

An Interagency Approach to Aquatic Invasive Species Outreach, Monitoring and Control



Kevin Walters & Tom Alwin
MI DEQ Water Resources Division



At least we're not Florida...





- Leaders in Environmental Stewardship
- Full Partners in Economic Development
- Excellent Customer Service

Water Resources Division

- **Protect and Monitor...**
 - **4 Great Lakes**
 - **11,000 Inland Lakes**
 - **36,000 river miles**
 - **5 million acres of wetlands**
 - **70,000 acres of coastal dunes**
- ...for swimming, fishing, drinking water and healthy aquatic ecosystems.**

Water
quality

Water
use

Invasive
species

Today's road map

- Introduction & Overview of the Michigan's AIS program
- AIS Decontamination Procedures
- AIS Outreach Efforts for Inland Lakes
- AIS Monitoring Efforts and Updates

And sprinkled throughout...

- ID for Michigan's AIS Watch List Species





What is an invasive species?



Invasive Species Definition

(from Michigan's state management plan)

*“An invasive species is defined as a species that is
not native and whose introduction causes, or is
likely to cause, economic or environmental harm or
harm to human health.”*

State of Michigan AIS Core Team



Department of Natural Resources

- Fisheries Division
- Wildlife Division
- Parks & Recreation Division
- Law Enforcement Division



Department of Agriculture & Rural Development

- Pesticide & Plant Pest Management Division
- Animal Industry Division



Other “as needed” participants

- Department of Transportation
- DNR Forestry
- Attorney General



Department of Environmental Quality

- Water Resources Division
- Office of the Great Lakes

Michigan's AIS State Management Plan

Goal 1: **Prevent new introductions** of AIS into Michigan waters

Goal 2: **Limit the spread** of established populations of AIS into unfested waters of the state

Goal 3: Develop an **early detection and rapid response** program to address new AIS invasions

Goal 4: **Manage and control** AIS to lessen the harmful ecological, economic, social and public health impacts





Michigan Invasive Species Grant Program (MISGP)

- Est. 2014
- Funded through annual appropriation by the Michigan legislature (general fund)
- First state funding dedicated to invasive species



MISGP Awards 2014

\$4,065,000

- 19 grants
 - Regional cooperative prevention, detection, eradication and control (11)
 - Integrated and novel approaches towards treating Eurasian water milfoil and other aquatic invasive plants (3)
 - Reduction of forest disease incidence and transfer (1)
 - Prevention of new forest invaders (1)
 - Enhancing public reporting, training, information access, outreach and education (3)



MISGP Timeline

June 16, 2015

- Request for Pre-proposals

July 31, 2015

- Pre-Proposals due

September 1, 2015

- Request for Full Proposals

October 30, 2015

- Full proposals due

Awards announced January 2016



www.michigan.gov/dnr-grants

Michigan Natural Resources Trust Fund

LWCF Outdoor Recreation Legacy Partnership Program

Recreation Passport Grants

Wildlife Habitat Grant Program

History

Hunting & Trapping

Law Enforcement

Licenses, Applications & Permits

Press Releases, Maps & Data

Public Land Managed by the DNR

Wildlife & Habitat

Sign up for email from the DNR

DNR SCORECARD

Available Grants

- Recreation Acquisition and Development
 - [Land and Water Conservation Fund \(LWCF\)](#)
 - [NEW! LWCF Outdoor Recreation Legacy Partnership Program](#)
 - [Michigan Natural Resources Trust Fund \(MNRTF\)](#)
 - [Recreation Passport Grants \(RPG\)](#)
 - [5-Year Recreation Plan](#)
- Boating
 - [Boating Infrastructure Grants](#)
 - [Clean Vessel Act - Boat Pumpout Grants](#)
 - [Waterways Program Grants](#)
- Dam Management
 - [Dam Management Grants](#)
- Fisheries
 - [Michigan Habitat Improvement Fund Program Grants](#)
 - [Aquatic Habitat Grant Program](#)
- Forestry
 - [Community Forestry Grants](#)
 - [DTE Energy Foundation Tree Planting Grants](#)
 - [Federal Pass Through Funds](#)
 - [Forest Stewardship - Certified Plan Writing Grants](#)
 - [Forest Stewardship - Outreach and Education Grant Program](#)
 - [Michigan Volunteer Fire Assistance](#)
- Invasive Species
 - [Invasive Species Grant Program](#)
- Law Enforcement
 - [Marine Safety Grants to Counties](#)
 - [Off Road Vehicle \(ORV\) Law Enforcement Grants](#)
 - [Off Road Vehicle \(ORV\) Safety Education Grants](#)
 - [Snowmobile Law Enforcement Grants Program](#)

Updated September 15, 2015

Invasive Species Reporting in Michigan

The following information is presented as a guide for reporting occurrences of select invasive species of concern in Michigan.

Invasive Species "Watch List"

The invasive species included on the watch list are priority species that have been identified as posing an immediate and significant threat to Michigan's natural resources. These species have either never been confirmed in Michigan or have very limited distribution, or are localized. Early detection and timely reporting of occurrences of these species is crucial for increasing the likelihood of stopping an invasion and limiting negative ecological and economic impacts. Species are listed below by category. The invasive species below should be reported immediately and directly to staff. Please use the contacts below each category to report a possible detection of a watch list species.

Insects and Tree Diseases (Tree diseases list the scientific name for the pathogen or fungus associated with the disease):

- Asian longhorned beetle (*Anoplophora glabripennis*)
- Balsam woolly adelgid (*Adelges piceae*)
- Hemlock woolly adelgid (*Adelges tsugae*)
- Thousand cankers disease (*Geosmithia morbida*)

REPORT the species above to John Bedford – MDARD Plant Industry Section,
bedfordj@michigan.gov, 517-284-5650

Mammals:

- Nutria (*Myocastor coypus*)

REPORT the species above to Sue Tangora – DNR Wildlife Division,
tangoras@michigan.gov, 517-284-6223

Terrestrial Plants:

- Asiatic sand sedge (*Carex kobomugi* Ohwi)
- Chinese yam (*Dioscorea oppositifolia* L.)
- Himalayan balsam (*Impatiens glandulifera*)
- Japanese stiltgrass (*Microstegium vimineum* (Trin.) A. Camus)
- Kudzu (*Pueraria montana* var. *lobata*)
- Mile-a-minute weed (*Persicaria perfoliata*)

REPORT the species above to Sue Tangora – DNR Wildlife Division,
tangoras@michigan.gov, 517-284-6223

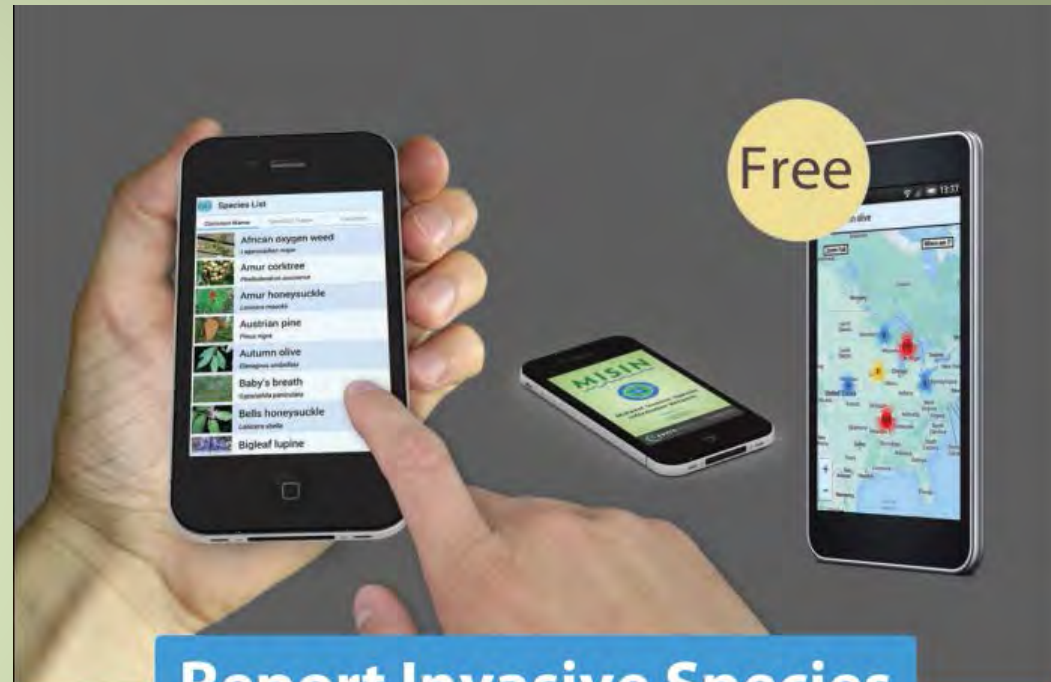
Aquatic Plants:

- Parrot feather (*Myriophyllum aquaticum*)
- Yellow Floating Heart (*Nymphoides peltata*)
- European frog-bit (*Hydrocharis morsus-ranae*)

Learn, Identify, Report, Map

MISIN Midwest Invasive Species
Information Network

www.misin.msu.edu



Report Invasive Species

MISIN Smartphone App

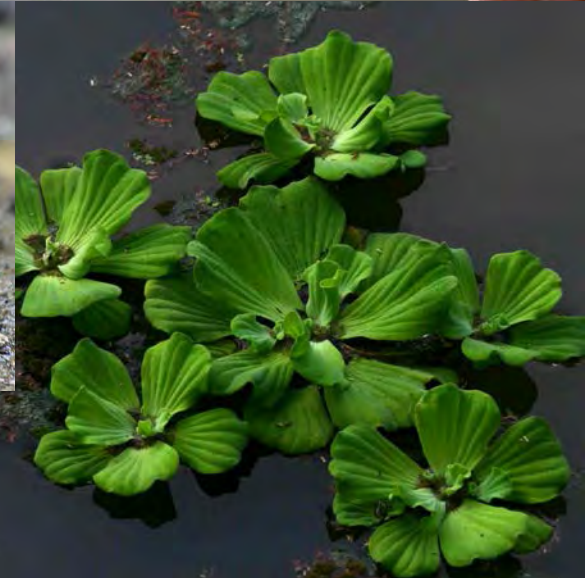
The MISIN smartphone app provides a mobile solution for the capture of invasive species observations. You can play an important role in the early detection and rapid response to new invasive threats in your area by contributing invasive species observations to the MISIN project.

Features

- ✓ Identify and report 230+ different species
- ✓ Capture and submit species field observations
- ✓ View real-time species observation maps
- ✓ Include field images with your observations
- ✓ Browse information about top Midwest invaders



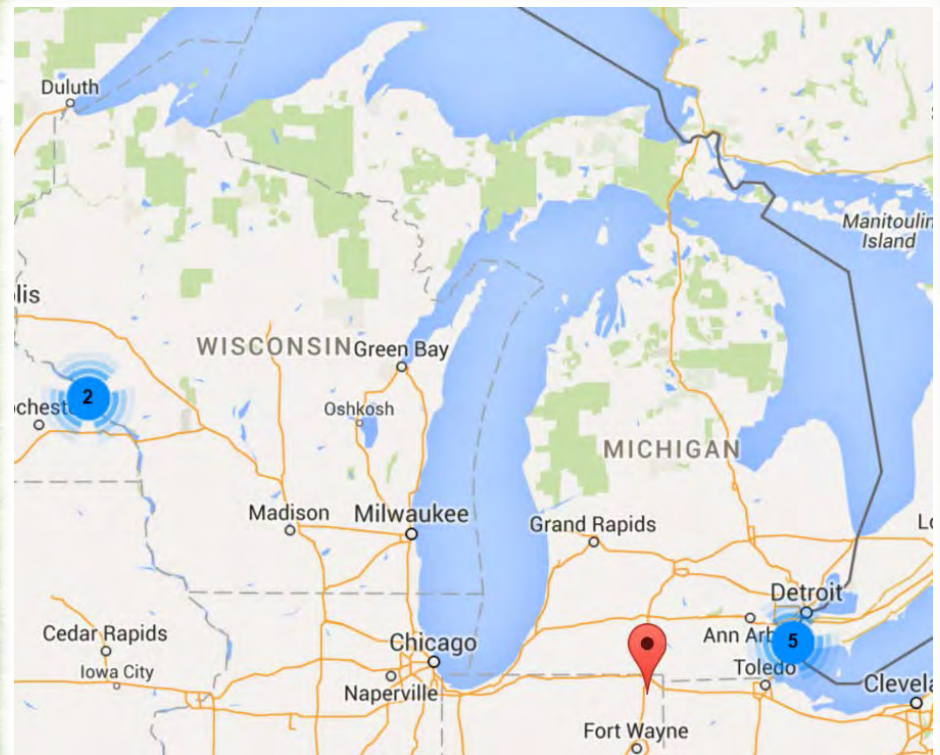
Watch List ID





Parrot Feather

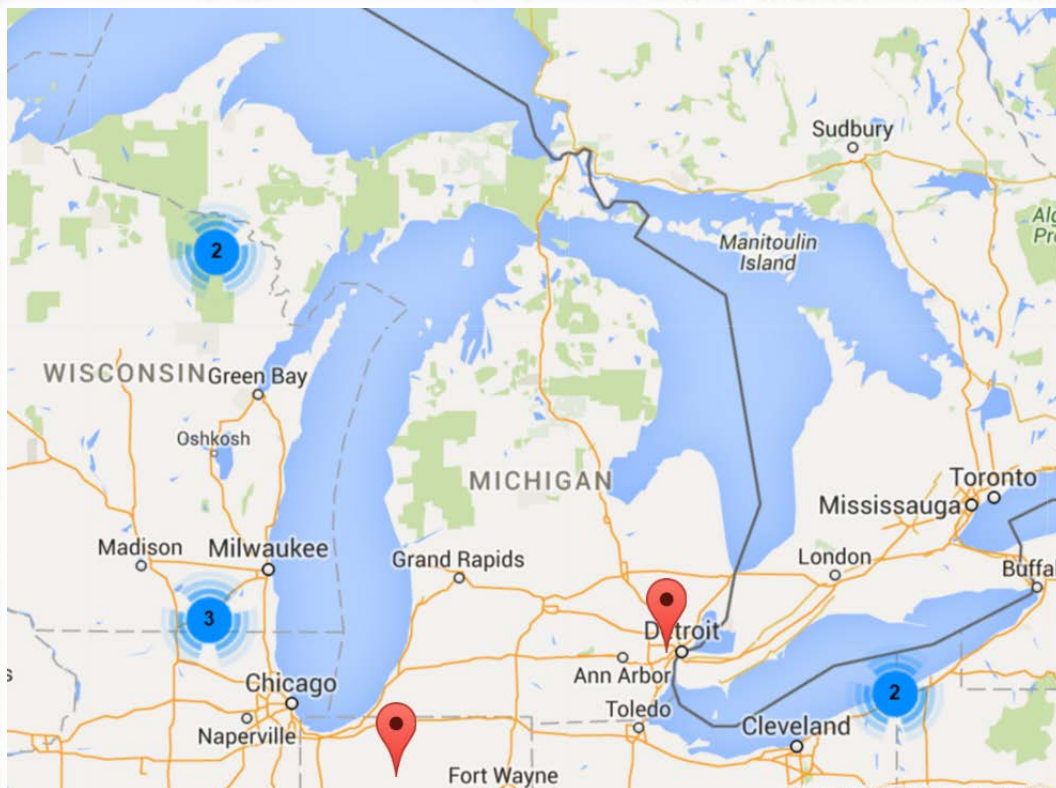
Parrot Feather



Yellow Floating Heart



Yellow Floating Heart



European Frogbit

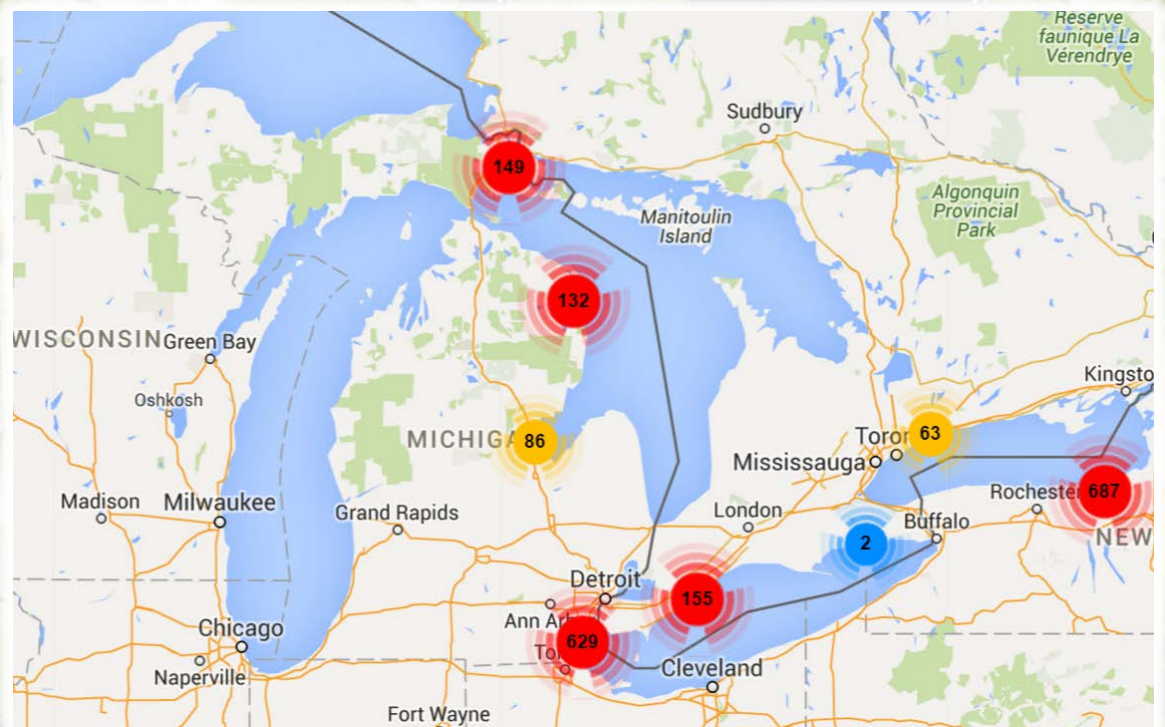
A photograph of a pond or wetland area. The water surface is almost entirely covered by a dense layer of small, round, green floating leaves, identified as European Frogbit. In the background, there is a thick stand of tall, green reeds or grasses. On the right side of the foreground, a clump of taller, green grasses grows out of the water. The overall scene is a natural, somewhat overgrown aquatic environment.

07.17.2013 16:00

European Frogbit



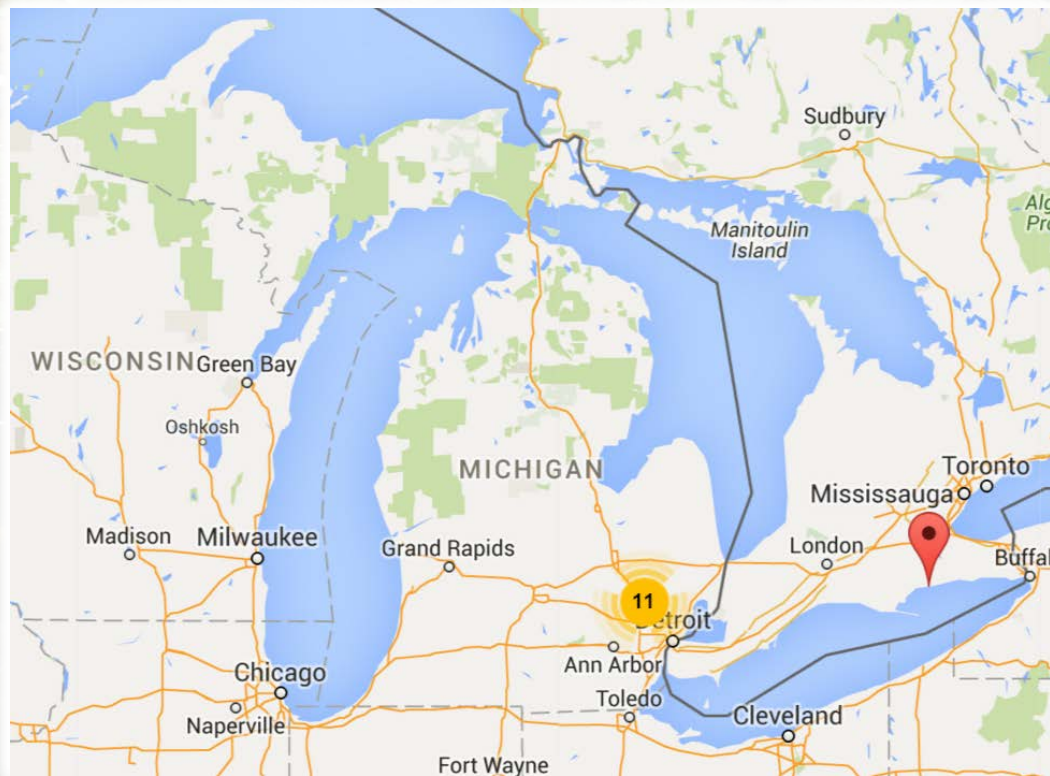
European Frogbit



European Water Clover



European Water Clover



Northern snakehead



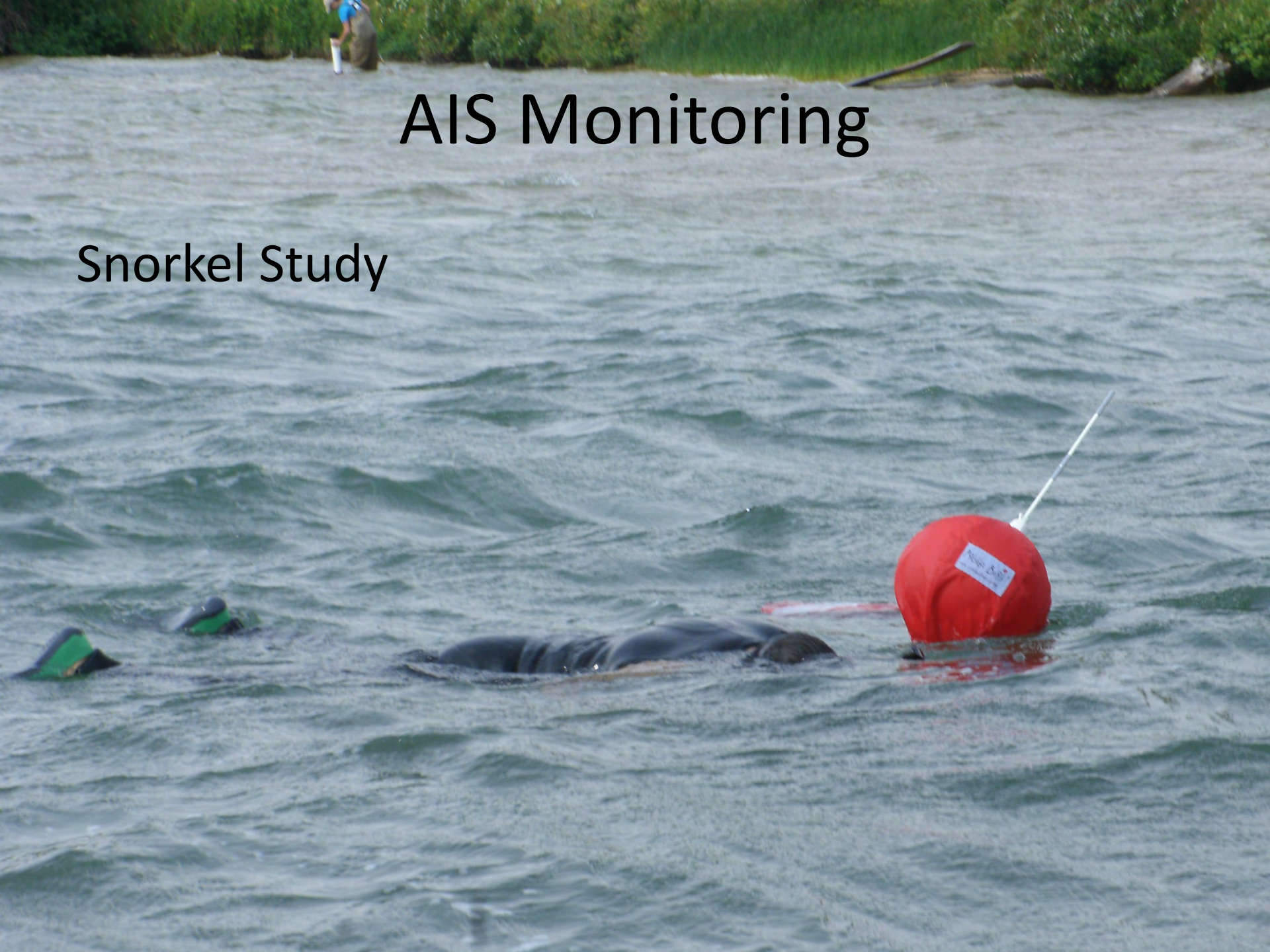
Tmm11

Northern snakehead

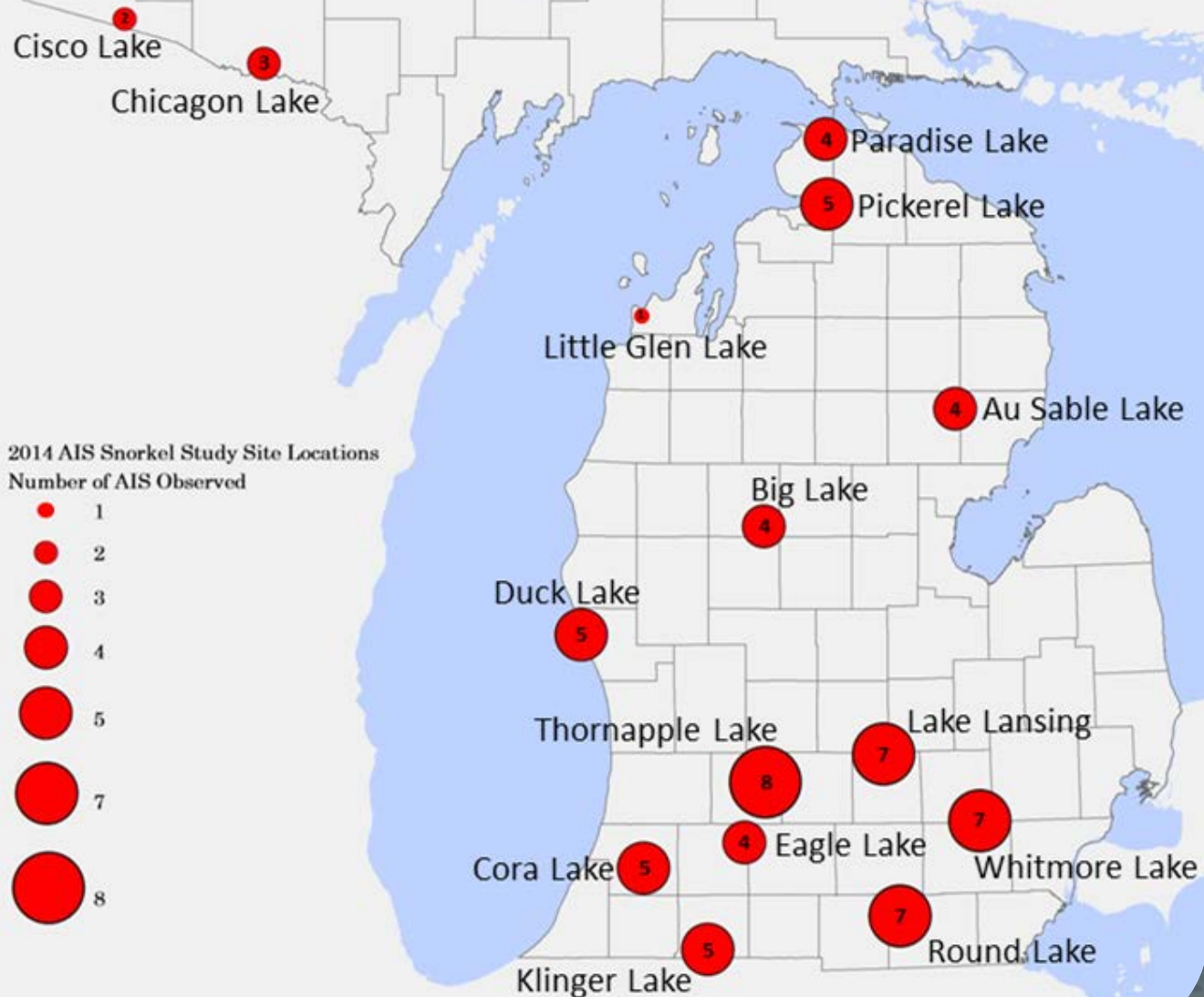


AIS Monitoring

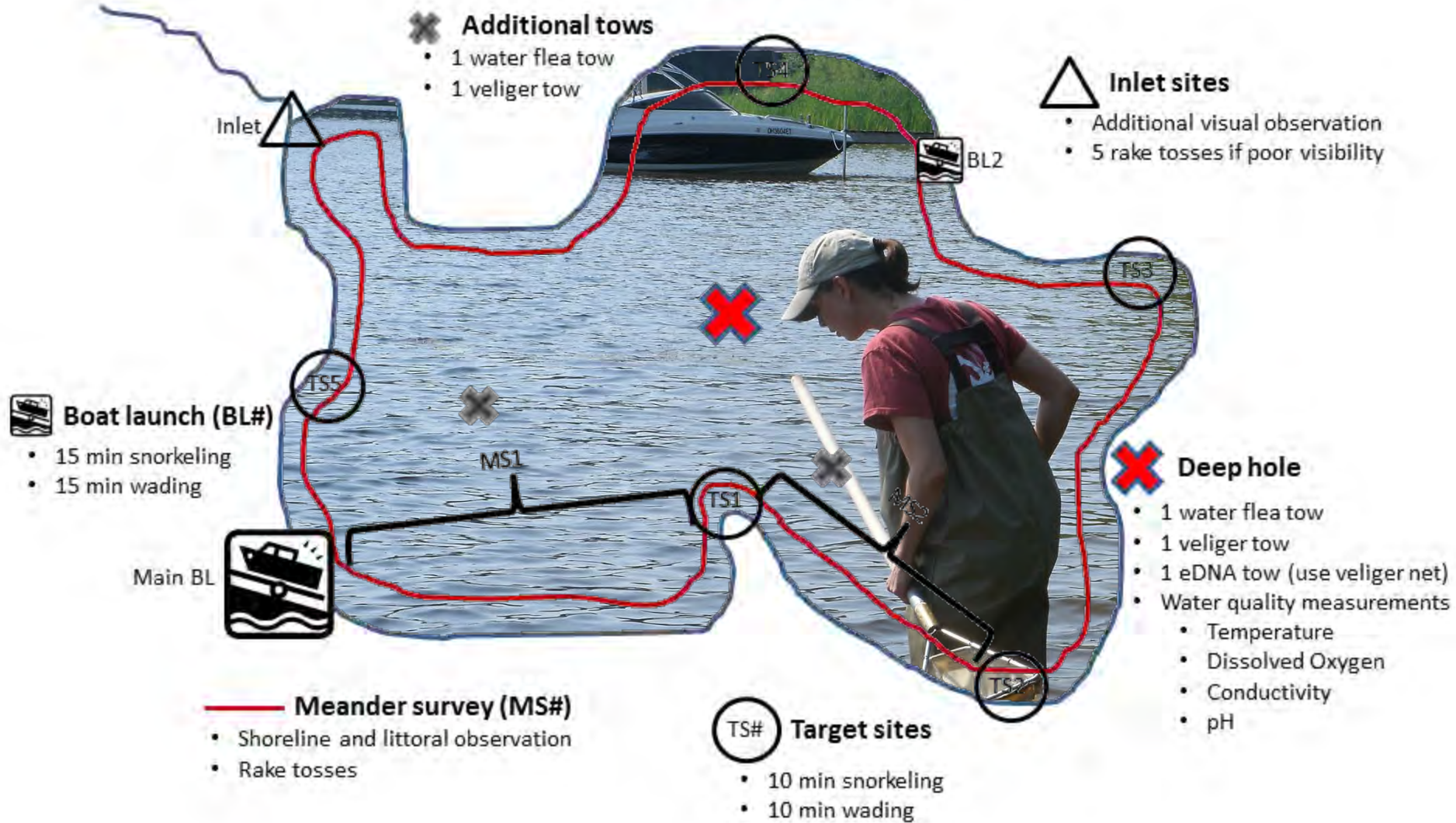
Snorkel Study



AIS Monitoring

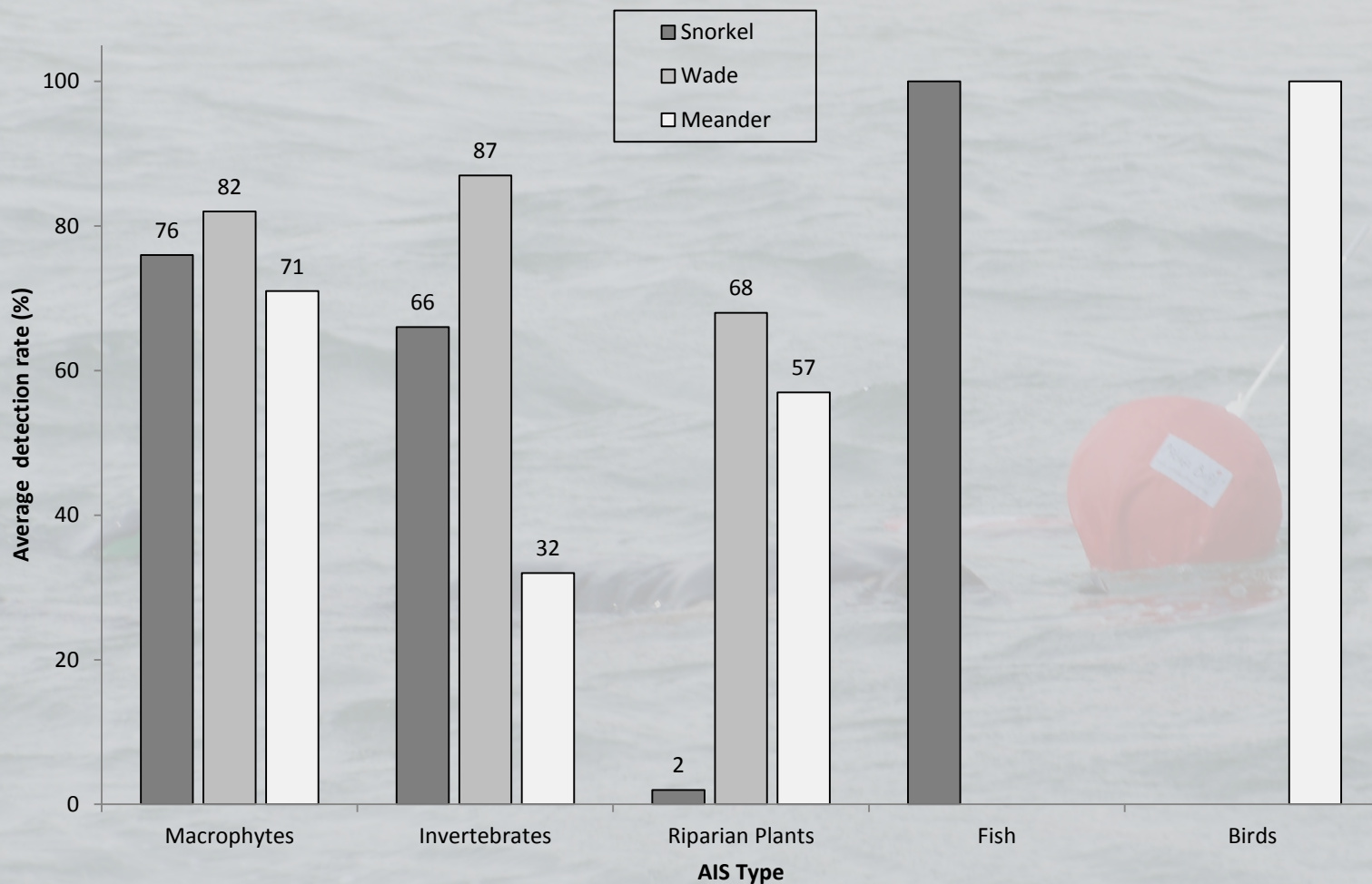


AIS Surveillance Methods



2014 Snorkel Results

Detection Rates for Invasive Species Types



2015 Study



AIS Monitoring

- DNR Wildlife Division
 - Early Detection and Response project



AIS Monitoring

Stream Assessments



AIS Monitoring

Recent “Detections”



Yellow Floating Heart



Red Swamp Crayfish



New Zealand Mud Snail

Didymo



MiCorps/CLMP Exotic Aquatic Plant Watch



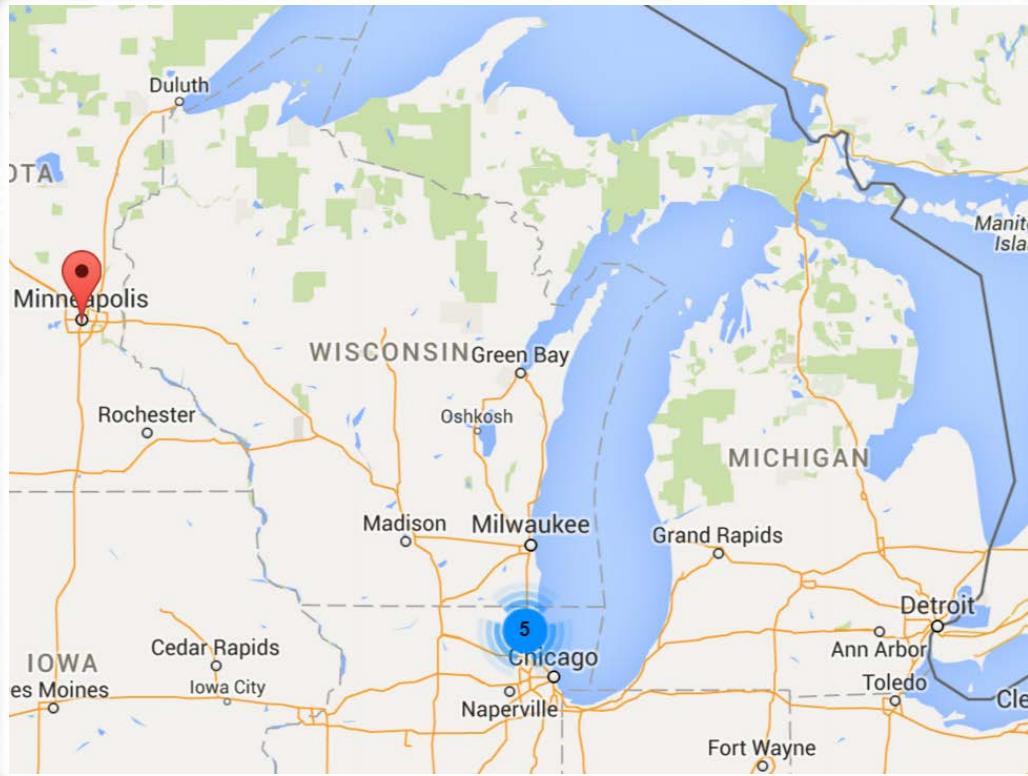
Watch List ID



Brazilian elodea



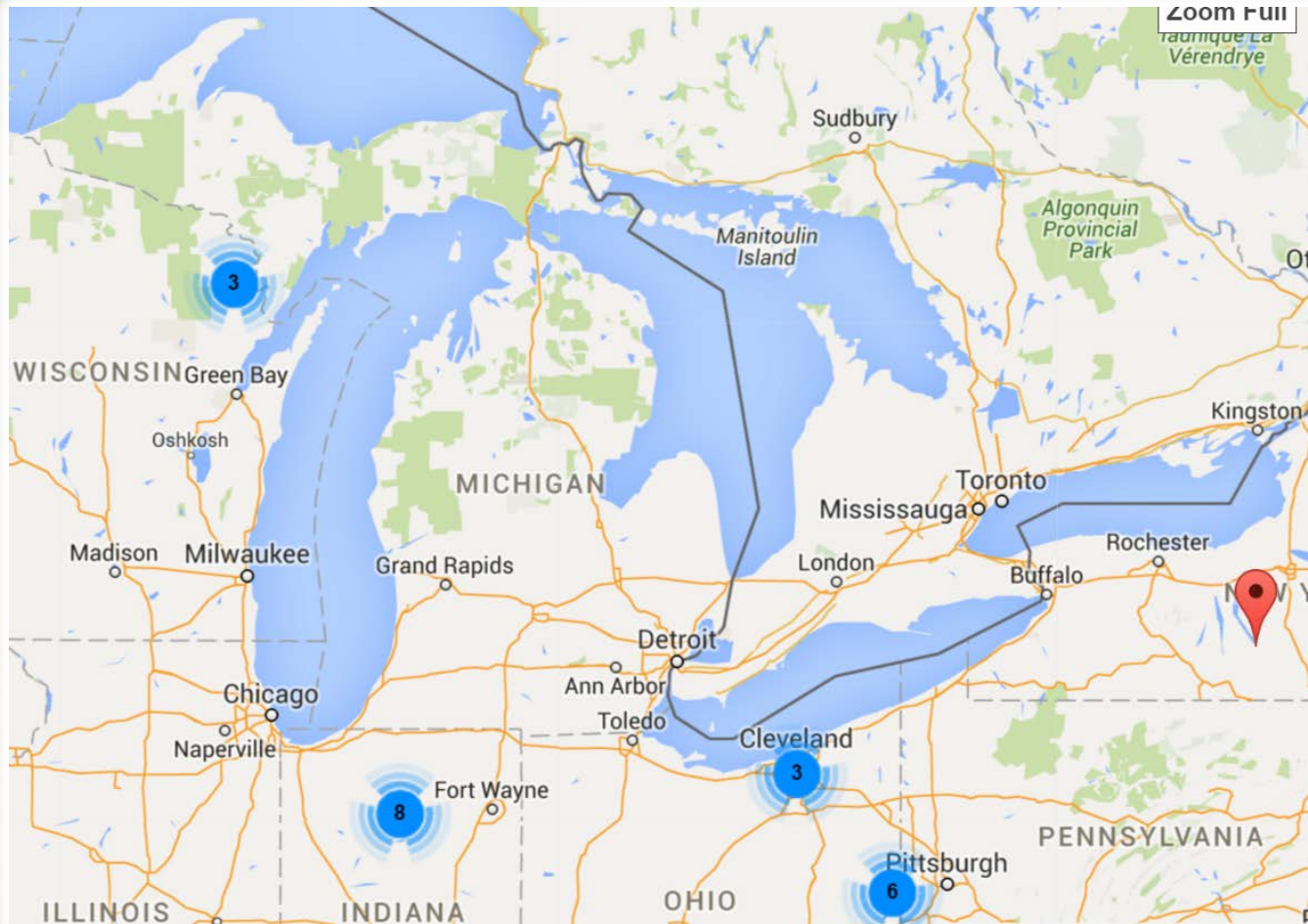
Brazilian elodea



Hydrilla

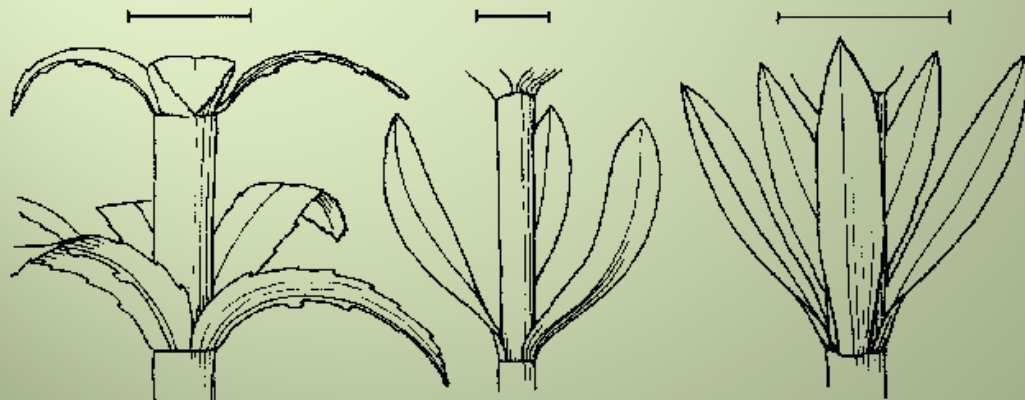


Hydrilla





LEAF ARRANGEMENTS
(bar shows approximate length of leaf)



HYDRILLA

ELODEA

EGERIA

Water Chestnut



Water Chestnut



Decontamination



Decontamination



Inspect



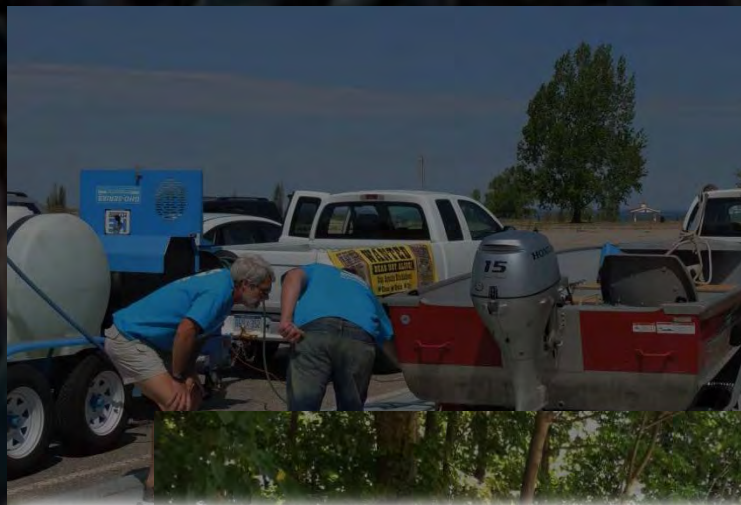






Disinfect



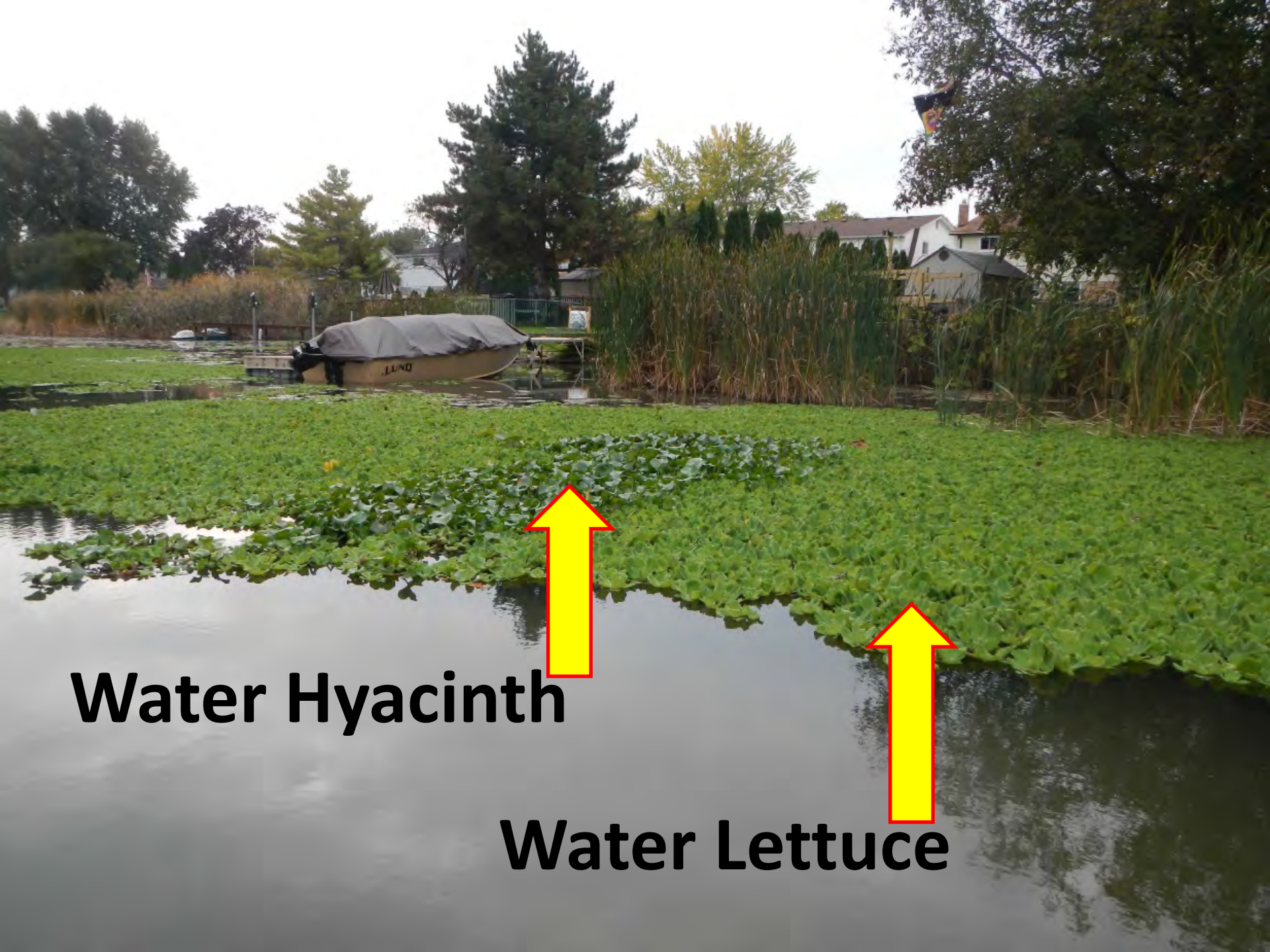


http://www.michigan.gov/documents/deq/qol-wrd-policy-invasive-species-decontamination_476846_7.pdf?20150303164301



Watch List ID





Water Hyacinth

Water Lettuce

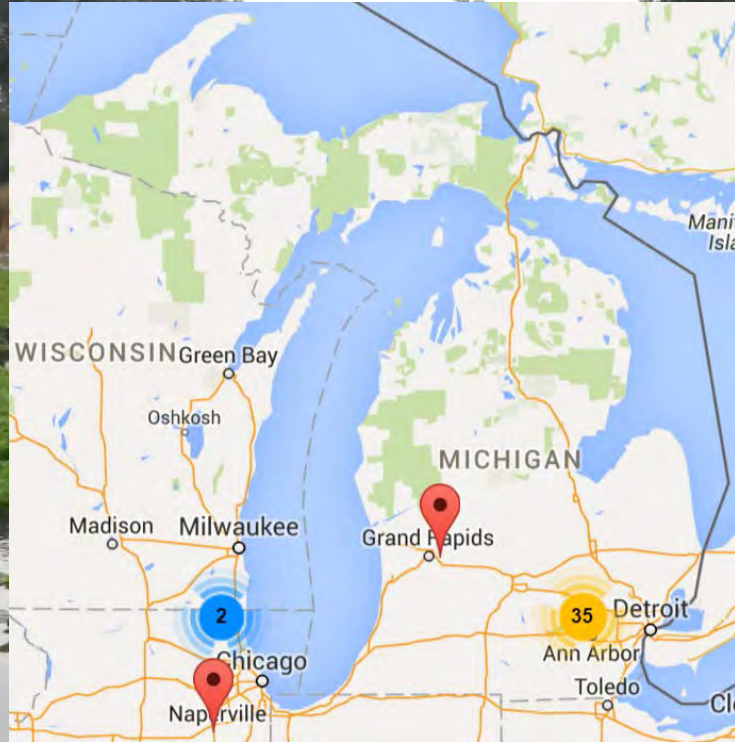


Water Lettuce

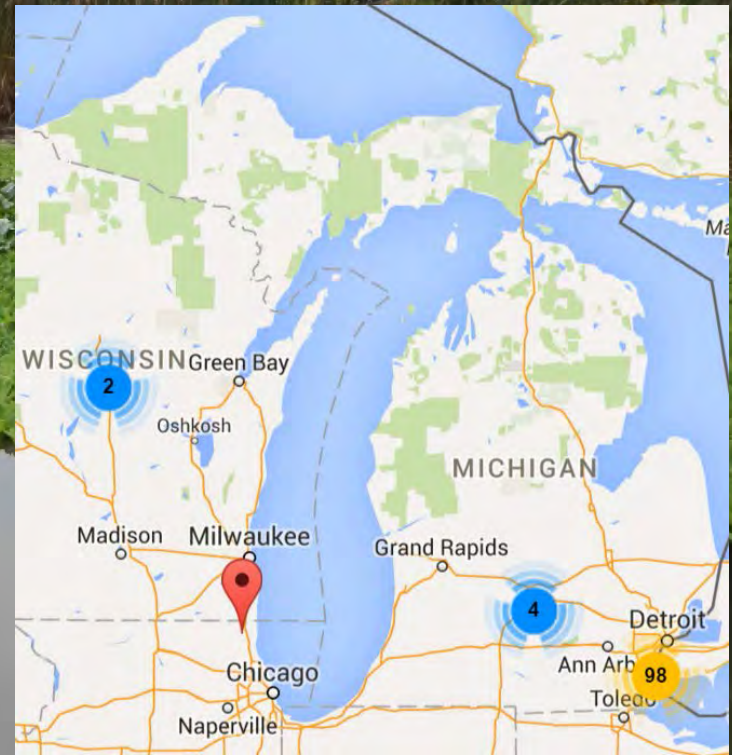




Water Hyacinth



Water Hyacinth



Water Lettuce

New Zealand Mud Snail



New Zealand Mud Snail



New Zealand Mud Snail





AIS Prevention starts w/ Outreach & Education



Workshops, tradeshow, etc.



Interstate Billboards



AIS Current newsletter



Field Guides

AIS Outreach & Education Online Resources

Twitter: @MichiganDEQ



Michigan.gov/AquaticInvasives



YouTube Videos



Michigan.gov/InvasiveSpecies

HELP STOP AQUATIC HITCHHIKERS!



Avoid spreading aquatic invasive species.

Recommended Actions:

- ✓ **CLEAN** boats, trailers and equipment
- ✓ **DRAIN** live wells, bilges and all water
- ✓ **DRY** boats and equipment
- ✓ **DISPOSE** of unwanted bait in the trash

IT'S THE LAW

Violation of the law is a state civil infraction. Violators may be subject to fines.

Do not launch a watercraft or place a trailer in the water if aquatic plants are attached.

Do not release unused bait into the water.

Do not transport water over land in bilges and live wells.

www.mi.gov/InvasiveSpecies

Need a boat launch sign?

See Kevin after today's
presentation



Michigan Department of
AGRICULTURE
& Rural Development



Clean



Drain

Dry

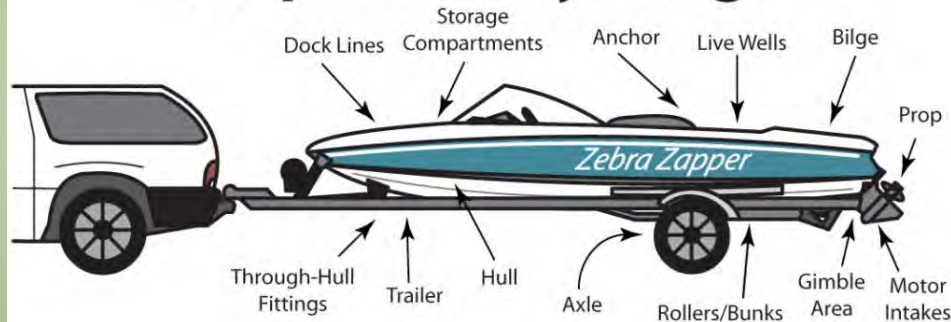


Dispose



CLEAN BOATS CLEAN WATERS

Before leaving and before launching...
inspect everything!

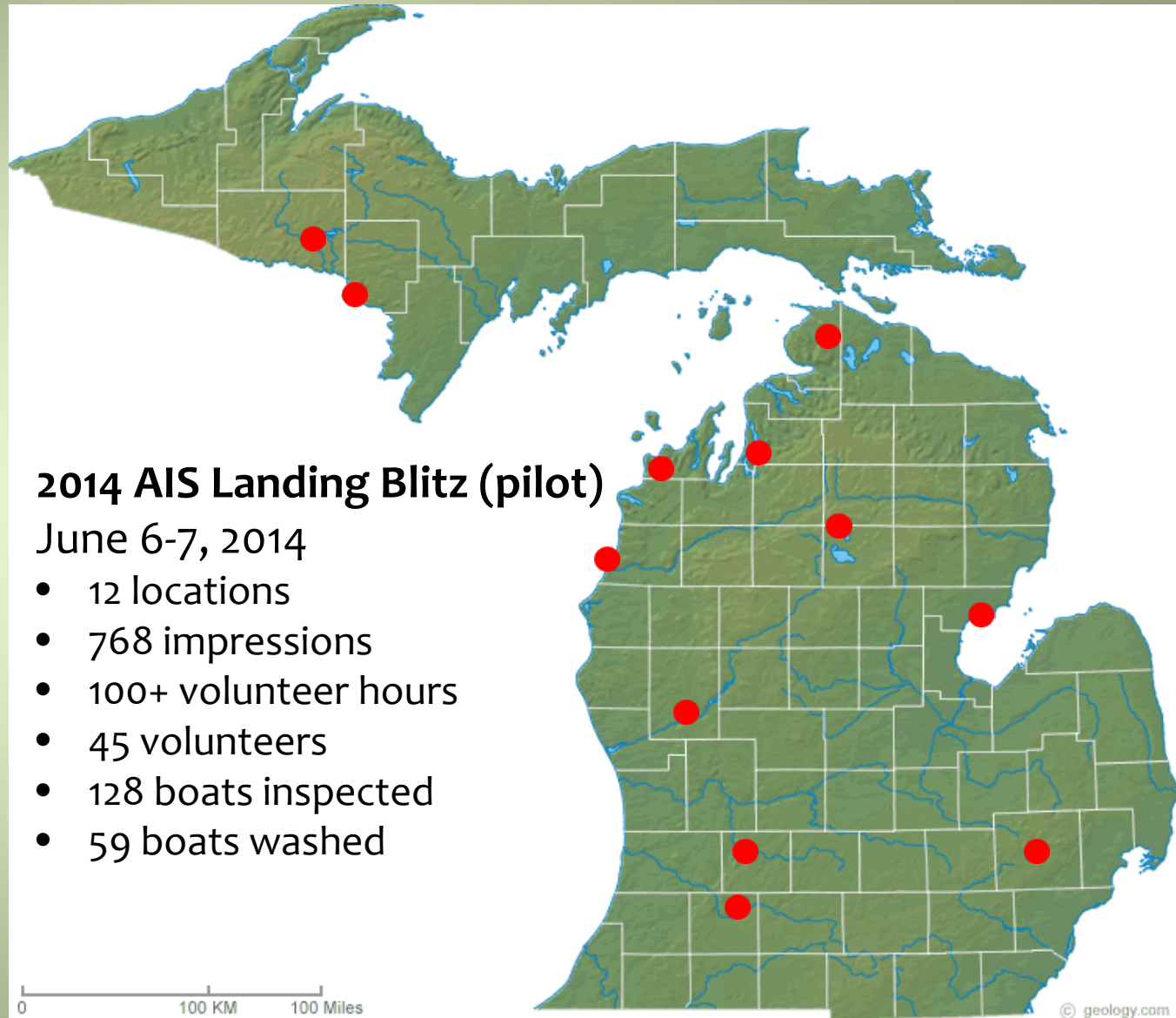


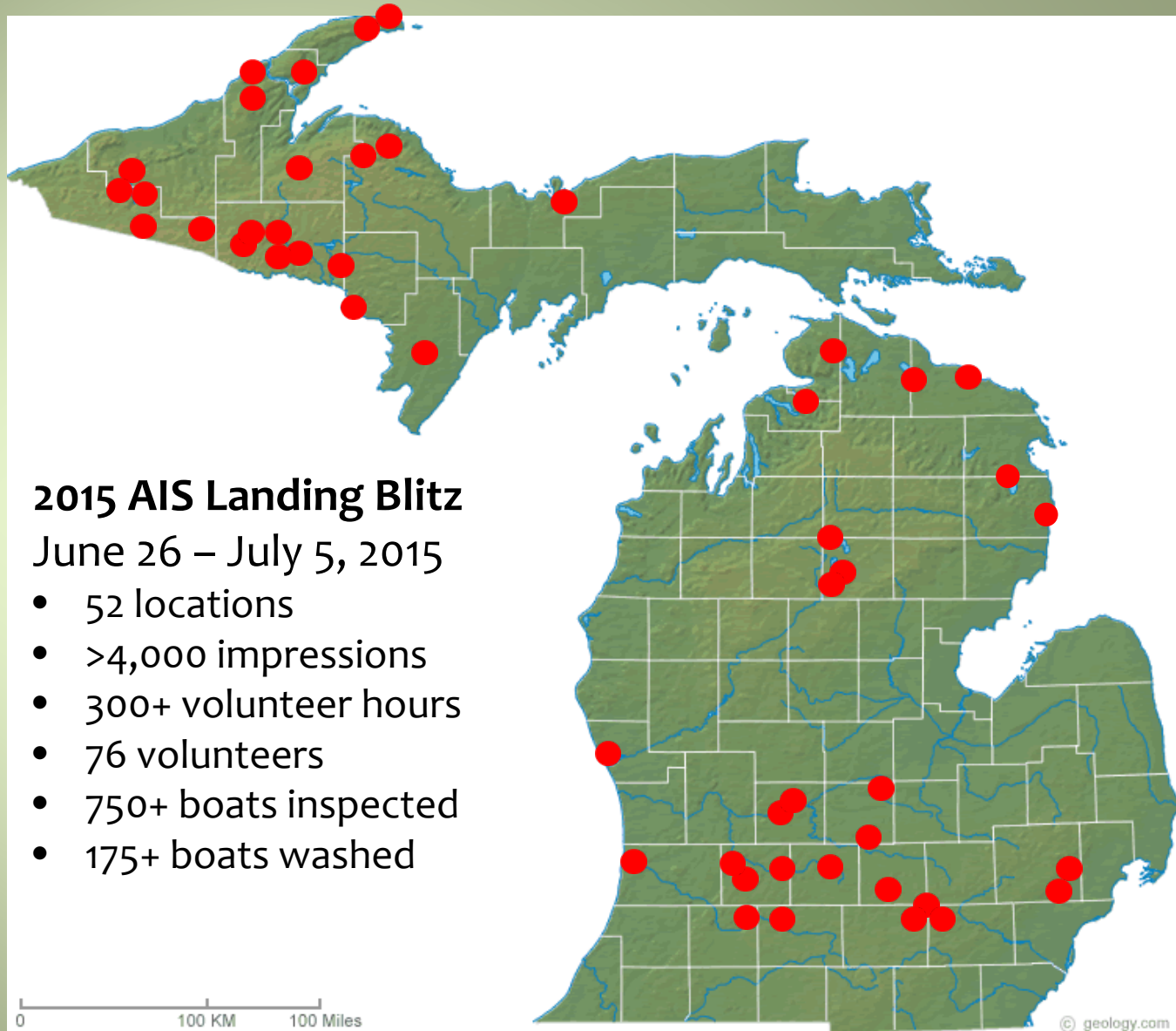
Actively engaging and empowering citizen volunteers to help
prevent the spread of AIS through the boating pathway

www.MICBCW.org

AIS Landing Blitz













DEQ / MSU / USFS Mobile Boat Wash Partnership



Interested?

Contact Kevin Walters (waltersk3@michigan.gov)
or Jo Latimore (latimor1@msu.edu)

Watch List ID



Water Soldier



Water Soldier



Red Swamp Crayfish



Red Swamp Crayfish



Invasive Carp



Invasive Carp



Silver carp

- Smaller than bighead (up to 60lbs)
- Light silver color w/ white belly
- Eyes below mouth



Black carp

- Large, dark cross-hatched scales
- Eyes even with mouth
- Cylindrical body form



Grass carp

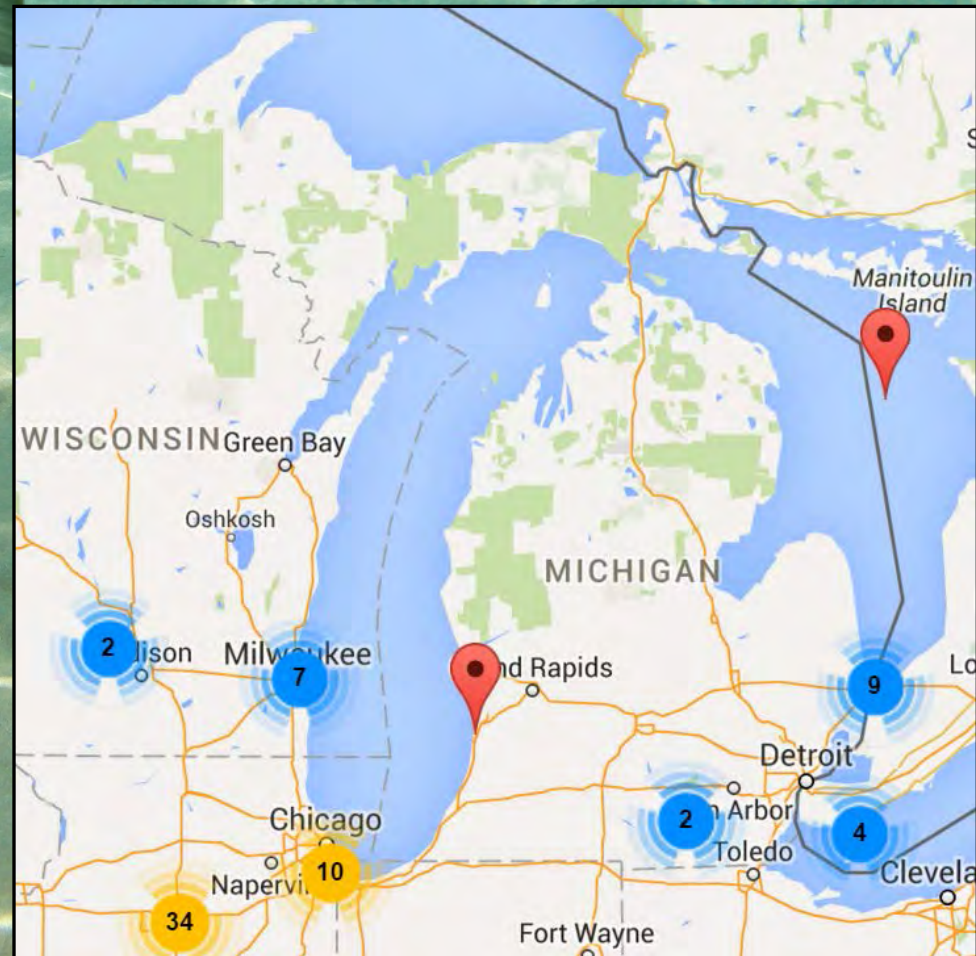
- Large cross-hatched scales
- Eyes even with mouth
- Cylindrical body form



Bighead carp

- Large body (up to 90lbs)
- Large head w/ toothless mouth
- Eyes below mouth

Grass Carp



Acknowledgements

- AIS Core Team
- TIS Core Team
- MiCorp



Questions?

