

# Invasive Species Early Detection and Response

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EGLE Water Resources Division

# Collaborative effort

- EDRI Team: Sarah LeSage, Tom Alwin, Kevin Walters, Christina Baugher, Ryan Wheeler, Erick Elgin, Phyllis Higman, Joanne Forman
- MI CISMAs
- Countless landowners!

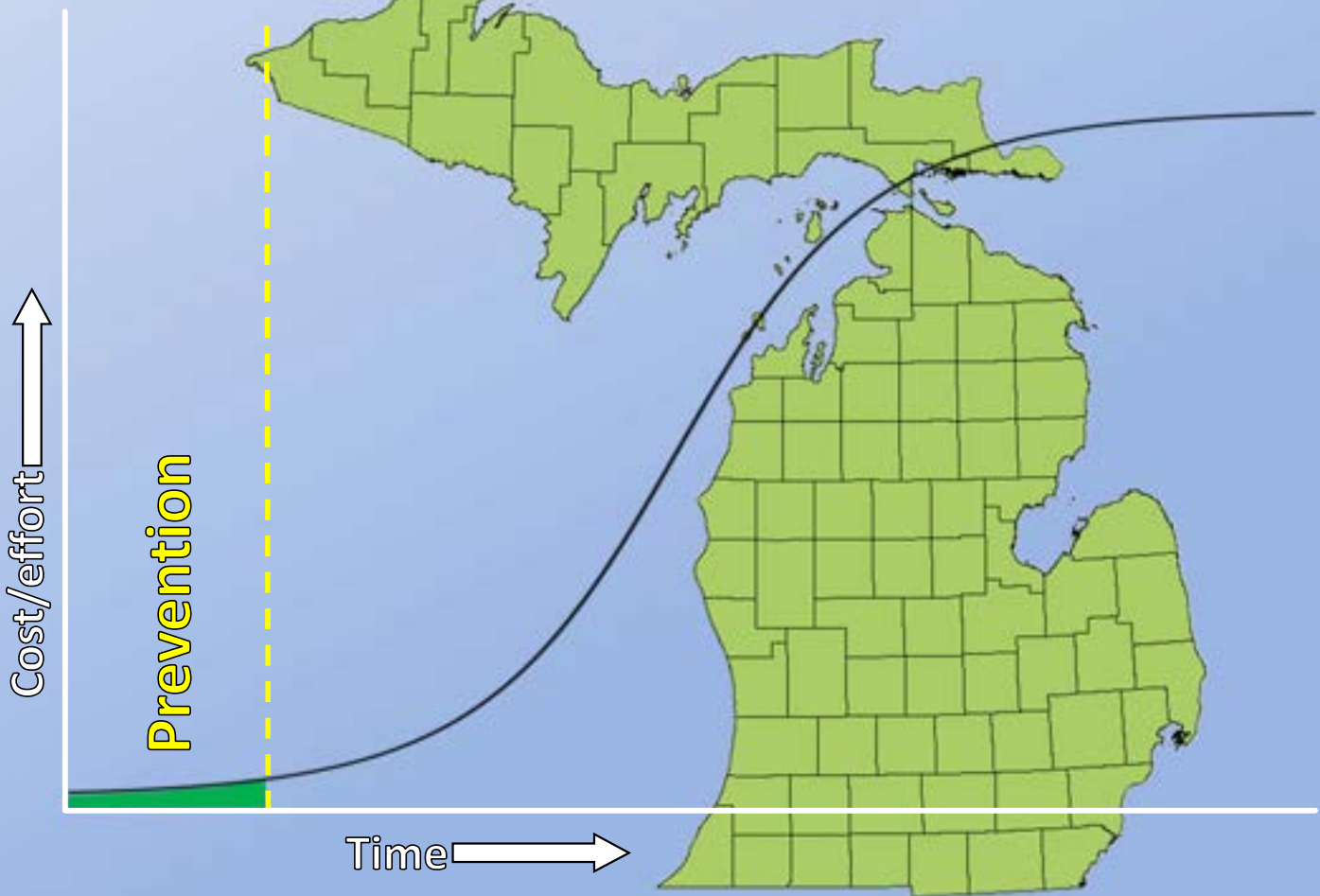


**Thank You!**

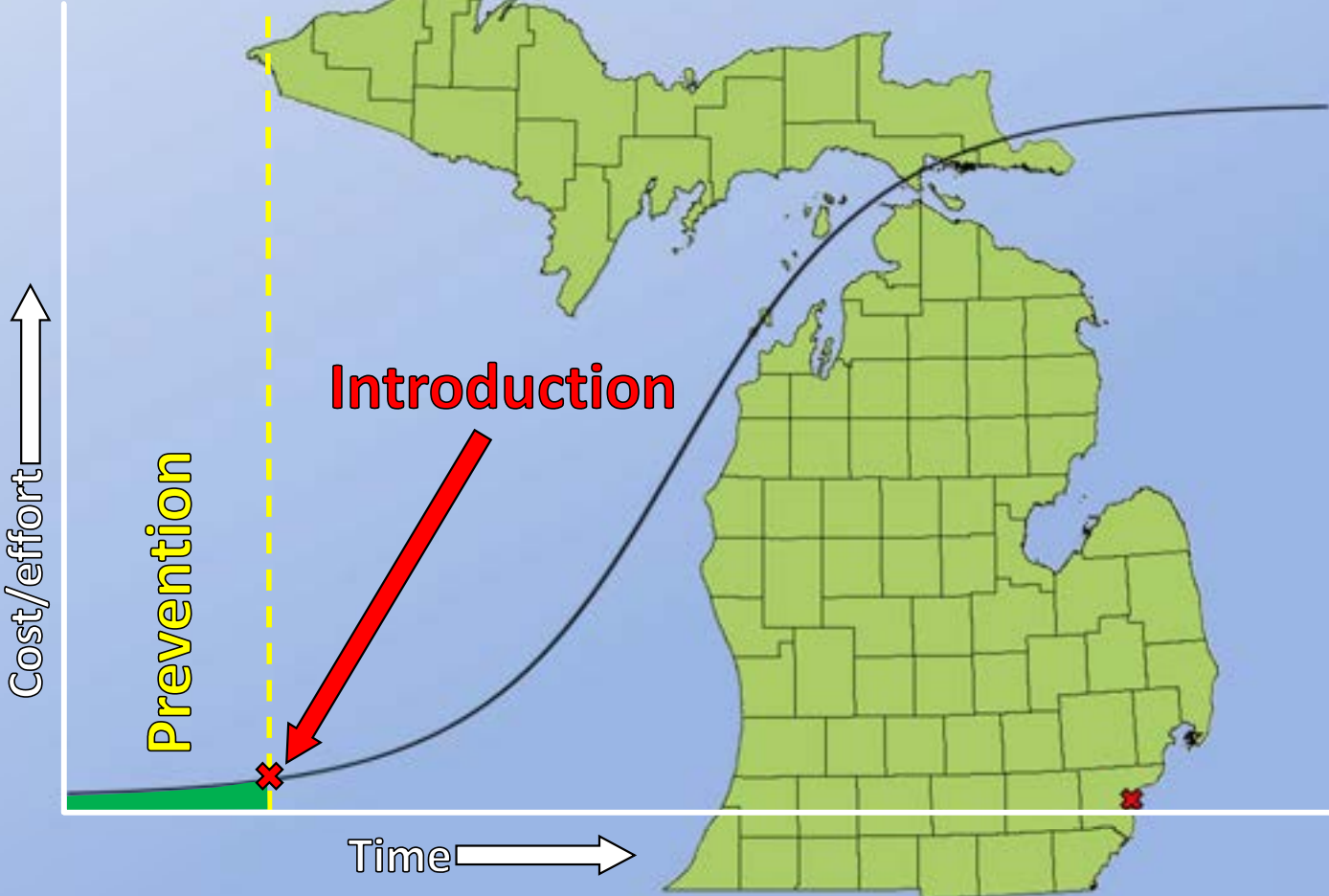
# Invasion Curve



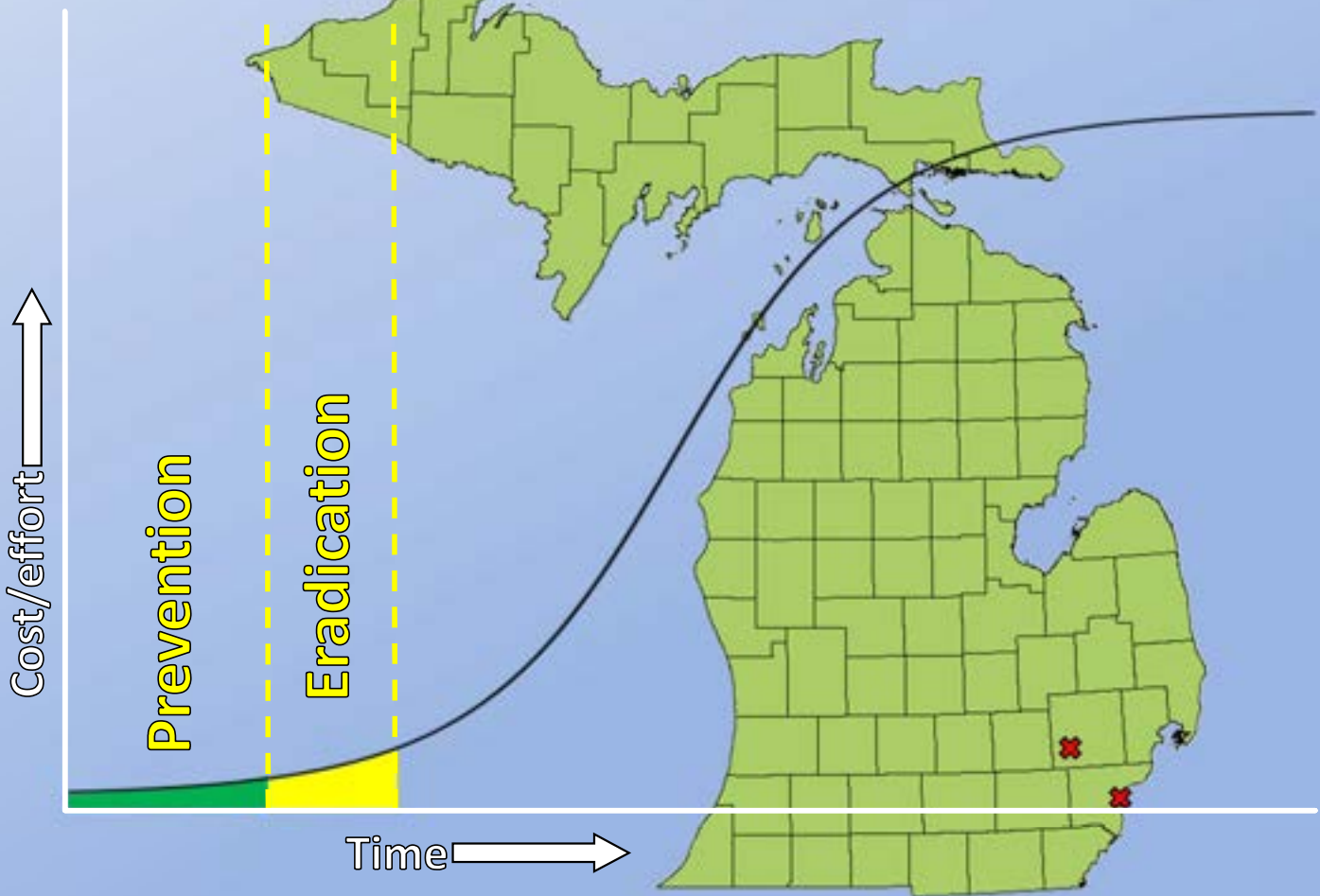
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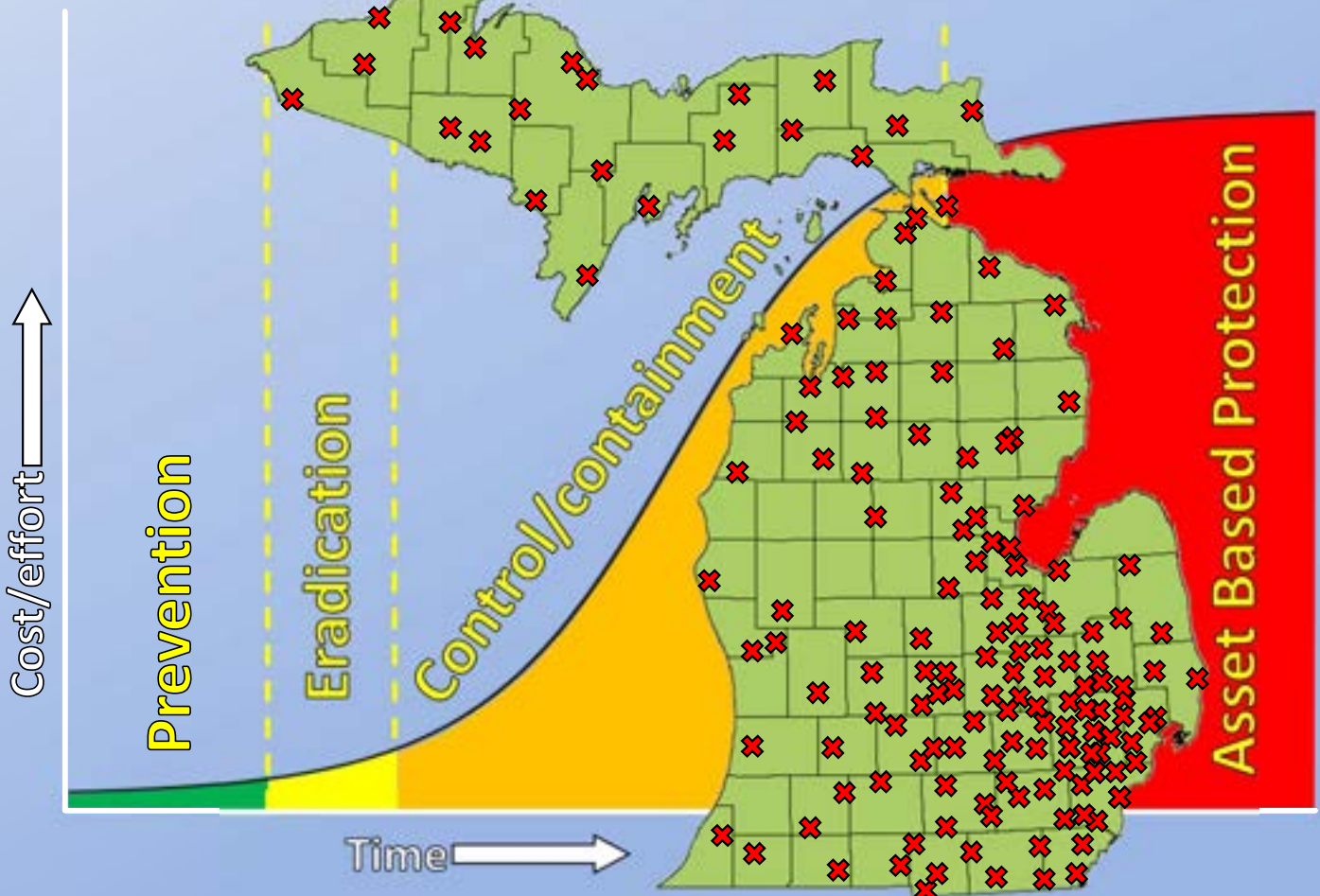
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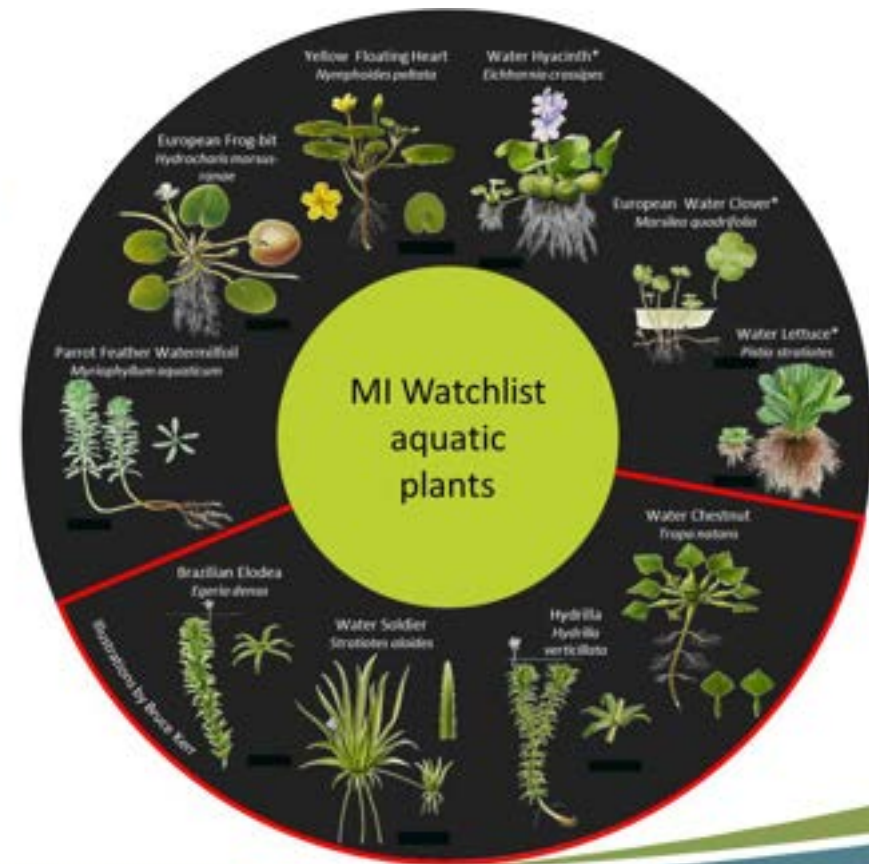
## Aquatic Invasive Species Control Costs



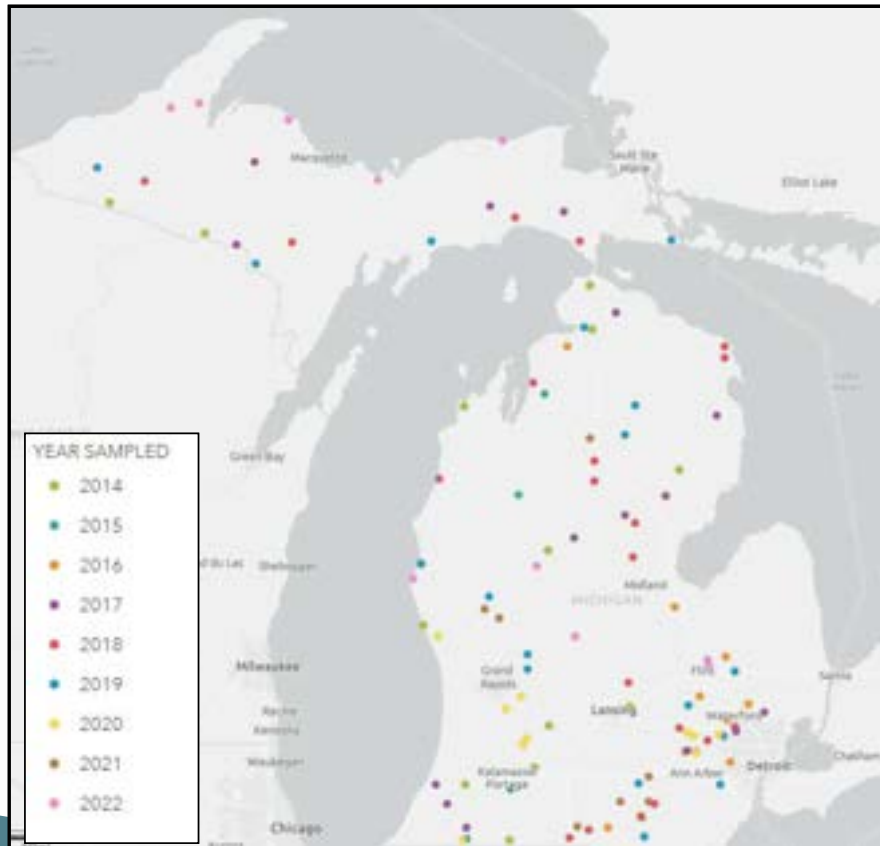


# Watch list aquatic plants

- Highest threat
- Limited distribution or not found in MI
- 6 of the 10 detected in MI
- 7 prohibited or restricted species
- 3 allowed in trade

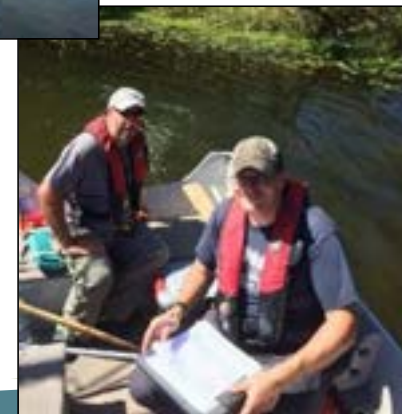
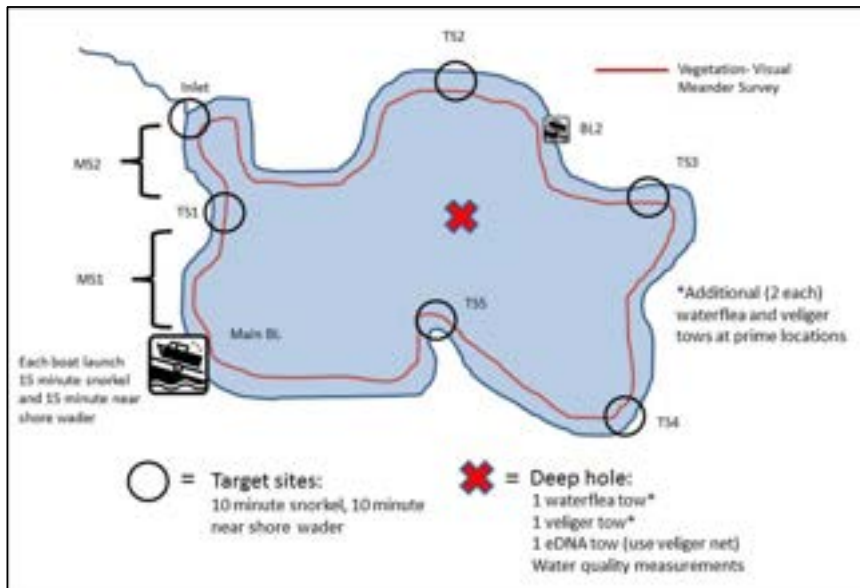


# Inland lakes Early Detection 2014-2022



- Targeted lake selection
- > 100 lakes surveyed
- 10-20 surveyed/year
- No new watch list species
- Some new (non-watch list) detections
- Data in MISIN and staff reports

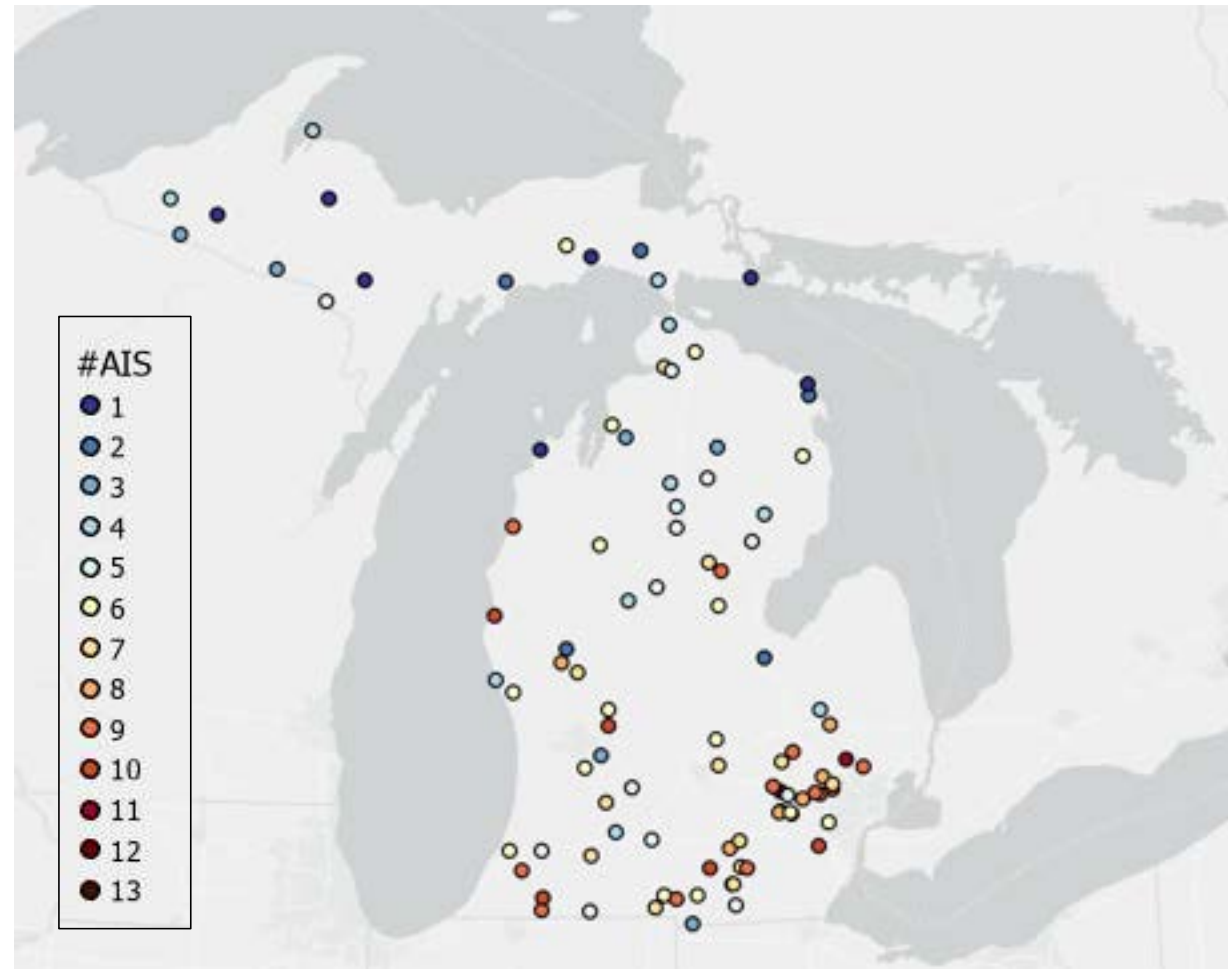
# Inland lake AIS Early Detection



## Background and Data Summary


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- 98 Individual Lake Meander Surveys between 2014 – 2021
- Spatial coverage across the entire state
- Recorded # of AIS detections



# Response process

- For Watch list AIS
- Follow MI response policy

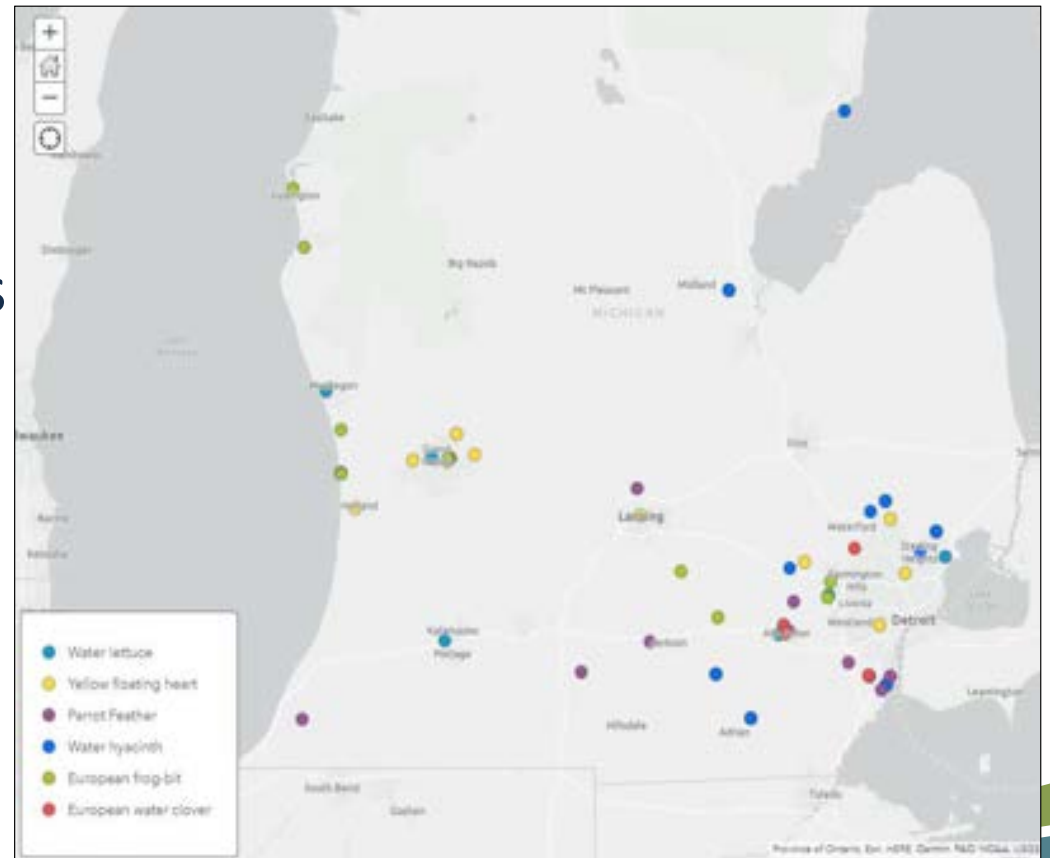
 <p>Michigan Department of Environmental Quality Michigan Department of Natural Resources Michigan Department of Agriculture and Rural Development <b>POLICY AND PROCEDURE</b></p>		
Original Effective Date: February 3, 2014	Subject: Response Plan for Aquatic Invasive Species in Michigan	
Revised Date:	Number: QOL-1-2014	Page 1 of 10



# Aquatic Invasive Plant Responses 2016-2022

## Goals:

- Prevent the establishment and spread of aquatic invasive plants on Michigan's watch list
- Pursue local eradication, when possible and practical
- 7 Eradictions to date

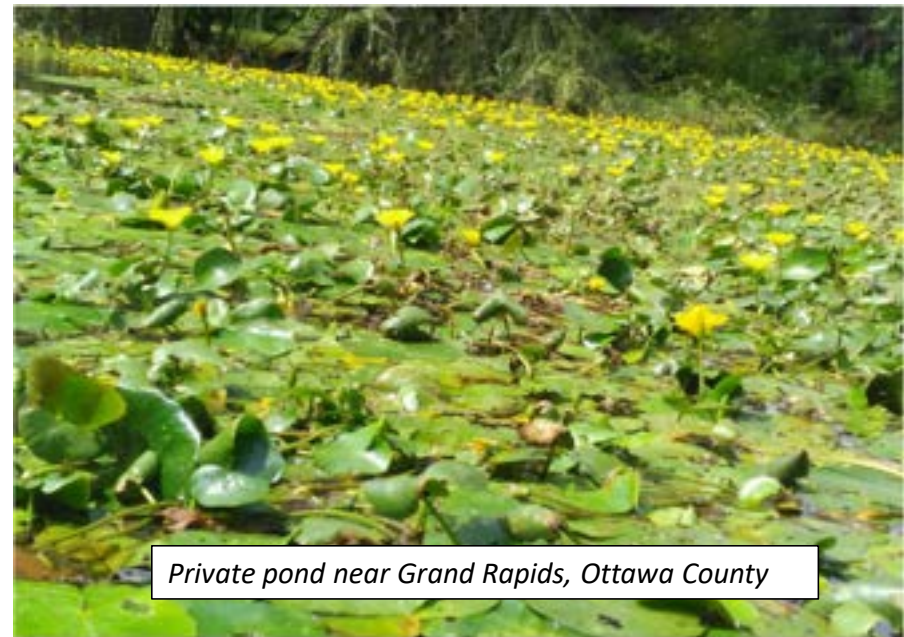


# Response Options

## Hand Removal



## Herbicide



\* Often a multi-year effort with a combination of options

# Jackson County case study-Parrot feather



*Private pond near Jackson Michigan, Jackson County*





# Jackson County case study

Sept 2016



July 2017



Aug 2017



Nov 2017



June 2018



Aug 2018



September 2018

ProcellaCOR

EGLE

# Jackson County case study

Oct 2018



2019



2020



# More recent parrot feather control – single treatment

**July 2019**



*Private pond near Homer, Calhoun County*

**June 2020**



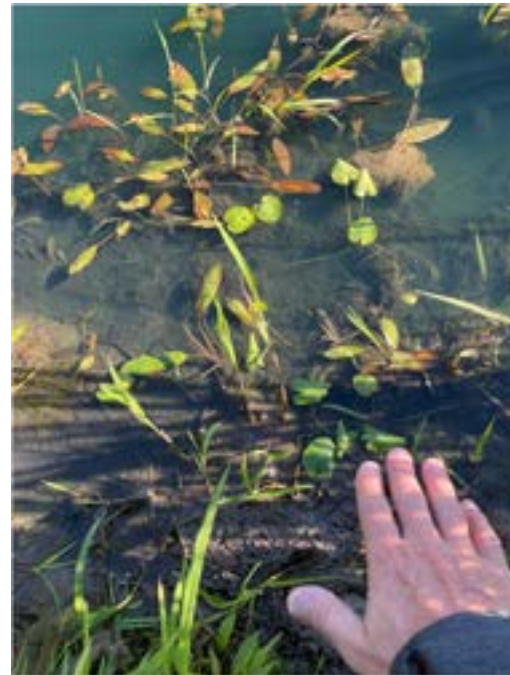
# Holland Christian School Pond, Allegan Co

Largest YFH infestation to date

**2018**



**2022**



Herbicide

2018

2019

2020

2021

Hand pull

2022

2023

# Ruddiman Lagoon, Muskegon Co



*1,400 lbs. water lettuce removed in October 2019*

## Reeds Lake and Fisk Lake, Kent Co

- Reported in 2016
- Outlier population at that time
- Ongoing effort working toward eradication since 2016
  - Frequent monitoring
  - Herbicide
  - Handpull
- Adaptive response
- Collaborative effort



*Crew hand removing European frog-bit response in Reeds Lake, Kent County*

## Reeds Lake currently

- 30+ acres herbicide treatments
- > 2000 lbs. of EFB removed by hand
- Still not eradicated
- Additional years anticipated
- A lot has been learned which has informed several other response efforts



# Reeds Lake-Lessons Learned

- Be adaptable
- Survey everywhere then re-survey in subsequent years
- Physical access to EFB is a significant barrier
- Nursery habitats pose a huge challenge
- EFB in open water habitats is easier to control
- Changes in water level impact EFB reproduction & treatment options
- Optimal windows for survey and treatment are short (May-early July)



## Accomplishments

>100 Acres treated  
and many 1,000s  
of lbs. removed

Eradication at 7  
sites

5 sites near  
eradication

In 2022 17 on-  
going responses

Over 100 inland  
lakes surveyed

Species summary  
reports

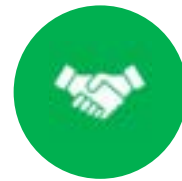
# Keys to a successful early detection and response initiative for watchlist aquatic invasive plants



DEDICATED  
STAFF



CONSISTENT  
FUNDING



PARTNER  
NETWORK



PUBLIC  
PARTICIPATION



RESEARCH  
AND TOOLS



SUSTAINED  
EFFORT

# Questions

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