

# MICHIGAN'S INVASIVE SPECIES PROGRAM



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**Environmental Quality**  
PURE MICHIGAN

*Water Resources Division*

*Great Lakes  
Panel on ANS  
and Federal  
ANS Task Force*

*May 4, 2016*

*Traverse City,  
MI*



# MICHIGAN'S FIRST ANS STATE MANAGEMENT PLAN

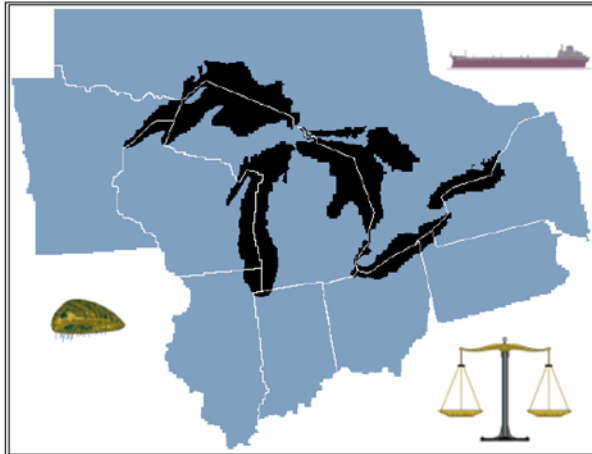
- First ANS State Management Plan approved 1996
  - Policy, Research, Education and Outreach
- Updated 2002
- Funding: Federal ANS SMP
- Lead: DEQ Office of the Great Lakes
- Focused on short term projects
- Limiting factors: funding and capacity

## Analysis of Laws & Policies Concerning

### Exotic Invasions of the Great Lakes

A Report Commissioned by the Office of the Great Lakes

Michigan Department of Environmental Quality



## Integrated Pest Management for Nuisance Exotics in Michigan Inland Lakes

Water Quality Series: WQ-56



# 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](http://www.mi.gov/InvasiveSpecies)

A photograph of two people, one in a uniform and one in a blue shirt, cleaning a boat's outboard motor. The background is a bright blue sky.

# STOP Aquatic Hitchhikers!

✓ Clean ✓ Drain ✓ Dry

A row of logos for various organizations: Michigan Department of Environmental Quality, Michigan Department of Natural Resources, Michigan Department of Agriculture & Rural Development, U.S. Fish and Wildlife Service, and Great Lakes Restoration Initiative.

WildlifeForever.org

**Keep Our Waters Great!**



**Don't Dump Your Bait**

*Fish diseases like*

*Viral Hemorrhagic Septicemia (VHS)*

*can be transferred in your bait bucket!*

**It's the law:**

- Dispose of unused bait in the trash
- Empty livewells and bilges at the ramp
- Don't transfer live fish to waterbodies other than where they were caught

**Help prevent disease transfer**

- Disinfect livewells and bilges with a bleach solution (1/2 cup bleach to 5 gallons of water)
- Allow equipment to dry thoroughly before using in a different body of water



For More Information Go To:

<http://www.michigan.gov/vhs>

*Great Lakes, Great Times, Great Outdoors*



# Asian Carp

Know the facts and learn how you can help



**Don't Confuse Young Asian Carp with these Common Michigan Species!**

**Juvenile Asian Carp**

**Common Minnows**



**Juvenile Bighead Carp**

**Color / Markings:** Silvery, with mottled dark blotches (especially on back), upturned mouth  
**Length:** 2 - 4 inches is common bait size  
**Keel:** (Ridge on the underbelly) Prominent, extending from anal fin to pelvic fins (mid-body), no scales  
**Scales:** Very small (fine)  
**Eyes:** Small, positioned below line extending from tail to snout (See dotted line above)



**Alewife**

**Color / Markings:** Silvery-green, darker blue-grey back, slightly upturned mouth  
**Length:** 5-7 inches is common bait size  
**Keel:** (Ridge on the underbelly) Prominent, extending from anal fin to gills, with scales that line up in a row to give it a sawtooth appearance  
**Scales:** Intermediate to large  
**Eyes:** Positioned on line extending from tail to snout



**Emerald Shiner**

**Color / Markings:** Silvery with greenish lateral line and upturned mouth



**Recognize carp and protect our waters from them**

[www.michigan.gov/asiancarp](http://www.michigan.gov/asiancarp)



# State of Michigan AIS Team

established 2010



- Department of Environmental Quality
  - Water Resources
  - Office of the Great Lakes



- Department of Natural Resources
  - Fisheries
  - Wildlife
  - Parks and Recreation
  - Law Enforcement
  - Forest Resources
  - Marketing and Outreach



- Department of Agriculture and Rural Development
  - Pesticide and Plant Pest Management
  - Animal Industry



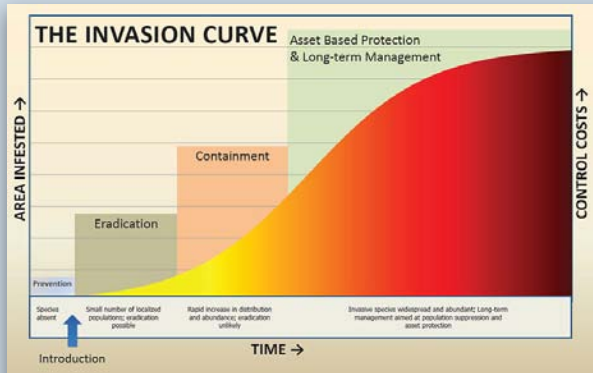
- Department of Transportation



# AIS STATE MANAGEMENT PLAN



Finalized 2013



- Nonindigenous Aquatic Nuisance Prevention and Control Act of 1990
- Goal I: **Prevent** new introductions of AIS into Michigan waters.
- Goal II: **Limit the dispersal** of established populations of AIS into uninfested waters of the state.
- Goal III: Develop an **early detection and rapid response** program to address new AIS invasions.
- Goal IV: **Manage and control** AIS to lessen the harmful ecological, economic, social and public health impacts resulting from infestation of AIS.



# PREVENTION BY PATHWAYS

**Preventing  
new introductions  
and  
limiting dispersal  
of established AIS  
by blocking  
pathways**





# ORGANISMS IN TRADE



- Prohibited and restricted species
- Inspections and enforcement
  - DNR Law Enforcement
    - Fish markets, fish haulers, bait wholesalers and retailers, pet shops, internet
  - Dept. Agriculture and Rural Development
    - Nursery wholesalers and retailers, pet shops, internet
- Education and outreach







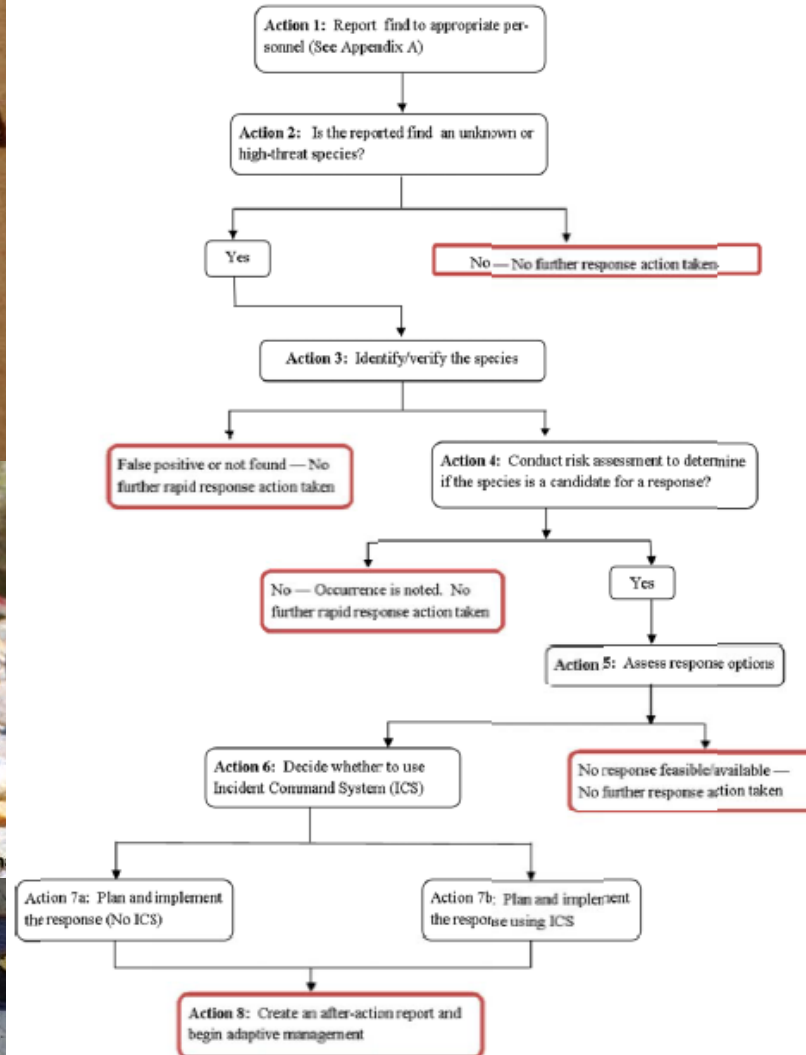
# EARLY DETECTION AND RESPONSE



Photo by Chris Lukh



Figure 1: AIS Response Flow





# DECONTAMINATION



2014 Interdepartmental policy and procedure “...will aim to perform basic decontamination steps for field equipment in order to minimize the risk of invasive species transfer between work locations...”





# LARGE SPILLS OR CLEAN UPS

## Kalamazoo River 2010

Photos by USFWS Jim Krizman





# ONE STRETCH OF THE K'ZOO



Texas



Florida



Missouri



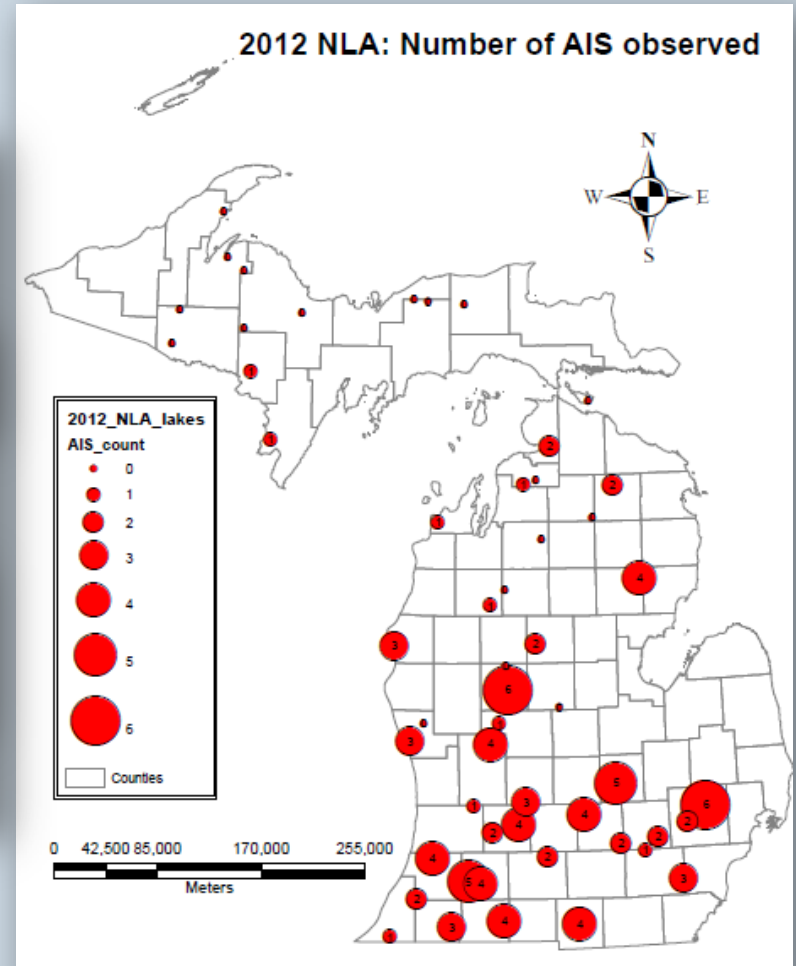
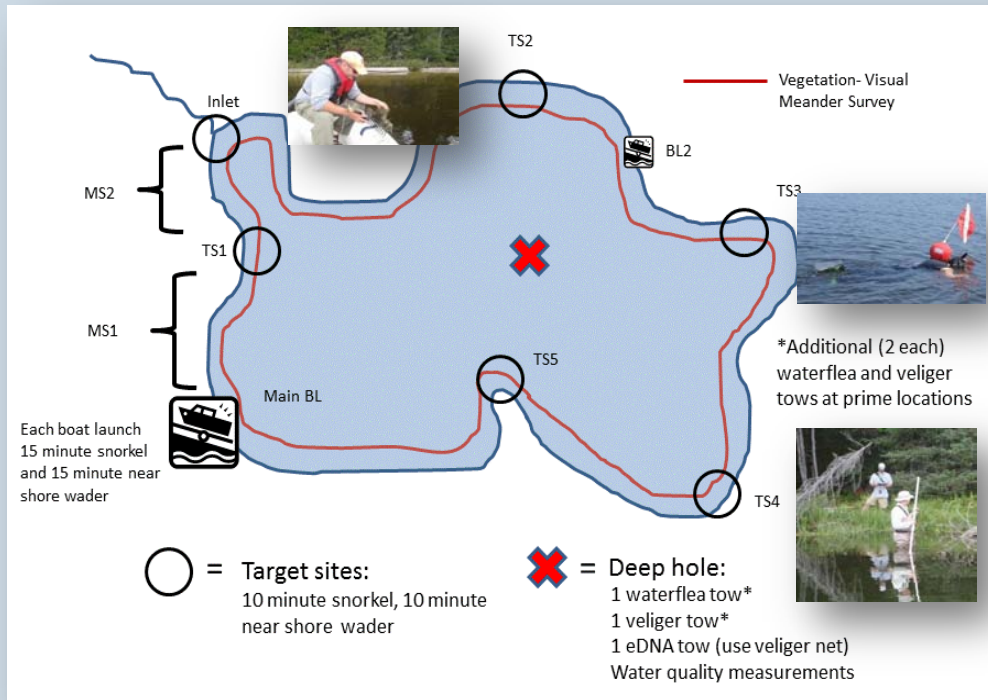
Louisiana



Unknown?



# MONITORING





# BOATING REGULATION

Part 413 of the NREPA  
(324.41325)

- Remove Aquatic Plants from boats, boating equipment, and boat trailers before launching or placing in the water
- Cannot possess or transport regulated species





# BOATING REGULATION

## Fisheries Order 245

- **Drain** live wells, bilges and all water from boats before leaving the access site
- **Dispose** of unused bait in the trash
- **Don't transfer** fish to water bodies other than where they were caught



David Kenyon - Michigan DNR



# MICHIGAN'S EXPANDED PROGRAM

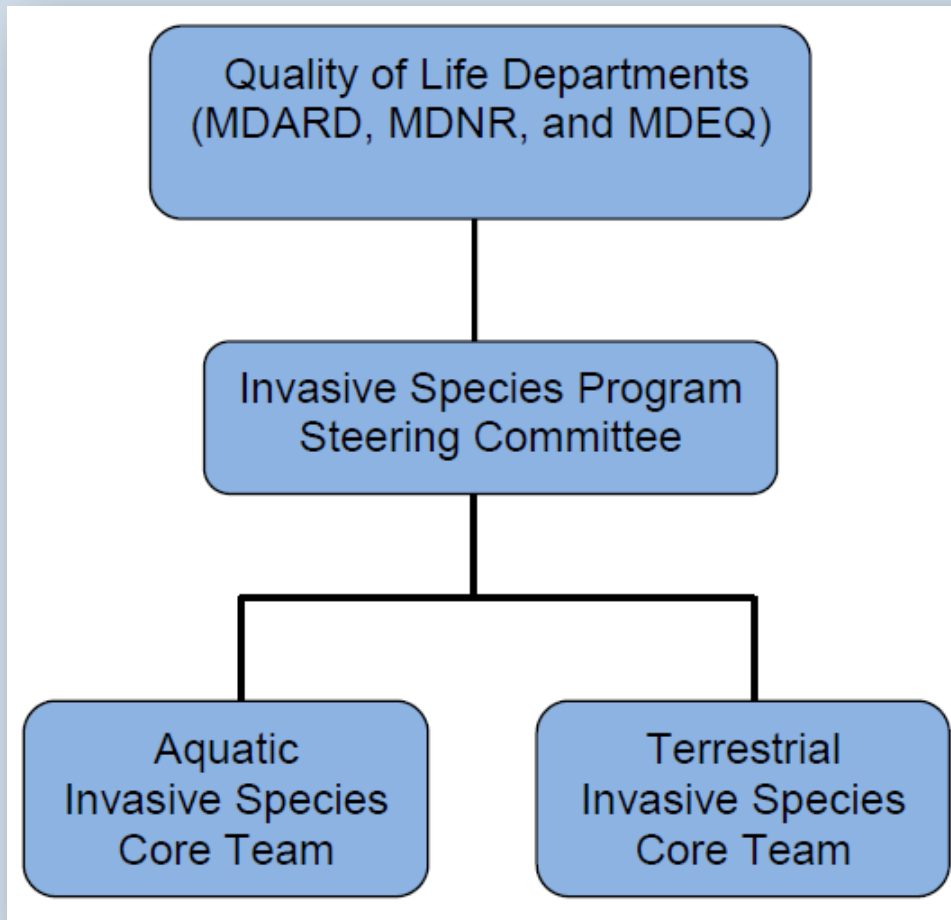
- \$5M FY15 State General fund
- Aquatic and terrestrial invasive species
- \$3.6M in grants







# INVASIVE SPECIES PROGRAM



Workgroups: decontamination, education and outreach, early detection and response, webpage, boat wash strategy, firewood, grant program



# GENERAL FUND METRICS

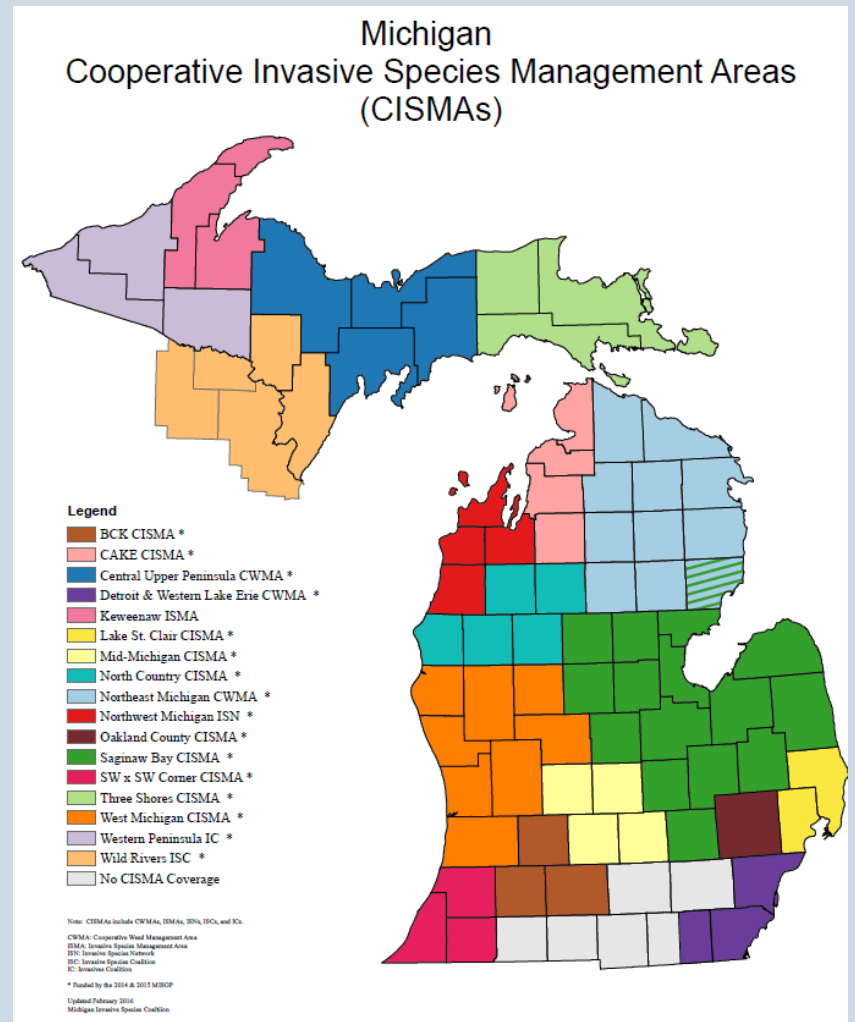
- 90 Responses to Early Detections
- 6,000 Acres Controlled
- 750,000 Citizens Reached
- Cooperative Invasive Species Management Areas covering all of Michigan





# MICHIGAN INVASIVE SPECIES GRANT PROGRAM

- 2014
  - 19 grants
  - \$4M
- 2015
  - 19 grants
  - \$3.6M
- Projects
  - Created 7 new CISMAs, expanded 2
  - Clean Boats, Clean Waters
  - Eurasian Watermilfoil and other aquatic plant control
  - Phragmites control
  - Asian Longhorn Beetle and Oak Wilt
  - Outreach to recreational users and industries related to organisms in trade





# LOOKING FORWARD



- Current FY14 GLRI projects
  - AIS-HACCP certification aquaculture and bait
  - AIS invasion risk in future climate projections using downscaled climate data for Michigan
  - Risk/presence of AIS and VHS in bait supply
  - Social, political, and biological constraints for implementing Asian carp control measures through stakeholder workshops
  - Didymo in Michigan
  
- New FY15 and FY16 GLRI projects
  - Integrated approach for AIS early detection and monitoring (eDNA)
  - Enhanced education and outreach
  - New Zealand Mudsnaills
  - Habitat modification pathway
  
- Ongoing GLRI supported efforts
  - Monitoring/early detection
  - Aquatic plant response
  - DNR LED inspection and enforcement

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 **Subscribe to Invasive Species Updates**

**WWW.MICHIGAN.GOV/INVASIVES**

***Acknowledgements:***  
***Michigan AIS and TIS Core Teams***  
***(DEQ, DNR, DARD and MDOT)***



*Michigan's Invasive Species Program is cooperatively implemented by the Michigan Departments of Agriculture & Rural Development, Environmental Quality and Natural Resources.*

