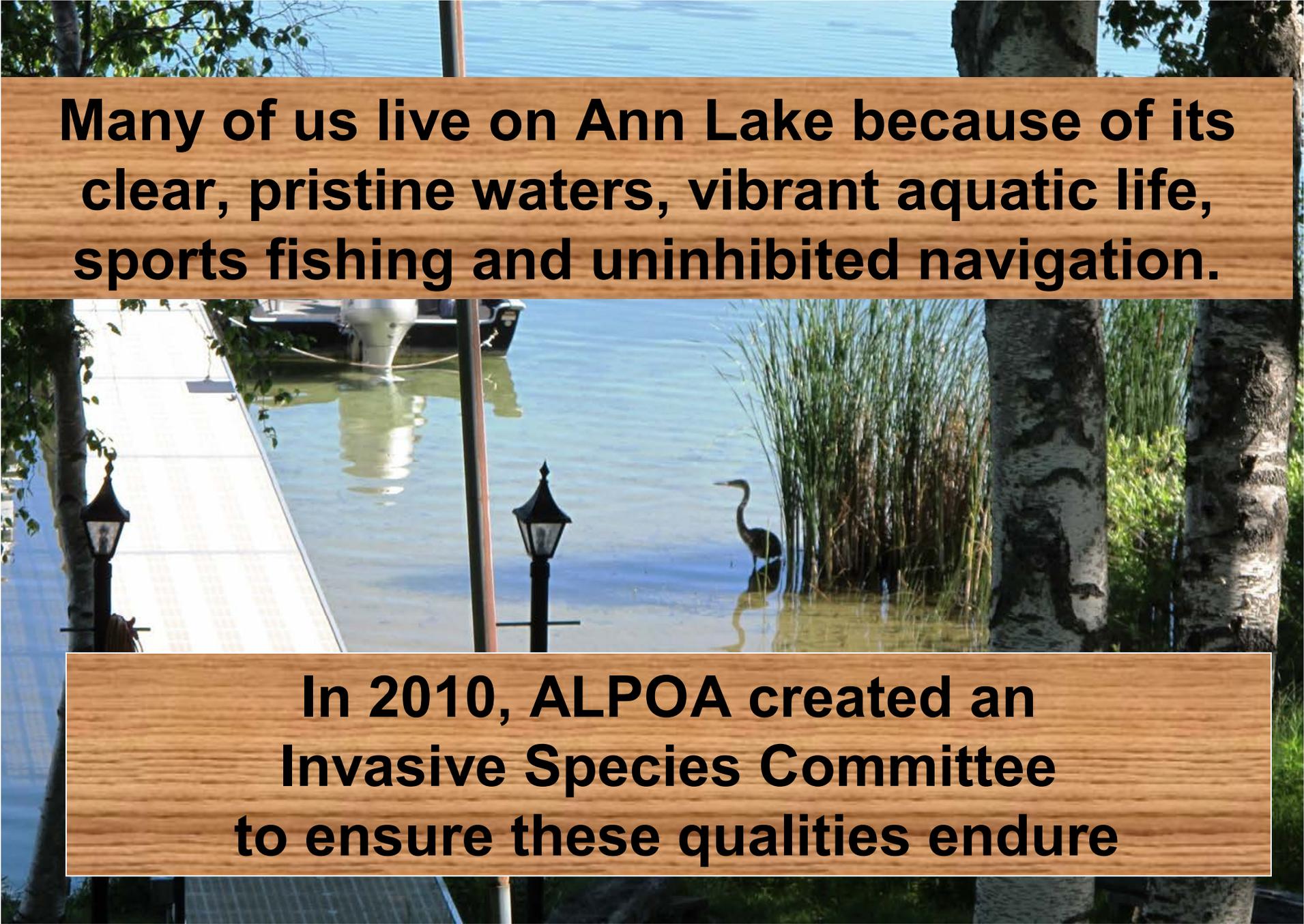


**ALPOA Invasive Species  
presentation to the  
Almira Township Board  
Nov. 2016**



**Many of us live on Ann Lake because of its clear, pristine waters, vibrant aquatic life, sports fishing and uninhibited navigation.**

**In 2010, ALPOA created an Invasive Species Committee to ensure these qualities endure**

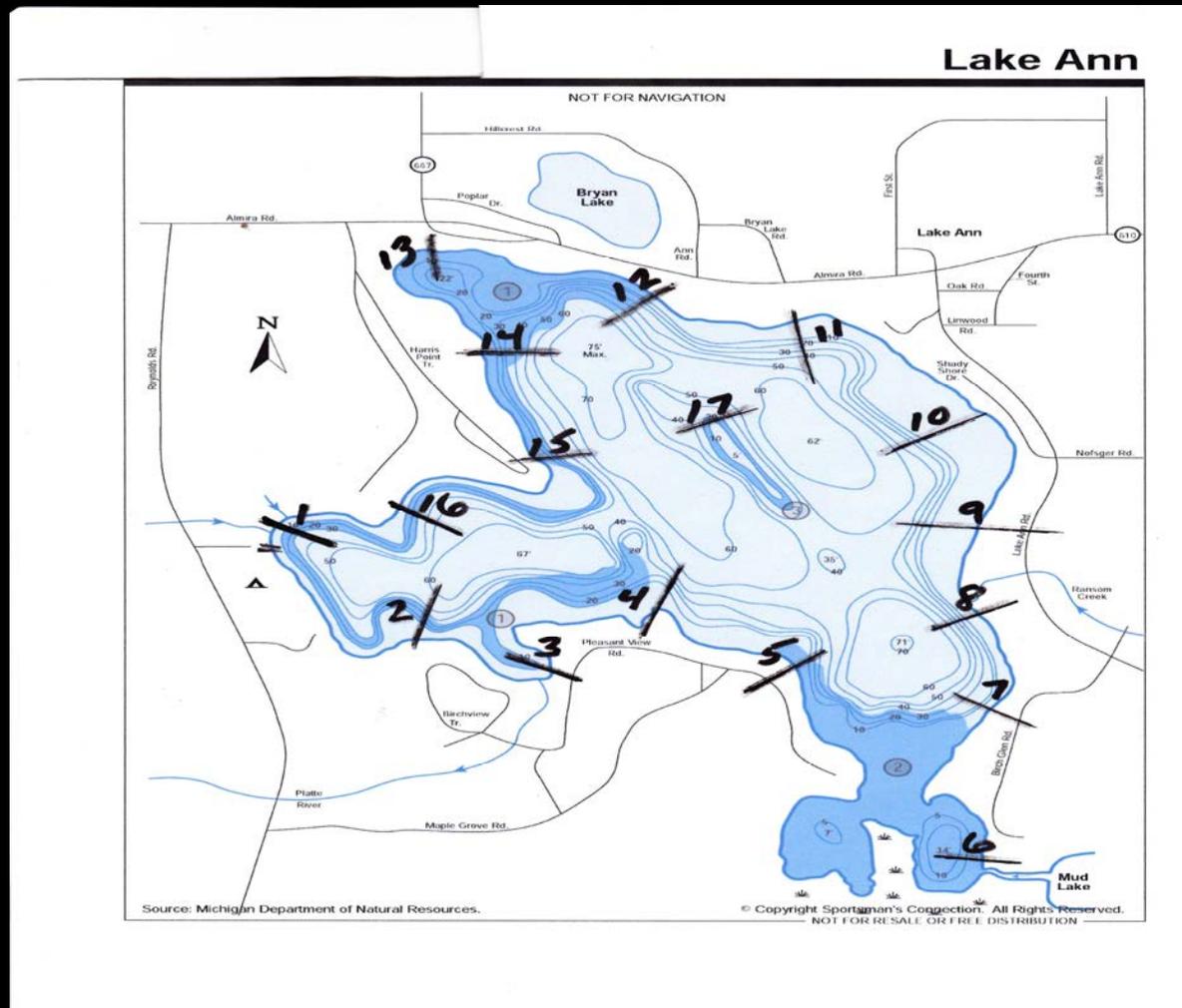
# Invasive Species Committee

- “ We learned how to **identify** native and non-native aquatic plant species.
- “ We are **educating** our members on what to look for and how to report
- “ We learned that we needed to create a **baseline** for future comparisons
- “ Most importantly, we learned how to **survey** our lake, measure and document results which we do annually

# We began monitoring our lake in 2012 using plant surveys

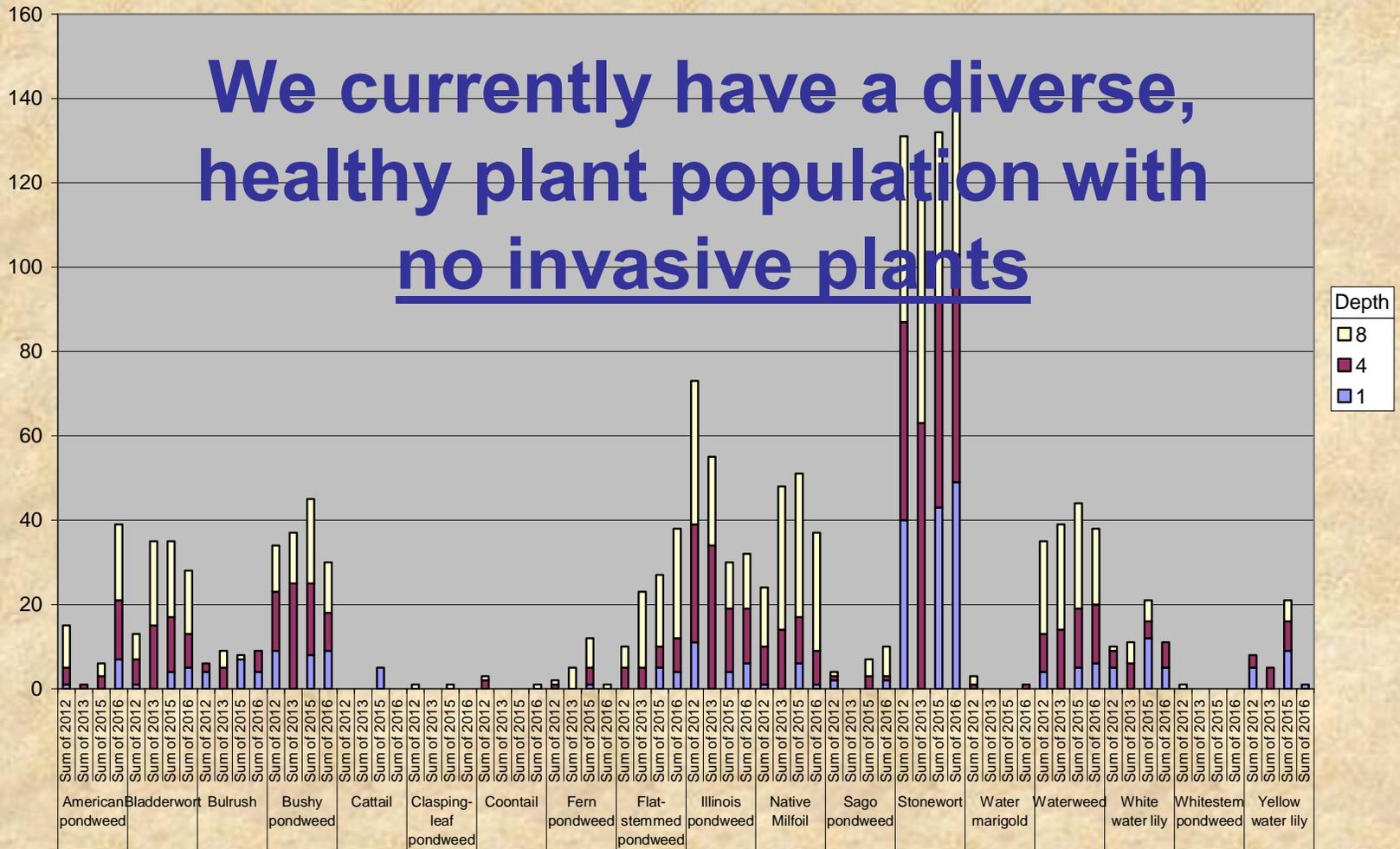


# We rake/sample three depths at 17 set transects



# We track year-to-year plant growth densities by species and location

**We currently have a diverse, healthy plant population with no invasive plants**



Plant Name | Data



**However, several exotic plants  
continue to concern us:**

**Eurasian water- milfoil or EWM**



**Hydrilla**



**Starry stonewort**

**For purposes of this presentation  
and due to its virulence, we will  
concentrate on Eurasian Water-  
Milfoil (E.M.W.)**



*Myriophyllum spicatum* L.

**It's hard to differentiate from its native cousin; worse once introduced it can infest an entire mid-sized lake in 2 years**

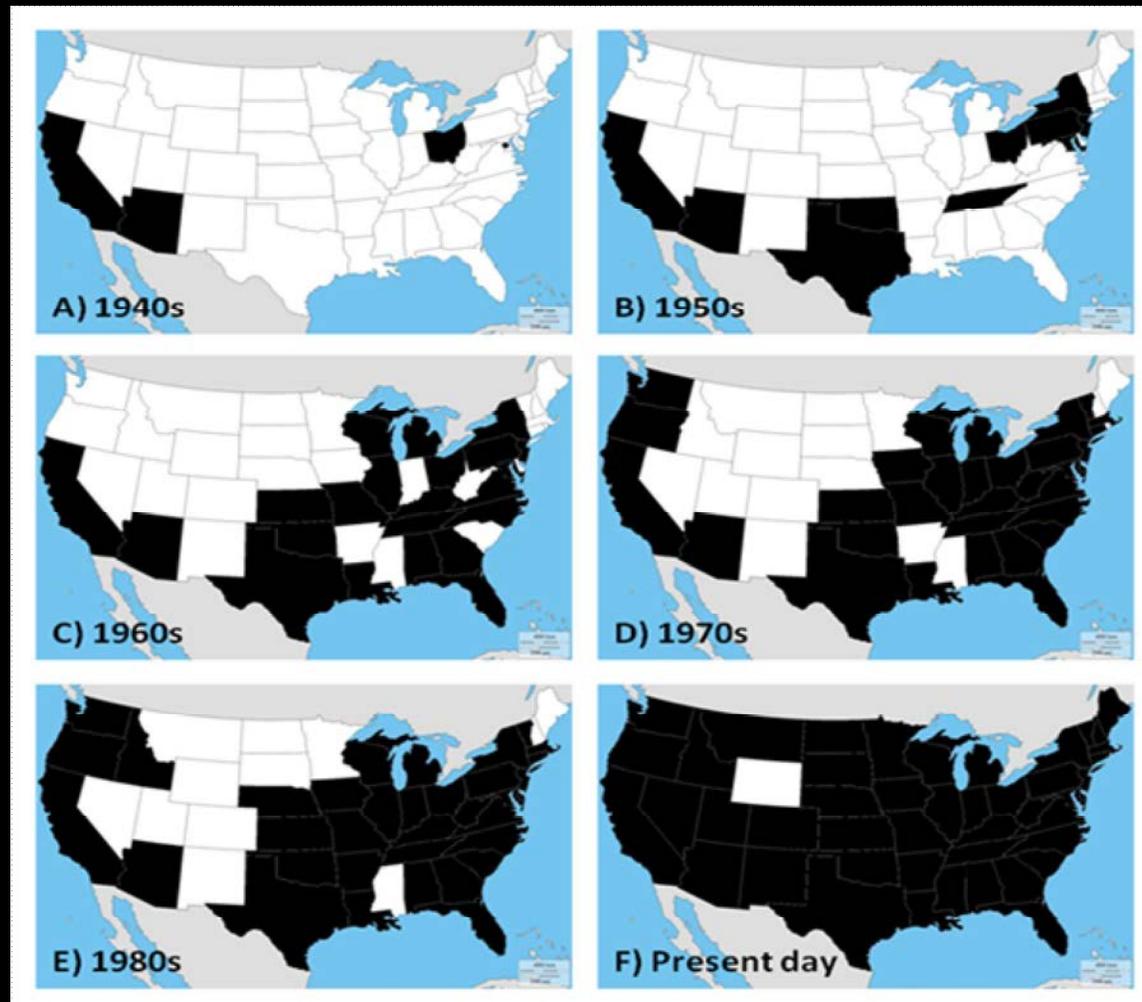
**Native and Eurasian Milfoil**



**Eurasian Milfoil**

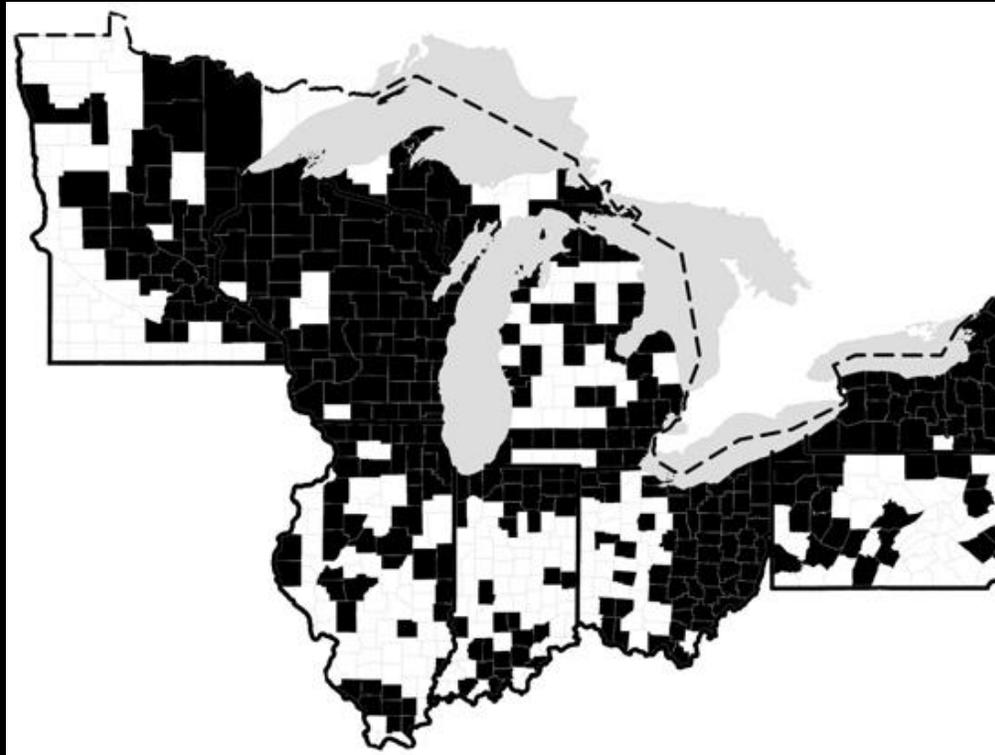


# Worrisome path of Eurasian Water Milfoil Infestations



# EWM Incursions in Midwest

Including nearby: Long, Duck, Crystal, and Portage Lakes



**It's not a matter of if,  
it's a matter of when**

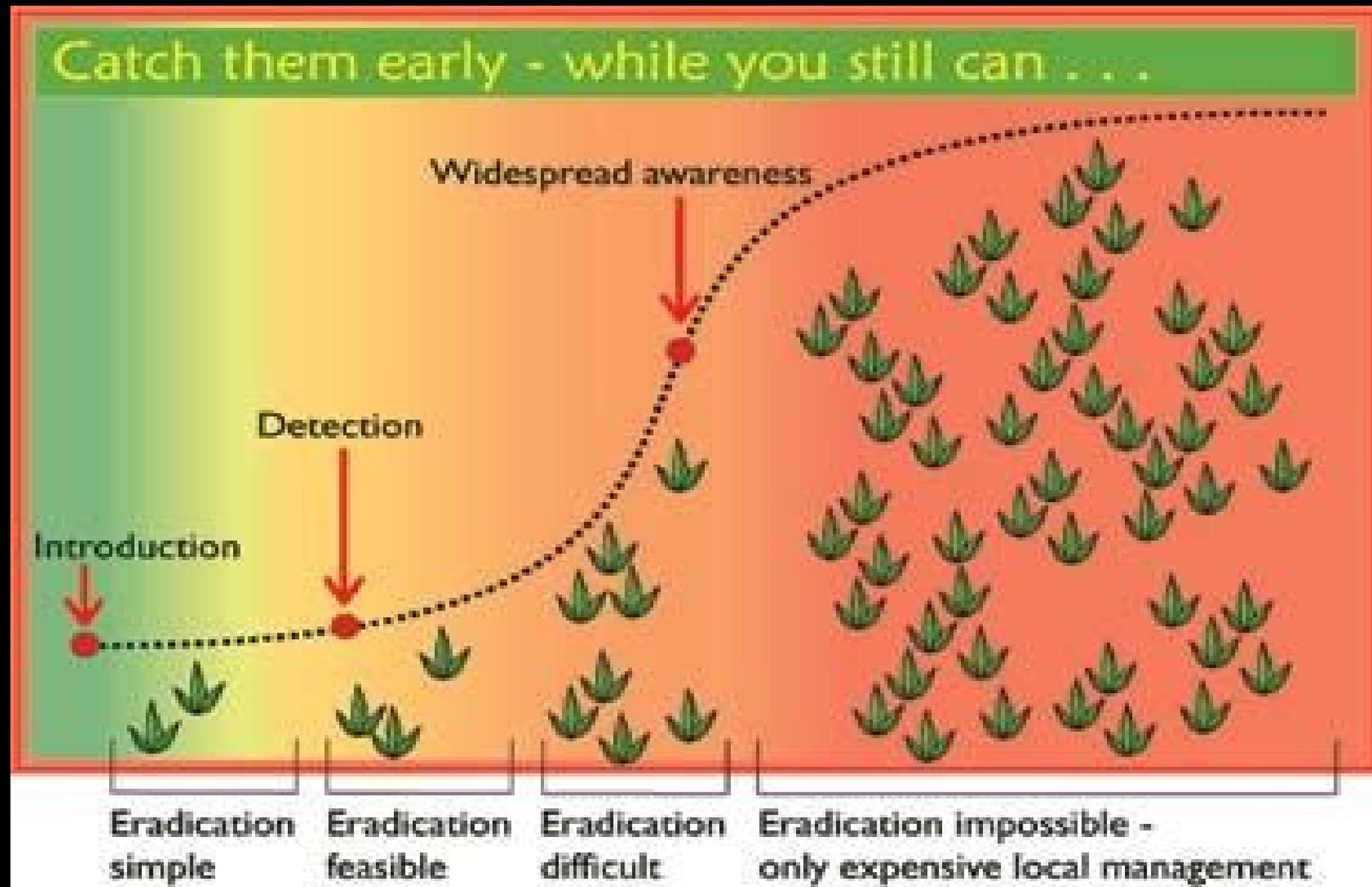
# What is E.M.W.; why worry?

- “ EWM is an **aggressive** invasive species that first came to North America over 60 years ago. It grows and spreads rapidly.
- “ It has an **earlier growing season** than native aquatic plants which allows it to out-compete other plants for photosynthesis often resulting in killing of native plants.
- “ EWM **spreads easily through fragmentation**. Pieces of a plant break off and easily root in a new location.
- “ These fragments become **entangled on prop shafts or boat trailers**. If not caught and removed, the EWM fragment can be easily deposited into another (EWM-free) lake by the unsuspecting boat owner.
- “ EWM grows in water up to **depths of 20 feet** making shallow lakes more susceptible to widespread infestation.
- “ When left unmanaged, EWM will grow, creating **extensive and thick matting on the lake surface**. These dense mats make the infested area un-navigable to boat traffic, swimming and other recreational activities
- “ Once in a lake’s aquatic plant community, **EWM can never be completely eradicated**, but only managed

**Did we mention it's affect on  
property values and thereby,  
Township revenues?**

**Studies done in Washington State  
comparing properties on lakes with EWM  
compared to lakes without EWM found  
that **property values on lakes with EWM  
were 19% lower on average** than comparable  
values of properties on non-infested  
lakes.**

# Early identification and treatment is key!!



**Houghton Lake botched this lesson  
and taught us what not to do**





## **Houghton Lake 2000**

**Largest lake in  
Michigan at  
22,000 acres**

**EWM discovered in  
1994, problem ignored  
by County**

**Widespread infestation  
confirmed in 1999**

**By 2001 50% of lake  
infested with est. 4,000  
acres completely  
topped-out**



Burned out motors, hampered navigation and recreation led to a 30% drop in tourism



# Treatments began in 2001



**Treatments were effective but by then, very expensive**



Houghton Lake in 2000 before fluridone treatment. Source: ReMetrix, Inc.

**Houghton Lake 2000**



Houghton Lake in 2002 after fluridone treatment. Source: ReMetrix, Inc.

**Houghton Lake 2002**

**Special Assessment District  
formed in 2001 with goal of  
establishing  
\$5,000,000 in funding over the  
next 10 years for on-going  
treatment.**

~~

**It would have been much less  
expensive if there hadn't been a  
7 year delay.**

# In 2015 EWM found its way into Duck Lake in Interlochen



Artist creates paint-chip mosaic ETC., Page 1B

Record-setting Titans bow out Sports, Page 1C



## TRaverse CITY RECORD EAGLE

Friday, June 17, 2016

FRIDAY

\$1.00 DAILY/\$2.00 SUNDAY

### TORCH LAKE Party patrol

Increased police presence set for July 4 Torch Lake bash

BY MARK JOHNSON  
mjohanson@record-eagle.com

TRaverse CITY — Law enforcement agencies don't want Torch Lake history to repeat itself. The Michigan State Police, Michigan Department of Natural Resources, and Kalamazoo and Antrim County sheriff's departments plan to increase the law enforcement presence at the Torch Lake sandbar area over the Fourth of July weekend in hopes of preventing a replica of the alcohol-fueled 2015 Independence Day bash that saw more than 10,000 revelers and hundreds of citations.

SEE PARTY PAGE 2A



Special to the Record-Eagle/  
U.S. Coast Guard Air Station Traverse City  
U.S. Coast Guard crews fly over the Torch Lake sand bar during the Fourth of July holiday in 2015.

### Tending the green



Kris Slater, groundskeeper at Dunes Golf Club in Empire, cuts grass on a rainy afternoon. Slater said the weather helped him get certain tasks done without interfering with golfers, and vice versa. "The less I get golf balls fired at me, the better," he said.

### INVASIVE SPECIES Eurasian watermilfoil moves to Duck Lake

Township sets up special assessment district for cost

BY CAROL THOMPSON  
cthompson@record-eagle.com

TRaverse CITY — Ed Dewey aims to prevent Duck Lake from turning into a web of weeds. Dewey, president of the Green

& Duck Lakes Association, reported the first account of invasive Eurasian watermilfoil on Duck Lake in May. He and other lakeside property owners identified the plant in July.

"If you let it go, it can take over your lake and it will choke out all of the native plants in your lake and will affect the fish growth," Dewey said.

SEE LAKE PAGE 2A

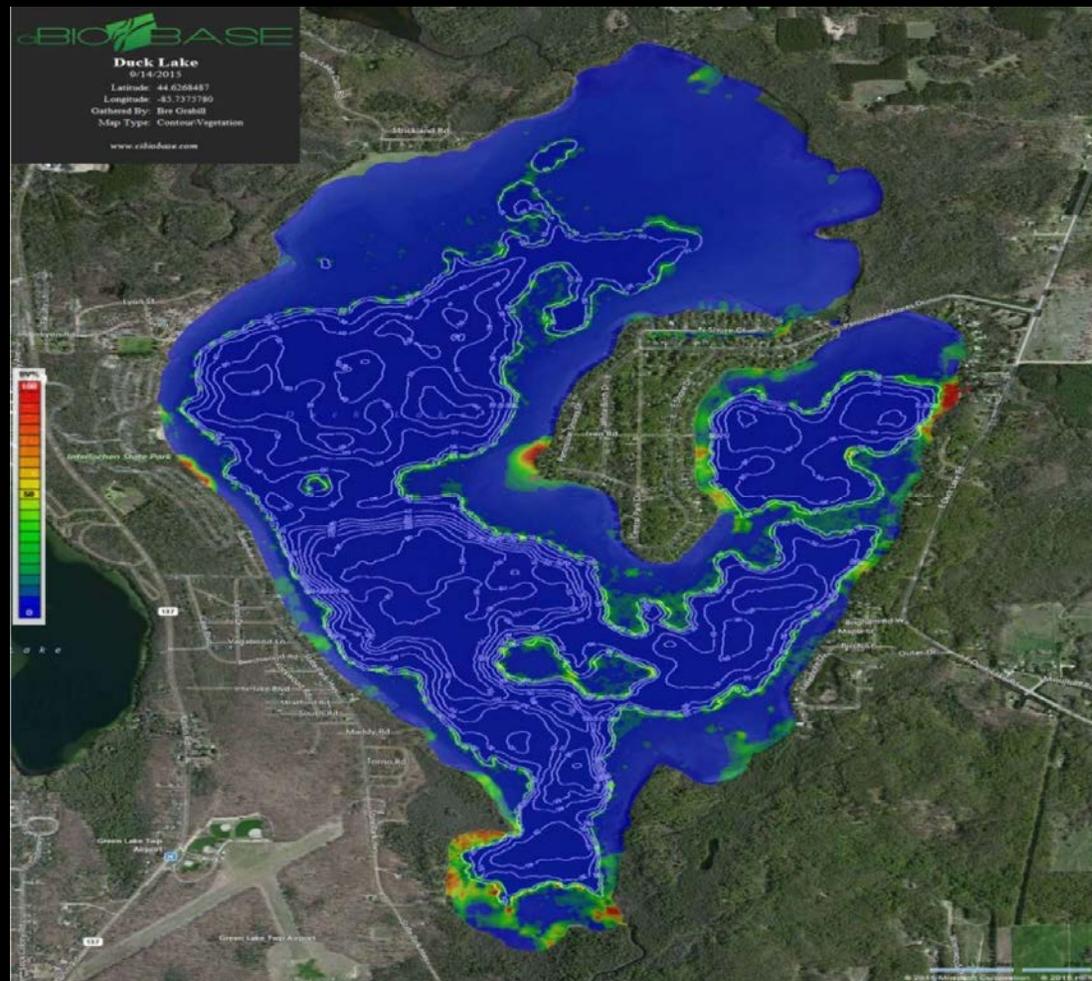


Jim Chatel, left, pours a chemical used to kill watermilfoil into Duck Lake while Shannon Le... steers the boat.

**It was Discovered early in 2015 during a  
volunteer lake survey**



# Duck Lake EWM Infestation was mapped professionally late in 2015 finding an apparently recent, small infestation



**One bay was already topped over**



# Clearly, something had to be done



**Duck Lake and Green Lake Township  
demonstrated how to best respond  
and what is  
entailed in a complete response.**

**Their results prove how that first year  
after discovery is vital!**

# First year checklist

- ✓ Suspect weeds needs to be professionally **identified** down to exact species.
- ✓ Professional **lake management firms** need to be contacted, sent RFQs and bids evaluated. Township bidding rules apply if the township is helping fund it.
- ✓ **First year funds** need to be quickly provided
- ✓ Entire lake needs to be **surveyed in detail** (i.e. 300 transects were sampled in Duck Lake)
- ✓ Each riparian needs to provide **written permission** to treat lake in front of their property
- ✓ **Ideally, treatment begins in the spring**

# What *actually* took take place in the first few months before treatment

- “  Review fund raising examples
- “  Develop Special Assessment District (SAD) Scope Statement
- “  Township review of Scope
  - “ o Township determines SAD district
  - “ o Identify Ownership rights
  - “ o Develop Benefit Formula
  - “ o Develop SAD impact address list
  - “ o "Township to hold ""Hearing of Necessity"""
  - “ o Schedule & publish meeting
  - “ o Send postcards to participants
  - “ o Hold Meeting
- “  Determine content of permission letter
- “  Draft permission letter
- “  Township review of permission letter
- “  Distribute permission letter using impact address list
- “  Monitor returns, calculate % approval
- “  Township Prepares Plans Costs
- “  Township Holds Public Hearings
- “  Township Determines Payment
- “  Develop Treatment Area Impact Permission Plan
- “  Create treatment area address list
- “  Develop treatment area permission letter
- “  Mail treatment area permission letter
- “  Monitor/confirm permission approval
- “  Re-contact non-responses
- “  Identify townships involved
- “ Review findings with Township Supervisors
- “  Develop Initial Funding Comm. Plan
- “  Put information in winter newsletter
- “  Mail Informative/impact letter to riparian's
- “  Post Information on Social Media
- “  Get Treatment Cost Est/Timing
- “  Identify Ongoing Funding Plan strategy
- “  Begin State permit process
- “  Review Progress with Board

**Why not get as many of these tasks done well before any invasive aquatic plant is discovered?  
Especially if this ensures a solid first year response**

**Close co-operation between Green Lake Township and Duck Lake residents led to great 1<sup>st</sup> year results:**

- “ Duck Lake is 1930 acres (Ann Lake: 530) and 34 acres were found to be infested
- “ First year budget for treatment was \$22-29K
- “ Total first year cost \$13,000 second treatment deemed not needed.
- “ S.A.D. goal \$30K per year for 7 years.
- “ Next year's survey and treatment will be paid for by the S.A.D. which was quickly established.

# ALPOA poised to help the township if and when an invasive plant arrives

- “ We have copies of bid documents (RFQs), permission letters, permission letter forms, SAD resolutions all provided by Duck Lake. This should save township legal costs.
- “ We have lists of lake management vendors and references to facilitate township bidding procedures
- “ We are prepared to help generate, monitor and follow-up on residents' treatment permission letters and subsequent SAD communication.
- “ We can provide a lot of the leg work if the township provides us with their support.

# Why I appeared before you tonight:

- “ To remind you of the threats we are monitoring and ensure you that ALPOA is vigilant and will be the first to discover any invasive threats.
- “ To emphasize that in fighting invasives aquatic plants, the first year is vital; fast and efficient work needs to be done by local volunteers and the Township to save property values and costs.
- “ To suggest working together now, under no time pressure, to ensure a fast 1<sup>st</sup> year response; this to save time and any last minute rancor.

## What we can do NOW:

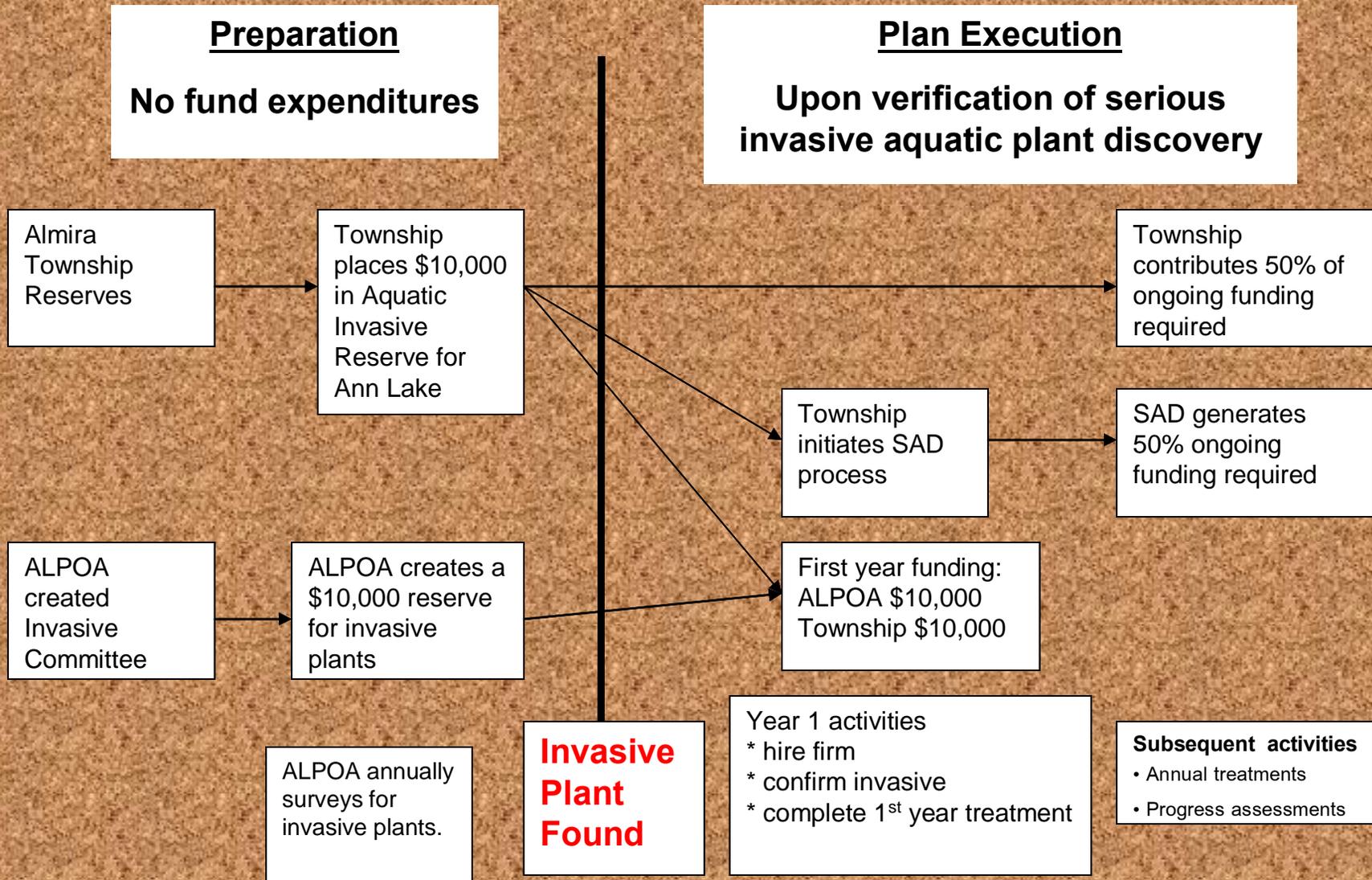
1. Establish liaison, a *“go-to” contact* between the Township and ALPOA for this issue
2. Pre-select a lake management vendor soon and under Township procurement protocols
3. Agree on how to fund any future 1<sup>st</sup> year treatments needed
4. Begin discussing potential S.A.D. terms and parameters, legal hoops, document creation and management of information dissemination.

## Regarding the last 2 items:

ALPOA is here to offer the Township matching monetary commitments to any future Township response to an invasive plant found in Ann Lake for the important first year. This is in consideration for the Township continuing this 50/50 funding relationship with our lake owners in any subsequent Special Assessment District.

ALPOA suggests that all the  
% preparation+actions shown on the  
left in the following chart be  
undertaken before we have an  
invasive outbreak when time can  
be severely limited.

# 50/50 Recommendation from ALPOA



**BTW:**

**We are planning signage for the boat launch area as that is the most likely introduction point for EWM**

**Securing DNR permissions but signage cost is high for an association**

**The Township has agreed to help us with the with signage costs/construction costs**

# For the boat launch and ramp



**HELP STOP AQUATIC HITCHHIKERS!**

To avoid spreading aquatic invasive species

**BEFORE launching ... BEFORE leaving:**

- Remove aquatic plants and aquatic animals
- Drain lake or river water away from landing
- Dispose of unwanted live bait in the trash

**It's the Law... Do not:**

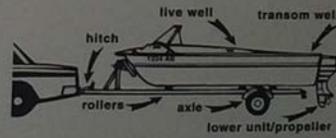
- Transport aquatic plants, zebra mussels, or other prohibited species on public roads
- Launch a watercraft or place a trailer in the water if it has aquatic plants, zebra mussels or other prohibited species attached
- Transport water from infested waters

Michigan Department of Natural Resources

**CLEAN BOATS  
CLEAN WATERS**

**WATERCRAFT CHECK POINTS**

Stop Aquatic Invasive Species From Spreading  
Check Your Boat Each Time You Leave The Water!



<input type="checkbox"/> Anchor	<input type="checkbox"/> Intake pipe	<input type="checkbox"/> Rollers
<input type="checkbox"/> Axle	<input type="checkbox"/> Ladder	<input type="checkbox"/> Prop
<input type="checkbox"/> Bail bucket	<input type="checkbox"/> Landing net	<input type="checkbox"/> Spare tire
<input type="checkbox"/> Bunkie	<input type="checkbox"/> License plate	<input type="checkbox"/> Tackle
<input type="checkbox"/> Bow line	<input type="checkbox"/> Motor	<input type="checkbox"/> Tow rope
<input type="checkbox"/> Fishing line	<input type="checkbox"/> Wheels	<input type="checkbox"/> Trailer
<input type="checkbox"/> Floor	<input type="checkbox"/> Live well	<input type="checkbox"/> Transducer
<input type="checkbox"/> Hull	<input type="checkbox"/> Light/wing	<input type="checkbox"/> Transom well

Clean It. Drain It. Dry It.  
[www.mymisa.org/cbcw](http://www.mymisa.org/cbcw)



We envision %Burma Shave+style signage up and down the boat launch driveway similar that on the TARP Trail shown in the following slide. This to amusingly and casually communicate our wishes as to boat care.



TART  
welcomes  
you...



On  
campus

On  
campus

Thank you for your  
time this evening.