Early Detection and Rapid Response (EDRR) to emerging Aquatic Invasive Species (AIS)

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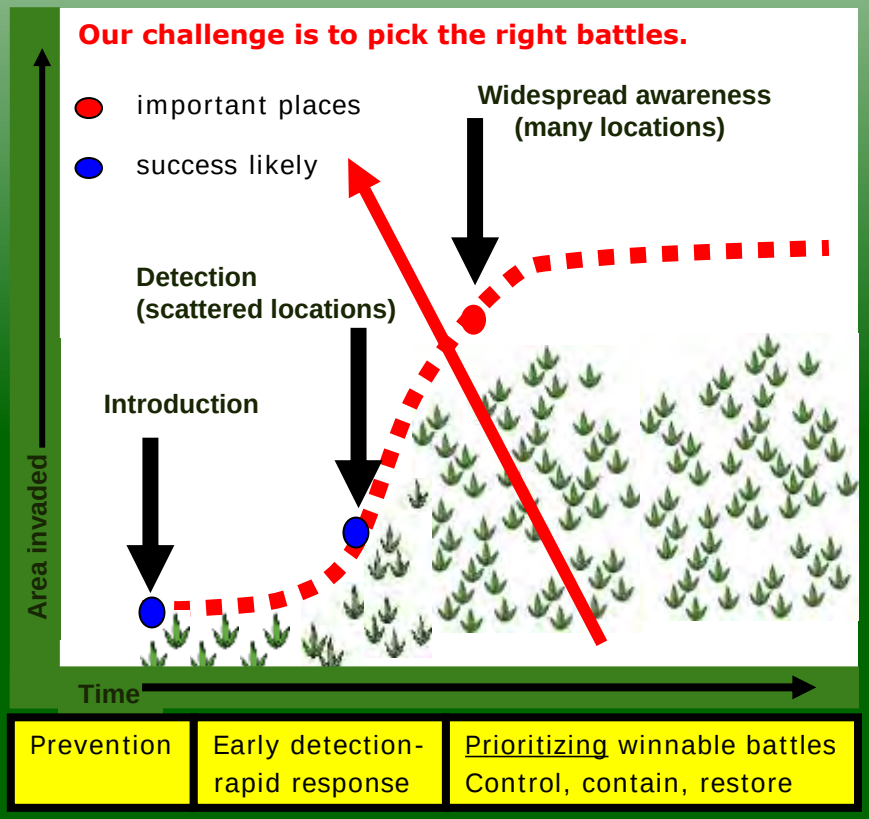
Michigan DNR Wildlife Division

Implementing the AIS State Management Plan

- GLRI grant awarded in 2010 to develop EDRR program aligned with AIS plan goals
  - ***Goal III: Develop a statewide interagency EDRR Program to address new invasions of AIS.***
- Wildlife Division - lead for plants

Why EDRR?



- AIS rarely eradicated once established
- EDRR efforts increase likelihood invasions can be contained and eradicated
- Critical period between introduction and establishment of a new AIS population

(Fuller et al. 1999, Lodge et al. 2006)

The EDRR Approach

- Establishing an early detection network
- Responding to all new high threat invaders

EDRR Species

- Targeted efforts to detect new invasions of 8 high risk Aquatic Invasive Species

Brazilian elodea (*Egeria densa*)

Not yet Detected in MI

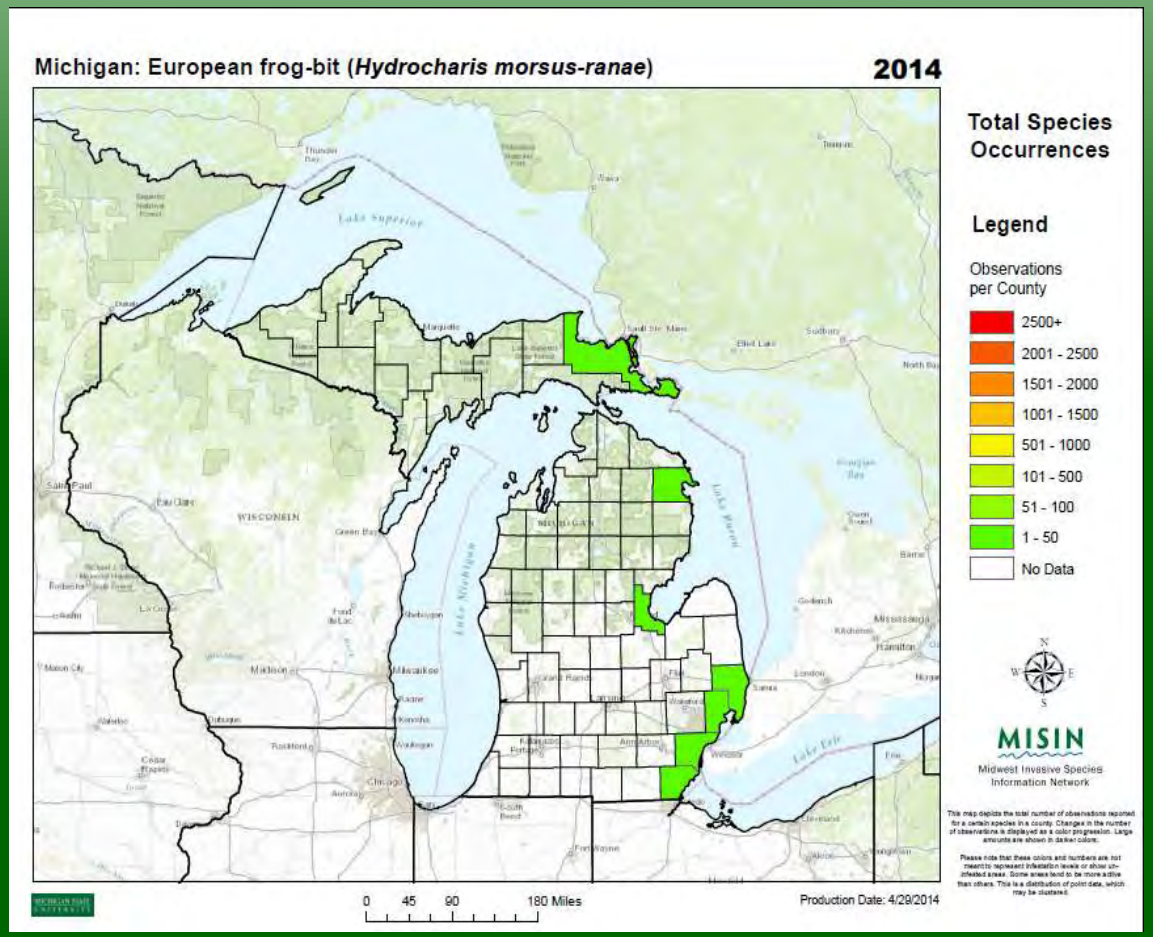
EDRR Species

- Species list evaluated annually to incorporate emerging threats

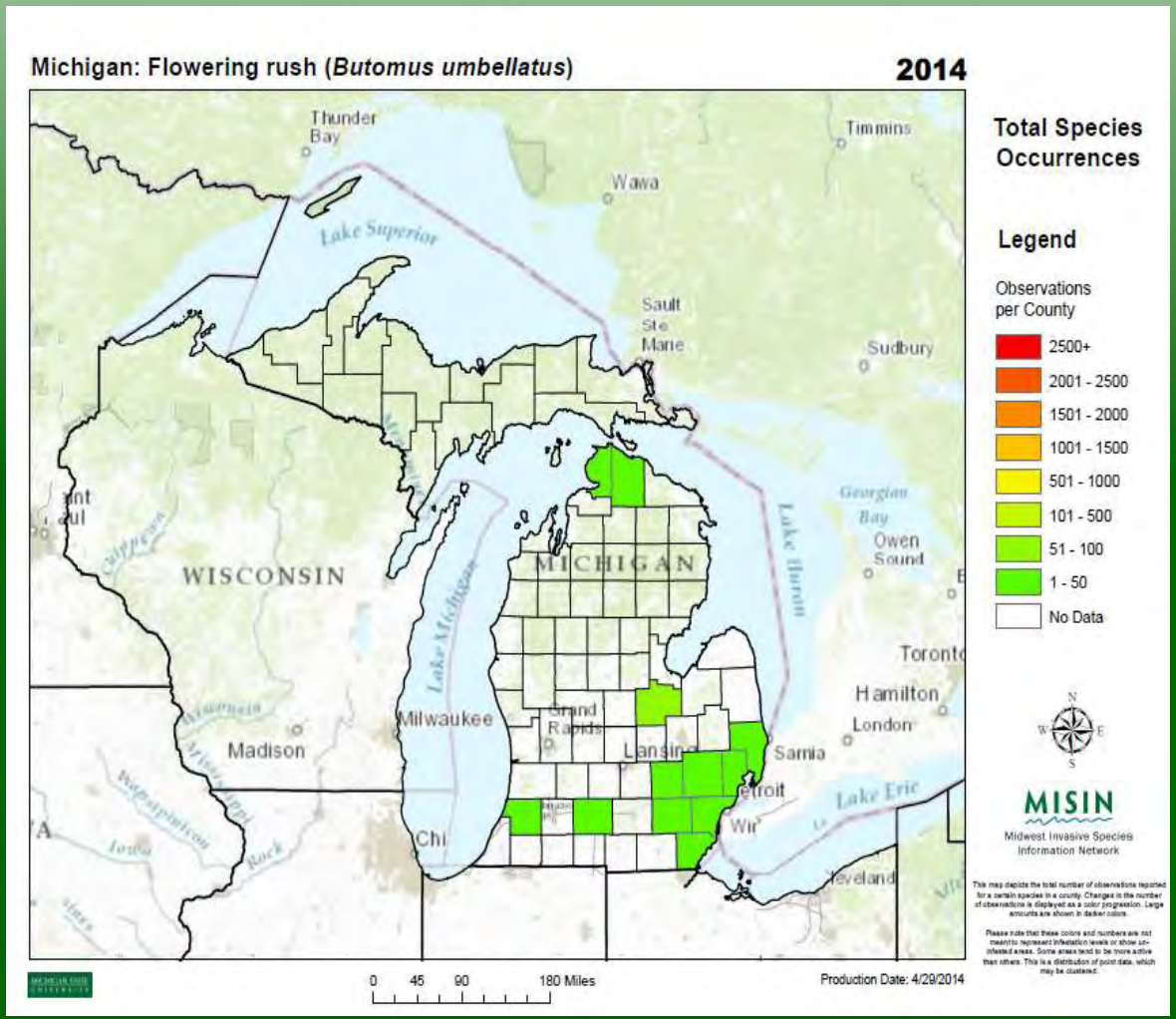
Not yet Detected in MI

European Frog-Bit

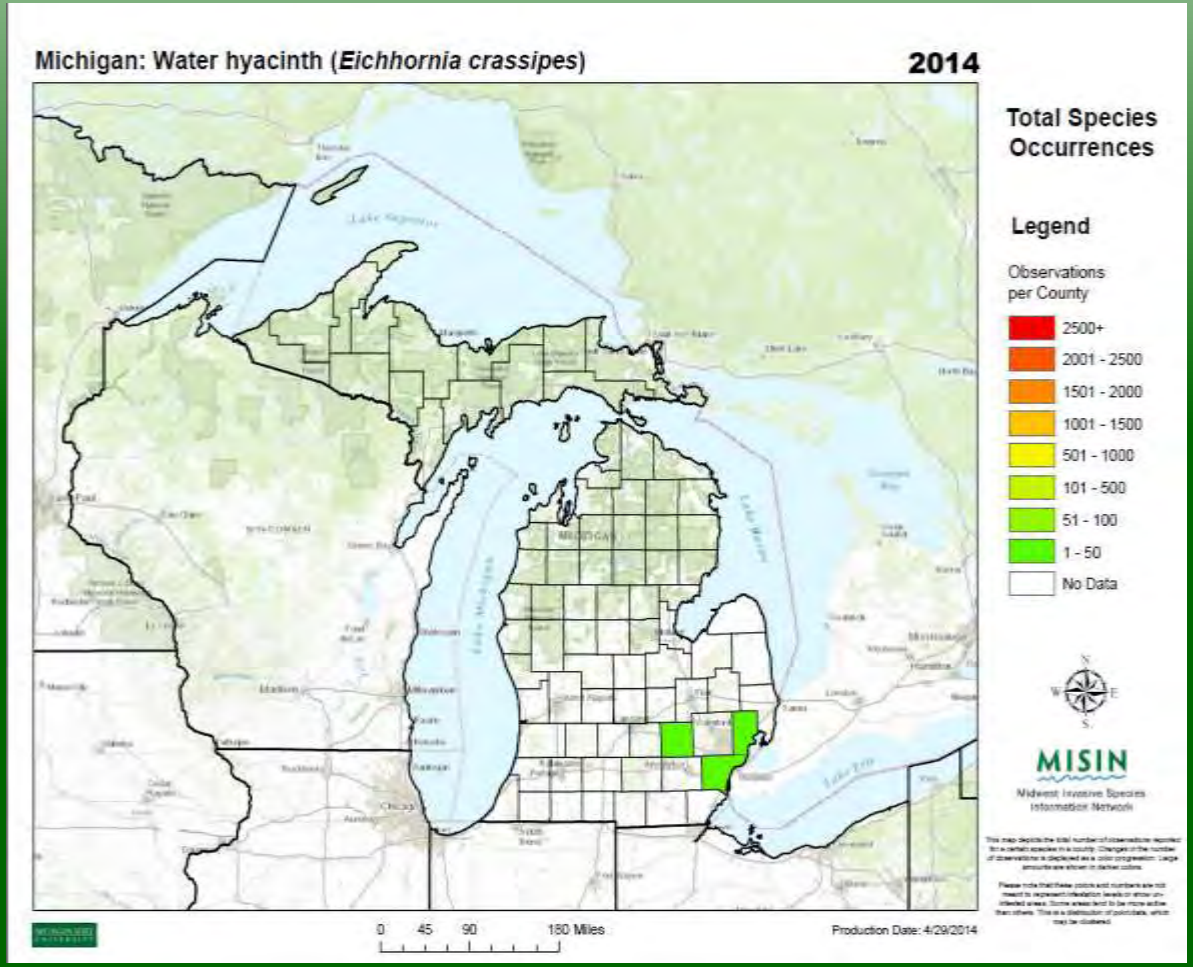
- Detected in 3 unique locations via EDRR in 2013



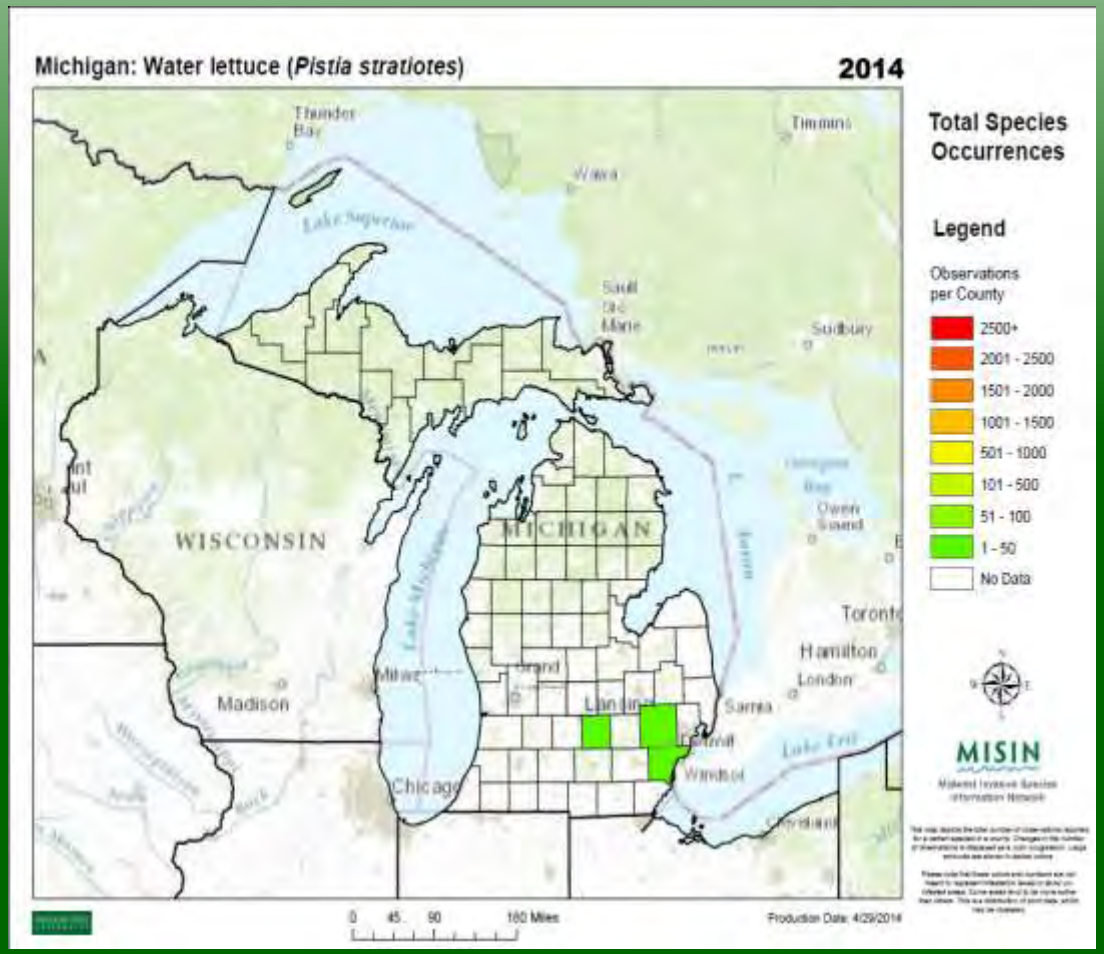
Flowering Rush



Water Hyacinth

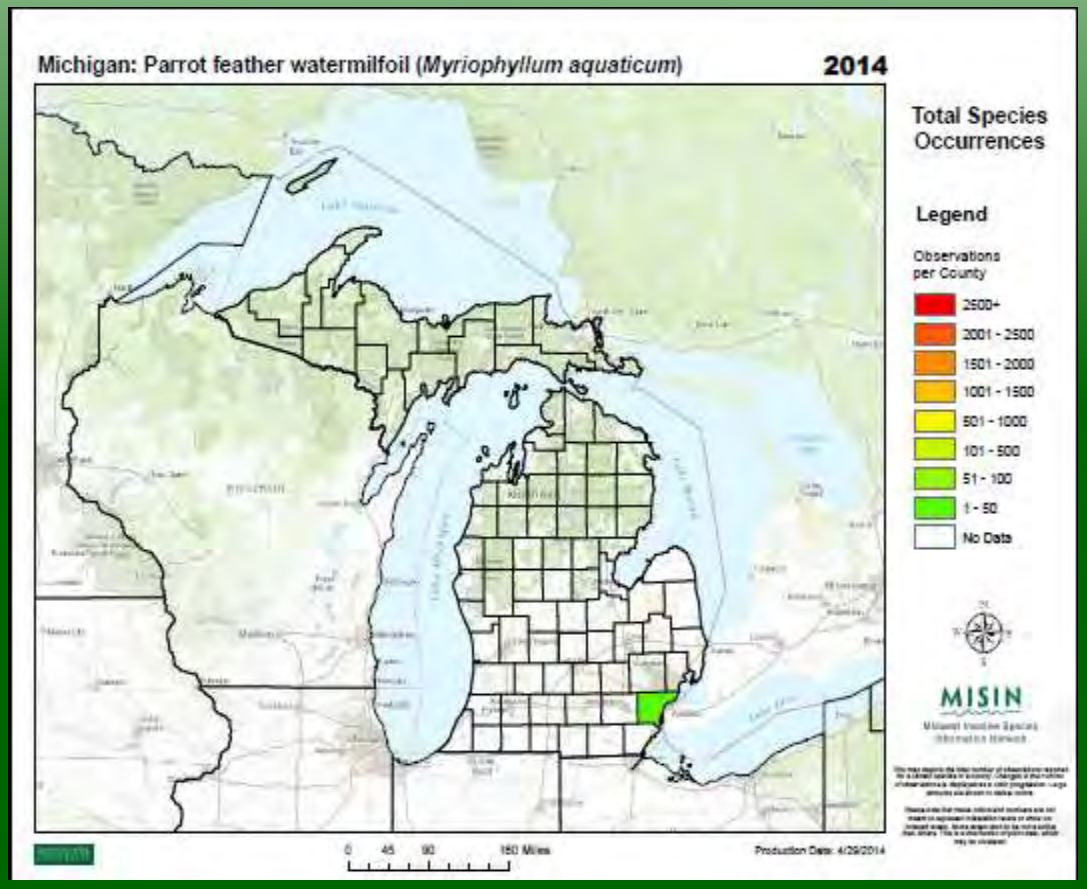


Water Lettuce



Parrot Feather Water-milfoil

- Newly detected through EDRR program



Developing A Response

Action 1: Report to appropriate personnel

Action 2: Is reported find unknown or high-threat species?

No

Yes

Action 3: Identify/Verify the Species

False Positive/Not found – No Further Action

Action 4: Conduct Risk Assessment: Candidate for response?

Yes

No

Action 5: Assess Response Options

No response feasible

Action 6: Decide to use ICS

Action 7a: Plan and implement response (NO ICS)

Action 7b: Plan and implement response with ICS

Action 8: Create after-action report, begin adaptive mgmt

Case Study: Parrot Feather

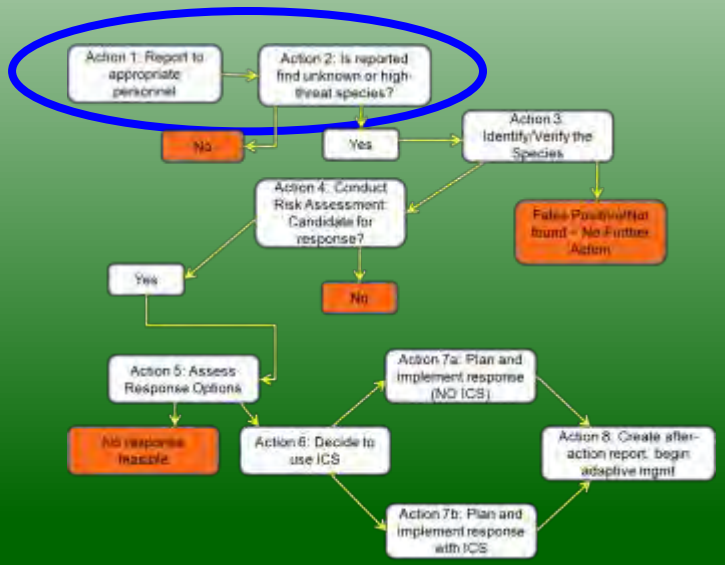
Unverified Report to DEQ Fall 2013

- Possible parrot feather
- Located in detention pond
- Brownstown Twp, Wayne County

Case Study: Parrot Feather

Action 1: Report to appropriate authorities

DEQ contacted DNR personnel



Action 2: Determine if high-threat species

Parrot Feather a prohibited species

Case Study: Parrot Feather

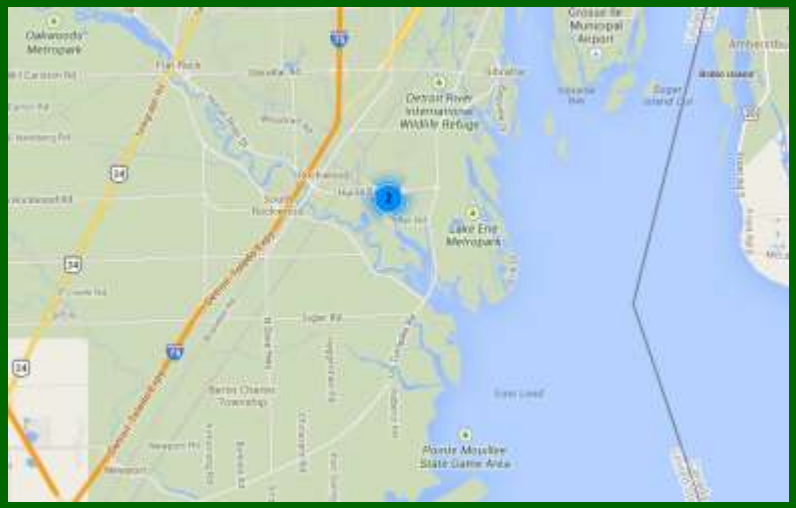
Action 3: Verify

- Site visit to verify species as Parrot Feather
  - Gather data, collect sample
    - Submitted to herbarium

Case Study: Parrot Feather

Action 4:
Risk Assessment

- Collected data
- Surveyed adjacent waters
- Assessed level of risk
- Communicated results



Case Study: Parrot Feather

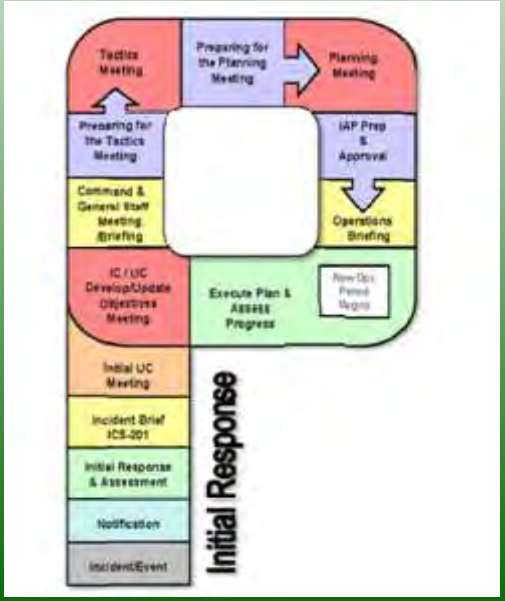
Action 5: Assess response options

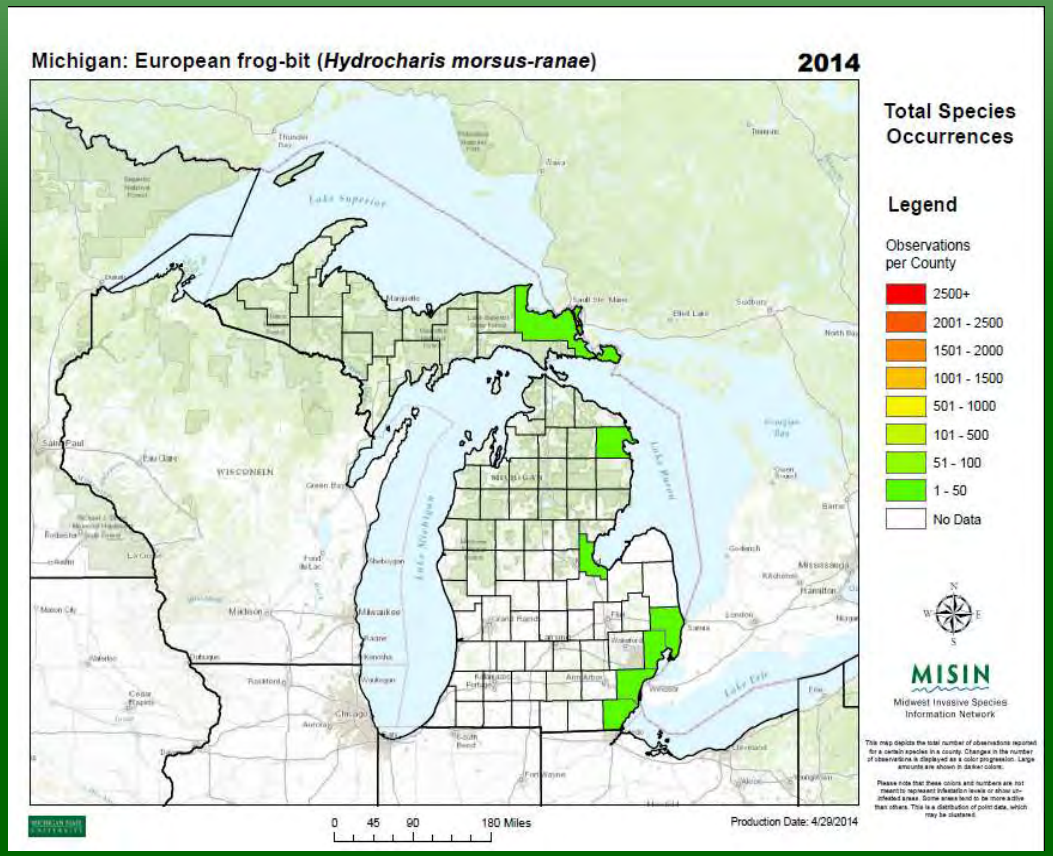
- Successful treatment options available?
- Feasibility, Accessibility, Necessity
- Mechanical vs. Chemical?
- Cost, impacts, regulations & permitting

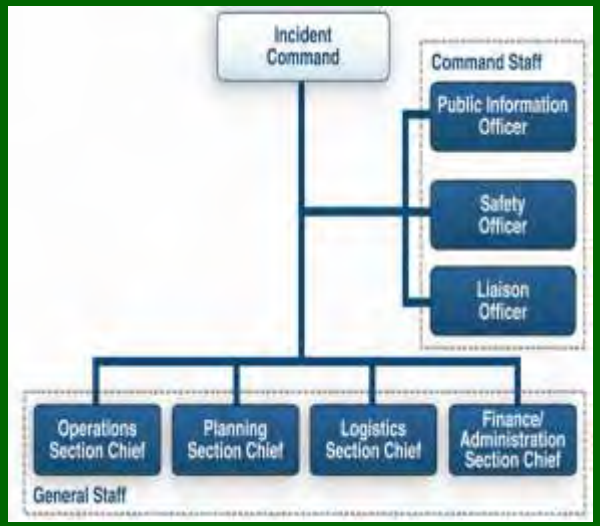
Case Study: Parrot Feather

Action 6: Determine use of ICS (Incident Command System)

- Appeared to be isolated



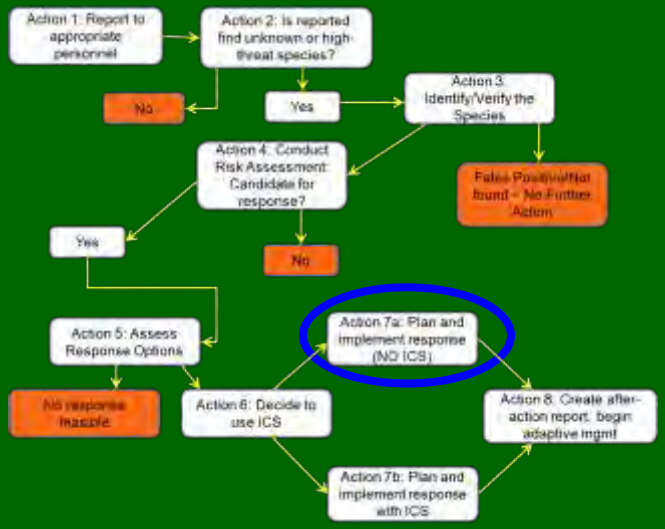




Case Study: Parrot Feather

Action 7: Implement Response

- Cooperative effort with local stakeholders
- Obtained permit
- Herbicide treatment in early November 2013
- Total timeline: 3 weeks



Case Study: Parrot Feather

Action 8: Follow-up

- Monitoring planned Summer 2014

EDRR Program Update

- Verified 60 unique detections
- Response efforts at 21 sites
- Additional surveys, monitoring, response begins June 2014

More Info:
www.michigan.gov/invasivespecies

How You Can Help

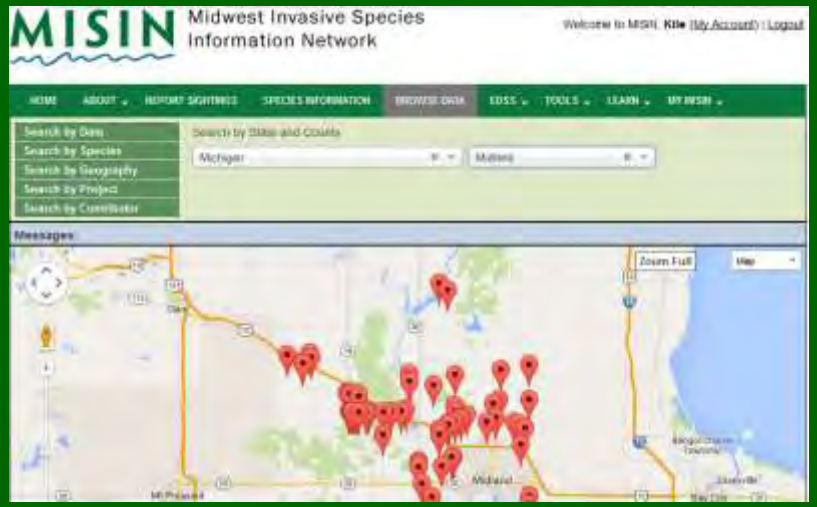
MISIN Midwest Invasive Species Information Network

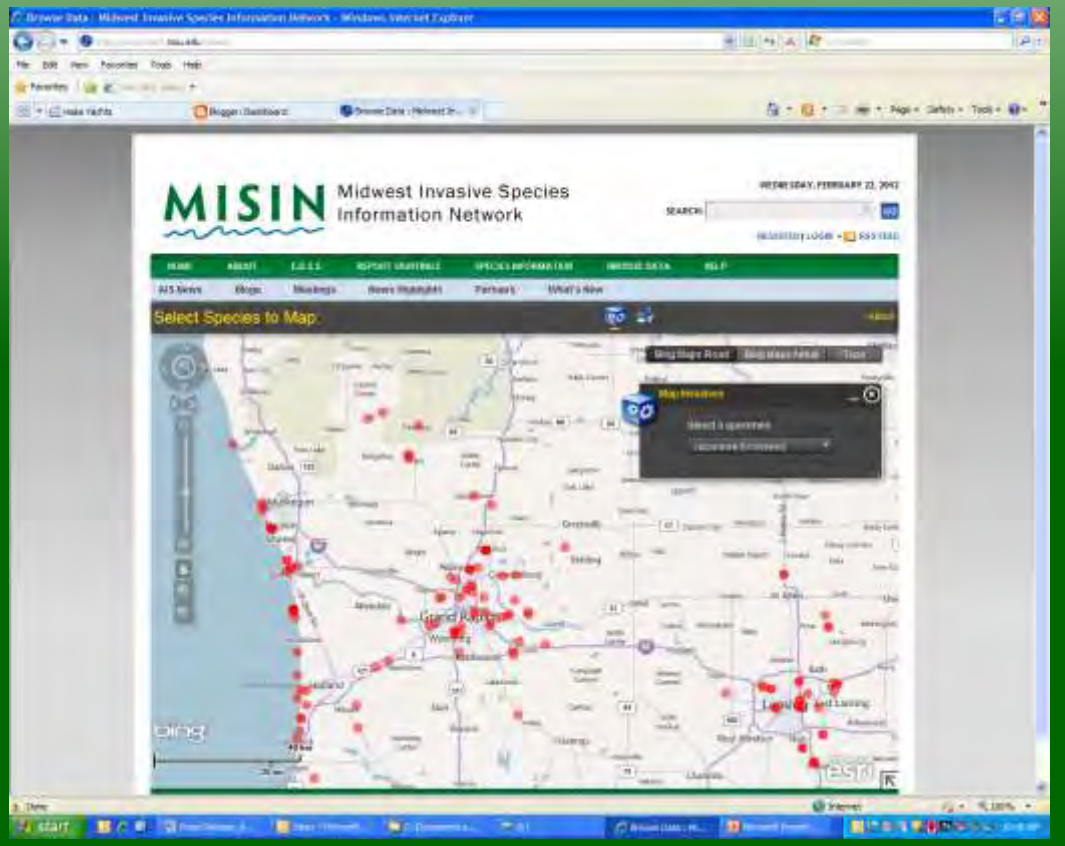
Learn, Identify, Report

More info:
www.misin.msu.edu

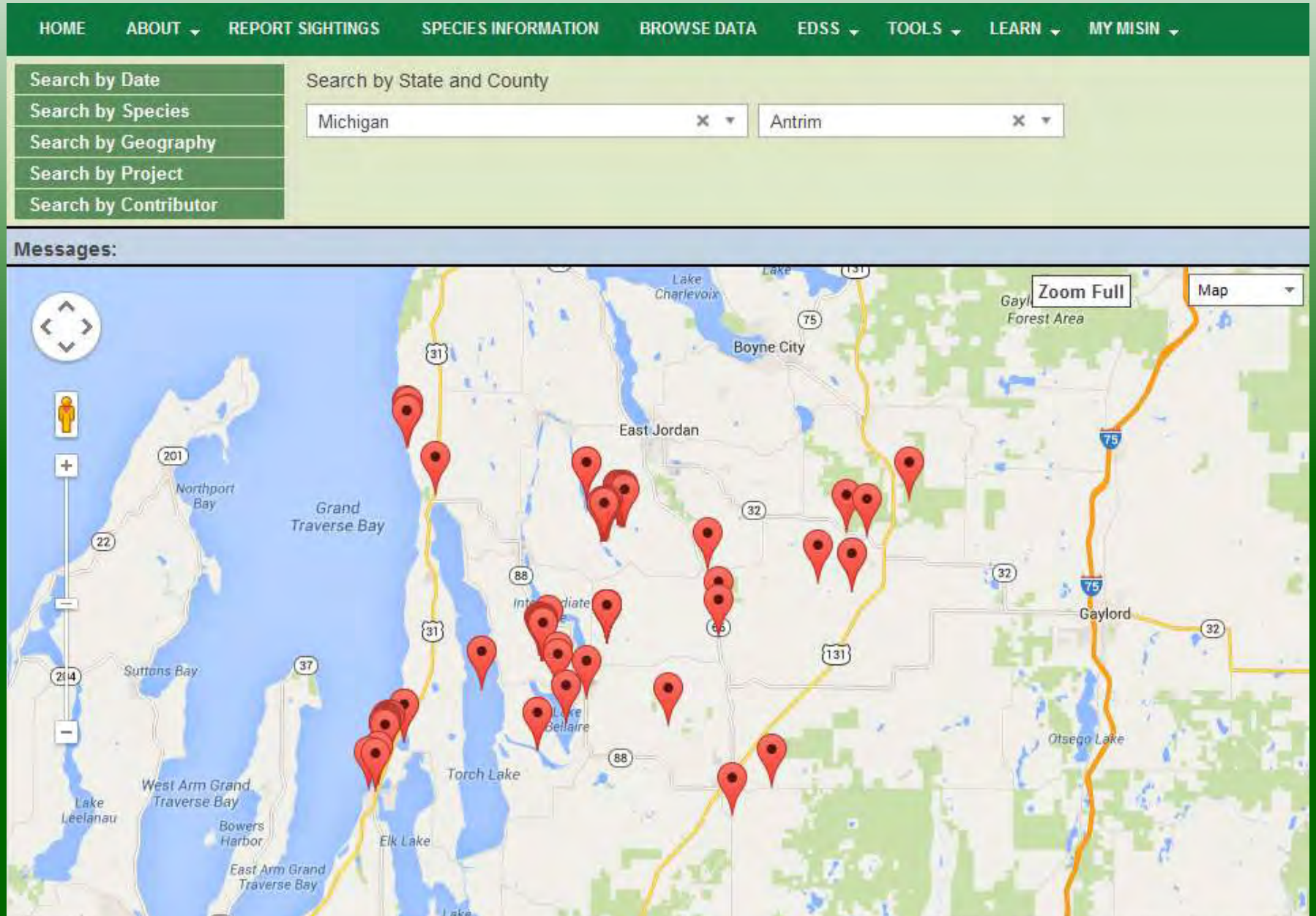
Mapping Invasive Species

- Critical for planning treatment
- Important for tracking spread
- Visit www.misin.msu.edu to map invasive plants





What you can do - MISIN – Browse data by geography or species



MISIN – Early Alerts

MISIN Midwest Invasive Species Information Network

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Alerts

The Midwest Invasive Species Inform
regional effort to develop and provide an early detection and rapid response (EDRR) resource for invasive species.

The goal of this regional resource is to assist both experts and citizen scientists in the detection and identification of invasive species in support of the successful management of invasive species.

This effort is being led by researchers with Michigan State University's Applied Spatial Ecology and Technical Services Laboratory in conjunction with a growing consortium of Supporting Partners.

Report Sightings

Report invasive species in your area. Your sightings are an important part of any successful control effort.

MISIN Alerts

Create custom email alerts for new observations in your area of interest.

Species Distribution

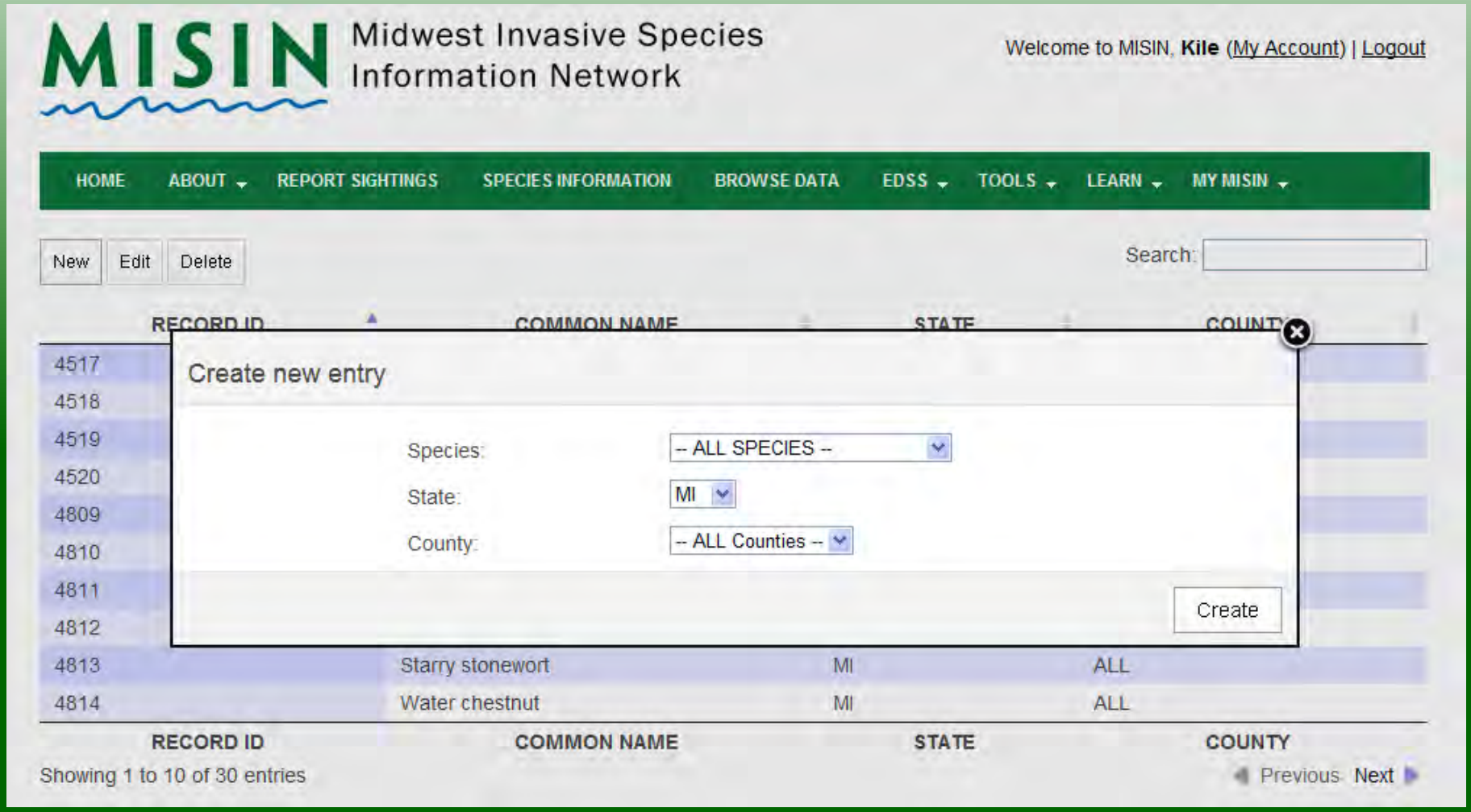
Browse the distribution of reported invasive species. Search by common name and geography.

Species Training Modules

News Channel

Recent Observations

MISIN – Early Alerts



MISIN – Maps on Demand

MISIN Midwest Invasive Species Information Network

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- maps OnDemand
- SmartPhone Apps
- State Resources
- Training Modules

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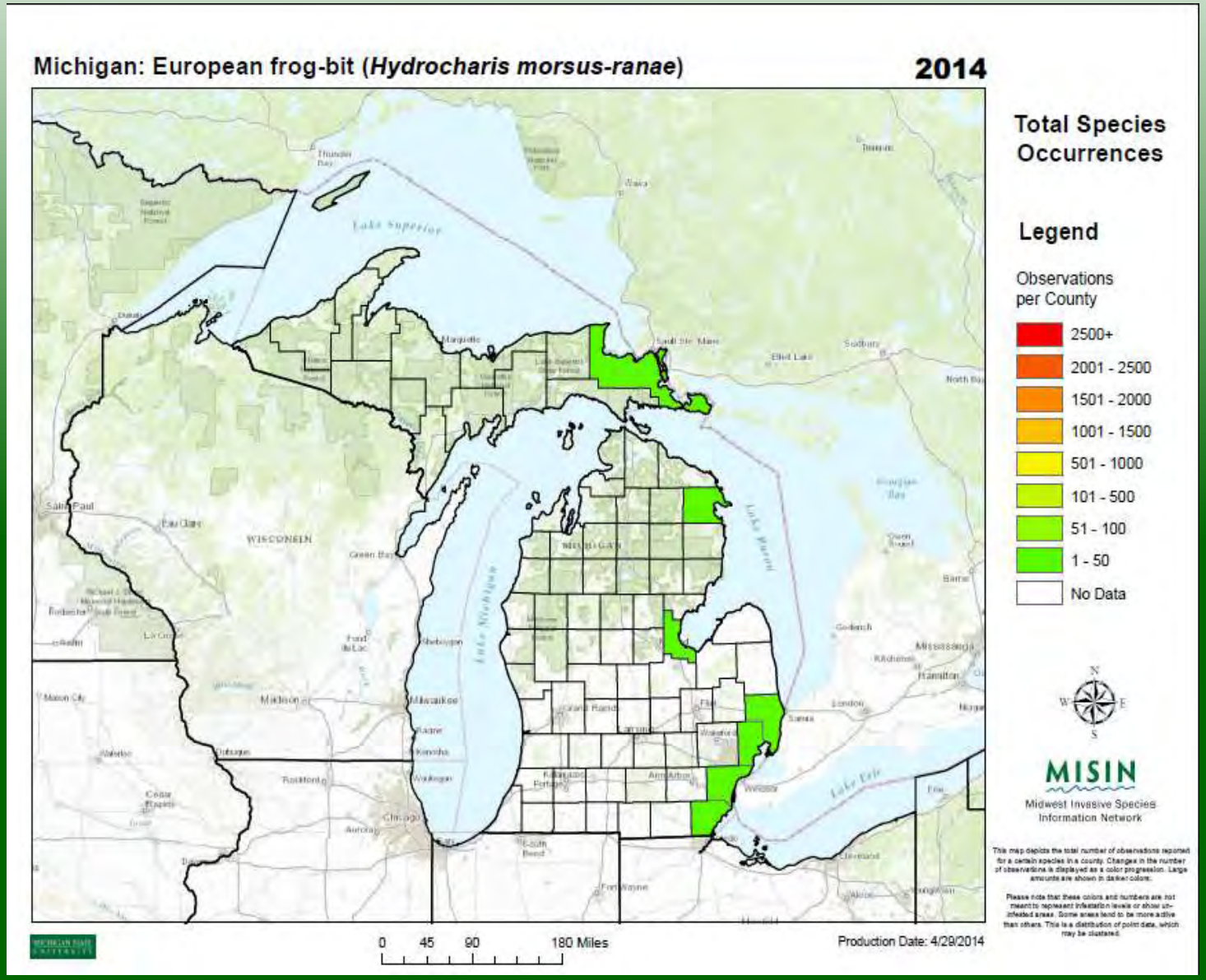

You can help spread the word - Emmet County

Acknowledgements

Private Landowners, Lake Associations

Michigan Inland Lakes Partnership

Michigan Natural Shoreline Partnership

Michigan Aquatic Managers Association

State of Michigan AIS Core Team (DNR,DEQ, and MDARD)

Midwest Invasive Species Information Network

Michigan Natural Features Inventory

Michigan State University

Michigan United Conservation Clubs

US Fish and Wildlife Service

US Environmental Protection Agency

Local Conservation Districts

Cooperative Weed Management Areas

Many others…

Additional resources & information:

www.michigan.gov/invasivespecies

www.michiganinvasives.org

www.misin.msu.edu