



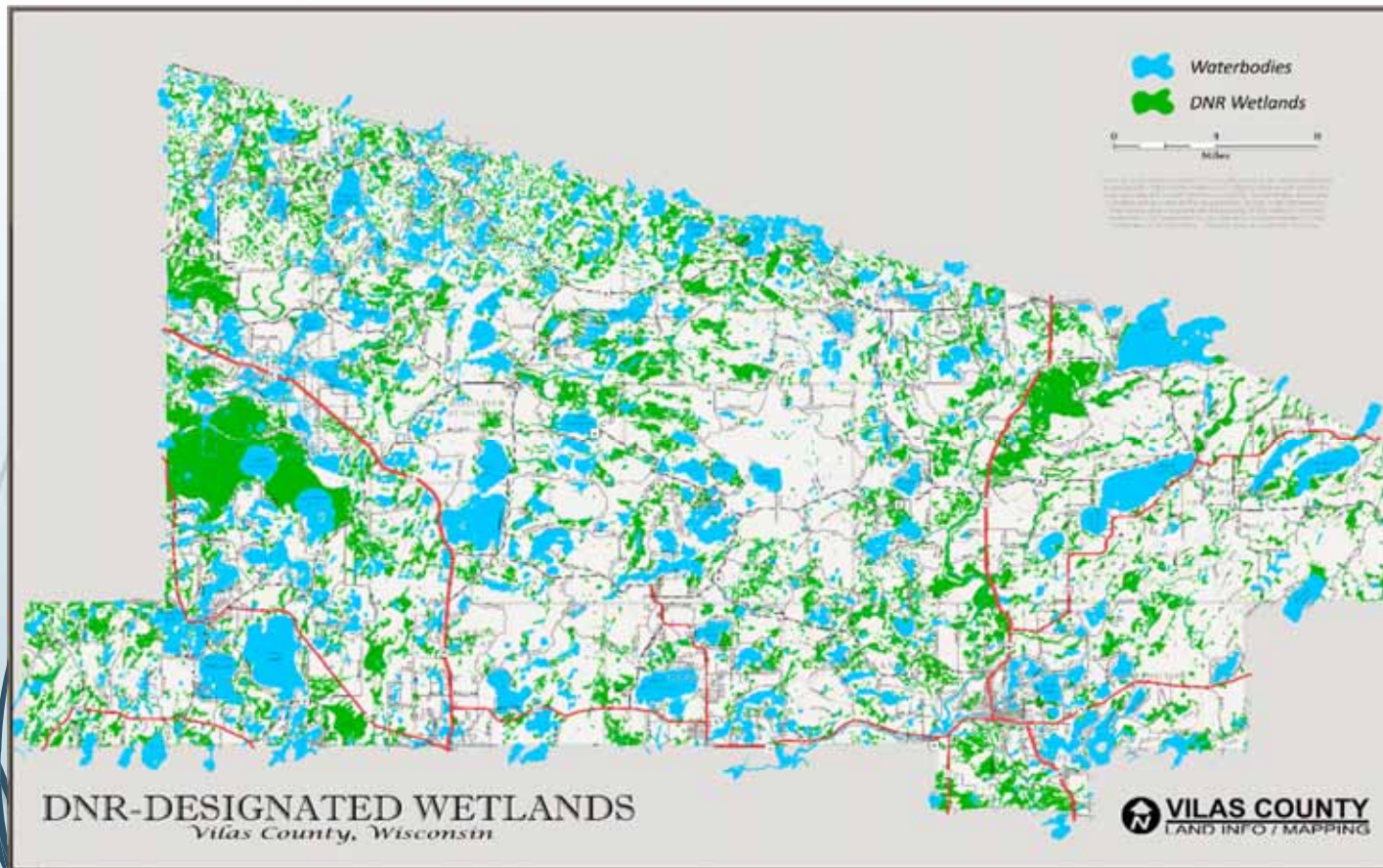
Clean Boats Clean Waters in Vilas County

2018 Lakes Convention

Presented by Cathy Higley and Emily Harrington

4/20/2018

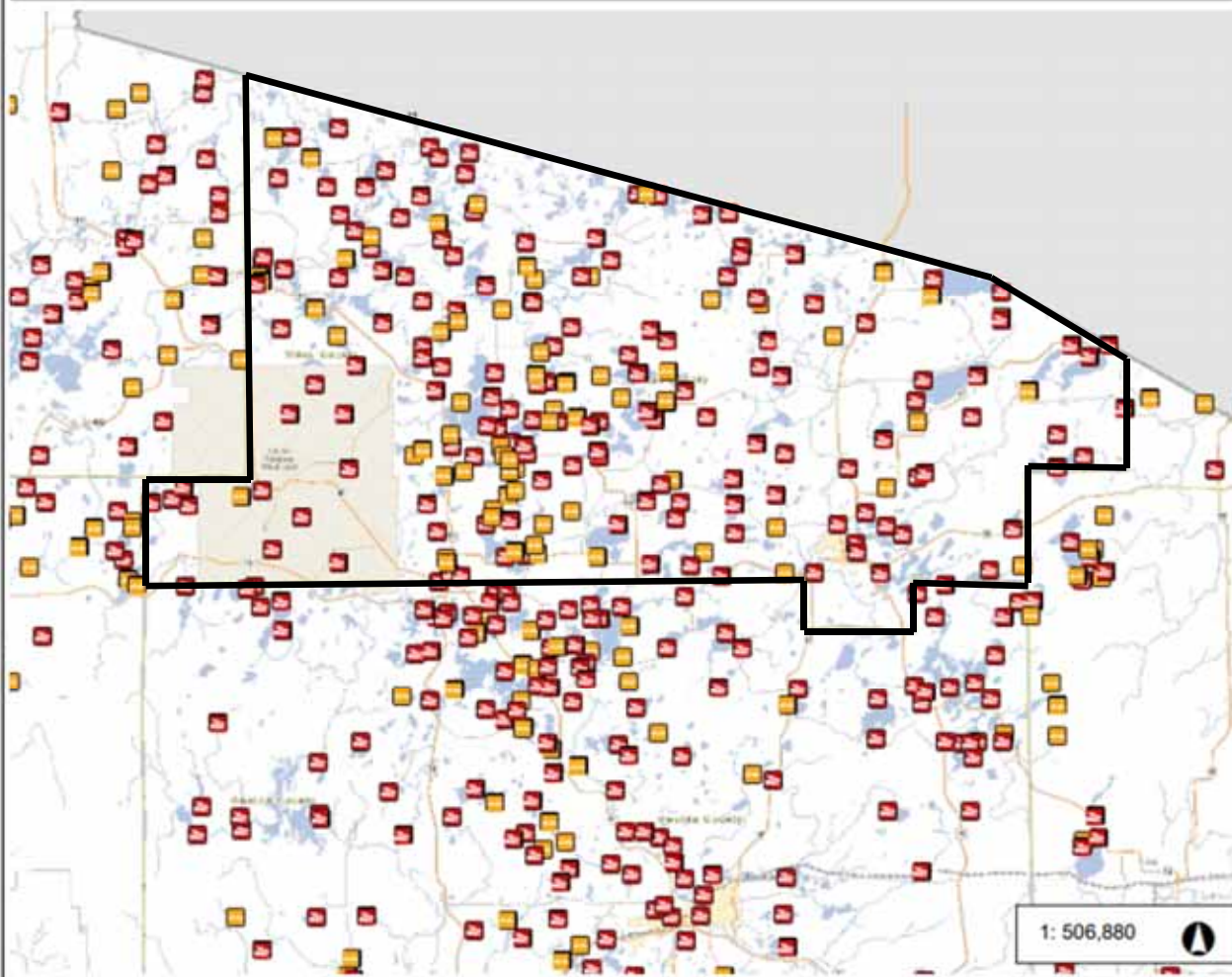
Vilas County Landscape



- 1,300+ Lakes
- 3 major watersheds
- 220 public access points

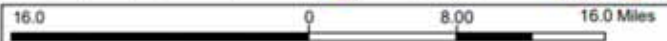


Public Access in Vilas County



- Legend**
- Boat Access Sites (1M - 400K)**
- CARRY-IN
 - RAMP
 - UNKNOWN
- County Boundary**
- Municipality**
- State Boundaries**
- County Boundaries**
- Major Roads**
- Interstate Highway
 - State Highway
 - US Highway
- County and Local Roads**
- County HWY
 - Local Road
- Railroads**
- Tribal Lands**
- Rivers and Streams**
- Intermittent Streams**
- Open Water**
- Great Lakes**

1: 506,880



NAD_1983_HARN_Wisconsin_TM
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Notes

Demographics

- 9 of 14 townships report >60% of houses occupied seasonally
- Median age is 52.9 years (>38% of county residents over age 60)
 - >70% of those over 60 report not being in labor force
- 117 Lake Organizations:
 - 103 Lake specific organizations (not all are “qualified”)
 - 10 Town Lakes Committees
 - 3 umbrella lake organizations (represent town-wide or county-wide lakes)

AIS Spread Concerns

- Proximity of lakes = boater hopping (56% in region highly transient)
- Many access points at <2.0 boats/hour
- >\$2.6 million DNR AIS grant \$ to Vilas lakes 1994-2016
 - = >\$800,000 local match dollars
- Eurasian Water milfoil, curly leaf pondweed, spiny waterflea



**VILAS COUNTY
LAND INFO/MAPPING**

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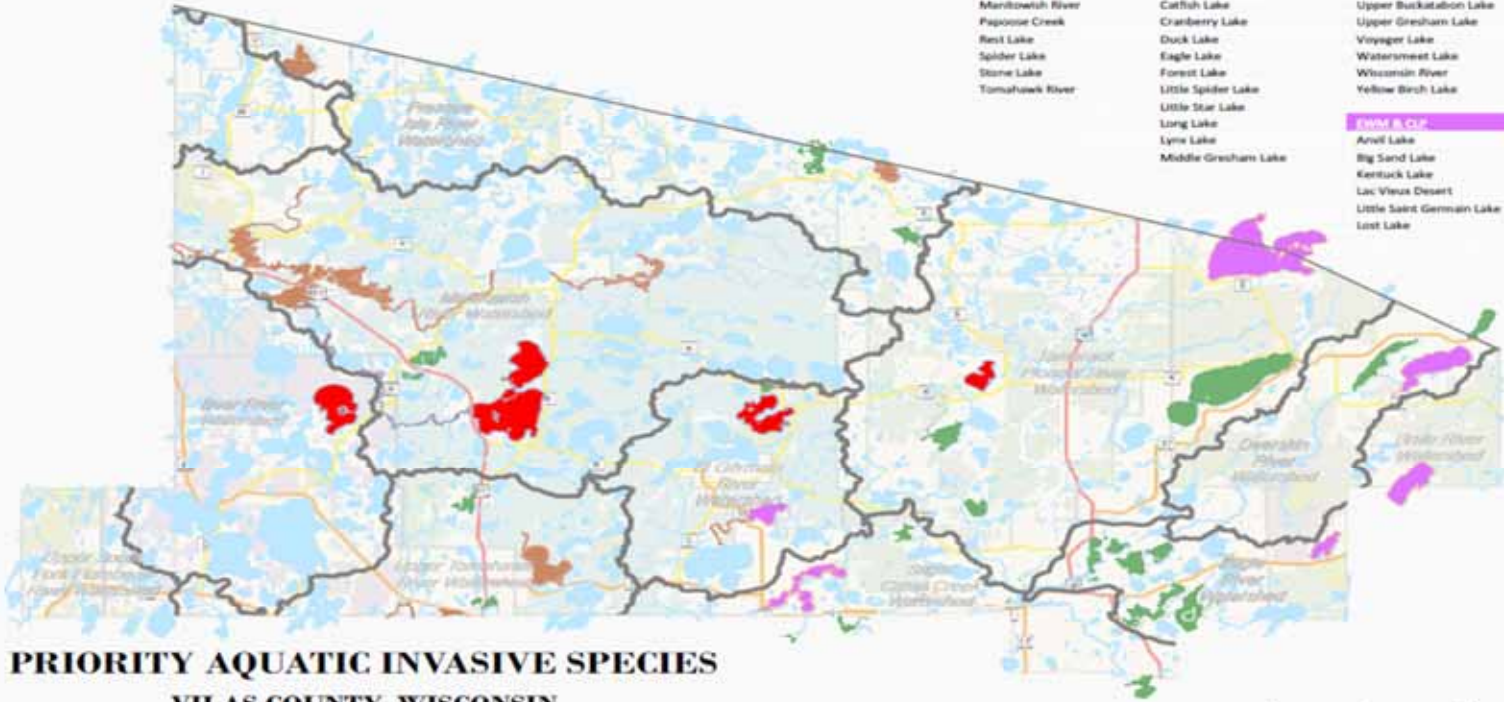
- SPINY WATER
FLSA**
- Ike Walton Lake
 - Star Lake
 - Stormy Lake
 - Trout Lake
 - Trout River

- CURLY-LEAF
PONDWEED**
- Big Arbor Vitae Lake
 - Harris Lake
 - Island Lake
 - Jefferson Lake
 - Lost Creek
 - Manie Lake
 - Manitowish Lake
 - Manitowish River
 - Papoose Creek
 - Rent Lake
 - Spider Lake
 - Stone Lake
 - Tomahawk River

- EUROSIAN WATER
MILFISH**
- Arrowhead Creek
 - Arrowhead Lake
 - Big Lake
 - Boat Lake
 - Brandy Creek
 - Brandy Lake
 - Buckatobon Creek
 - Catfish Lake
 - Cranberry Lake
 - Duck Lake
 - Eagle Lake
 - Forest Lake
 - Little Spider Lake
 - Little Star Lake
 - Long Lake
 - Lynn Lake
 - Middle Gresham Lake

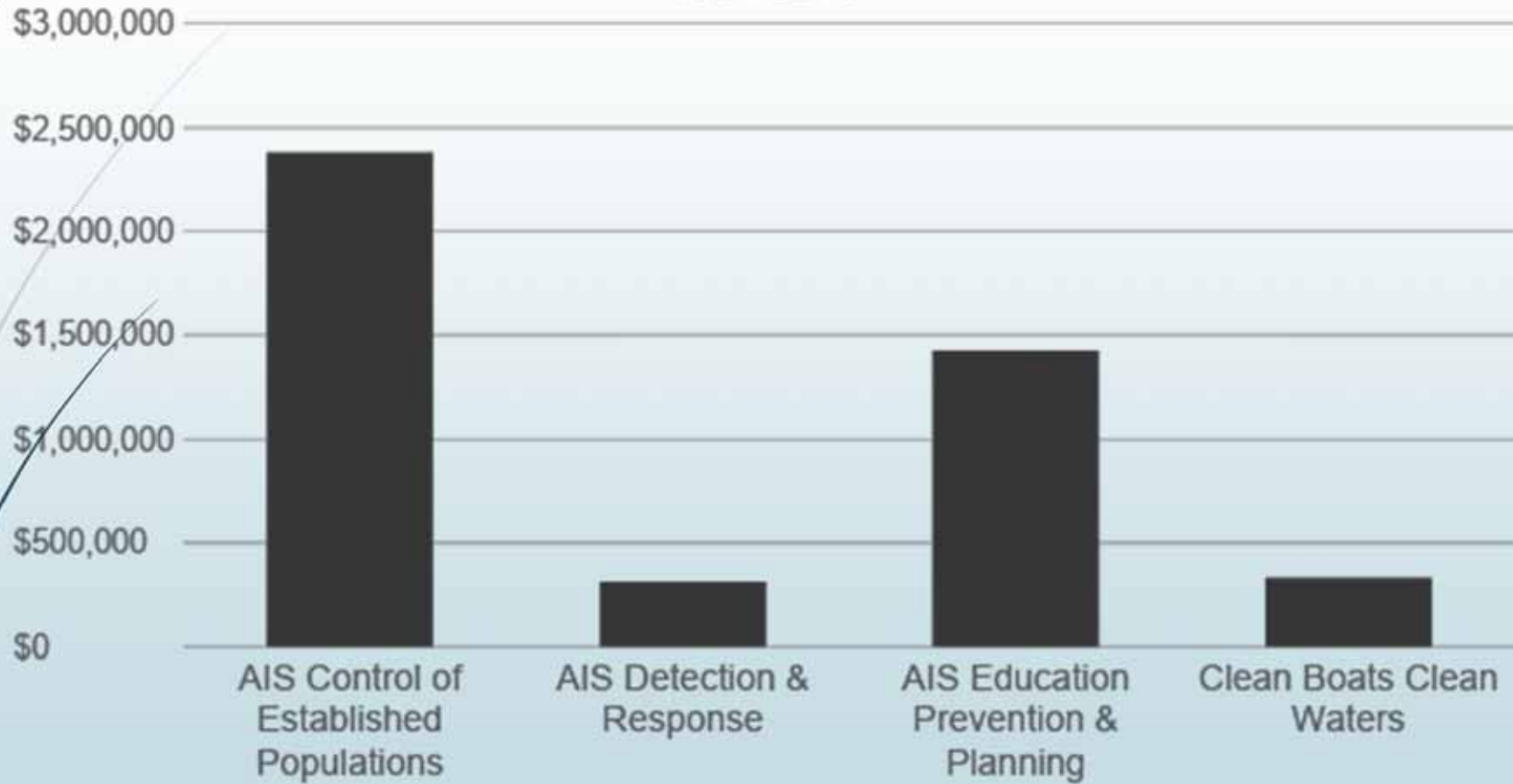
- EUROSIAN WATER
MILFISH**
- Muskellunge Lake
 - North Twin Lake
 - Otter Lake
 - Scattering Rice Lake
 - Silver Lake
 - Smoky Lake
 - South Twin Lake
 - Upper Buckatobon Lake
 - Upper Gresham Lake
 - Voyager Lake
 - Watermeat Lake
 - Wisconsin River
 - Yellow Birch Lake

- EWM & CLP**
- Anvil Lake
 - Big Sand Lake
 - Kentuck Lake
 - Lac Vieux Desert
 - Little Saint Germain Lake
 - Lost Lake



**PRIORITY AQUATIC INVASIVE SPECIES
VILAS COUNTY, WISCONSIN**
As of October 17, 2017, per Vilas County Land and Water Conservation Department

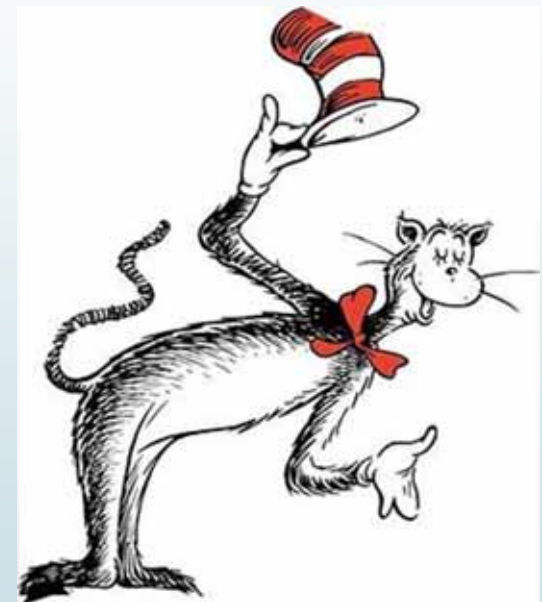
DNR AIS Grant Awards for Vilas County Lakes & Rivers 1994-2016



Hats Off to Volunteers!

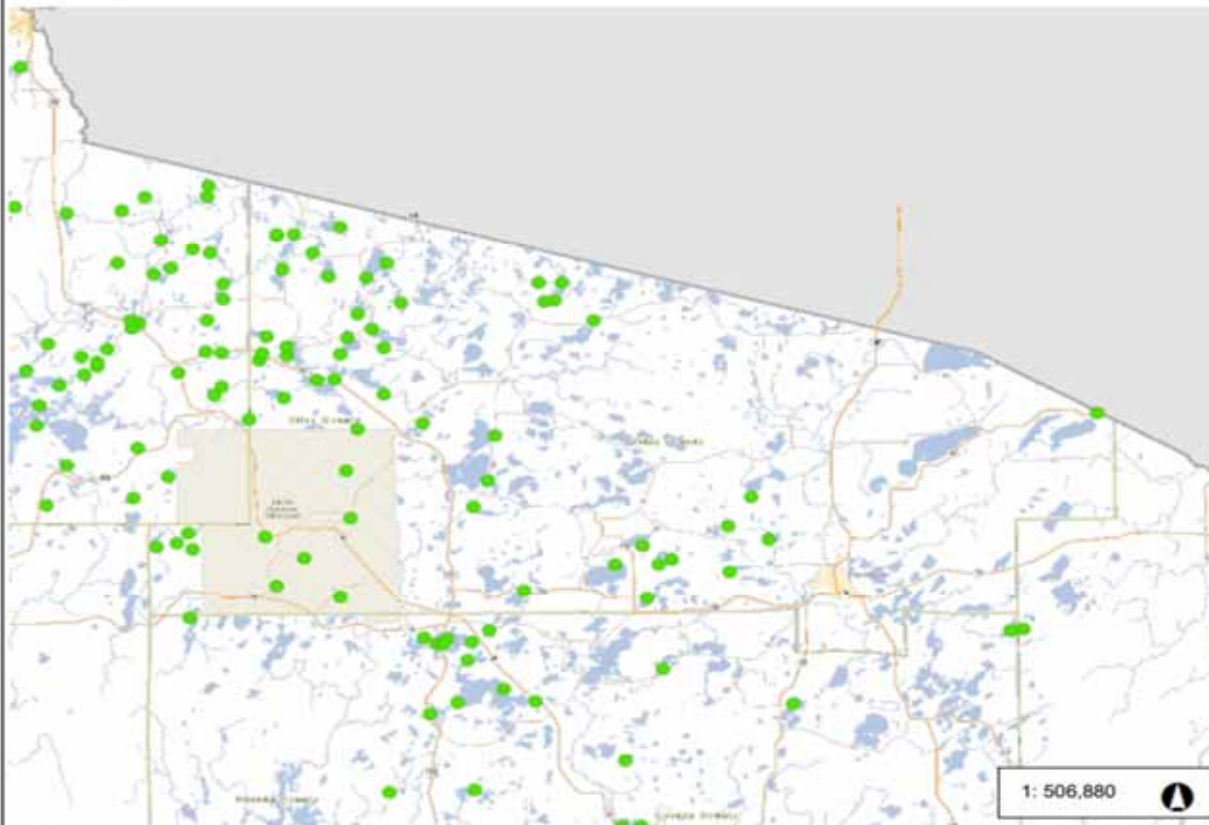
2017 CBCW Volunteer Hours in SWIMS

Vilas	1,644
Oneida	1,638
Oconto	1,190
Barron	573
Burnett	210
Sawyer	124
Waukesha	68
Marathon	35



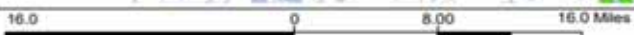


Historic Volunteer CBCW in Vilas County



- Legend**
- Volunteer Watercraft Inspection
 - County Boundary
 - Municipality
 - State Boundaries
 - County Boundaries
 - Major Roads**
 - Interstate Highway
 - State Highway
 - US Highway
 - County and Local Roads**
 - County HWY
 - Local Road
 - Railroads
 - ▨ Tribal Lands
 - Rivers and Streams
 - Intermittent Streams
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1: 506,880



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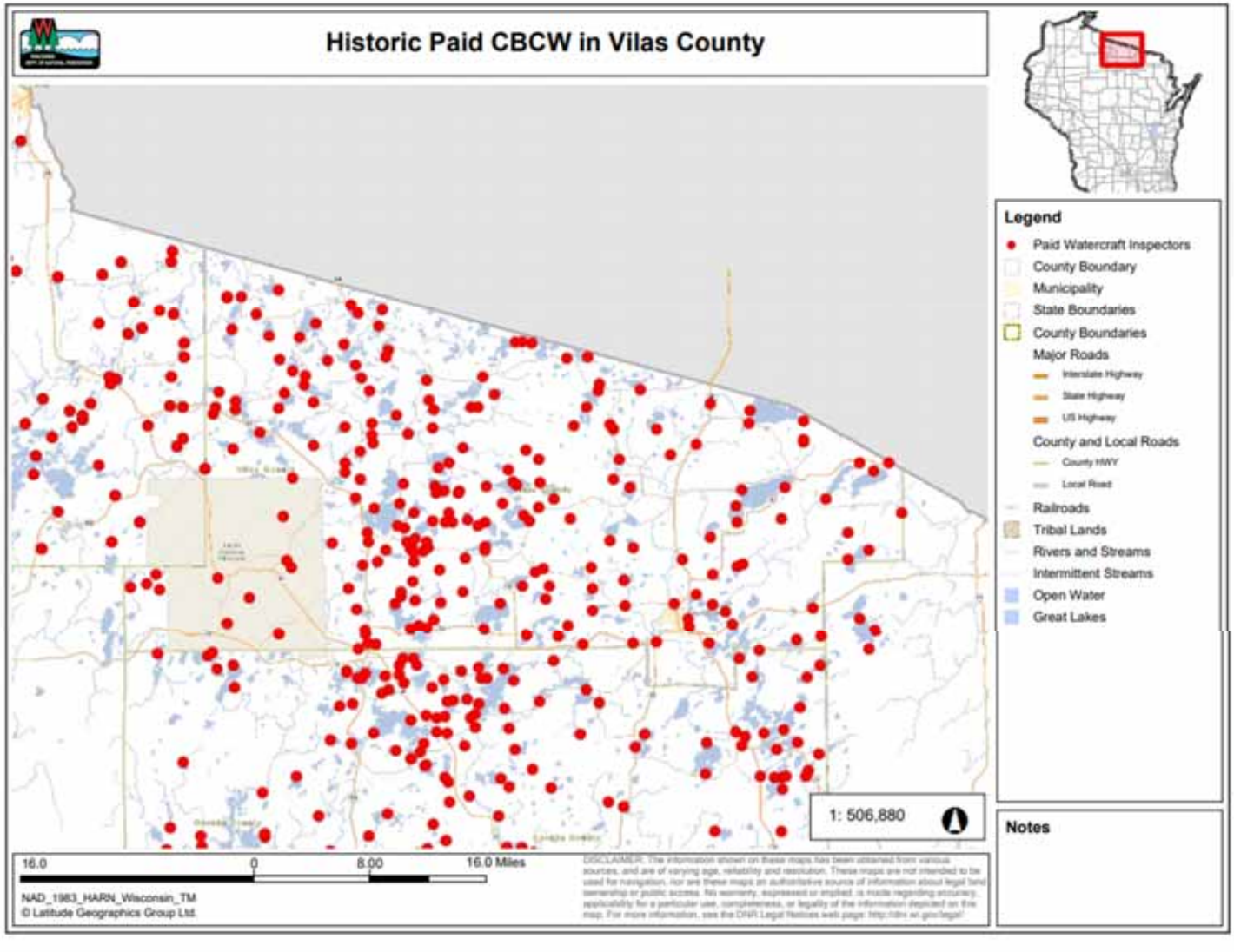
Notes

Still more ground to cover...

- Lake Orgs often hesitant to hire employees – liability insurance, employment taxes, unemployment insurance, etc.
- Hire CBCW inspectors on a contractual basis
 - Black Oak Lake Preservation Foundation, Town of Plum Lake, Crawling Stone Lakes, Lac Vieux Desert
- Partner with employing entity
 - Manitowish Chain & Town of Winchester - Discovery Center partnership
 - Vilas County Land & Water Conservation - UW-Oshkosh partnership

Slide 10

Office [4]1 Microsoft Office User, 4/19/2018



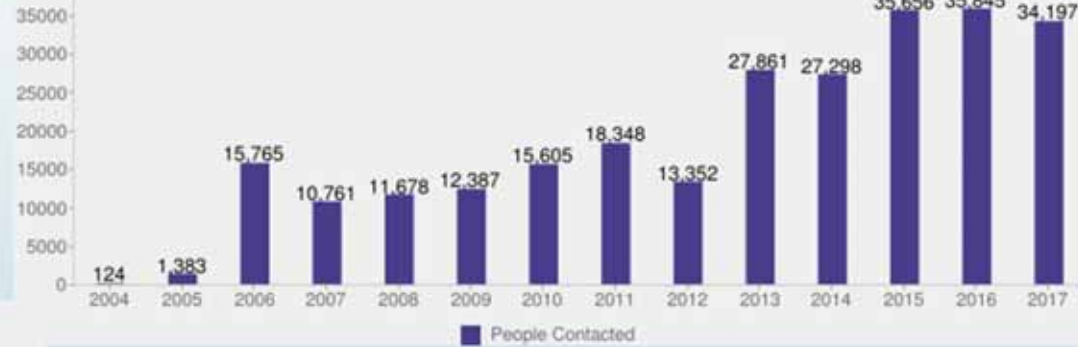
2017 CBCW in Vilas County

Hours Spent - Paid vs. Volunteer

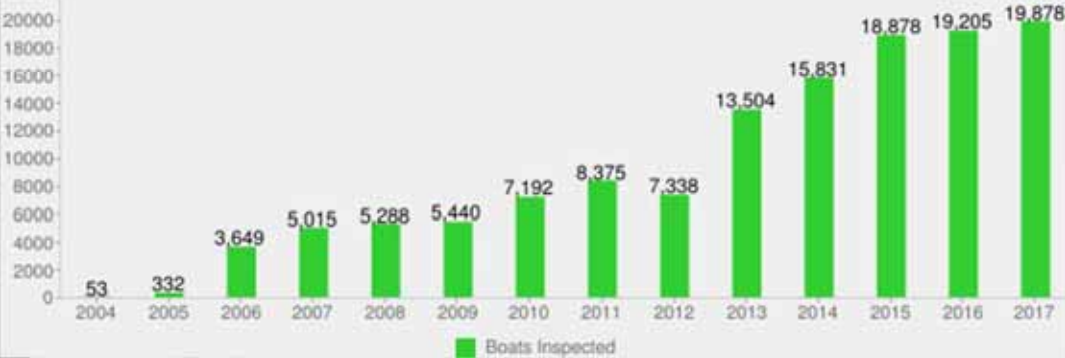


>14,000 hours of monitoring in 2017

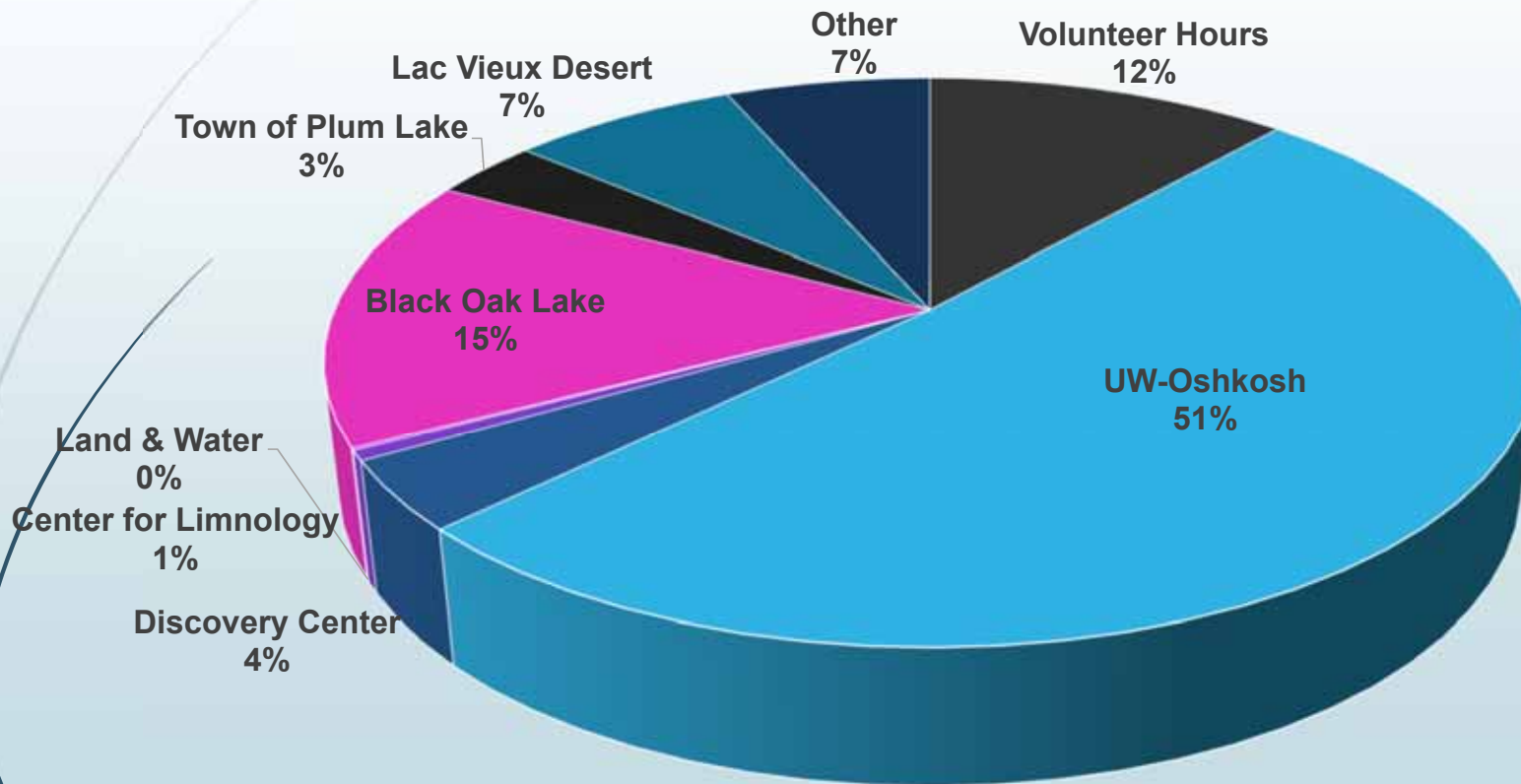
People Contacted



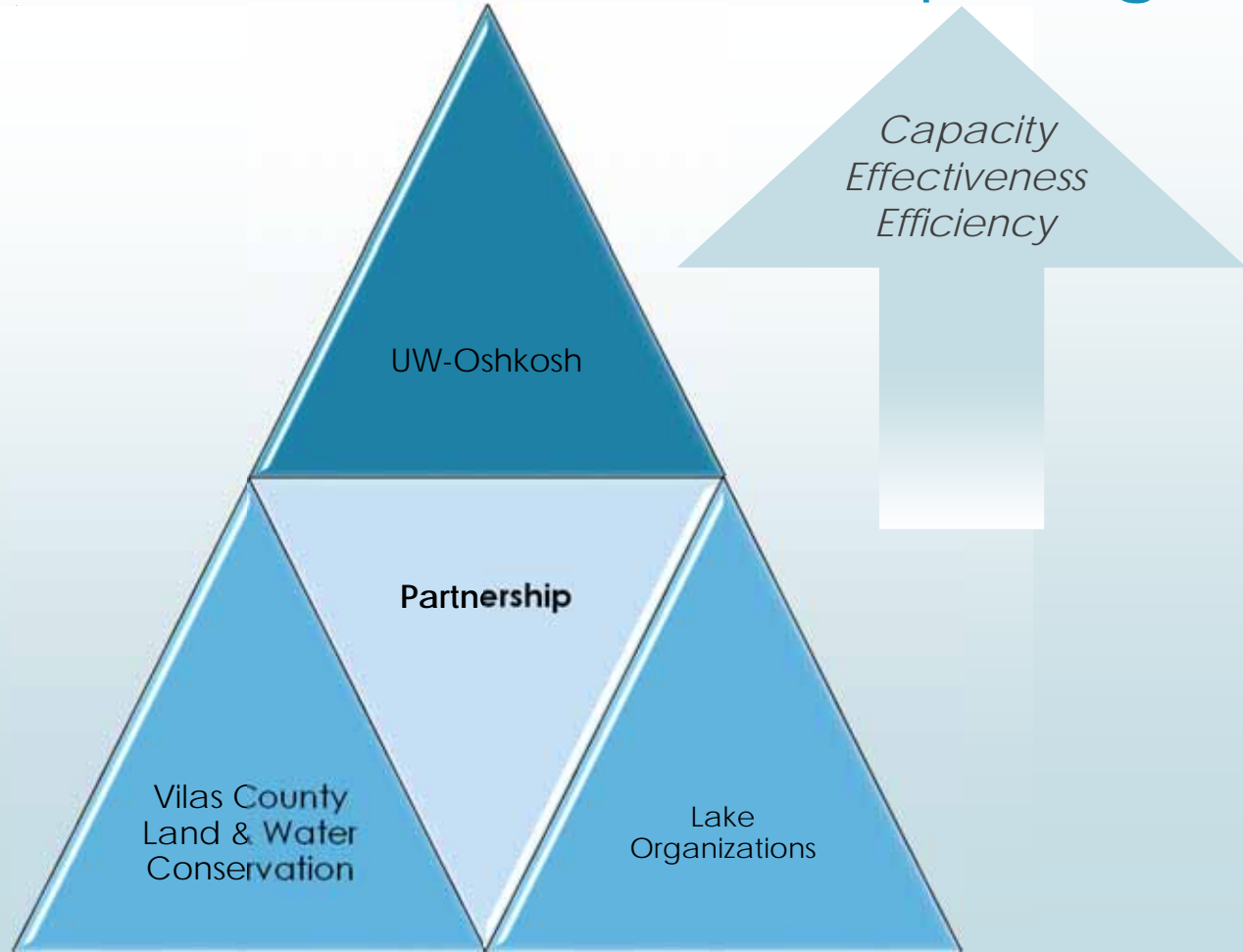
Boats Inspected



2017 CBCW Workforce in Vilas County (Per hours entered into SWIMS)



Vilas County Clean Boats Clean Waters Internship Program



Key Components
Interns
AIS Education & Training
Funding

Partners & Key Components

UW-Oshkosh

Interns with Liability Coverage

Vilas County Land & Water Conservation

Local AIS Education & Training

Lake Organizations

Funding from Sponsors & DNR Grants

HIS3 Take out of Diagram
Holiday Inn SP, 4/19/2018



Role in Partnership *UW-Oshkosh*

- Contracts between University & Lake Organizations
- Fringe for interns and staff member
- Hiring of interns
- University holds liability for all interns
- Housing search & student placement
- Driver eligibility
- Conduct checks
- Student safety & supervision
- Creating Schedule



Role in Partnership

Vilas County Land & Water Conservation

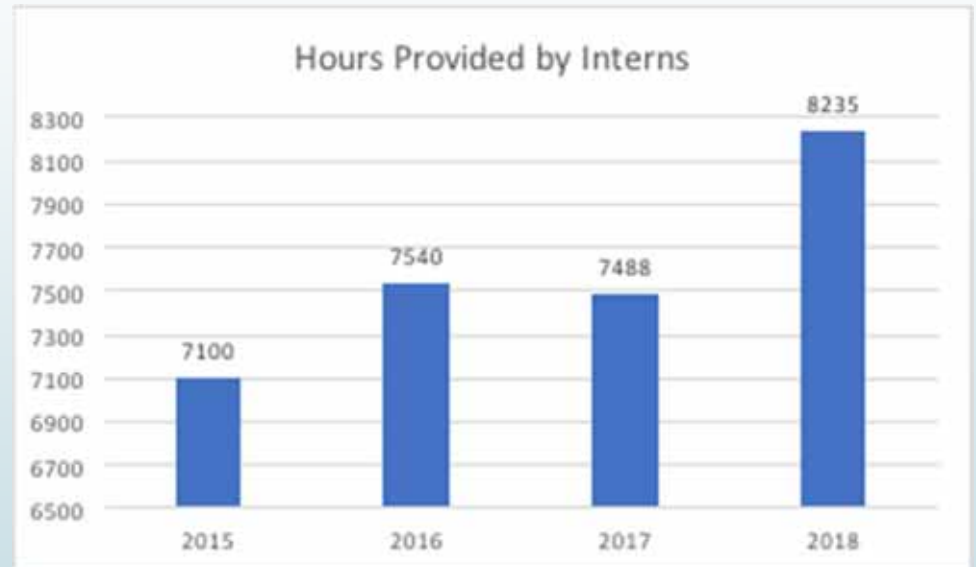
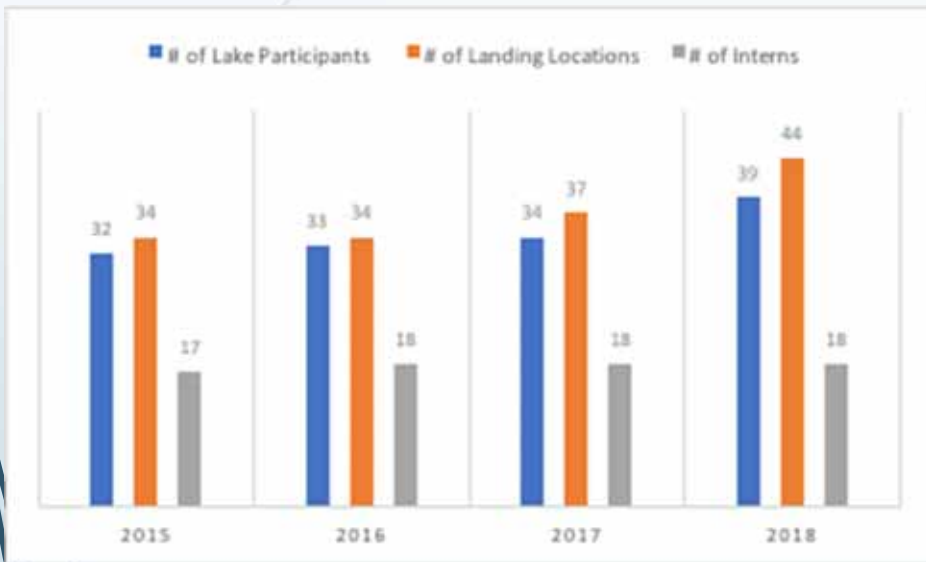
- AIS Education
- Intern Training
- Funds for supplies & equipment
- Equipment dispersal & collection
- Coordination of research projects of interest
- Local coordination and presence
- Intermediate between UW-Oshkosh & Lake Organizations



Role in Partnership *Lake Organizations*

- Desire to partner with UW-Oshkosh
- Funding from Sponsors & DNR Grants
- Funding Covers
 - Staff time
 - Intern wages
 - Housing
 - Travel Reimbursement

Maximize Program Capacity by Increasing Effectiveness and Efficiency

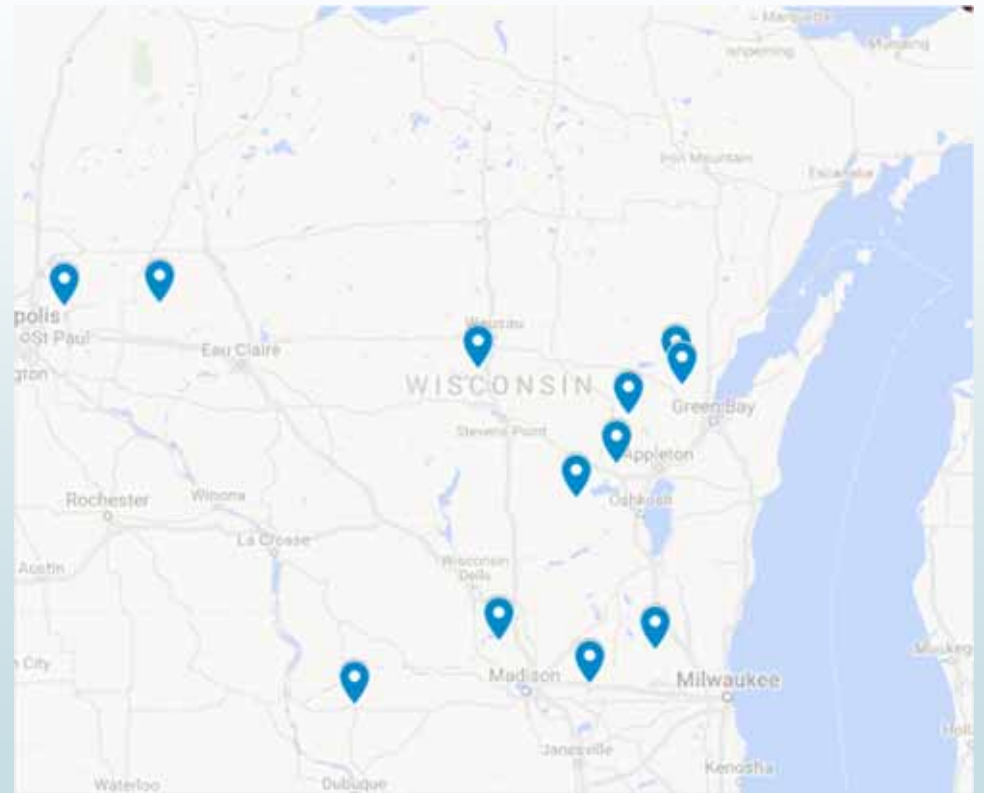


Office [2]1 Show as ratio

Microsoft Office User, 4/19/2018

Participating Colleges

- Students from 16 different colleges
 - UW Oshkosh
 - Fox Valley Technical College
 - UW Whitewater
 - UW River Falls
 - Ripon College
 - UW Madison
 - Northeast Wisconsin Technical College
 - UW Superior
 - UW Platteville
 - UW Stout
 - UW Stevens Point
 - UW-Waukesha
 - Saint Norbert
 - University of Minnesota Twin Cities
 - University of Illinois
 - The College of Wooster

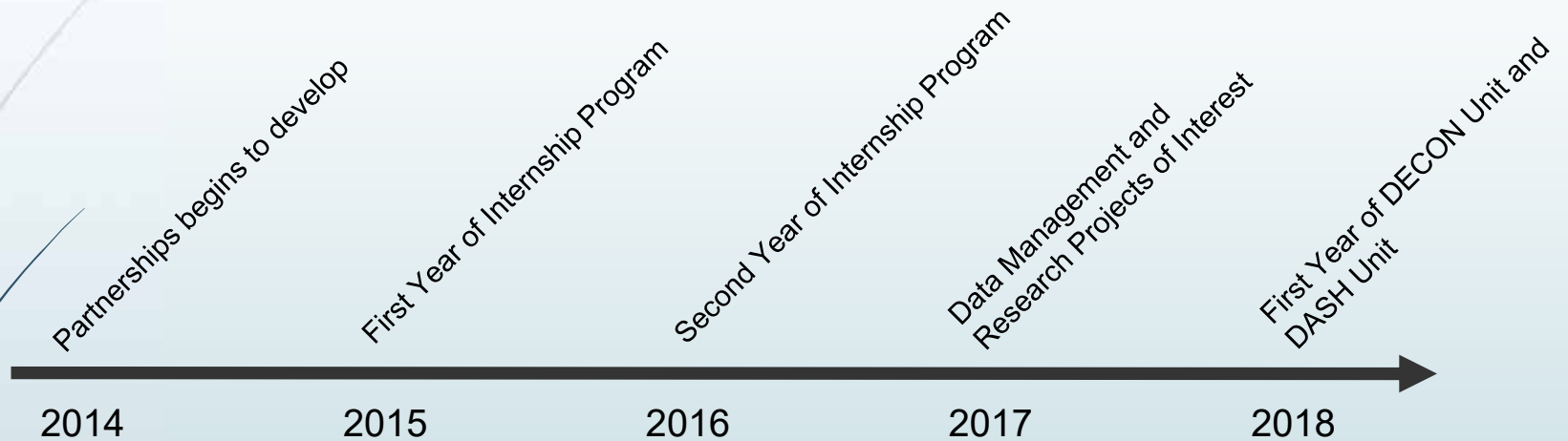




Intern Totals & Further Experiences

- 71 Internships funded by program
- 63 Different Interns
- 8 Interns have worked the program for 2 or more years
- 10 Interns called Vilas County home
- Bridge for 5 Interns into different Internships
 - (2) ERIC Lab Assistant
 - (1) Vilas County Well Intern
 - (1) DASH Unit Diver
- Bridge for 2 Interns into “the Real World”
 - UW-Oshkosh Research Scientist
 - Environmental Health Specialist

Program Development & Growth





Between Boats...

- Aquatic Invasive Species Monitoring
- Waterfowl & Mollusk monitoring
- Decontamination Surveys
- Terrestrial Invasive Species Monitoring

- All projects involve training, professional contacts, and reporting

AIS Monitoring

- Between boater contacts at launch
- 61.75 hours of AIS Monitoring logged and entered into SWIMS
 - Catfish Lake (2 hrs)
 - Fence (4.5 hrs)
 - Forest (9 hrs)
 - North Twin (1.25 hrs)
 - Trout (22.5 hrs)
 - White Sand Lake (22.5)
- **No new AIS found**



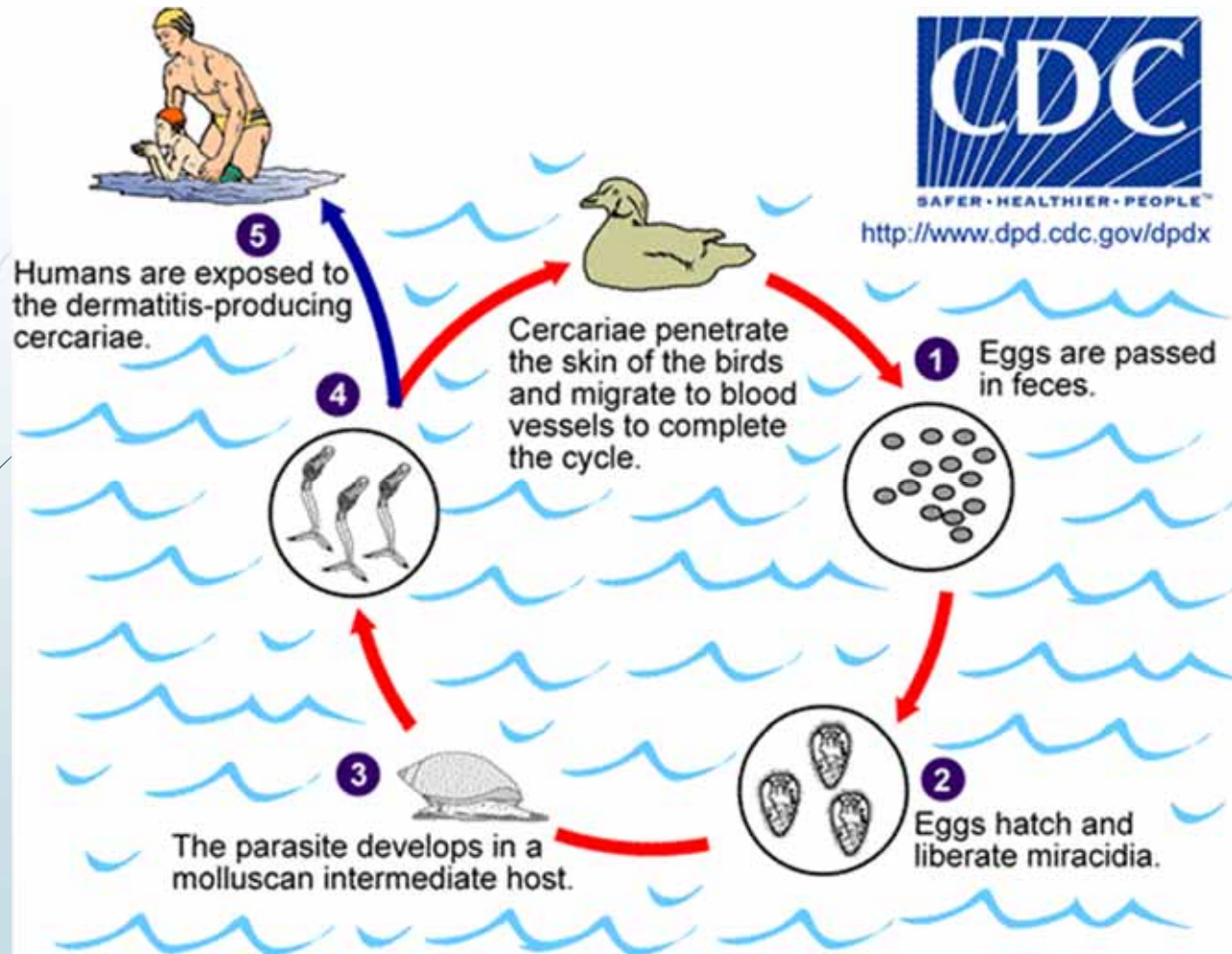
Waterfowl & Mollusk Monitoring

- Document anecdotal information that may relate to swimmers itch
 - ID snails to family
 - ID waterfowl
 - Assistance from Dr. Sandland, snail & parasite expert from UW-La Crosse
- Document native mussels in lakes
 - Many threatened/endangered
 - Very little local data
 - Assistance from Lisie Kitchel, mussel expert from WI DNR in Madison
- Data reported to lake orgs, WI Mussel Monitoring program, UW-La Crosse, & LoonWatch as appropriate



SAFER • HEALTHIER • PEOPLE™

<http://www.dpd.cdc.gov/dpdx>



Mussel Monitoring Program of Wisconsin

Over half of Wisconsin's 51 native mussel species (also known as clams) are listed as species of greatest conservation need or we need information on where they currently occur. Threats like habitat alteration (dams, siltation) and the presence of invasive mussels (zebra mussels) pose major threats to the existence of our native mussels. The Mussel Monitoring Program of Wisconsin would like your help in finding out what mussels occur in your area!



Species Accounts
Information about species



Species Observations
By Wisconsin county



2017 Event Calendar
Mussel events occurring across
the state



Freshwater Mussels
Booklet



Citizen Volunteer
Training Manual



iNaturalist
Enter your Wisconsin mussel
observations

For more information about the Mussel Monitoring Program of Wisconsin or iNaturalist, contact [Jesse Weininger](#) (608) 397-0198. To find out where the nearest shell drop-off is located or for more information, contact [Lise Kitchel](#) (608) 266-5248.



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Waterfowl and Mollusk Monitoring – Long Lake

Long Lake

2017 Waterfowl and Mollusk Observations
by Robert Rosner, 6/11-6/24/17

Waterfowl

Species	Adults	Young	Distance to shore	Photo	Activity
Mallard	1		n/a	No	flying

Mollusks

Type	Photo	ID - What Intern Thought It Was	Alive	Dead	Depth (ft)	Method	Vegetation present/absent	Substrate	Verified
snail	yes	Viviparidae, Campeloma	3	10	1 net	present	sandy	Cipangopaludina chinensis (Chinese Mystery Snail) - Greg Sandland 7/17/17	
snail	yes	Planorbidae, Gyralus	3	1	2 net	present	sandy	Planorbidae, Planorbella - Greg Sandland 7/17/17	
mussel	yes	Pygandodon lacustris (lake floater)	0	2	3 net	absent	sandy	peaclam - Lisie Kitchel 7/17/17	
mussel	yes	Lilliput?	0	1	2 net	present	sandy	peaclam - Lisie Kitchel 7/17/17	



Waterfowl and Mollusk Monitoring – Deerskin Lake

Waterfowl									
Species	Adults	Young	Distance to shore	Photo	Activity				
Loon		2	2	100	yes	swimming with young on back, feeding/diving			
Mollusks									
Type	Photo	ID - What Intern Thought It Was	Alive	Dead	Depth ft)	Method	Vegetation present/absent	Substrate	Verified
snail	yes	Chinese mystery snail	2	0	1	net	present	sandy	n/a
snail	yes	Planorbidae	6	8	1	net	present	sandy	Planorbidae, Planorbella - Greg Sandland 7/12/17
clam	yes	fingernail clam	4	1	1	net	present	sandy	Peaclam or fingernail clam - Lisie Kitchel 7-13-17
mussel	yes	?	1	0	1	net	present	sandy	no photo received



Waterfowl and Mollusk Monitoring – Fence Lake

Fence Lake
 2017 Waterfowl and Mollusk Observations
 by Matt VanSambeek, 6/4/17-7/23/17

Waterfowl		Distance to shore	Photo	Activity	Date
Loon	1	75	no	feeding	6/4/2017
Mallard	7	4	5	no swimming	6/4/2017
Loon	1	75	no	swimming	7/3/2017
mallard	2	1	0	no preening	7/3/2017
loon	1	3	no	swimming	7/4/2017
mallard	9	5 ?	no	preening	7/4/2017
mallard	1	2	3	no	7/23/2017
loon	2		no		7/23/2017
mallard	5	14	no		



Mollusks		ID - What Intern Thought It Was	Alive	Dead	Depth ft)	Method	Vegetation present/absent	Substrate	Verified
snail	no	Banded mystery snail	0	1	0	see from s	absent	sandy	n/a
snail	yes	unknown	0	15	0	see from s	absent	sandy	Lymnaeidae, <i>Lymnaea stagnis</i> - Greg Sandland 10/24/17
mussel	yes	fat mucket	0	2	1	see from s	present	sandy	top = <i>Pyganodon grandis</i> (Giant Floater). Bottom = likely <i>Lampsilis sliquoidea</i> (Fatmucket)



Decontamination Surveys

- Ballard-Irving
- High
- Lake Laura
- Plum
- North Twin
- Razorback
- Star
- Trout
- White Sand (LdF)

2017 Decontamination Survey Questions

Lake & Landing:
Name:
Date & shift time:

Approach boaters who indicate on CBCW datasheet they have used the boat within the last 5 days.

	1	2	3	4	5
	What if any extra steps to decontaminate your boat/equipment since the last waterbody? (Not required of public by WI law)	If a boat launch monitor were trained to use a hot pressure wash would you allow them to decontaminate your boat/equipment now? This would take about 15 min. (If no, skip to #4)	If yes, would you be willing to pay for this service?	What is the most important barrier that would keep you from decontaminating your boat/equipment now?	Do you consider yourself a local resident? (Do you own property or are you long-term renter in Vilas/Oneida Cty Area?)
1	<input type="checkbox"/> Drying for 5 days <input type="checkbox"/> Low pressure wash <input type="checkbox"/> High pressure wash <input type="checkbox"/> Chemical treatment <input type="checkbox"/> None	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Not necessary <input type="checkbox"/> Don't have time <input type="checkbox"/> Services Aren't Available <input type="checkbox"/> Where I Need Them <input type="checkbox"/> Potential Property Damage <input type="checkbox"/> Other	<input type="checkbox"/> Yes <input type="checkbox"/> No
2	<input type="checkbox"/> Drying for 5 days <input type="checkbox"/> Low pressure wash <input type="checkbox"/> High pressure wash <input type="checkbox"/> Chemical treatment <input type="checkbox"/> None	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Not necessary <input type="checkbox"/> Don't have time <input type="checkbox"/> Services Aren't Available <input type="checkbox"/> Where I Need Them <input type="checkbox"/> Potential Property Damage <input type="checkbox"/> Other <input type="checkbox"/> Not necessary	<input type="checkbox"/> Yes <input type="checkbox"/> No

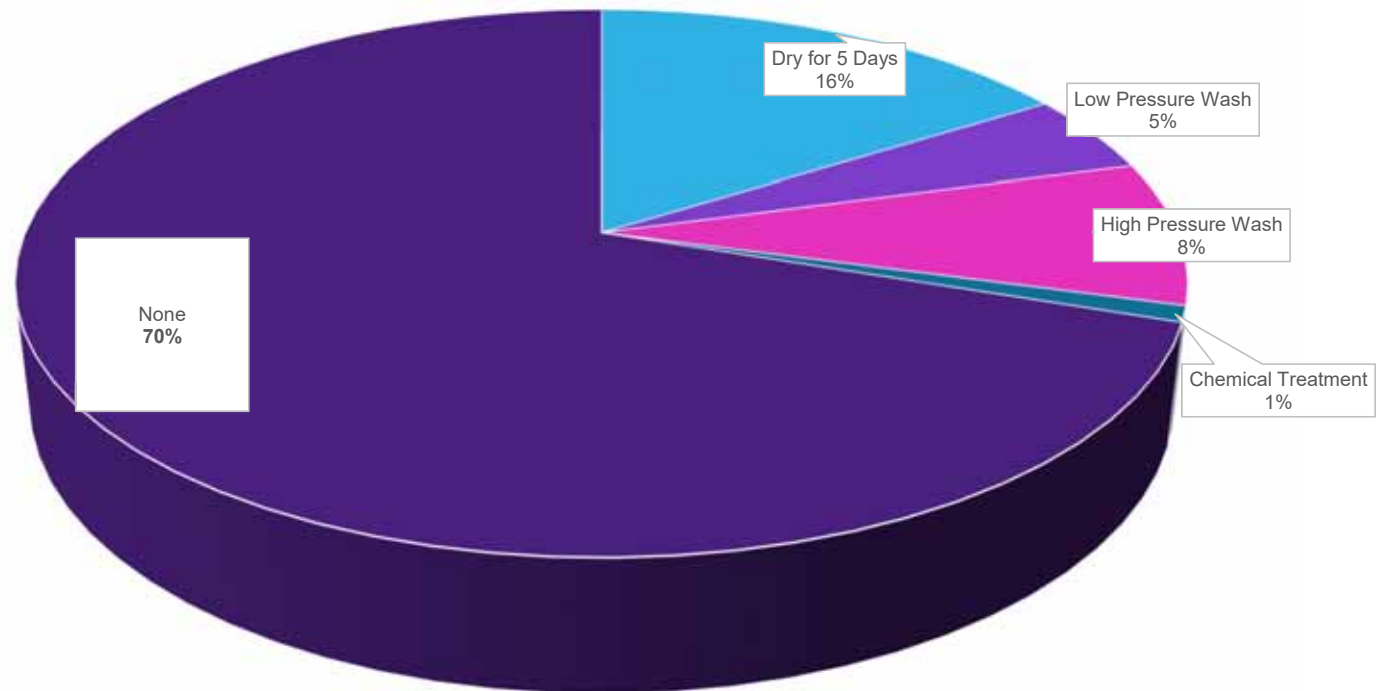
Decontamination Survey Photos



Decontamination Surveys

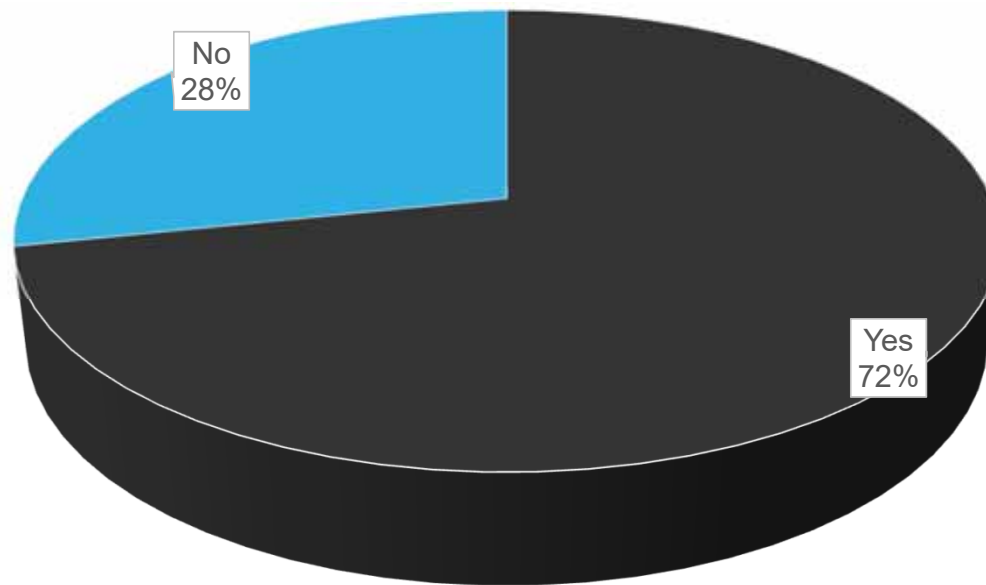
Extra Steps Transient Boaters Took to Decontaminate Boat/Equipment on 9 Vilas County Lakes

June-August 2017 (n=106)



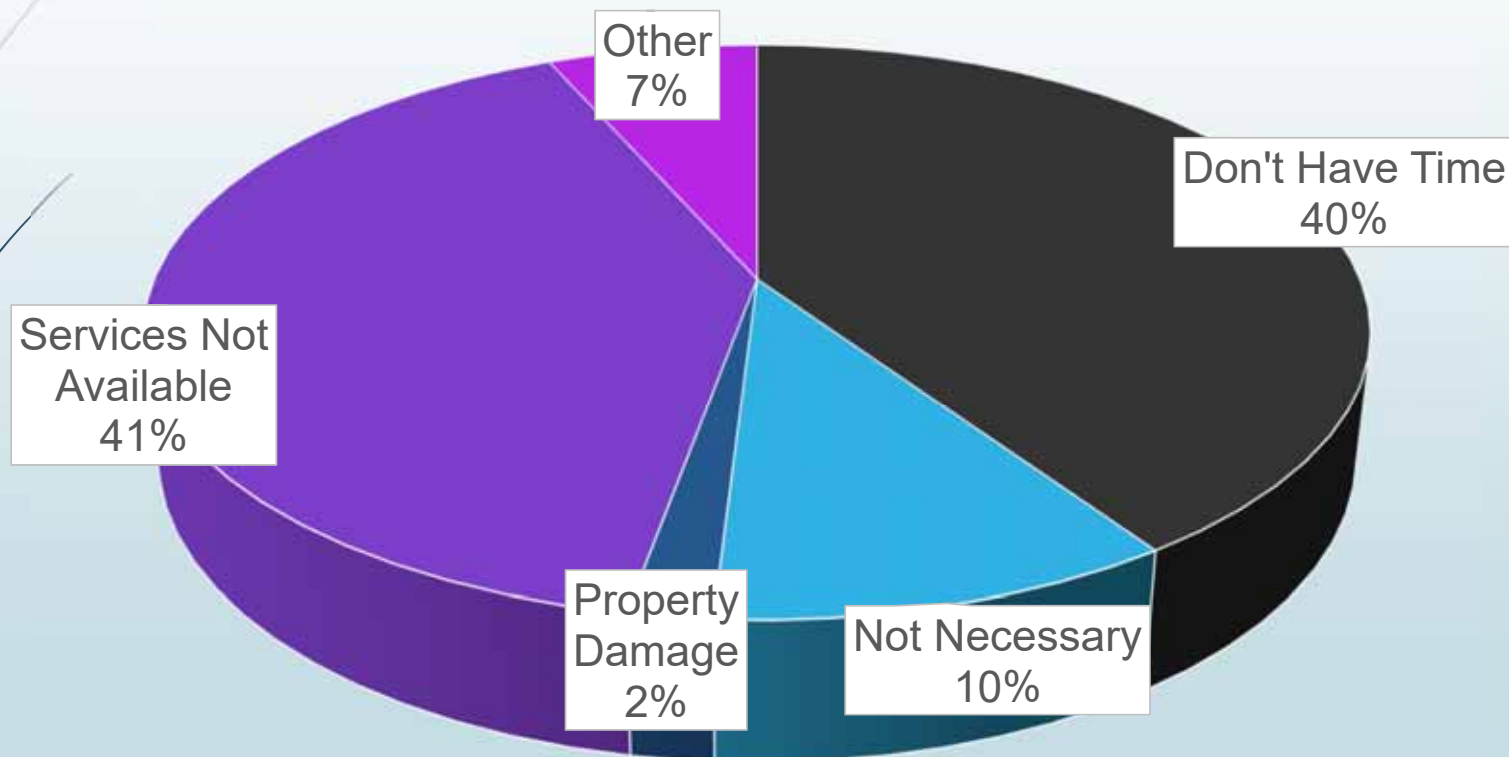
Decontamination Surveys

Transient Boaters Willing to Allow Trained Intern to Decontaminate Boat Using Hot Pressure Wash for 15 Minutes on 9 Vilas County Lakes (n=106)



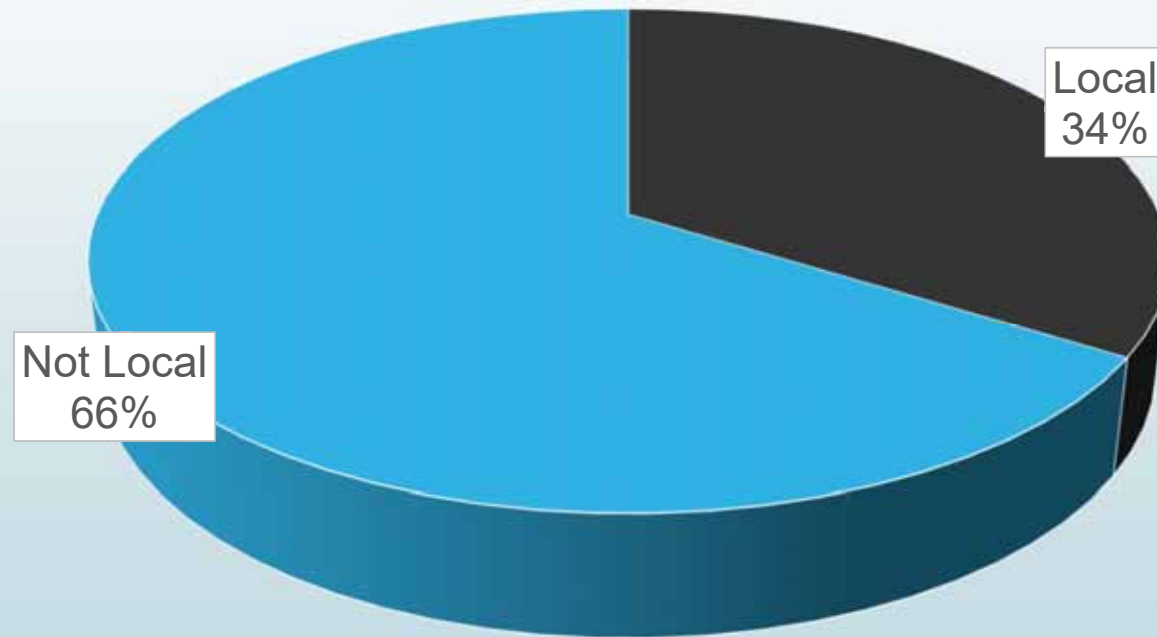
Decontamination Surveys

Most Important Barriers Preventing Transient Boaters from Decontaminating Their Boat/Equipment on 9 Vilas County Lakes (n=106)



Decontamination Surveys

Local vs. Not Local Respondents



TIS Monitoring

- Boat Launch Areas
 - Forest
 - Kentuck
 - Anvil
 - Catfish
 - Eagle
 - Yellow Birch
- Data entered in to GLEDN app, results available at EDDMappS
- No alarming TIS reported (mostly thistles)

Results

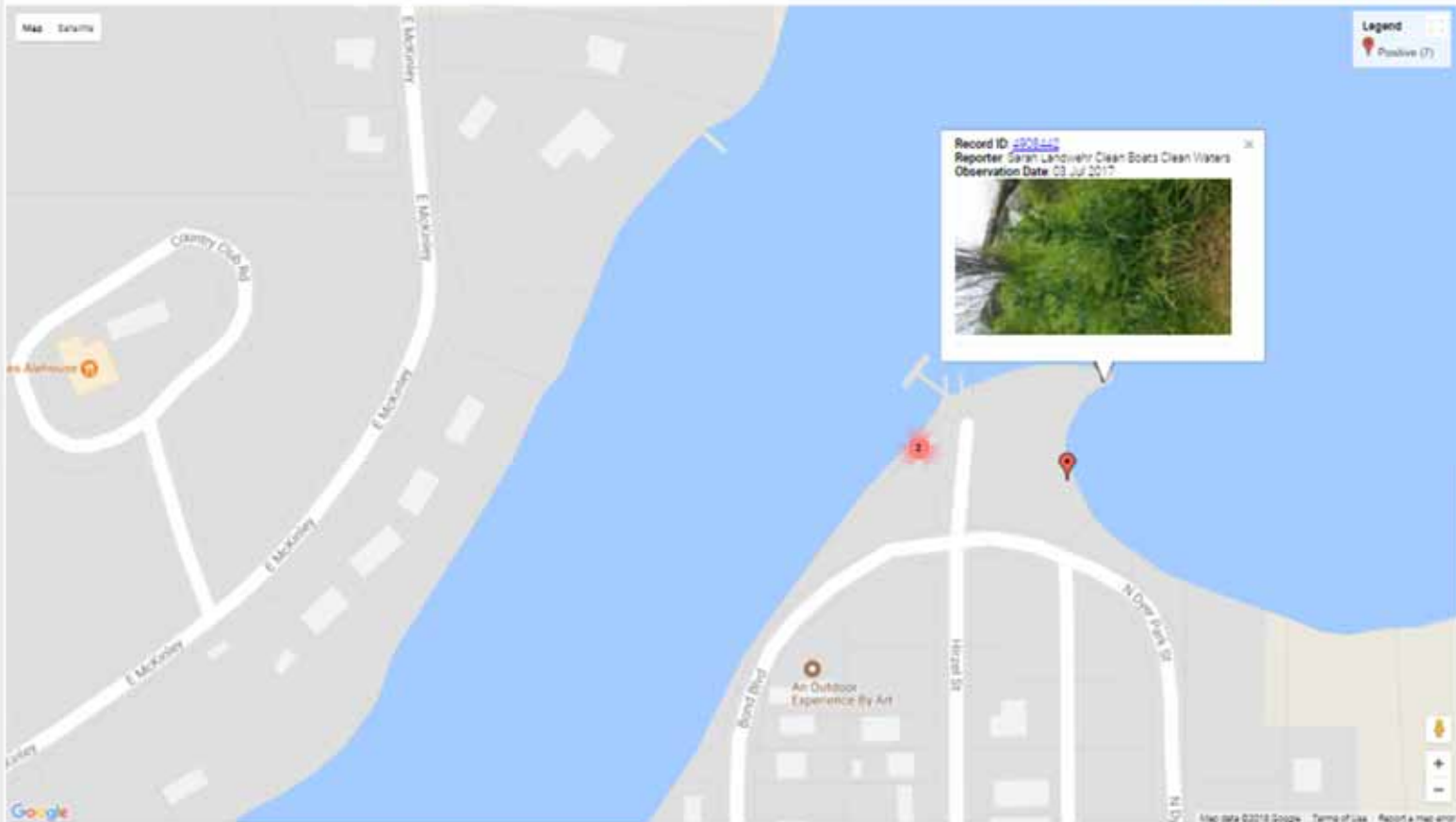
7 records (7 with exact location) infesting 0 Acres

- County: Vilas County
- State: Wisconsin
- Country: United States
- Ending Observation Date: 9/4/2017
- Starting Observation Date: 5/20/2017

[Go Back](#)

[CSV](#) [KML](#) [GPX](#)

[Zoom to My Location](#) [Share](#) [Download](#) [Flag](#) [Fullscreen](#)



Thistles

- 3 spots in buffer grass/area between the water and the grass/asphalt, some several feet tall



Slide credit: Sarah Landwehr

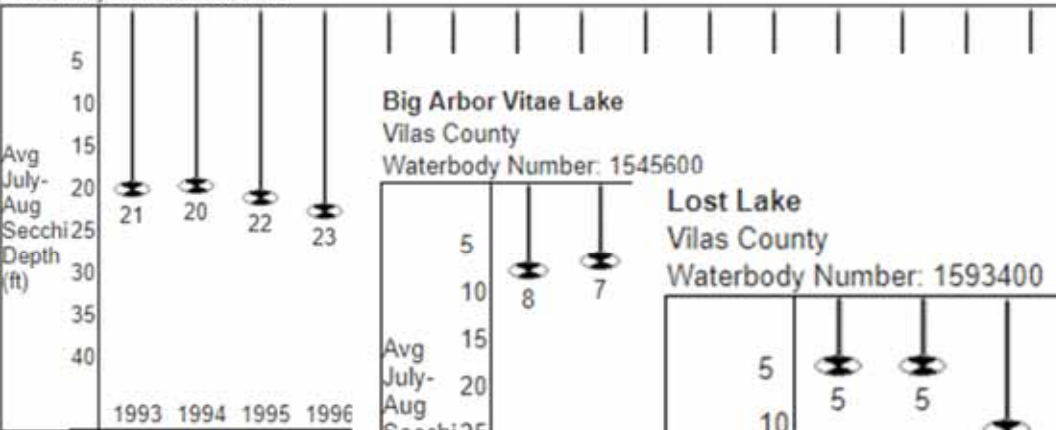


Off-shift volunteer work...

- Secchi Disk sampling
- Purple loosestrife biocontrol assistance
- European Marsh Thistle removal

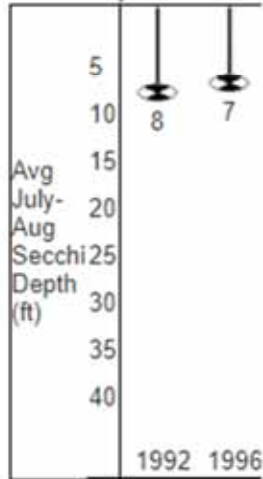
Secchi Disk Sampling

Fence Lake
Vilas County
Waterbody Number: 2323000



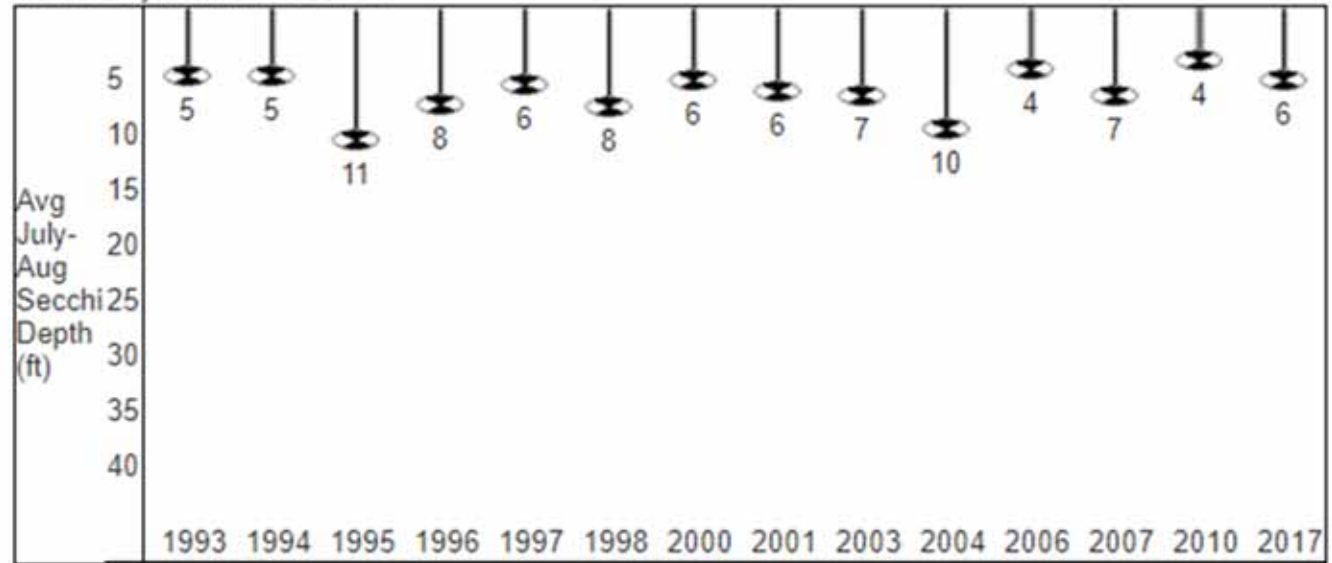
Past secchi averages in feet (

Big Arbor Vitae Lake
Vilas County
Waterbody Number: 1545600



Past secchi averag

Lost Lake
Vilas County
Waterbody Number: 1593400



Past secchi averages in feet (July and August only).

Purple Loosestrife Biocontrol Assistance



Approximately 19,000 purple loosestrife beetles were released on the Deerskin River site in 2017.

European Marsh Thistle Control on County Hwy A



>61 acres of Hwy A
Right-of-Way EMT
control work

2018 Projects

- Voluntary Boat Decontamination Program
- Continue Mollusk & Waterfowl Monitoring & Secchi
- Add more off-shift collaboration with Lake Orgs:
 - I.e. Anvil Lake: hand removal of EWM
 - Bat Monitoring
- Add amphibian and reptile reports
 - Lake Laura severe Perkinsea infection
- Projects matched with interests and location



Key Notes

- UW-Oshkosh-Vilas County Land & Water partnership fosters boat launch monitoring & data collection
- Funded through CBCW grants, UW-Oshkosh, and Lake Organizations (and AEPP grants)
- Vilas County works with Interns as volunteers for “off-shift” work
- This partnership works well because CBCW grants are non-competitive
 - Please keep it that way 😊



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Eagle River, WI

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920-573-0395