AIS Detectors & AIS Trackers

by Megan Weber
Extension Educator, Aquatic Invasive Species

State of Water Conference
April 12-14, 2018 – Breezy Point, MN

Laying the Groundwork for AIS Detectors

- Early detection critical
- Minnesota has:
  - 11,842 lakes (≥10 acres)
  - 6,564 rivers and streams
  - 10.6 million acres of wetland
  - >13 million acres of surface water
- And….limited AIS professionals

Increasing Capacity: AIS Detectors

- Developed by MAISRC and U of M Extension

- Network of trained citizen scientist volunteers

- Curriculum developed and reviewed by AIS scientists and experts

AIS Detectors: Target Species

Plants
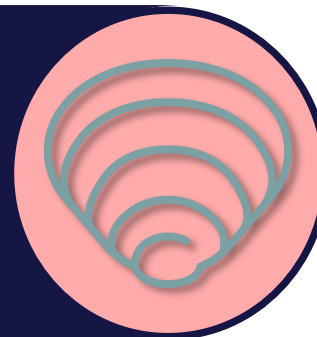Eurasian Watermilfoil
Hydrilla
Starry Stonewort

Invertebrates
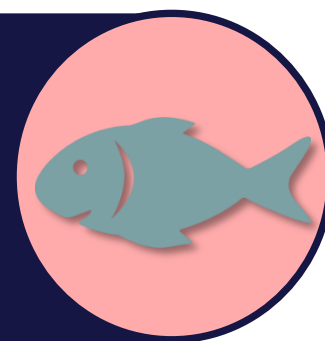Spiny Waterflea
Rusty Crayfish
Zebra Mussel
Quagga Mussel

Fish
Silver Carp
Bighead Carp
Ruffe
Round Goby

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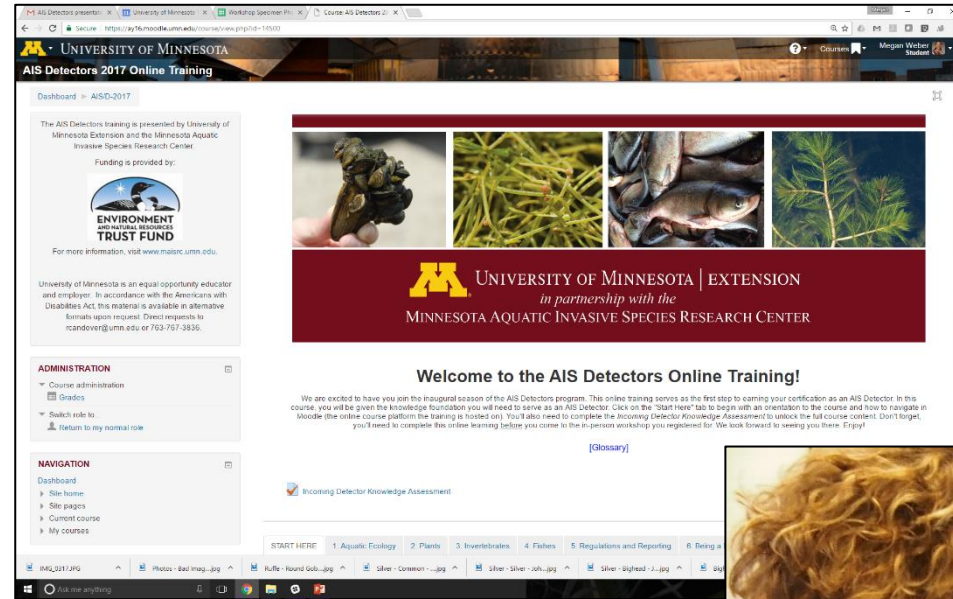
Program Requirements

- Complete initial training
  - Online and in-person
  - Approximately 16 hours total
- 8 hours of advanced training (annually)
- 25 volunteer service hours (annually)

Training Process: The "Flipped Classroom"
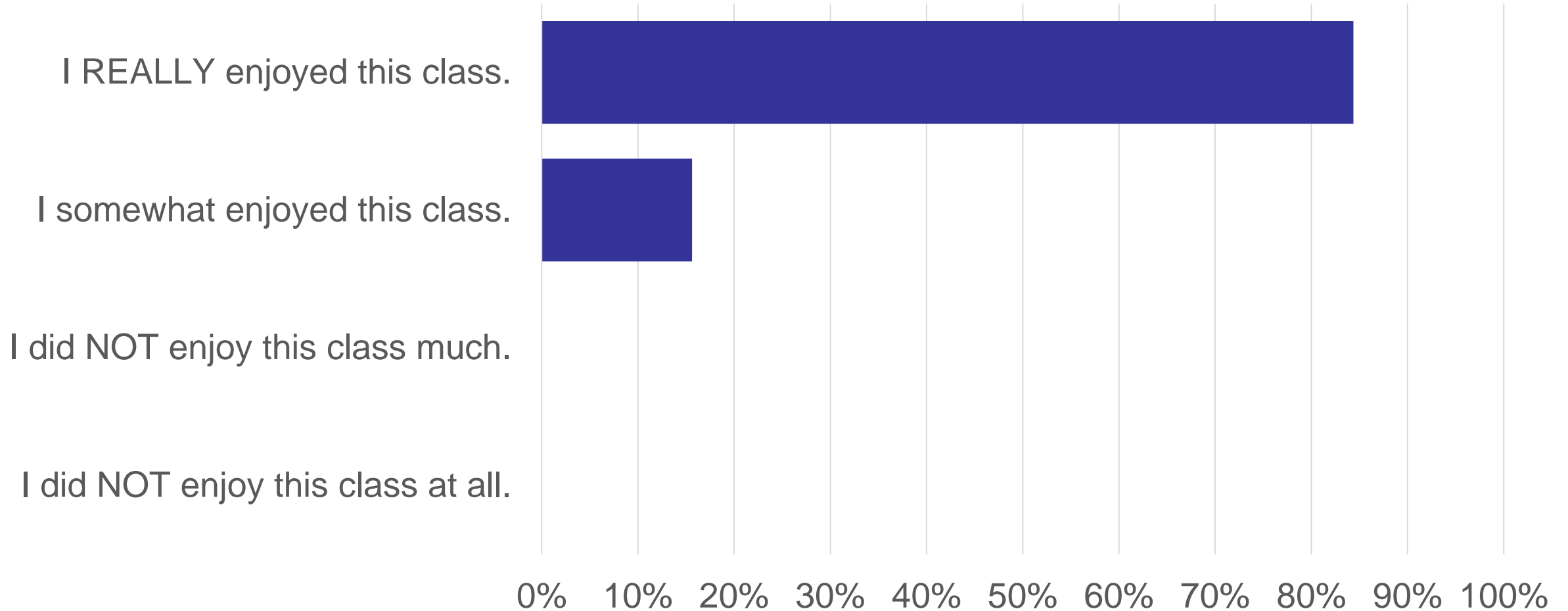
- Traditional lecture material covered pre-classroom
  - Approx. 8 hours
  - PowerPoints and videos
- In-Person Workshop
  - Hands-on learning
    - Species identification
    - Sample collection and report submission
    - Role-playing/scenarios

Christine Lee

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Participant Reviews

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Participants are Learning!

Online Training Scores

Workshop Scores

Legend: 60-69% | 70-79% | 80-89% | 90-99% | 100%

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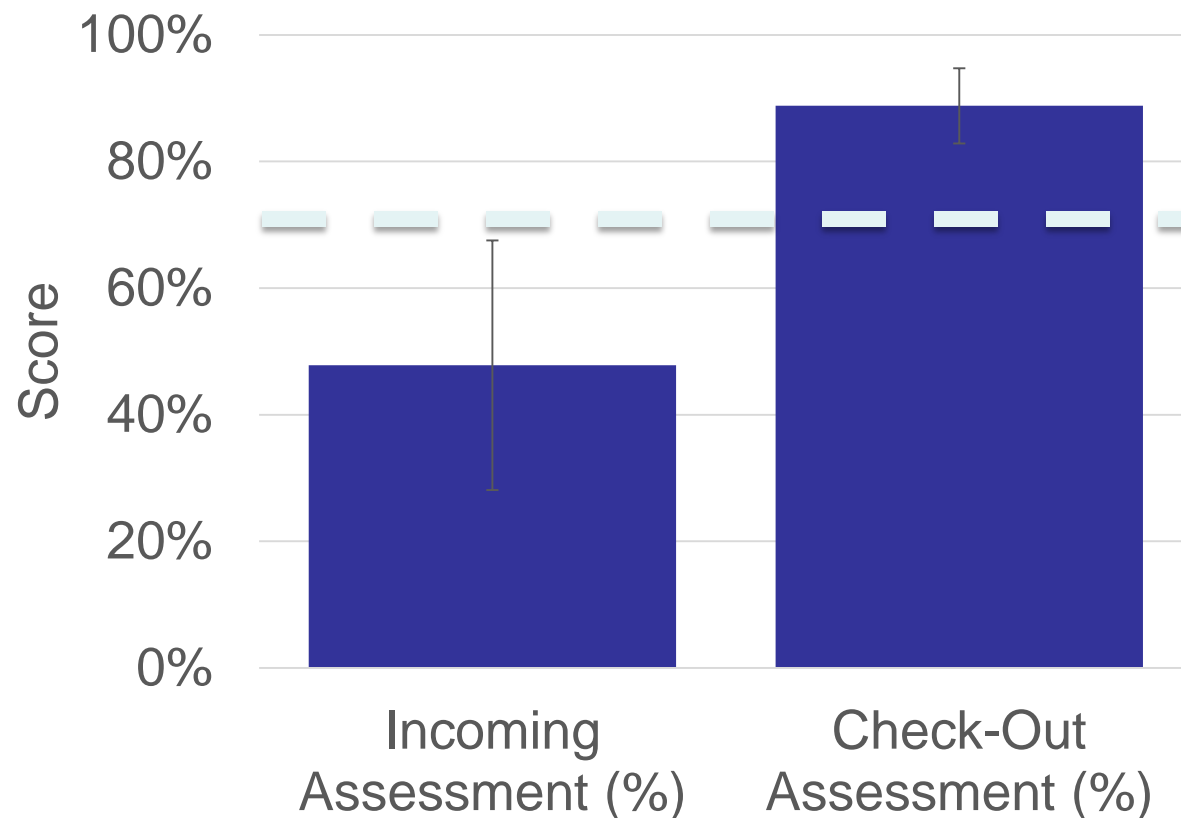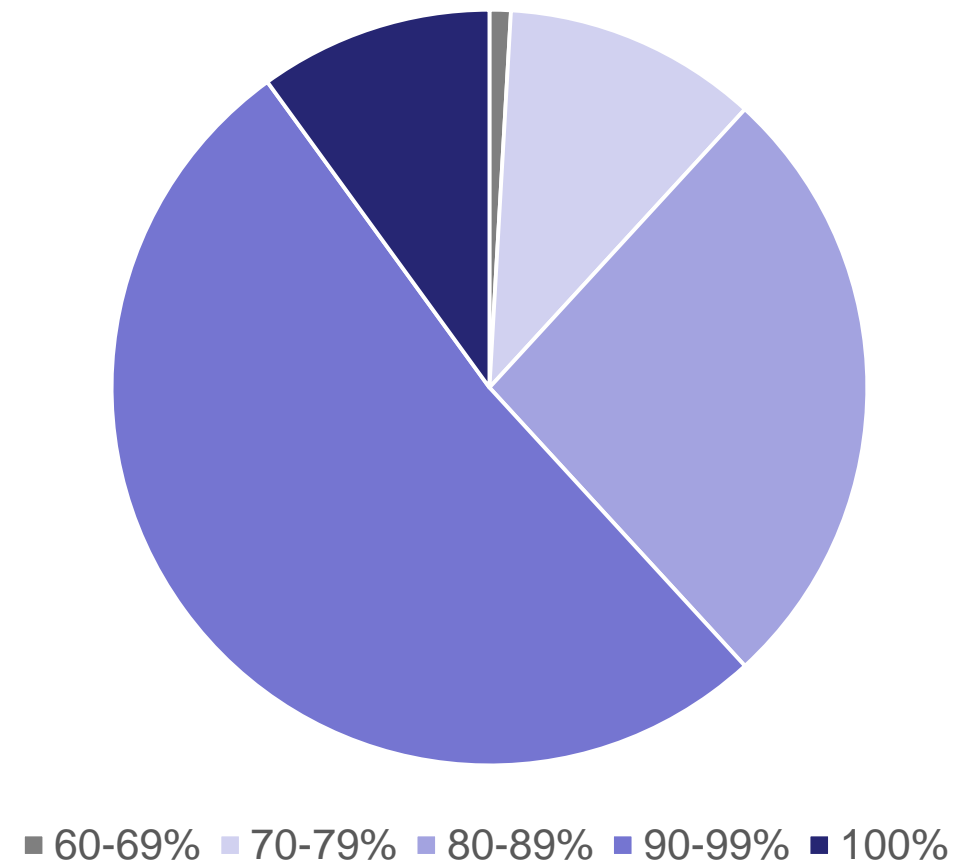
Eurasian Watermilfoil

Northern Watermilfoil

What is Service?

- ## Education/Outreach
  - Teaching about AIS (helping with presentations, etc)
  - Developing signs/brochures for local lake association, county agency, etc.
  - Staff a booth at a fair or other event

- ## Citizen Science
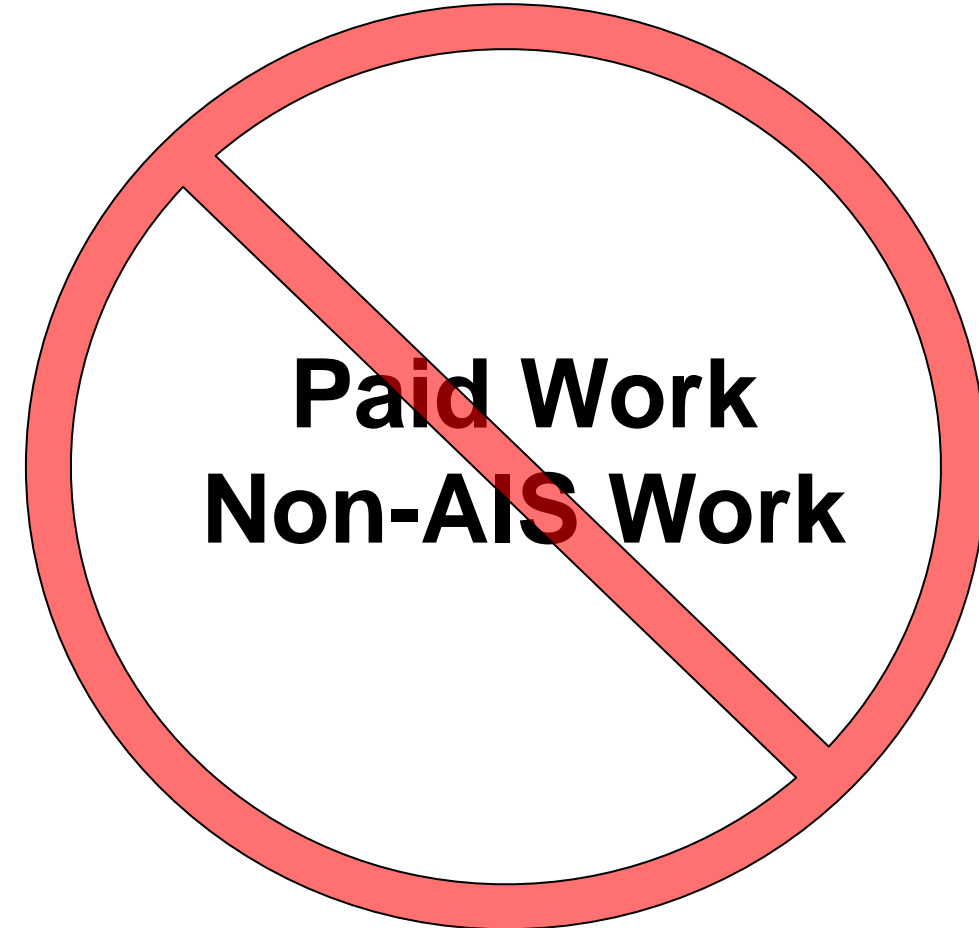 - Responding to reports of AIS for DNR
  - Data collection for any AIS related project

- ## Stewardship
  - "On the ground" activities

- ## Program Support
  - data entry, stuffing envelopes, preparing datasheets, helping to organize groups of volunteers

**Paid Work
Non-AIS Work**

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Examples of Service Completed

- Helped MAISRC researchers

- Outreach at public events
  - Minnesota State Fair
  - Beltrami County Fair
  - Chisago County Fair
  - Itasca County Fair
  - Kanabec County Fair
  - Nicollet County Fair
  - Aqua Chautauqua
  - Center City Days
  - Fifty Lakes Day
  - Harmony in the Park Water Fest Night
  - Karl Oskar Days
  - Ki-Chi Saga Days
  - Kids Fishing Appreciation Day
  - Youth Education Summit

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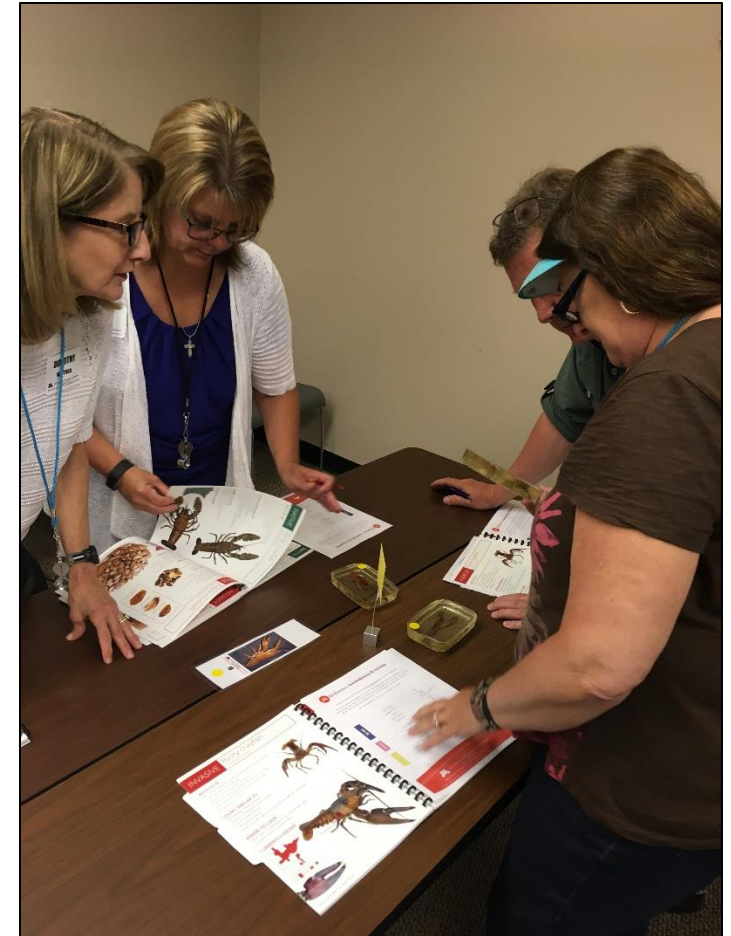
Examples of Service Completed

- Helped MAISRC researchers
- Outreach at public events
- Searched for AIS
- Gave talks at meetings and schools
- Built sampling equipment
- Hand removal of AIS

AIS Detectors Stats

7 workshops held across the state (2017)

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121 new AIS Detectors

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2,171 hours of service

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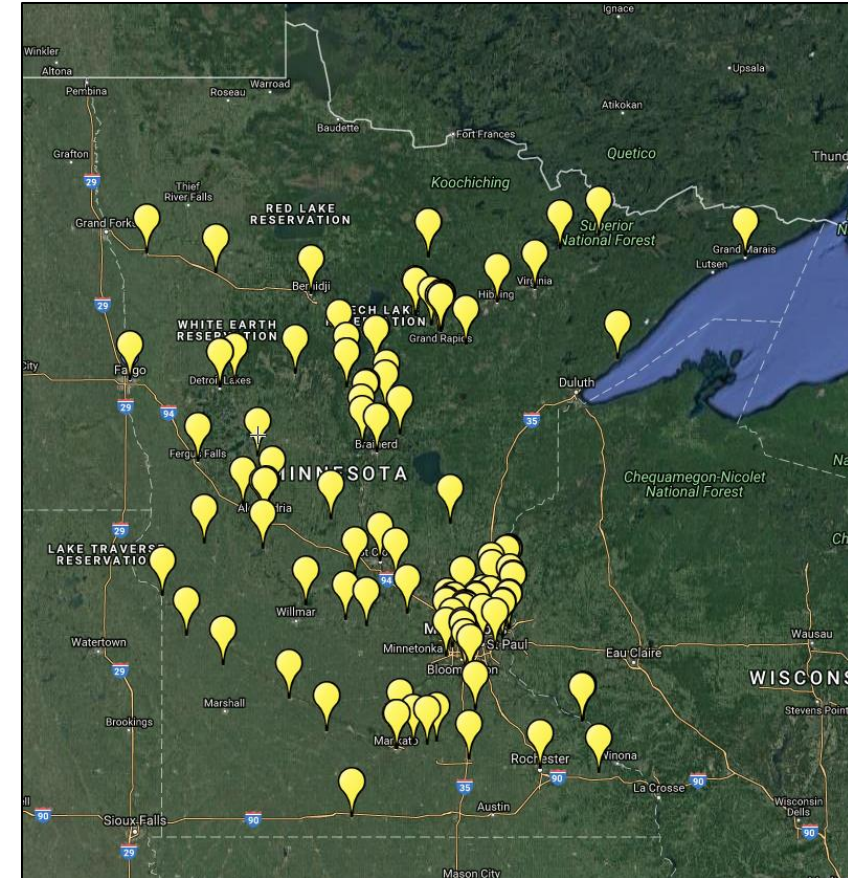
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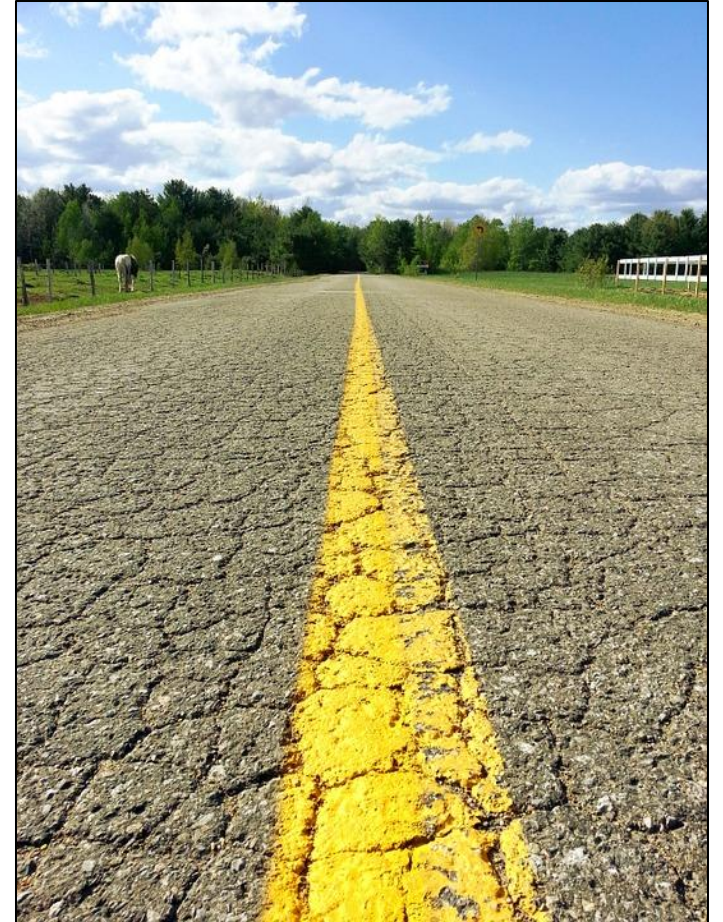**16,968** miles driven to complete service

AIS Detectors Stats

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16,968 miles driven to complete service

$35,376 service impact

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Join Us! (www.aisdetectors.org)

- Workshops begin next week
  - April 20th (Arden Hills)
  - April 27th (Victoria)
  - May 4th (Owatonna)
  - May 11th (Willmar)
  - May 18th (Brainerd)
  - June 1st (Duluth)

$25 off registration with code WATER2018

June 1st

May 18th

April 20th

May 11th

April 27th

May 4th

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Need help with an AIS Project in your area?

- Recruit a Detector!
- We can help you find volunteers for your project
- aisdetectors@umn.edu

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AIS Trackers: Program Overview

AN UNMET NEED

- Minnesota issues 250+ permits for invasive aquatic plant management each year (290 in 2015)[1]
- In 2015, 16,500 lbs and 7,300 gallons of 2,4 D were applied for invasive milfoil control.[2]

The big question:
How can AIS control be maximized while non-target impacts to native species are minimized?

Our approach: Harness the power of highly trained citizen scientists to collect the necessary environmental/ecological/management data to enable adaptive management. This combines elements of citizen water quality and AIS monitoring programs
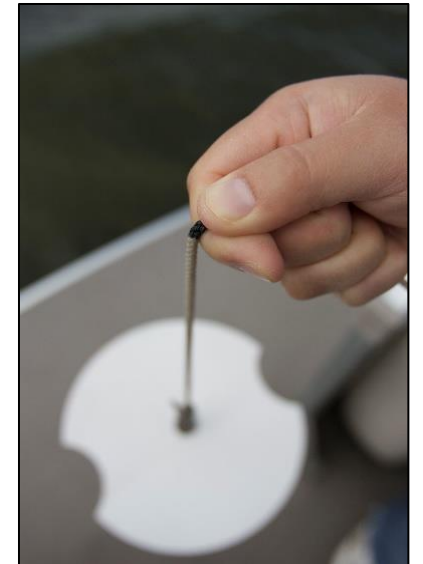
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AIS Trackers: Training in Development

- Aquatic plant management
- How research & data guides management
- Aquatic plant identification
- Monitoring protocols
- Entering data in the database
- Being an AIS Trackers volunteer

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Can you name all the species in this image?

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AIS Trackers: Next Steps

- ## 2018: Program Pilot
  - Demontreville-Olsen Lake Association (Washington Co.)
    - Work through training
    - Practice data collection for the first field season
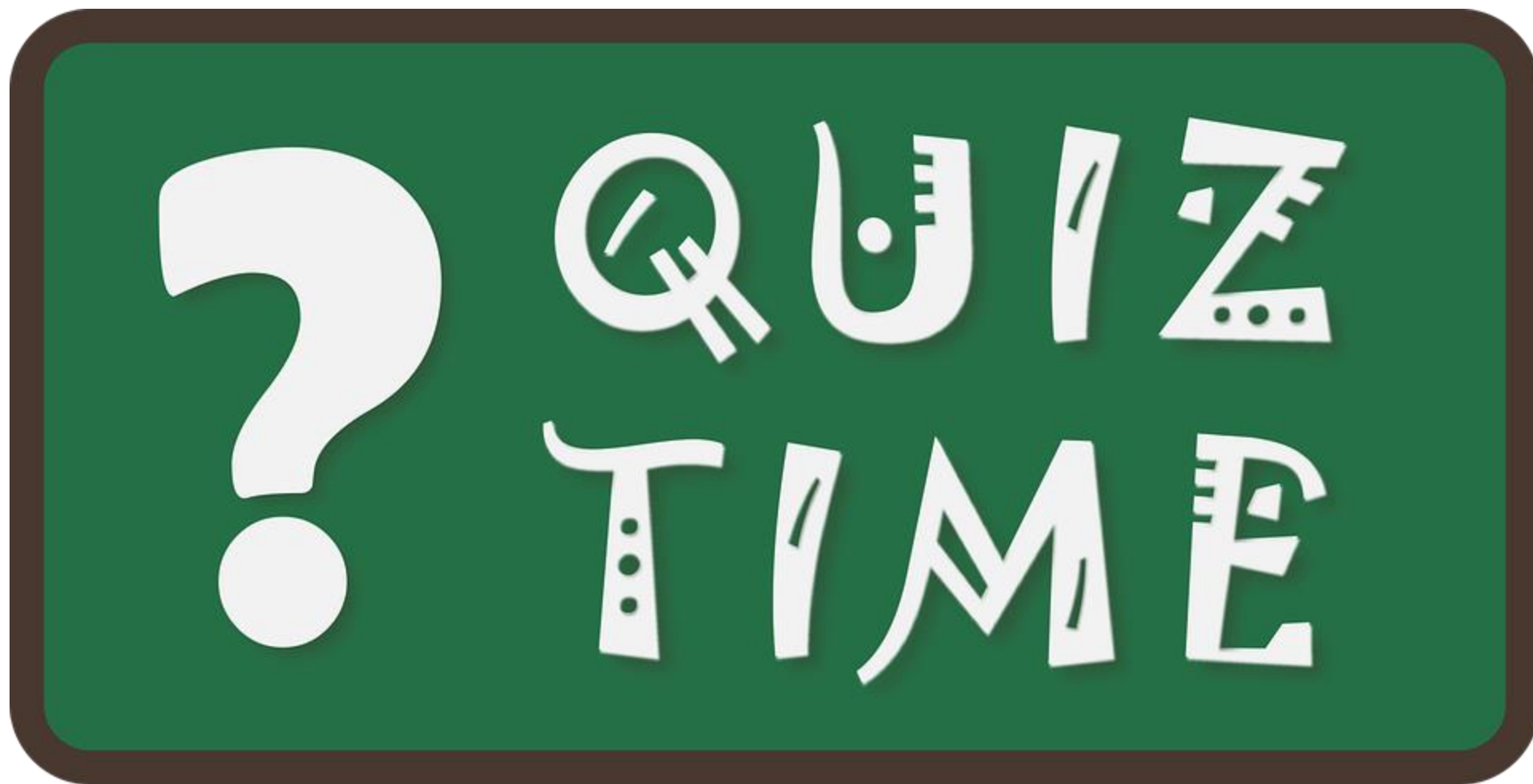
- ## 2019: Broader Launch

Disclaimer:
- This is new ground!
- We will be learning together

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More Coming in 2018

- AIS Detectors Advanced Training
  - AIS on the Water
    - An in-depth and in-person look at starry stonewort in Minnesota
  - Emerging Threats
    - AIS field trip

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Is this leaf from Eurasian (invasive) or Northern (native) watermilfoil?

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Is this leaf from Eurasian (invasive) or Northern (native) watermilfoil?

18

15

10

5

Eurasian Watermilfoil

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What website can you visit to register for AIS Detectors?

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What website can you visit to register for AIS Detectors?

www.aisdetectors.org
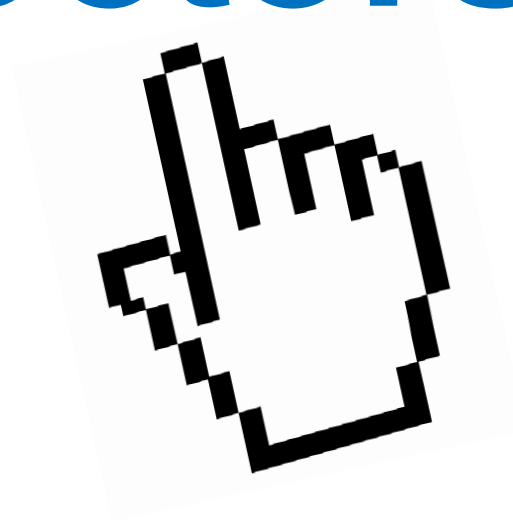
Thank You!

Image Credits:

- Unless otherwise noted below credits are to Megan Weber, University of Minnesota
- Title image: University of Minnesota
- Woman in water with plants: Christa Rittberg
- AIS Detectors training: Christine Lee
- Eurasian & Northern watermilfoil: Christine Lee
- Volunteers with starry stonewort in tubs: Mike Verhoeven
- Volunteers with rake and tub: Carli Wagner
- Highway: Stock image
- People jumping on beach: Stock image
- Aquatic plant rake: University of Minnesota
- AIS Detectives: Bill Grantges, Itasca County SWCD
- Woman with sampling rake: Dave Hanson, University of Minnesota
- Secchi disk: MPCA
- Milfoil research boat: Dave Hanson, University of Minnesota
- Man looking at plants: Dave Hanson, University of Minnesota
- Native plant community: Christa Rittberg
- Class in the water: Christa Rittberg
- Coach bus: Stock image
- Plant sampling rake: Dave Hanson, University of Minnesota
- Eurasian watermilfoil leaf: Paul Skawinski

Funding for the AIS Detectors and AIS Trackers programs provided in part by:

ENVIRONMENT AND NATURAL RESOURCES TRUST FUND

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