005-07

One piece of the puzzle...

Support the Lake Research Checkoff!

Support NR 40 Invasive Species Control Regulations

THANK YOU!

Lincoln Cnty LCD	Seven Mile	\$5,250	\$5,250	NORr
Town of Lake Tomahawk	Tomahawk	\$6,610	\$11,860	NORr
Price County Land Cons Committee	Musser Lake	\$8,808	\$20,668	NORs
Minoqua/Kawaguesaga Lks Prot Assn	Lake Minoqua & Kawaguesaga	\$8,950	\$29,618	NORr
Enterprise Lake P&R District	Enterprise Lake	\$5,854	\$35,472	NORr
Lake Nokomis Concerned Citizens	Nokomis	\$10,000	\$45,472	NORr
Bayfield County	Pike Chain	\$10,000	\$55,472	NORr
Lk Nokomis Concerned Citizen's, Inc.	Nokomis	\$5,473	\$5,473	NORr
Long Lake Property Owners Association	Long Lake	\$7,088	\$12,561	NER
Tn of Belle Plaine	Cloverleaf Lks	\$2,595	\$15,156	NER
Lake Wissota Impr & Prot Assn	Lake Wissota	\$10,000	\$25,156	WCR
Inland Lakes District	Reservoir Pond & Horn Lake	\$7,033	\$32,188	NER
Sawyer County	Osprey Lake	\$5,222	\$37,410	NORs
Lac Courte Oreilles Association	Lac Courte Oreilles - Muskey Bay	\$4,500	\$41,910	NORs
Clear Lake Association	Clear Lake	\$2,250	\$44,160	NORs
Town of Tomahawk	Tomahawk	\$3,390	\$47,550	NORr
Cobb-Highland Recreation Commission	Blackhawk Lake	\$5,004	\$5,004	SCR
Wheeler Lake Assn	Wheeler Lake	\$10,000	\$10,000	NER
Stratton Lake Assn	Stratton	\$8,472	\$18,472	NER
Lake Nokomis Concerned Citizens	Lake Nokomis	\$6,386	\$24,858	NORr
Town of Three Lakes	Long Lake & Eagle River	\$1,984	\$26,842	NORr
Long Lk Improvement Assn	Long Lake	\$1,641	\$28,482	NORr
Lk Wissota Impr & Prot Assn	Lake Wissota	\$2,500	\$30,982	WCR
Tomahawk Lk Prop Owners Assn	Tomahawk Lake	\$10,000	\$40,982	NORr
Town of Wascott	Cranberry Lake	\$10,000	\$50,982	NORs
St Croix/Gordon Flowage	St. Croix/Gordon Flowage	\$10,000	\$60,982	NORs
Horseshoe Lake Assn	Horseshoe Lk	\$ 10,000	\$70,982	NORs
	> 25 Lakes	\$179,009		

GRANT INFO AT: www.dnr.wi.gov/org/caer/cfa/Grants/Lakes/invasivespecies.html