



Invasive Species in Michigan

Michelle Selzer – MI Office of the Great Lakes

What You'll Learn Today...

- What's an INVASIVE SPECIES?
- Why are they bad?
- How do they get here?
- What is the state doing?
- What can you do to help?

What is an invasive species?

- Non-native
- Causes harm to:
 - The Economy
 - The Environment
 - Human Health

Non-native...but NOT invasive



Non-native...but NOT invasive



Non-native...but NOT invasive

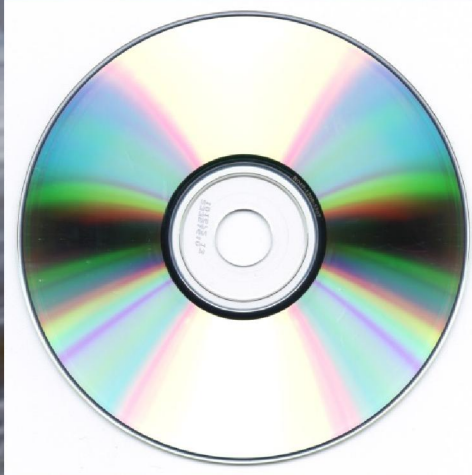
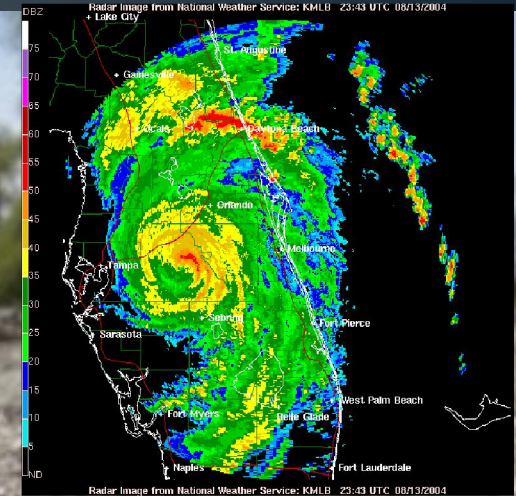


Native or Invasive?



**Why are invasive
species bad?**

1988



Why it is important to do something about about invasive species



They're expensive!





Harm to the economy – Costs us money!



Harm to the economy – Costs us money!



Harm to the environment



Harm to human health – Ouch!



Giant Hogweed







Sea lamprey



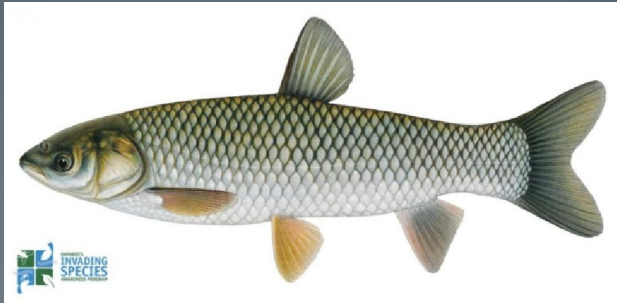




Invasive carp

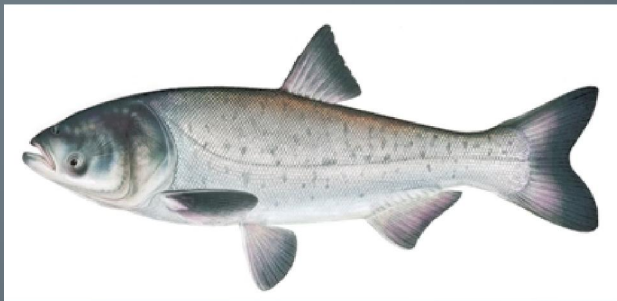


Asian carp



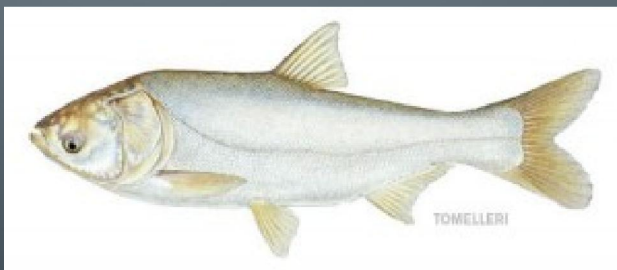
Grass carp

- 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



Silver carp

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





Northern snakehead



Not known in Michigan

Invasive crayfish



Rusty
crayfish
(Common in
Michigan)



Red swamp
crayfish



Invasive *Phragmites*



Water hyacinth



Common water garden plant



Isolated occurrences are known from SE Michigan

European frogbit



Isolated occurrences - found in Michigan

Water lettuce



Isolated occurrences - found in Michigan



Emerald ash borer

Decline Stages of Ash Trees Infested with Emerald Ash Borer



0%



10%



20%



30%



40%



50%



60%



70%



80%



90%



100%

Save Your Ash!



Water chestnut



Not known in Michigan

Asian longhorn beetle



Not known in Michigan

How do invasive species get here?

- Global transportation and shipping
- Habitat modifications
- Organisms in trade
- Hitchhiking on clothing, vehicles, gear and equipment

Global transportation and shipping

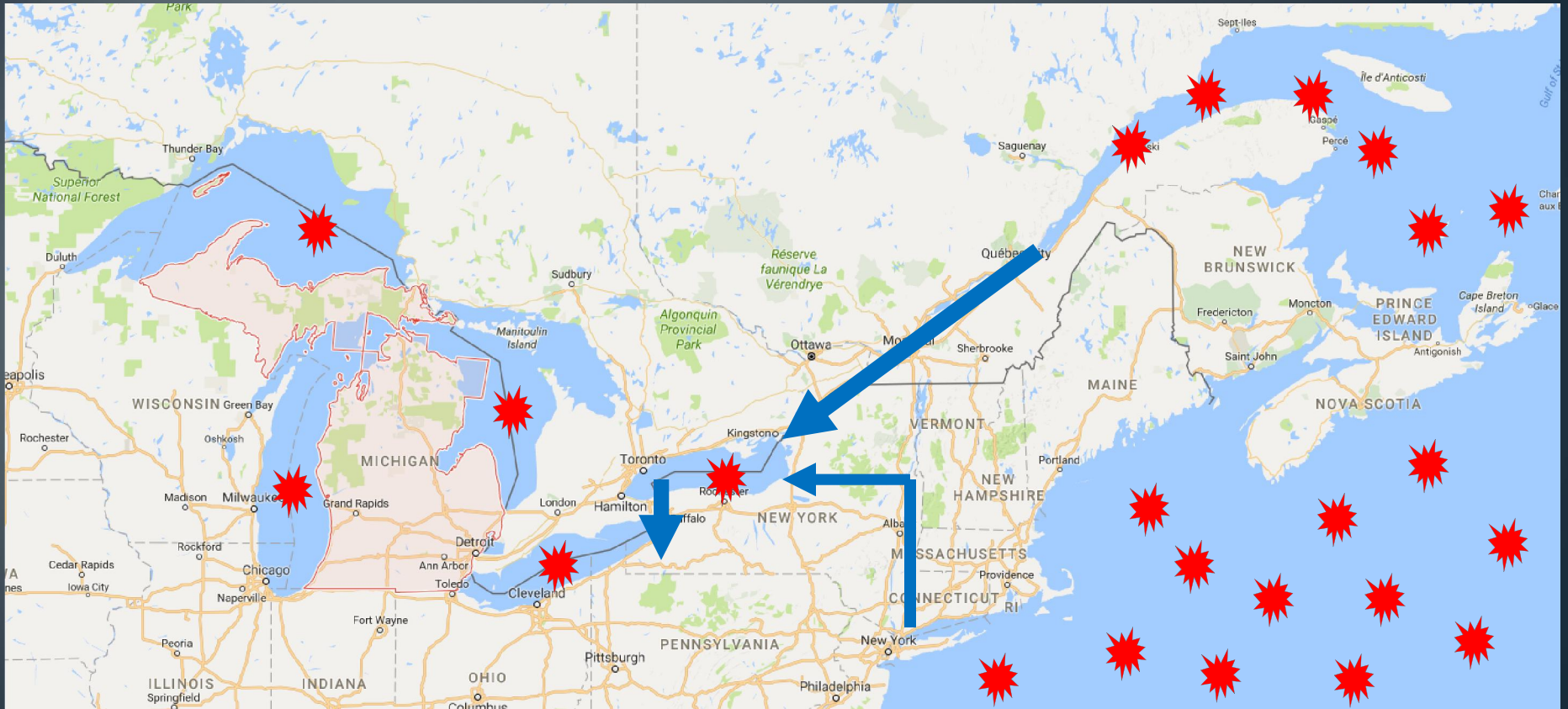


Global transportation and shipping



Global Air Traffic Routes

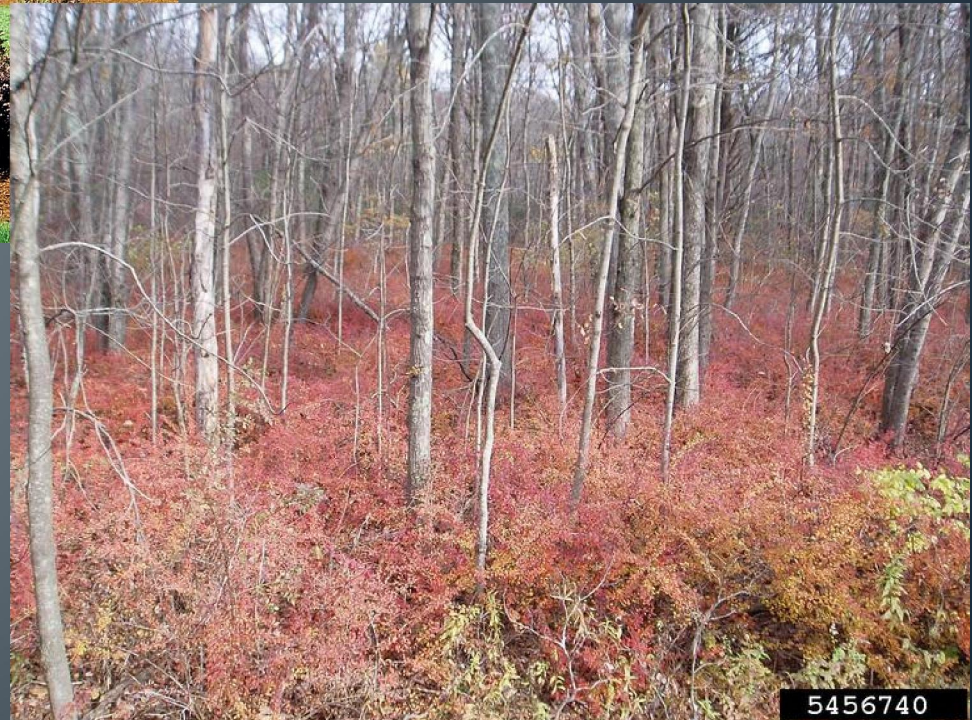
Habitat Modifications



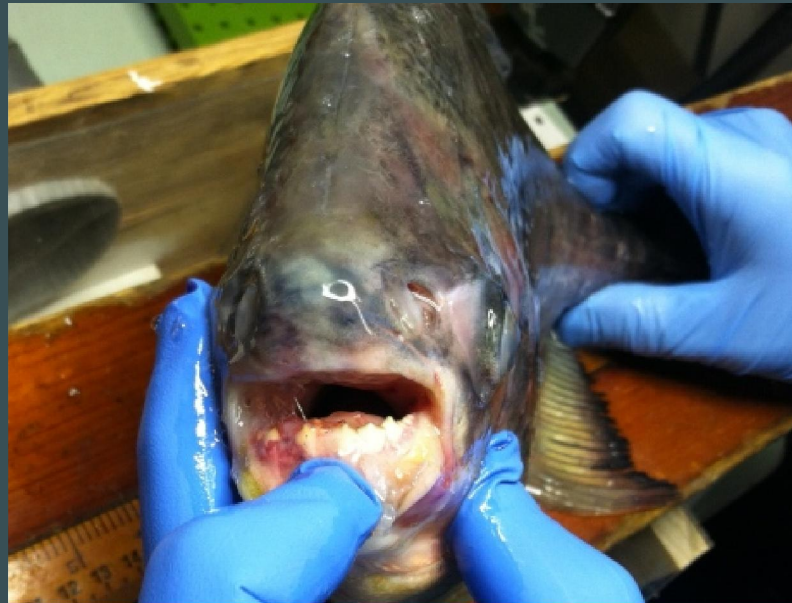
Organisms in Trade



Landscape
Ornamentals -
Barberry







Invasive Species Hitchhiking



Invasive Species Hitchhiking



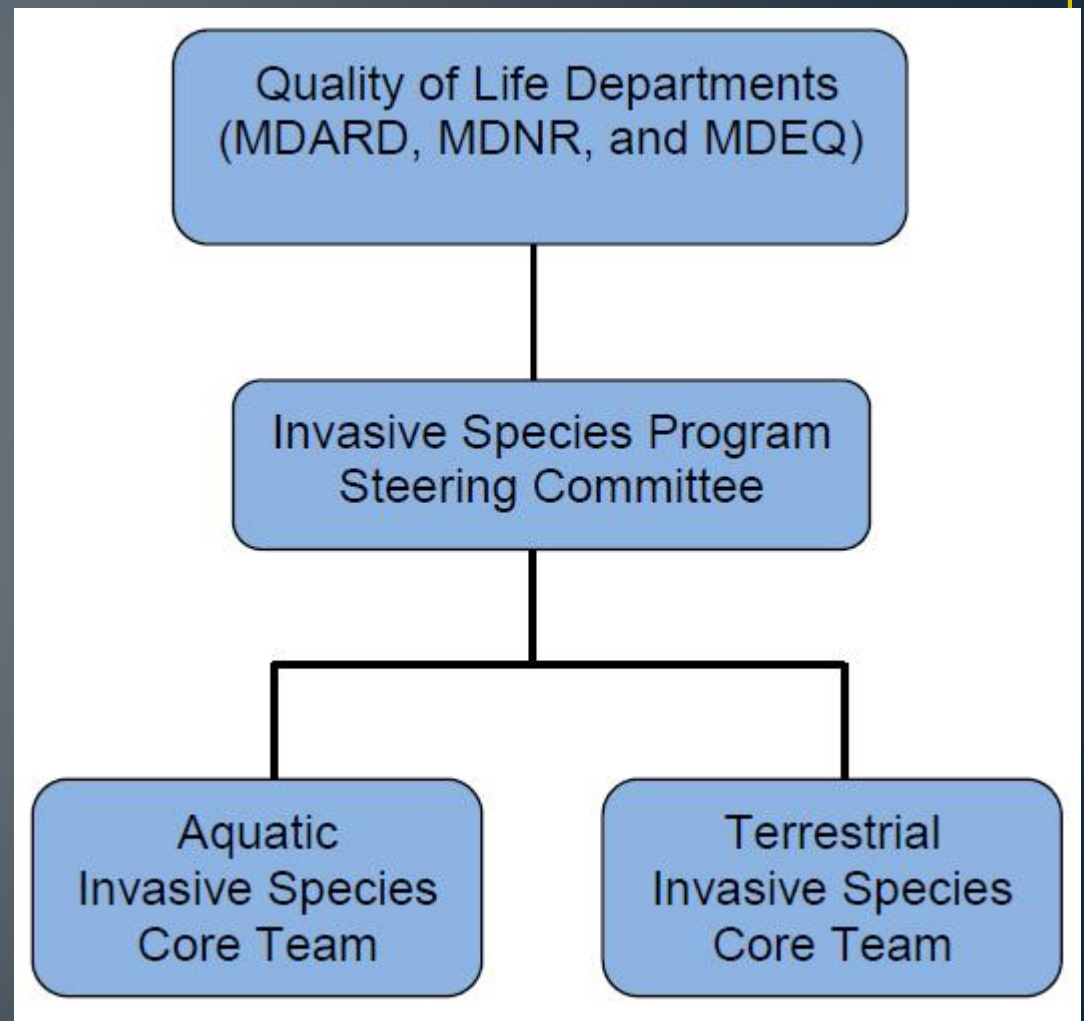
Invasive Species Hitchhiking



**What is the state
doing?**

Invasive Species Program

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 ALS Team

established 2010



Department of Environmental Quality

- **Water Resources**
(Sarah LeSage, Anne Garwood, Eric Bacon, Tom Alwin, Kevin Walters Bill Keiper)
- **Office of the Great Lakes** (Matt Preisser)



Department of Natural Resources

- **Fisheries** (Nick Popoff, Seth Herbst, Christina Baugher)
- **Wildlife** (Greg Norwood, Ryan Wheeler)
- **Parks and Recreation** (Christina Baugher)
- **Law Enforcement** (Steve Huff)
- **Forest Resources** (Sue Tangora)
- **Marketing and Outreach** (Joanne Foreman, Kevin Frailey, Jon Spieles)



- **Department of Agriculture and Rural Development**
 - **Pesticide and Plant Pest Management** (John Bedford, Mike Bryan)
 - **Animal Industry** (Steve Hussey)

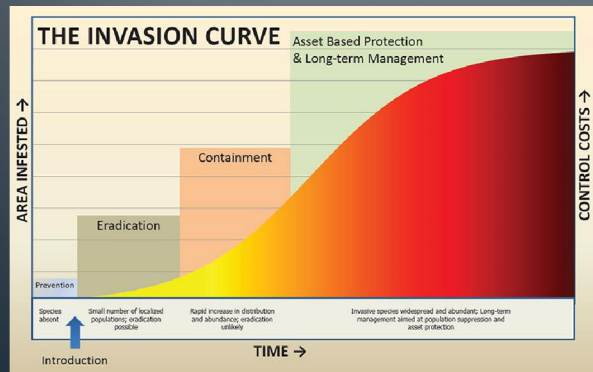


- **Department of Transportation** (Tim Jones, Darwin Heme)

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**



Michigan Invasive Species Grant Program



2016
Michigan
Invasive Species
Grant Program



**Address strategic issues
of prevention, detection,
eradication, and control
for both terrestrial
invasive species and
aquatic invasive species
in Michigan**

Decontamination

- DNR, DEQ, MDARD supplies and training
- Video under media [mi.gov/invasives](https://www.mi.gov/invasives)
- Interactive training module



Michigan's Aquatic Invasive Plant Watch List

Aquatic invasive species on the watch list have been identified as being an immediate and significant threat to Michigan's natural resources. These species either have never been confirmed in the wild in Michigan or have a limited known distribution. Early detection and timely reporting are crucial for preventing establishment and limiting impacts. For more information on these plants, visit: www.misin.msu.edu

Be on the lookout for these invasive species!

Yellow Floating Heart
Nymphoides peltata



Water-chestnut
Trapa natans



**Parrot Feather
Water-milfoil**
Myriophyllum aquaticum



Water Soldier
Stratiotes aloides



Hydrilla
Hydrilla verticillata



**Brazilian
Water-weed**
Egeria densa



European Frog-bit
Hydrocharis morsus-ranae



Water Lettuce
Pistia stratiotes



Water Hyacinth
Eichhornia crassipes



**European
Water-clover**
Marsilea quadrifolia



These species are currently allowable for sale and possession. Please contact the DNR if these plants are observed outside of cultivation.

If you have seen any of these aquatic invaders, note their location and contact:

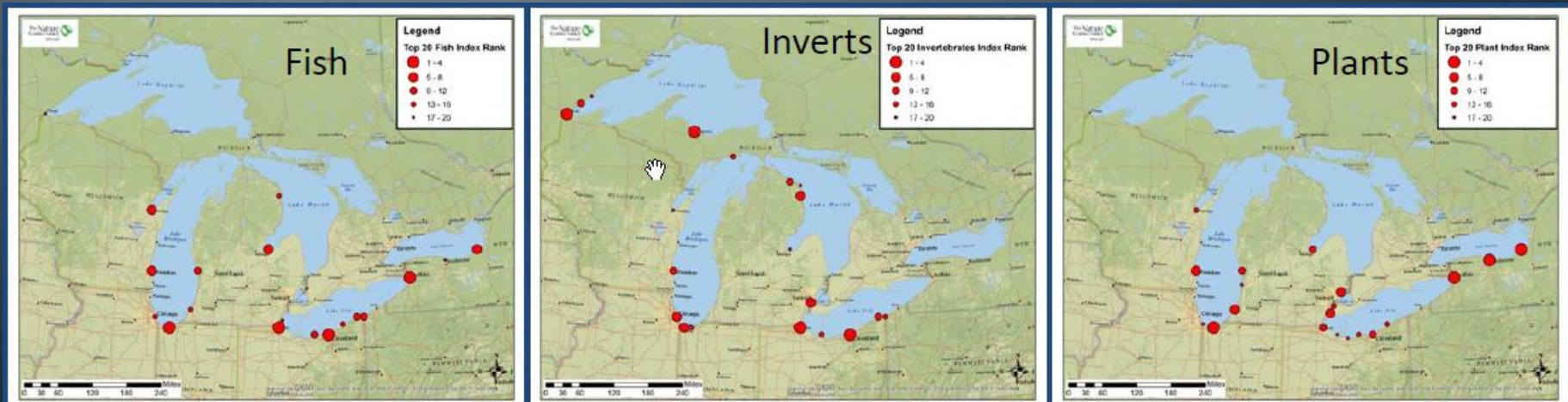
Michigan DNR Wildlife Division
Phone: (517) 641- 4903 ext. 260
www.mi.gov/invasivespecies



Questions about other aquatic invasive plants? Contact the DEQ Aquatic Nuisance Control Program at 517-284-5593, www.mi.gov/anc

Great Lakes Surveillance and Response

- Draft surveillance plan and draft response plan
- Mock exercise
- Phase II
 - Coordination meetings
 - Method development aquatic plants, surveys
 - Pathway analysis
 - Mock exercise



**What can you
do to help?**

Clean



Drain



Dry



STOP INVASIVE SPECIES IN YOUR TRACKS.



Help Prevent
The Spread Of
Invasive Plants
And Animals.

- **REMOVE** plants, animals & mud from boots, gear, pets & vehicle.
- **CLEAN** your gear before entering & leaving the recreation site.
- **STAY** on designated roads & trails.
- **USE CERTIFIED** or local firewood & hay.



**STOP INVASIVE SPECIES
IN YOUR TRACKS.**

PlayCleanGo.org

GIVE INVASIVE SPECIES THE BRUSH OFF.



Help Prevent
The Spread Of
Invasive Plants
And Animals.



RIPPLE: Reduce Invasive Pet and PLant Escapes

Inspect and rinse new aquatic plants to rid them of seeds, plant fragments, snails and fish.

Build water gardens well away from other waters.

Seal aquatic plants for disposal in a plastic bag in the trash. Do not compost.

Give or trade unwanted fish or plants with another hobbyist, environmental learning center, aquarium or zoo.

Contact a veterinarian or pet retailer for guidance on humane disposal of animals.







A scenic view of a calm lake with rocky shores and a small inflatable boat in the foreground. The water is a deep blue-green, and the sky is clear. In the foreground, a small inflatable boat with a motor is tied to a rocky shore. Two children are sitting on the rocks, looking at something in their hands. The background shows more rocky islands and a line of trees under a clear blue sky.

Thank you!

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www.Michigan.gov/Invasives