

Outreach to Nurseries Regarding Ch. NR 40, Wis. Admin. Code

Dreux J. Watermolen

Bureau of Science Services

Wisconsin Department of Natural Resources



GLRI Project

“Reducing Invasive Organisms in Trade in Great Lakes Watersheds”

- Kelly I. Wagner
- Chrystal Seeley-Schreck
- Jennifer Hauxwell
- Alison Mikulyuk
- Mindy Wilkinson
- Scott Van Egeren
- Daniel L. Oele



What We Did

2012

- **Social Survey of Retailers, Landscapers, Growers** (January-March)
- **Retailer Plant Stock Surveys** (March-June)
- **Outreach: Education** (Summer-Fall)

2013

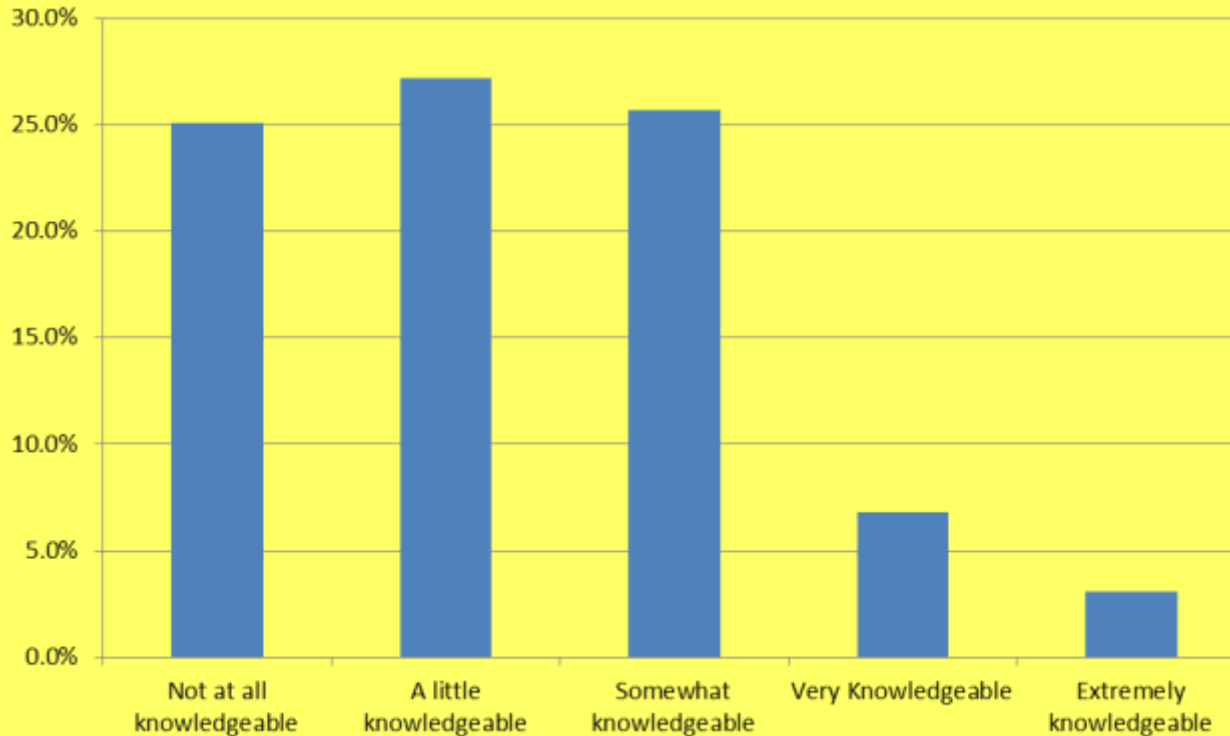
- **Social Survey of Retailers, Landscapers, Growers** (January-March)
- **Retailer Plant Stock Surveys** (May-June)
- **Outreach: Education, Enforcement** (Summer-Fall)

Social Survey

Methods

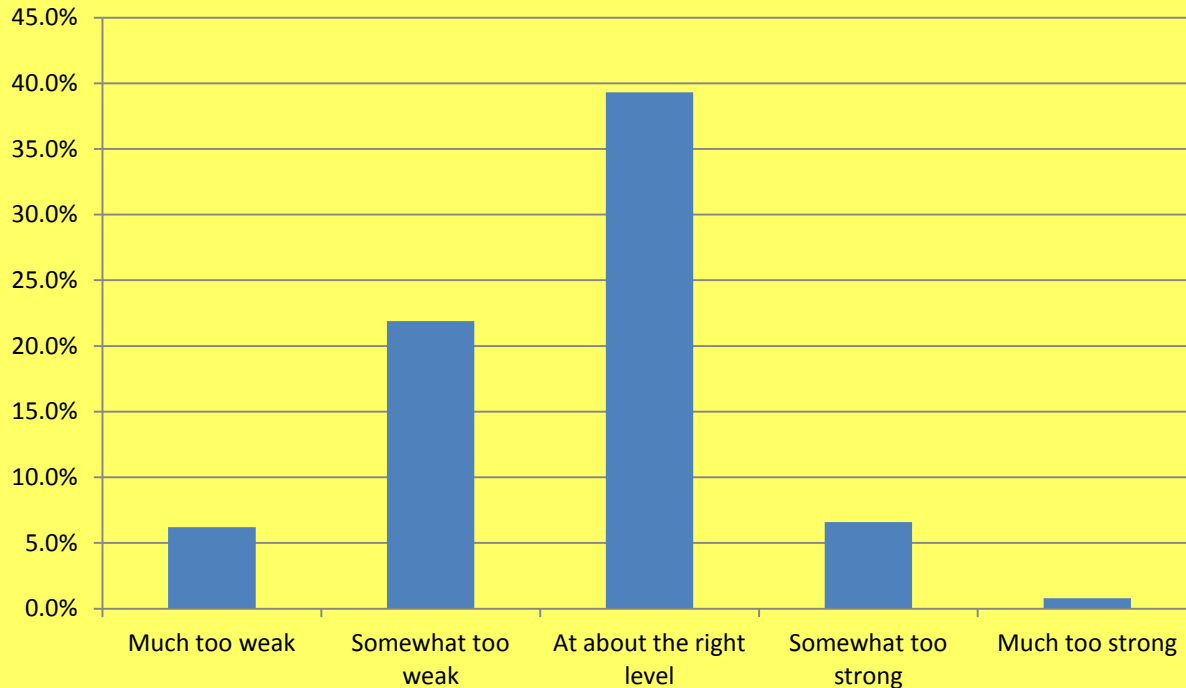
- Administered by University of Wisconsin Survey Center
- 3-wave mailed questionnaire
- Nurseries & garden, aquarium, & pet stores
- Sample sizes: 2012 – 583, 2013 – 525
- Response rates: 2012 – **65%**, 2013 – **59.8%**

Social Survey



“How knowledgeable do you feel you are about invasive species regulations in Wisconsin?”

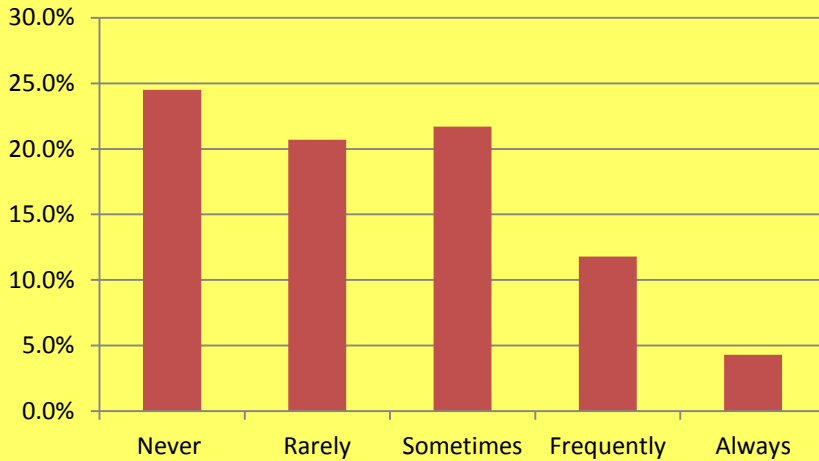
Social Survey



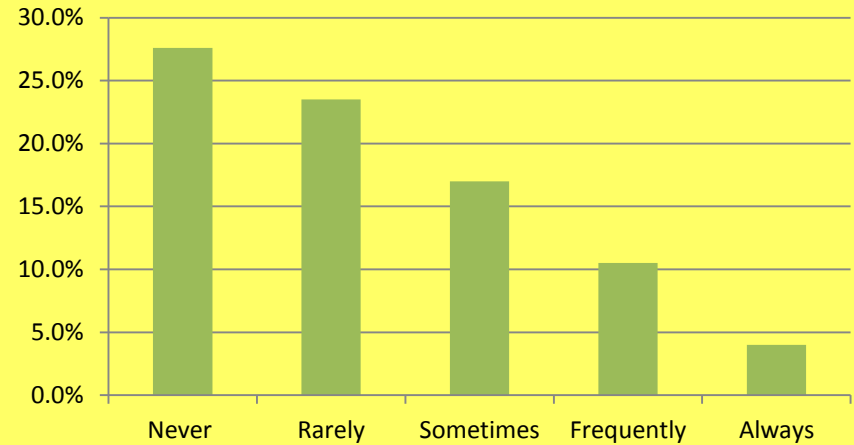
“In your opinion, how strong or weak are Wisconsin regulations on non-native invasive aquatic plants? Would you say the regulations are...”

Social Survey

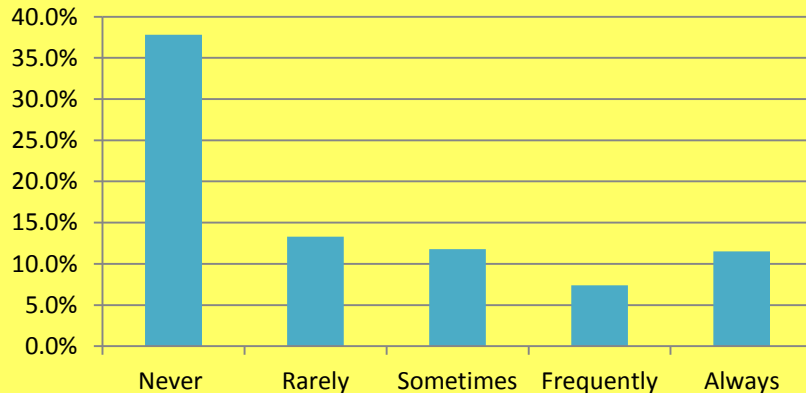
Check for updates on State regulated plant lists when placing orders



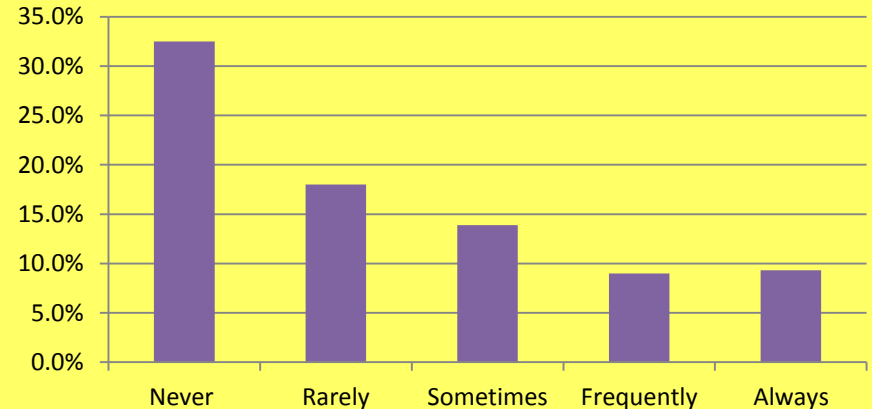
Check for updates on Federal regulated plant lists when placing orders



Dispose of unwanted aquatic plants in the trash or compost

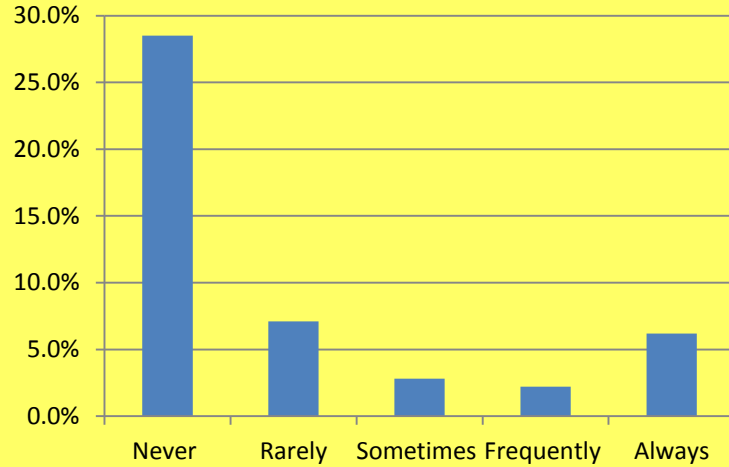


Educate customers on how to properly dispose of unwanted aquatic plants

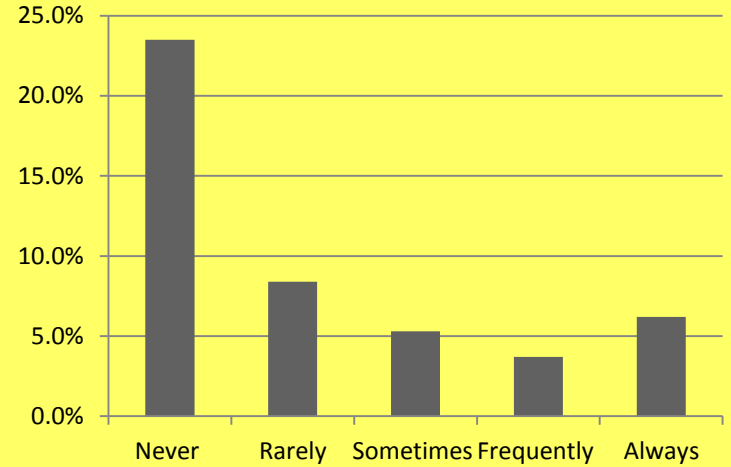


Social Survey

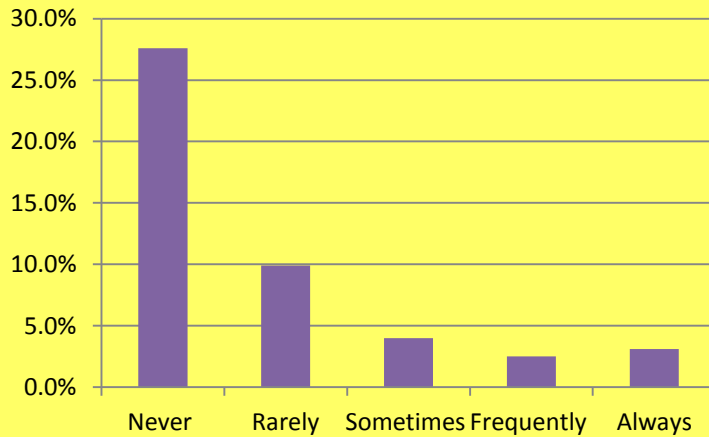
Removed invertebrates



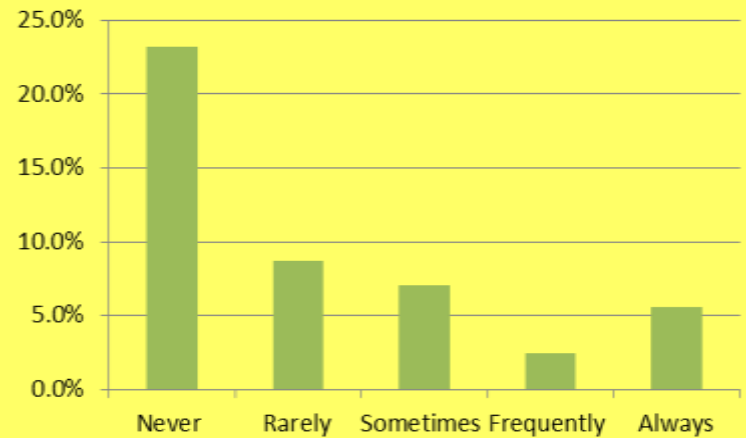
Removed other plants or plant parts



Rinsed soil or sediment from roots



Removed algae



Social Survey

Retailer Inventory

- Level of familiarity with 32 species
- Stocked in the past 5 years?
- Plan to stock in next 12 months?

- 60%-65% (28%-42%) failed to indicate whether they had stocked or planned to stock resulting in low / under estimates

Retail Stock Inventory

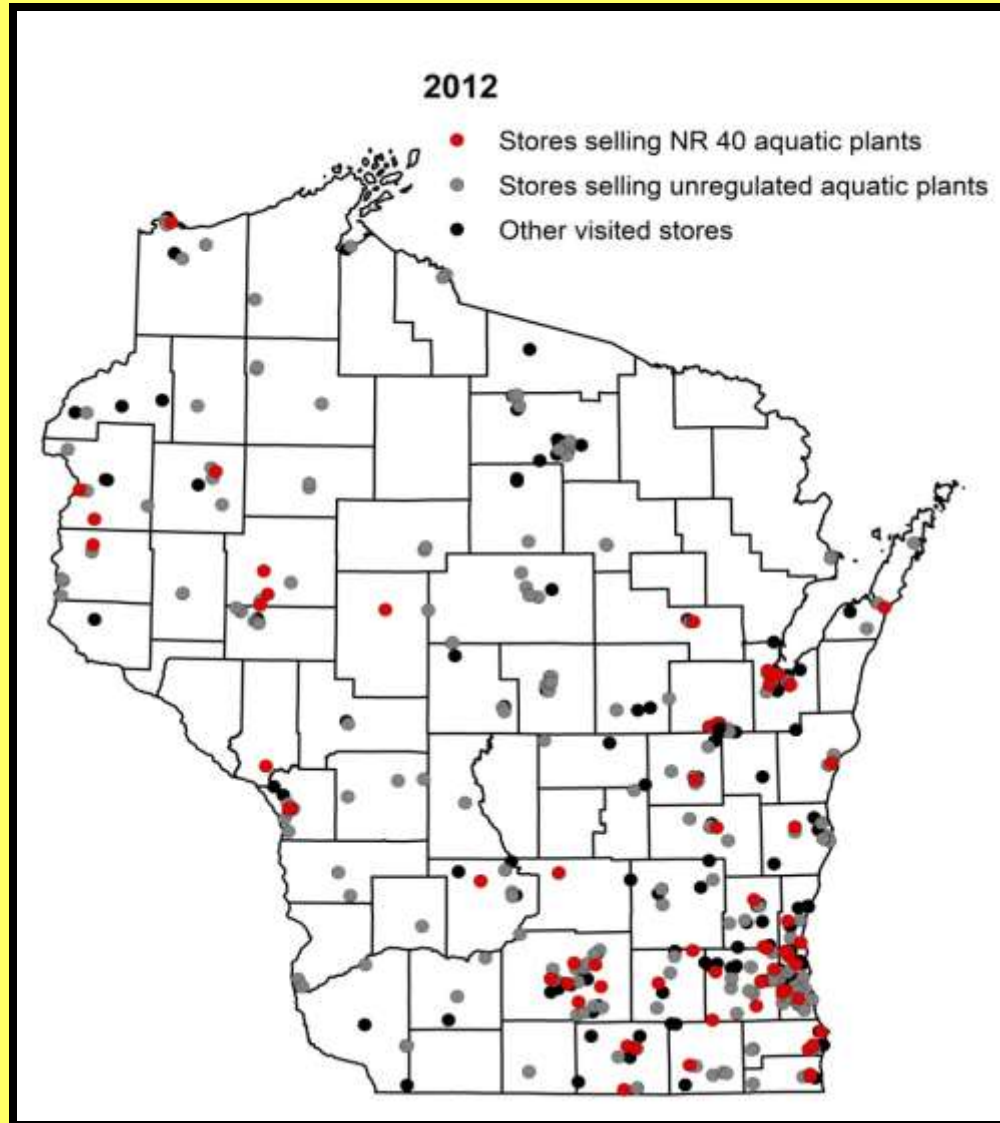
2012

- **297 (235) store visits**
 - unannounced, anonymous
 - 153 (130) licensed nurseries (that told us they sold aquatic plants)
 - 32 (26) unlicensed nurseries
 - 112 (79) pet & aquarium stores

2013

- **146 store visits**
 - 110 (107) stores that were visited in 2012
 - 80 that had received educational outreach

Retail Stock Inventory



Retail Stock Inventory

2012

- 33% of stores selling regulated species
 - 4 prohibited, 3 restricted
- 25 aquatic plant species

2013

- 30% of stores selling regulated species
 - 4 prohibited, 4 restricted
- 27 aquatic plant species

Retail Stock Inventory

2012 – Prohibited Species

- Fanwort (*Cabomba caroliniana*) *
- Anacharis, waterweed (*Egeria densa*)
- Parrot feather (*Myriophyllum aquaticum*) **
- Yellow floating heart (*Nymphoides peltata*)

* Most common in aquarium stores

** Most common sold for pond use



Retail Stock Inventory

2013 – Prohibited Species

- Fanwort (*Cabomba caroliniana*) *
- Anacharis, waterweed (*Egeria densa*)
- Frog bit (*Hydrocharis morsus-ranae*)
- Parrot feather (*Myriophyllum aquaticum*) **

* Most common in aquarium stores

** Most common sold for pond use

Retail Stock Inventory

Restricted Species

- Manna grass (*Glyceria maxima*)
- Common reed (*Phragmites australis*)
- Narrow-leaf cattail (*Typha angustifolia*)
- Flowering rush (*Butomus umbellatus*) (2013)



Retail Stock Inventory

Labeling of Stock, 2012 (2013)

- Nurseries
 - 28% (42%) w/genus & species
 - 20% (19%) unlabeled
- Aquarium stores
 - 4% (19%) w/genus & species
 - 38% (26%) unlabeled

Retail Stock Inventory

Mislabeling of Stock

2012

- Nurseries - 1% mislabeled
- Aquarium stores – 4% mislabeled

2013

- Nurseries - 3% mislabeled
- Aquarium stores – 10% mislabeled

Retail Stock Inventory

Mislabeling of Stock

Egeria densa (15%)

Cabomba caroliniana (14%)

Myriophyllum aquaticum (40%)

2012

- Nurseries - 1% mislabeled
- Aquarium stores – 4% mislabeled

2013

- Nurseries - 3% mislabeled
- Aquarium stores – 10% mislabeled

Retail Stock Inventory

Hitchhikers, 2012 (2013)

- Aquatic plant purchases made at 32 (29) stores
- w/at least 1 hitchhiker - 31% (14%)
- w/another plant species - 19% (14%)

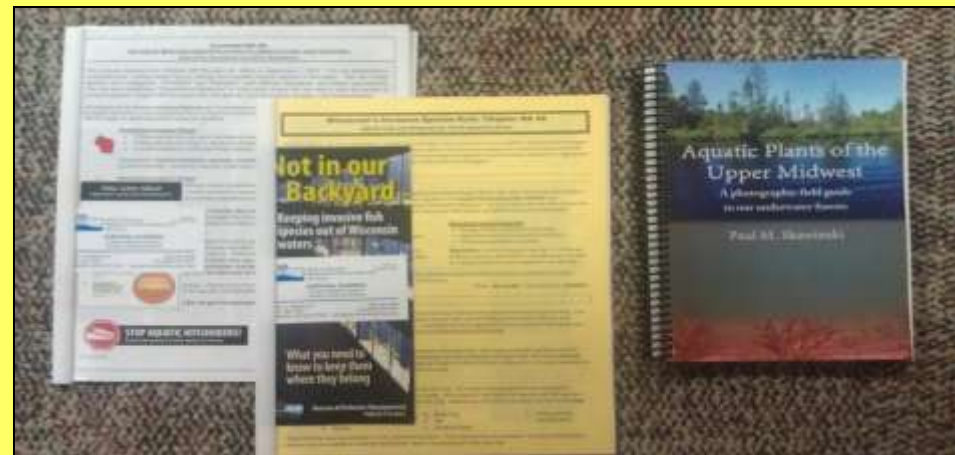
Outreach: Education

- Education and Outreach Plan
 - Based on social marketing & models of behavioral change
- Mail correspondence
- Phone & email interactions
- Individually designed in-person visits

Outreach: Education

Outreach Packets

- Cover letter (w/web links)
- Explanation of invasive species regulations
- Picture guide to regulated plants
- Fish brochure (except for nurseries)
- Workshop invitation



Outreach: Education

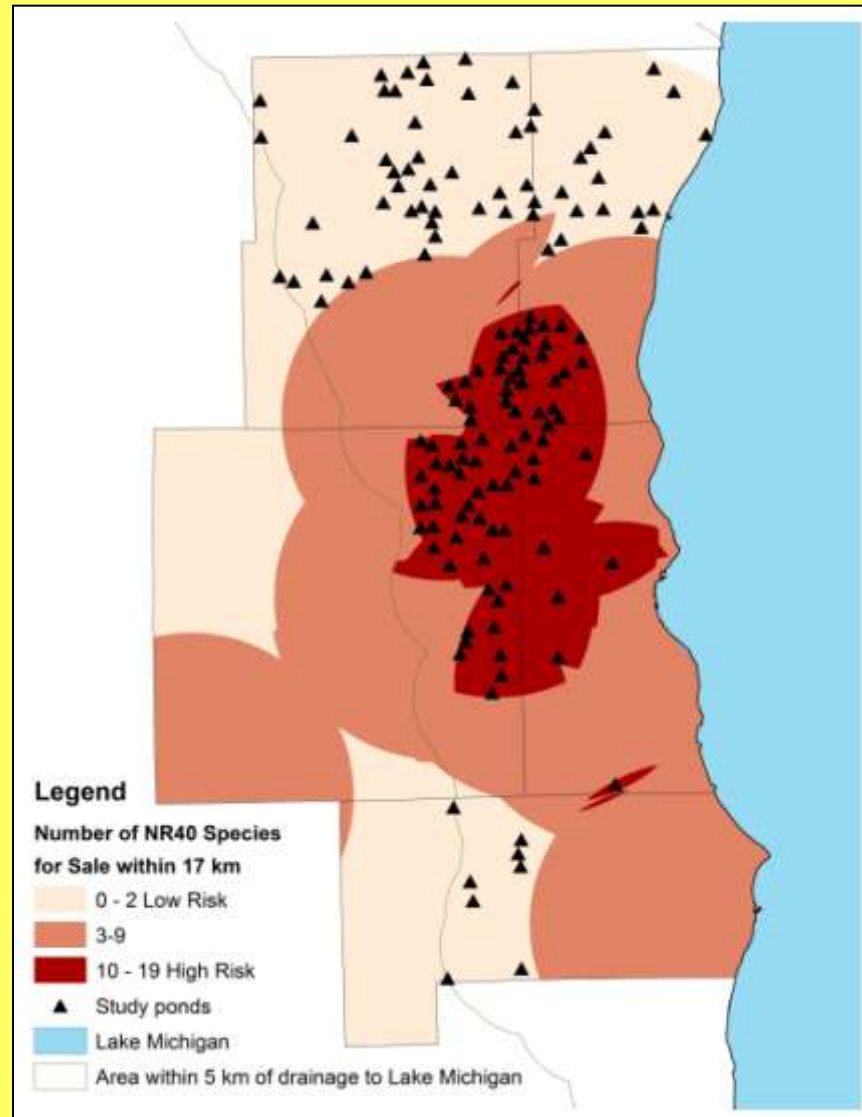
In-person Visits

110 stores (90 visited, 20 control)

- Those who planned on selling regulated species
- Those who were selling regulated species

20 compliant stores as control

What Else We Did



Conclusions

- We saw a general increase in awareness and knowledge of regulations.
- Outreach reduced overall prevalence of invasive species in stores (slightly).
 - But no significant difference between mailing and in-person visits.
 - One visit not enough?
- Most business quickly came into compliance when notified of regulations.

Conclusions

- Mislabeling is relatively rare in live plant trade.
 - Result from historical name changes (*Egeria*, *Hydrilla*)
 - Result from breeding, changes in species (hybridization) (*Myriophyllum* sp.)
 - Staff in pet stores have little botanical experience
- In-person visits did not improve rate of misidentification or mislabeling.

Conclusions

- Compliance improved only slightly following outreach.
 - Did retailers perceive there would be little repercussion for noncompliance?
- In-person interaction fosters better working relationships and general goodwill between regulators (DNR) and industry.

Conclusions

“I wanted to say thank you for the Protect Your Pond or Water Garden brochures and the Know Your Plants - Know the Rules publication that you sent. They are very helpful to me and my staff, as well as our customers in making sure we are doing the right things... As always, I appreciate the positive, cooperative, proactive approach that you and the DNR are taking in trying to prevent the introduction of invasive aquatic species in our state. I commend your efforts and look forward to helping in any way that I can.”

Acknowledgments

P.I.s:

Kelly I. Wagner

Chrystal Seeley-Schreck

Jennifer Hauxwell

Alison Mikulyuk

Mindy Wilkinson

Scott Van Egeren

Daniel L. Oele

GIS support: Diane Menuz & Eric Erdmann

Field/office support: Elizabeth Haber

Survey development: Jordan Petchenik

Data collection: Michelle Nault, Martha Barton, & Erin Vennie-Vollrath

Data analysis: Kim Peterson



Thank you!

Questions?