

“There goes the neighborhood...”

Understanding Aquatic Exotics

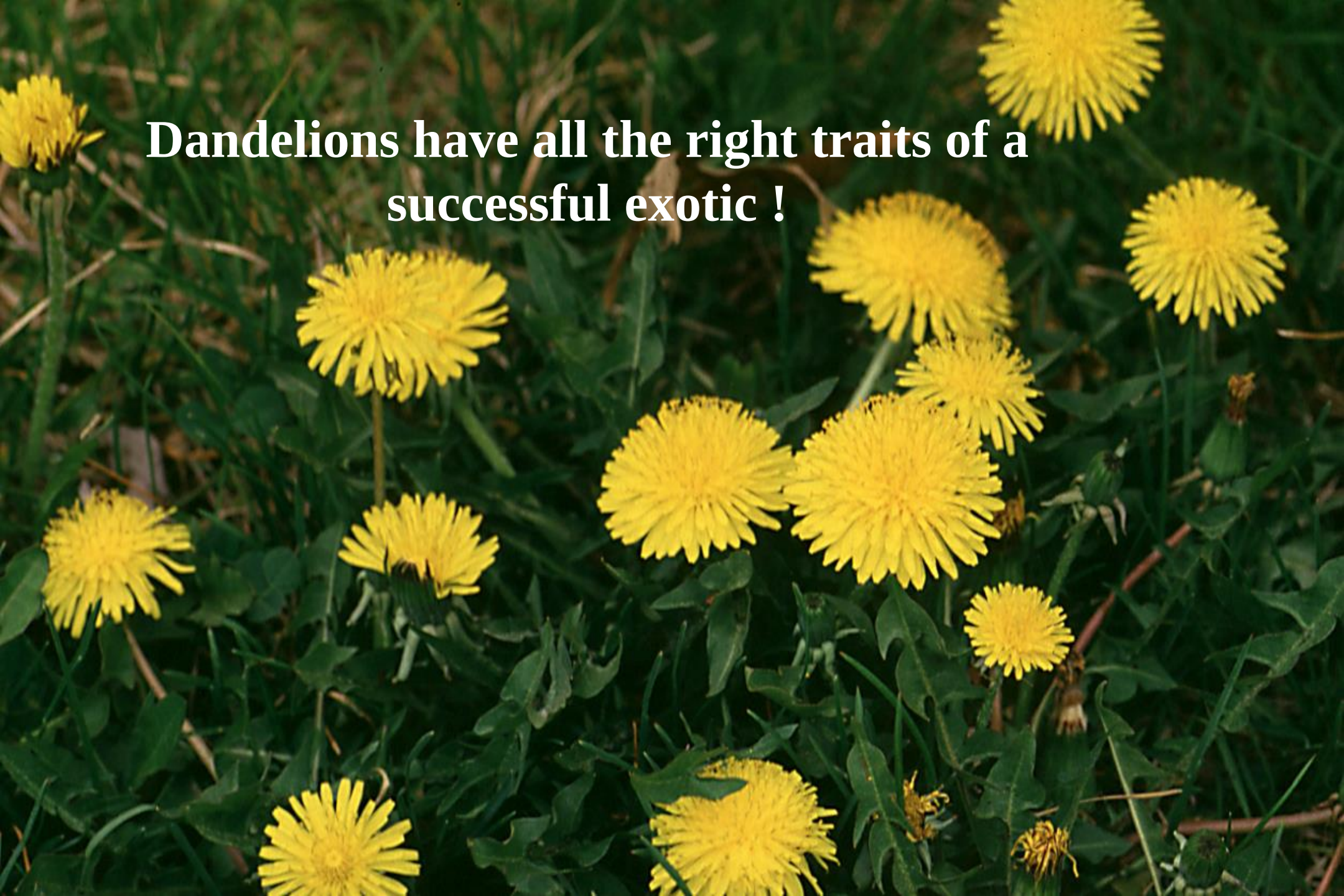
A production of the Wisconsin Lakes Partnership

**Concerned with the health of our
waters ?**

**Become familiar with aquatic
exotics!**

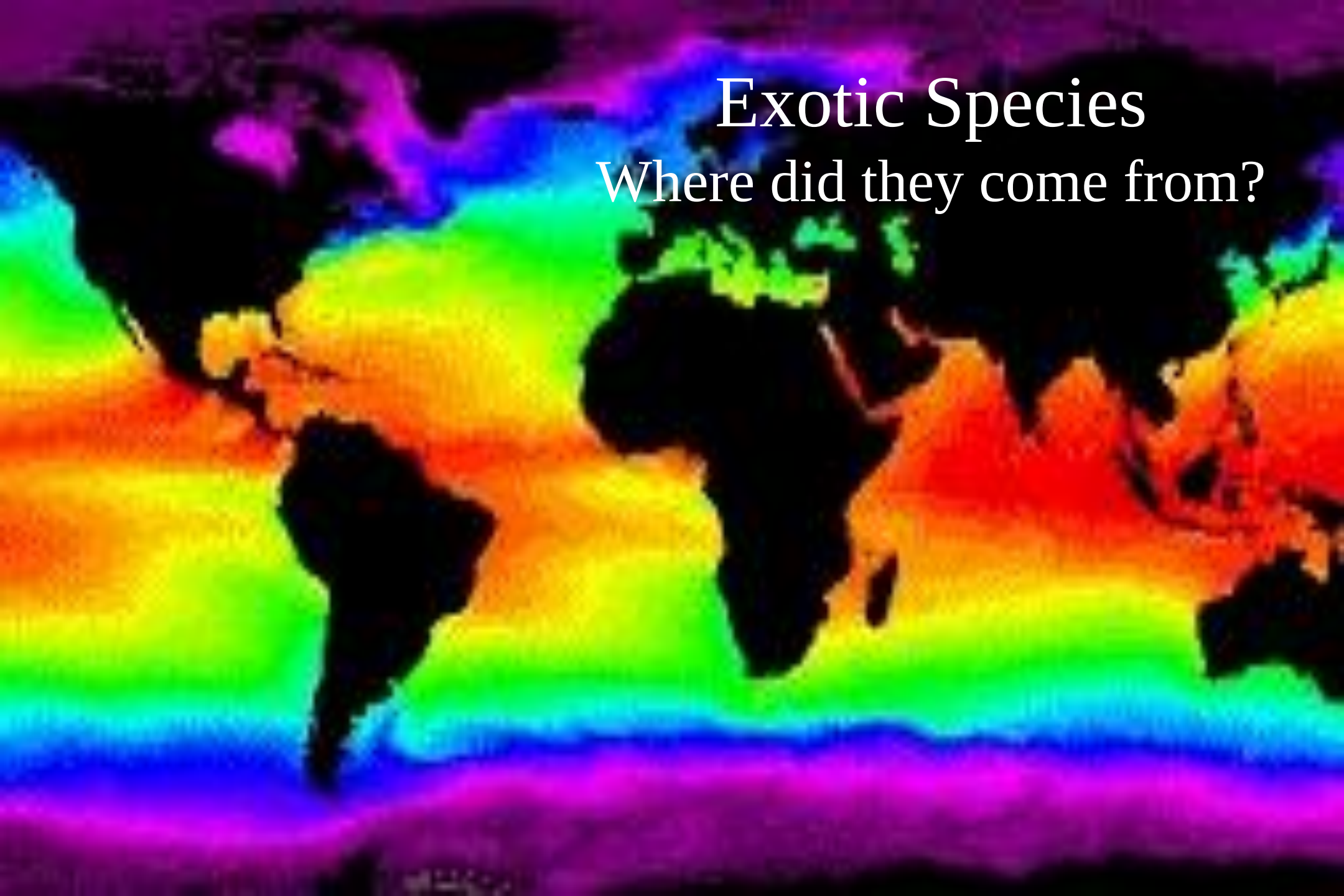
So what is an exotic?

**Dandelions have all the right traits of a
successful exotic !**

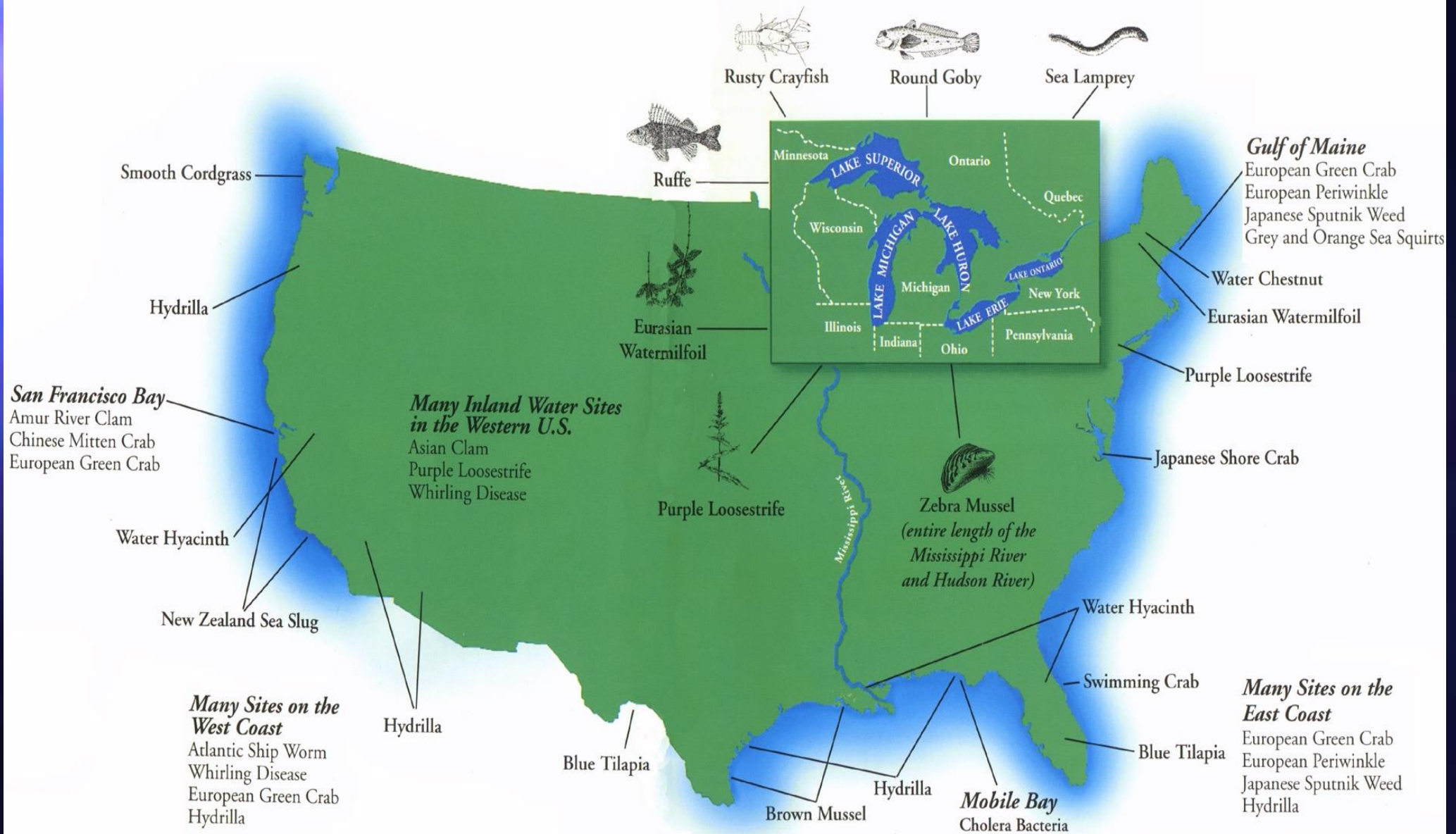


Exotic Species

Where did they come from?



Look around the map, do you recognize any of these exotics ?



How are aquatic
exotics
introduced?



How do you protect Wisconsin's inland waters from aquatic nuisance species?



A photograph of a pond heavily infested with water lilies and other aquatic plants. The foreground is dominated by a dense layer of green lily pads floating on the water. In the middle ground, there are tall, green aquatic plants with long stems and large, heart-shaped leaves. The background shows a shoreline with trees and a small white building. The sky is overcast.

How can you prevent non-native populations from dramatically increasing, displacing native species, reducing biodiversity and limiting water-use activities?

BY EDUCATION!



*Let's look at four examples of exotics
that can have had significant economic
and ecological impact on Wisconsin
waters.*



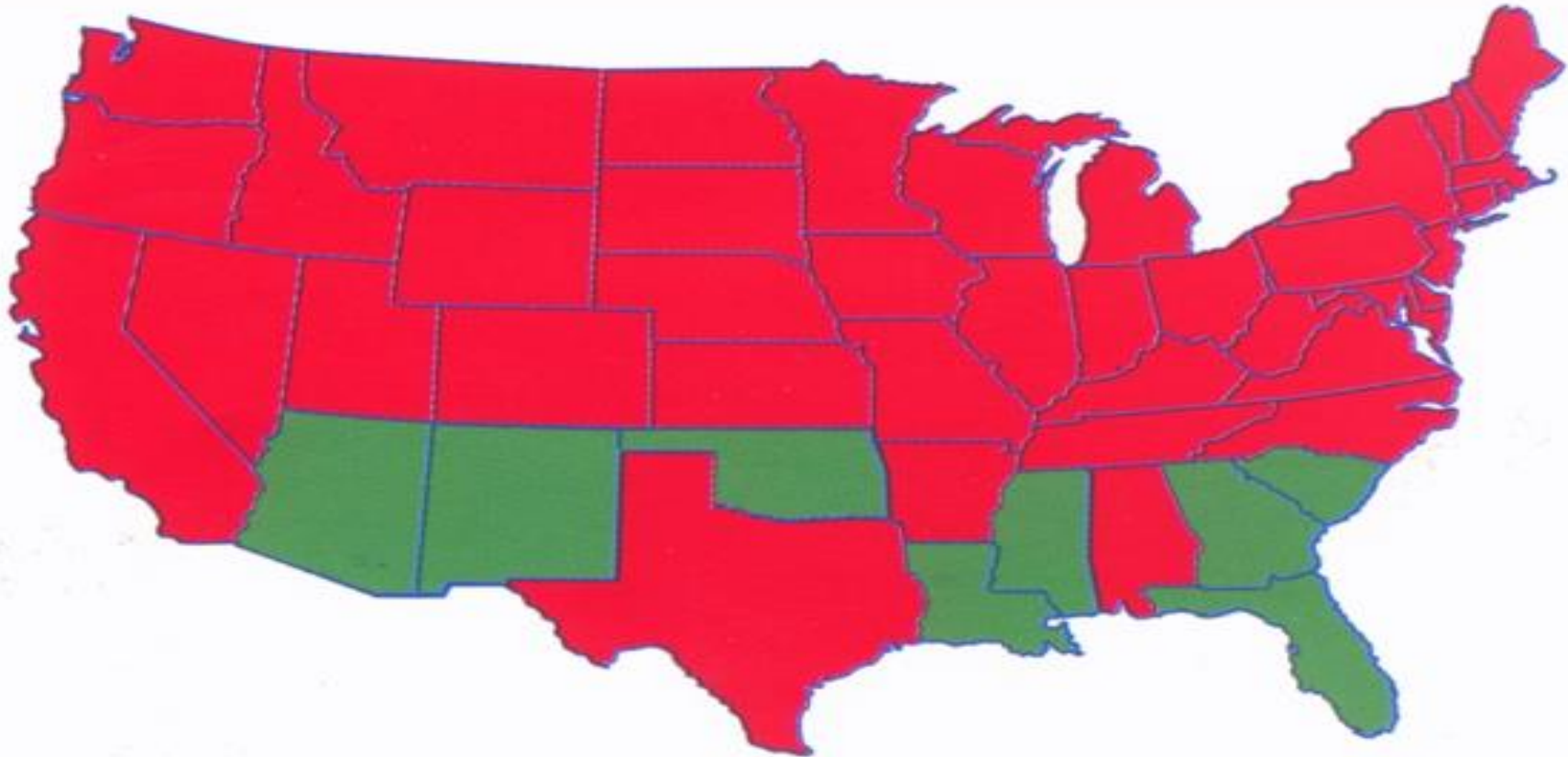
Purple Loosestrife

(*Lythrum salicaria*)

- Tall (3-7 foot) plant
- Square woody stalks
- Purple flowers composing of 5-6 purple-pink petals surrounding a small yellow center.

This plant is irresistible to horticulture enthusiasts!

Purple Loosestrife Distribution Map



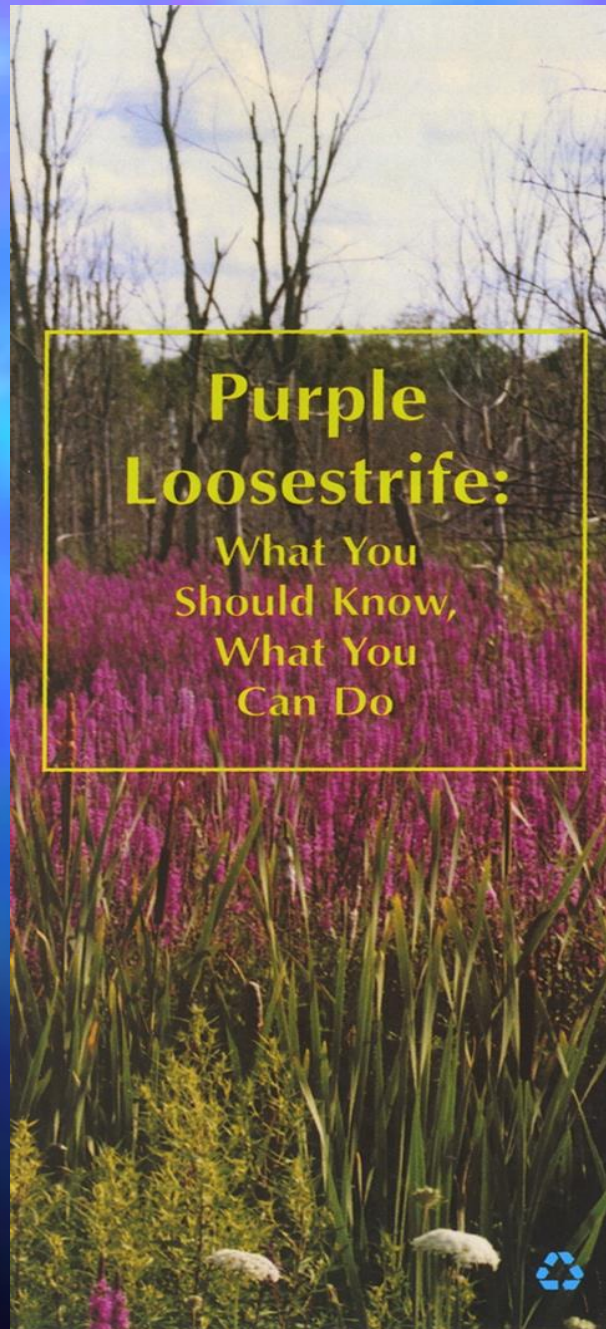
Since Purple Loosestrife was introduced, it has spread westward and can be found across much of Canada and the United States.



Purple Loosestrife
is a very hardy
perennial, which can
rapidly degrade
wetlands, diminishing
their value for wildlife
habitat.

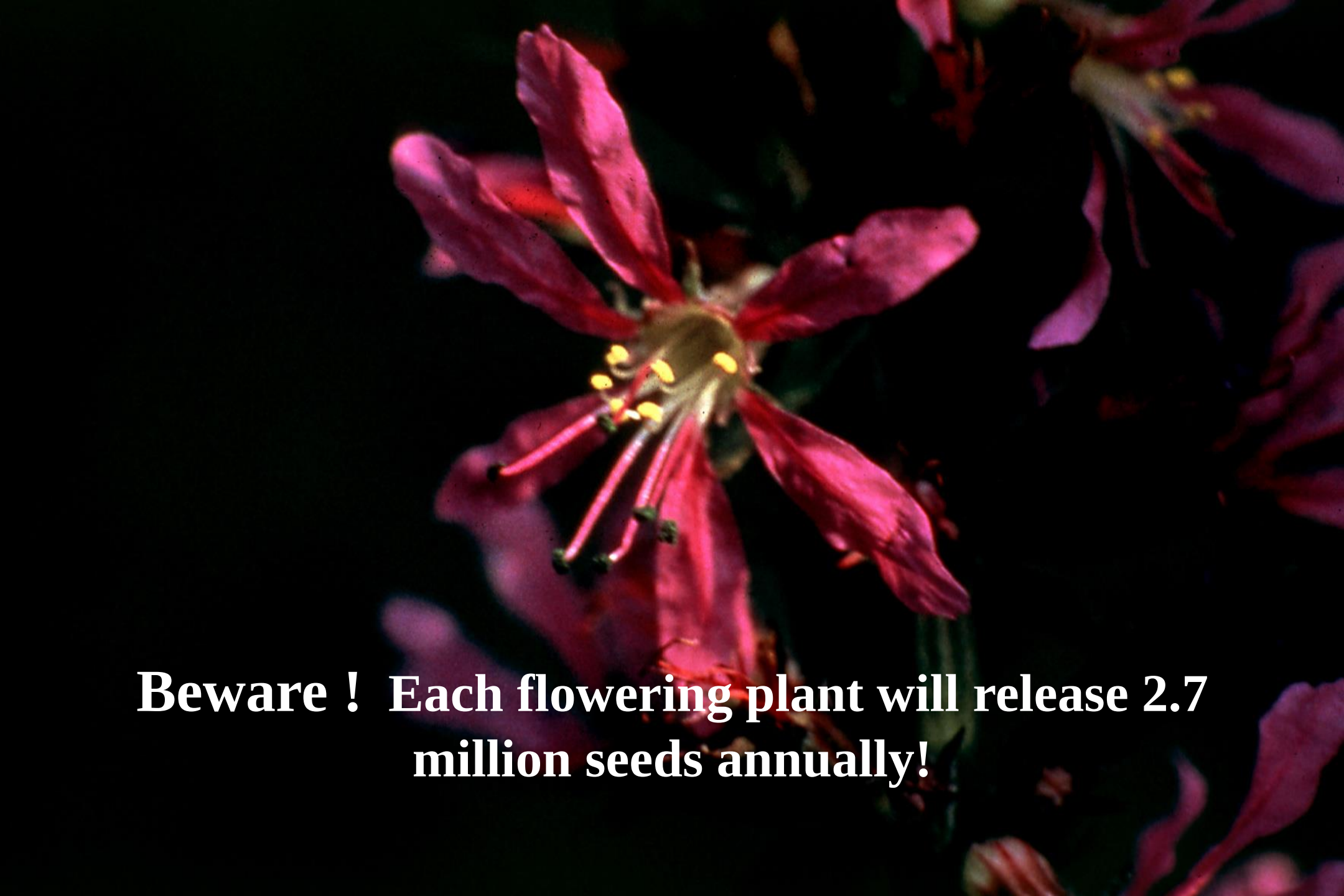


When Purple Loosestrife gets a foothold, that habitat where fish and wildlife feed, seek shelter, reproduce and rear their young, becomes choked under a sea of purple flowers.



Purple Loosestrife can be identified with the help of the brochure included in this educational kit.

Look at it closely!

A close-up photograph of a pink flower with yellow stamens, set against a dark background. The flower is the central focus, with its petals and stamens clearly visible. The background is dark and out of focus, showing other similar flowers.

**Beware ! Each flowering plant will release 2.7
million seeds annually!**

Digging, Hand Pulling and Cutting



Controlling the spread of purple loosestrife is crucial to protecting vital fish, wildlife and native plant habitat.

Chemical Control

If an infestation is in a dry, upland area, and on your own property, an approved herbicide can be applied to individual plants by selective hand spraying.



If the purple loosestrife is near or in the water, a permit is required.
Call the regional DNR office for more information BEFORE you treat!



One week after chemical application, the Purple Loosestrife will begin to brown and the leaves curl .

Plant death within two weeks.



Galerucella pusilla and *Galerucella californiensis* (shown) are leaf-eating beetles that are currently being raised and released in Wisconsin to help control Purple Loosestrife.



- Adults lay eggs in the summer
- Mature to leaf and root eating larvae
- AND THEN ARE...

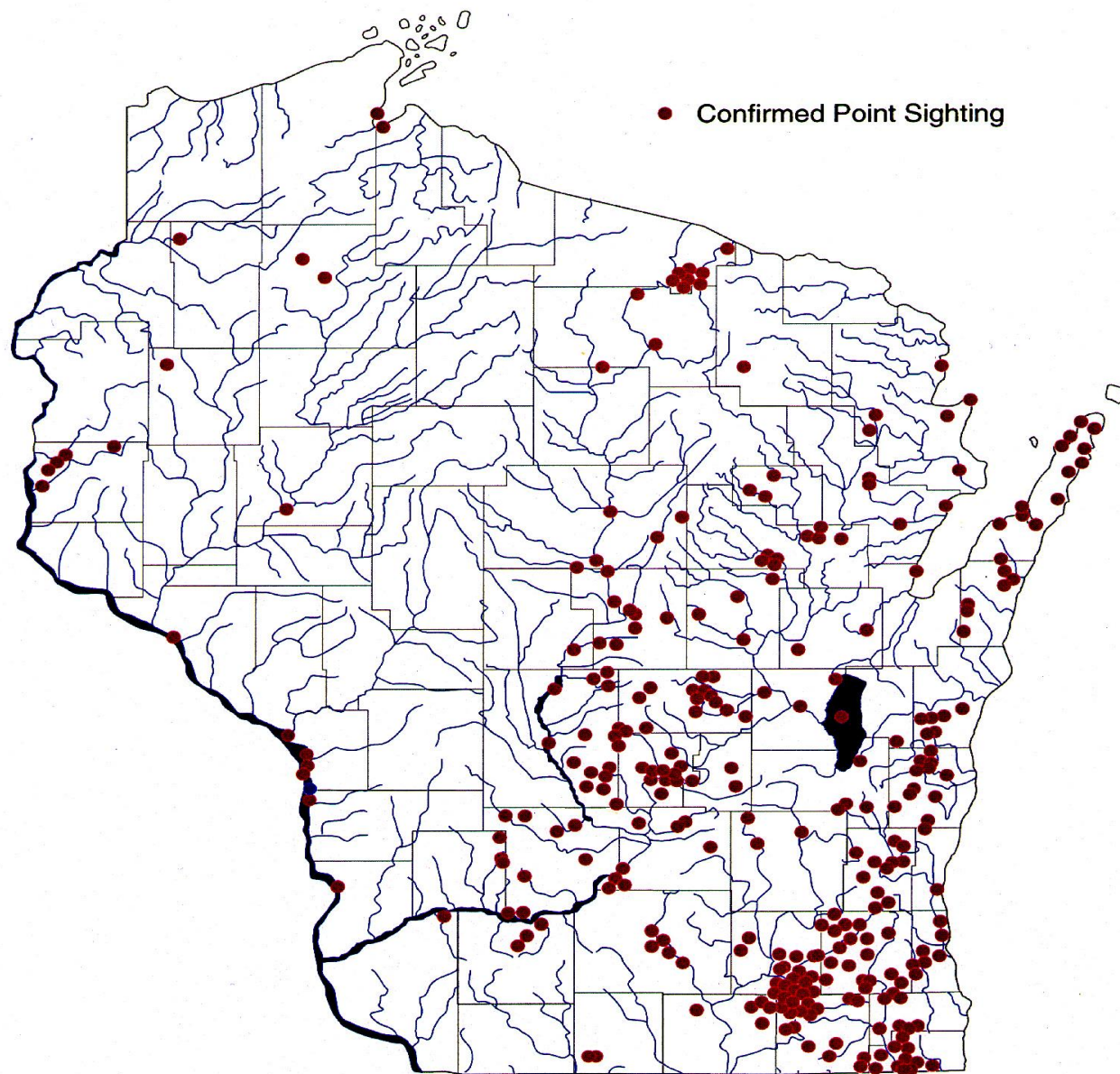


**Released at specific sites
across Wisconsin.**

**The impact of these
beetles on Purple
Loosestrife, will take
many years!**



As you move off the shoreline and into the water, you may
encounter another exotic species,
Eurasian Water Milfoil



**According to
Sandy Engel
(DNR)**

**As of 1999,
there are 53 counties
and 319 sites with
confirmed infestations
of Eurasian Water
Milfoil.**

The range of Eurasian Water Milfoil in Wisconsin as of Fall 1999.

(319 inland lakes infested)



Eurasian Water Milfoil

(Myriophyllum spicatum)

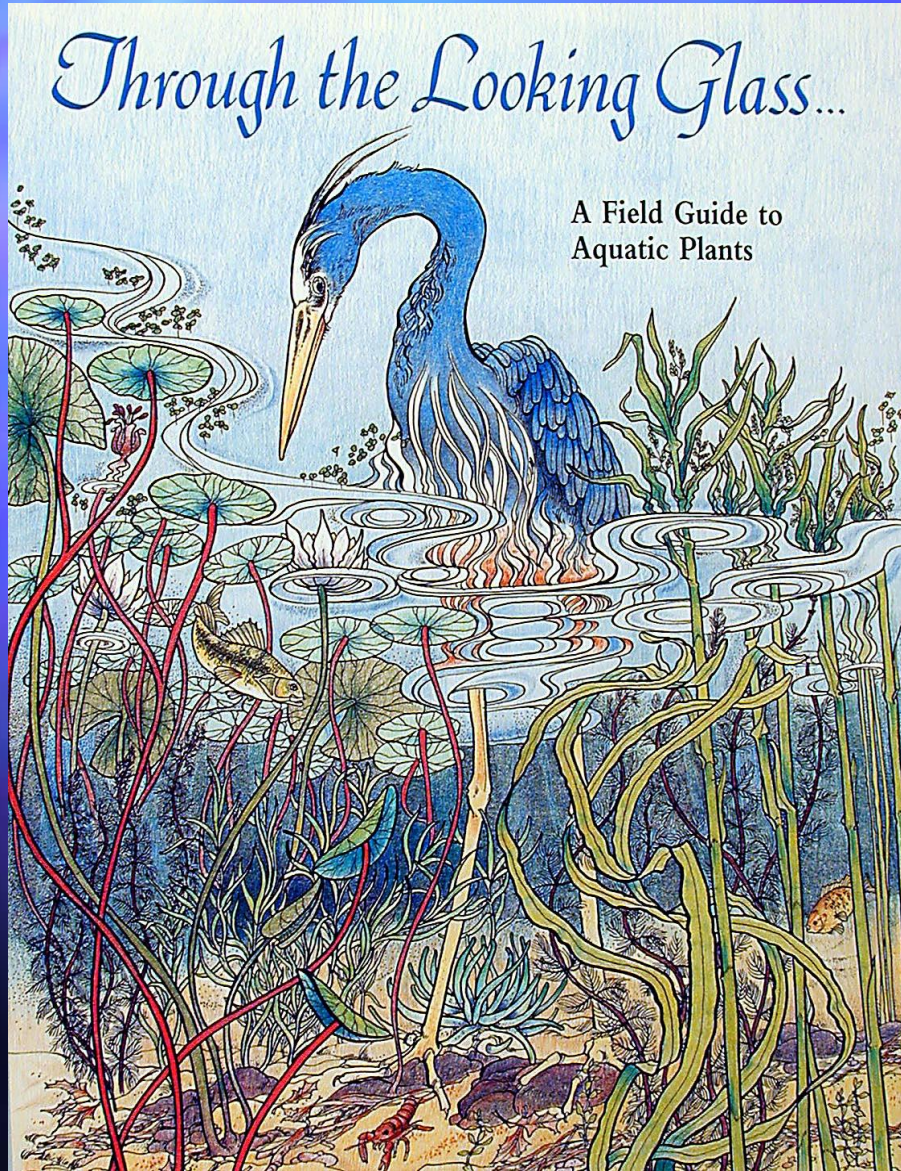
- **Submersed plant with feather-like leaves**
- **More than 14 pairs of leaflets per stem**
- **Easily fragments and forms roots**

The image shows a dense, tangled mass of thin, light-brown, fibrous plant fragments floating in clear blue water. These fragments are likely Eurasian Water Milfoil, which are known for their ability to form new colonies from fragments. The water is a deep blue, and the overall scene is a close-up, top-down view of the submerged plant matter.

When Eurasian Water Milfoil fragments take root, another plant colony forms and begins to spread around the lakeshore in waters 3-10 feet deep.



Before this superweed gets out of control, lets look at the keys to prevention.



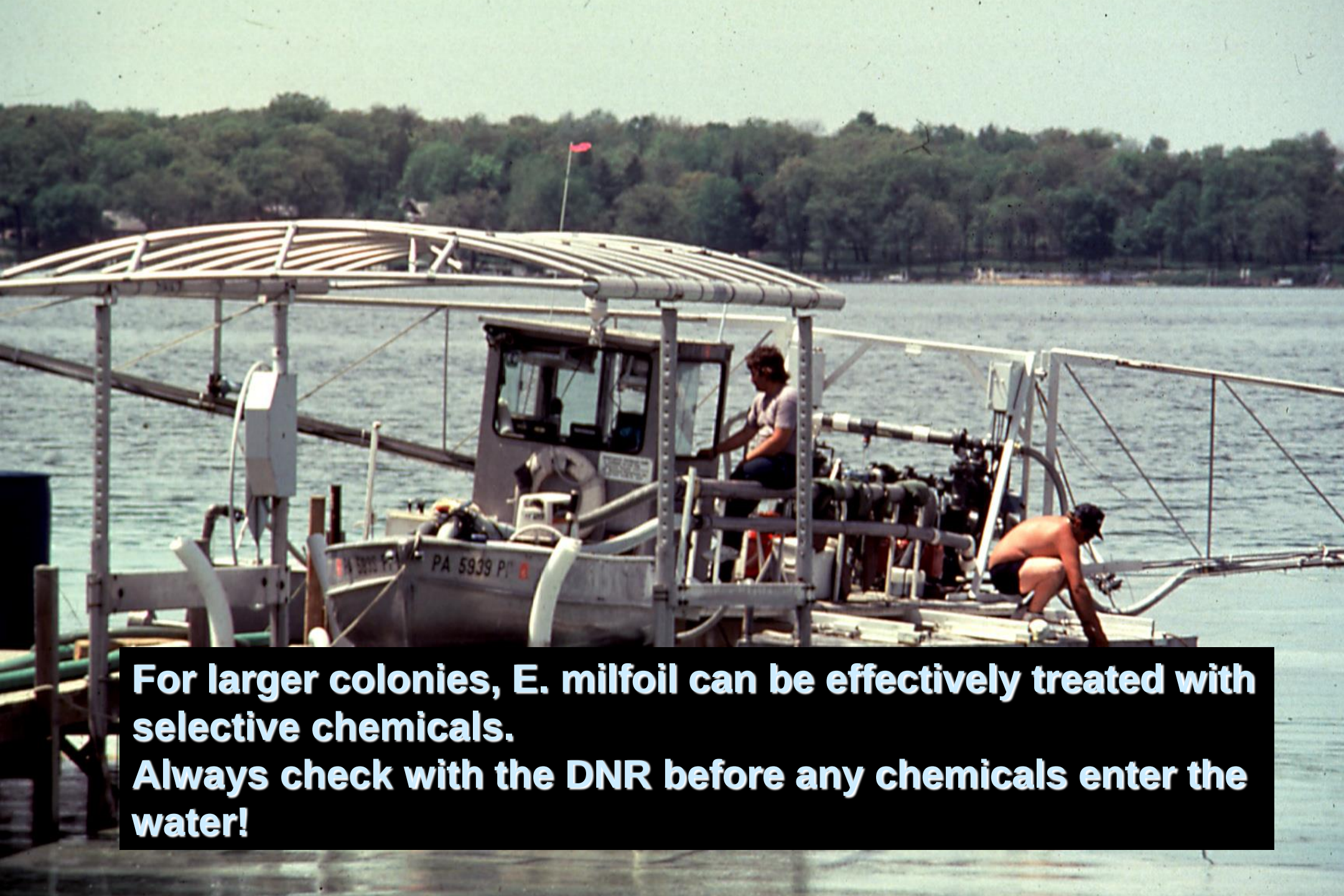
- **Early detection is critical!**

- **The best chance to halt this exotic, is when it first appears on the scene!**

**Learn to recognize
Eurasian Water Milfoil!**



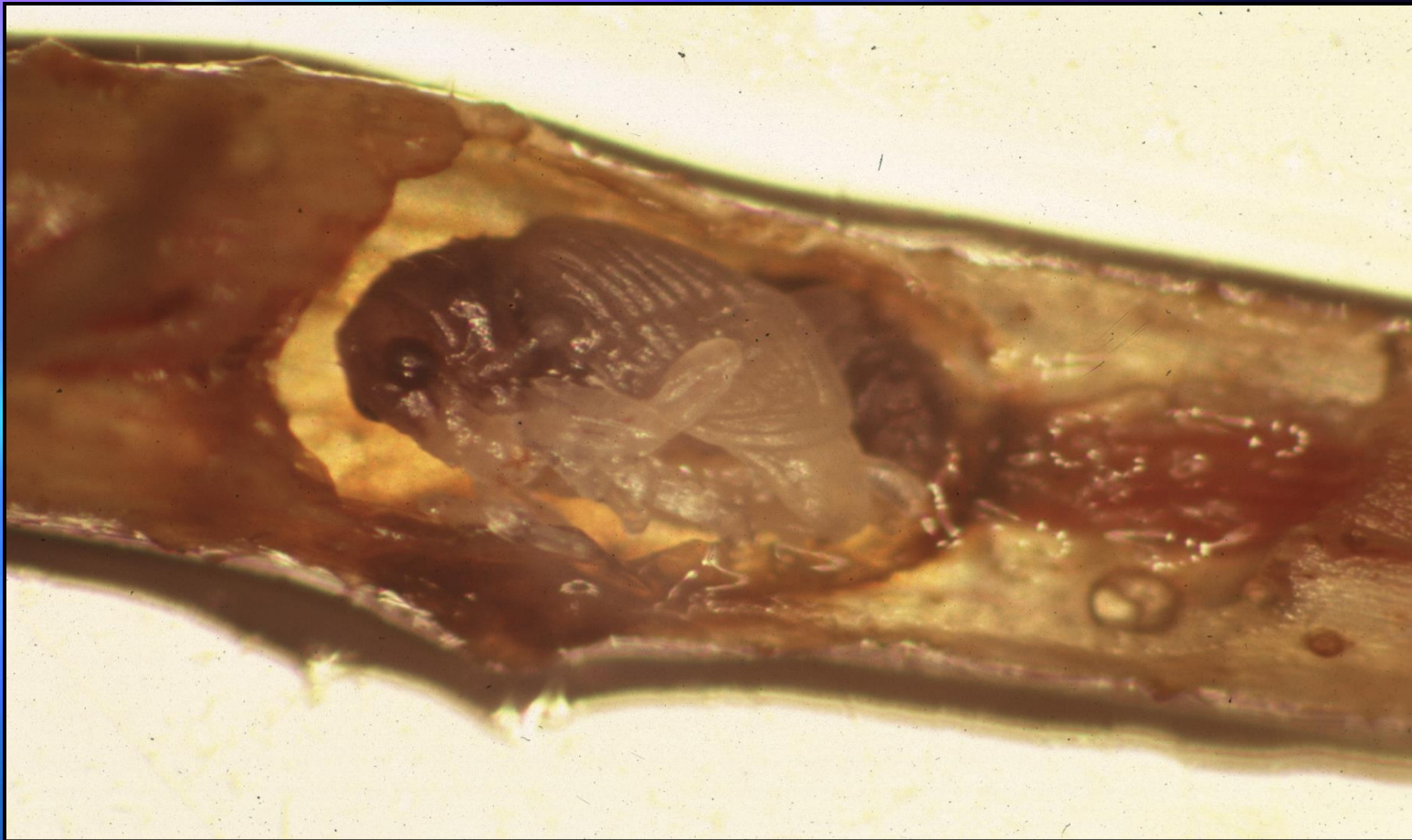
Hand pulling and raking is a simple and effective control for small areas.



**For larger colonies, E. milfoil can be effectively treated with selective chemicals.
Always check with the DNR before any chemicals enter the water!**

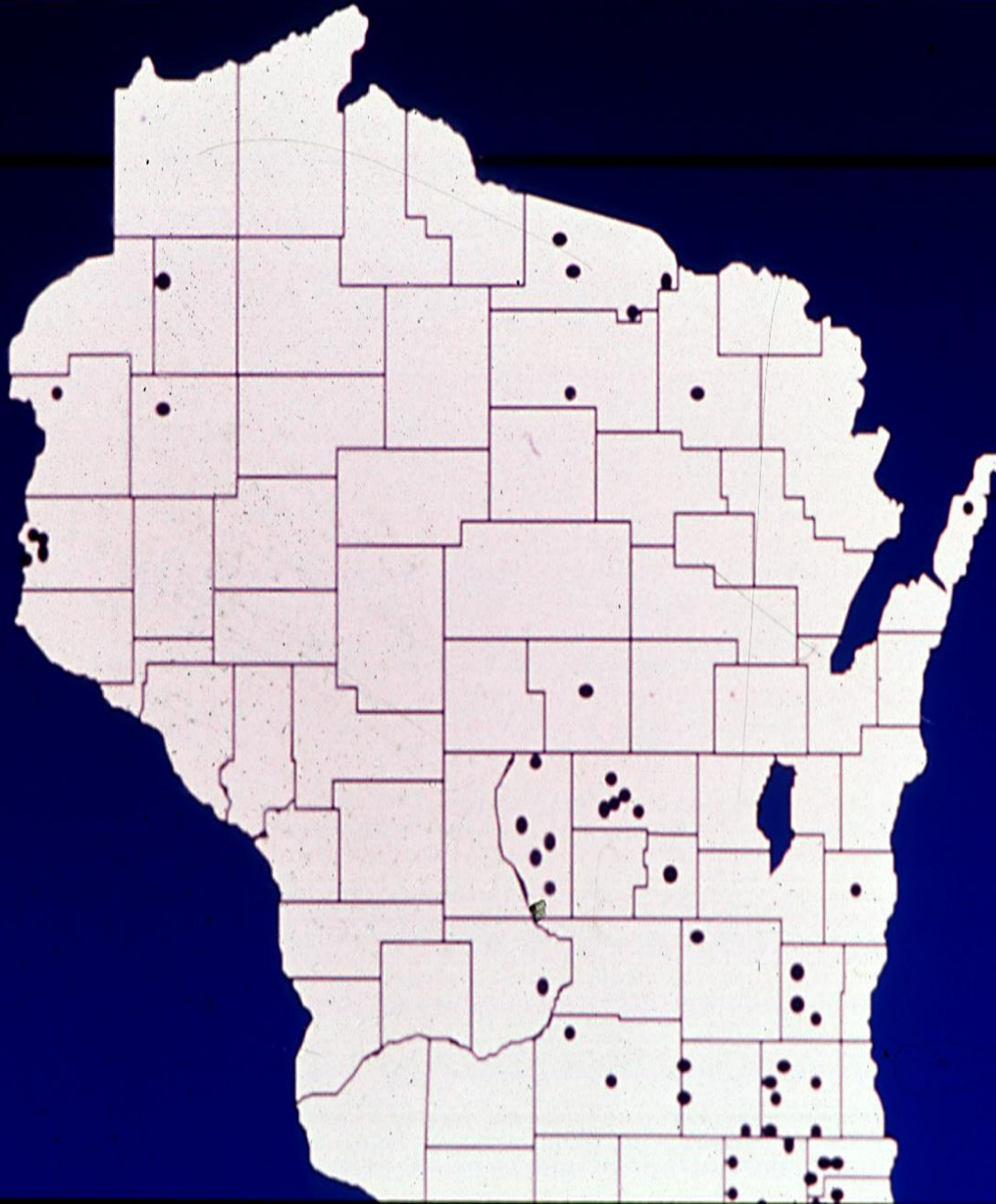


Euhrychiopsis lecontei , a native aquatic weevil,
shows promise in helping control E. milfoil!



- Adult weevils lay eggs
- Eggs mature to larvae which feed in the stem
- Hollowing the stem and destroying the growing tip, will decrease the size and spread of E. milfoil

Current *E. lecontei* distribution in Wisconsin



Recently scientists
have found
E. lecontei
in Wisconsin,
Minnesota and
Illinois



Rusty Crayfish
is another exotic species that has found
its way into Wisconsin inland waters.

Identifying crayfish can be very difficult. Here are some general identification guidelines. If positive identification is needed, contact your local fishery management agency (DNR).



- Robust Claws (color grayish-green to reddish-brown)**
- Dark, rusty spots of each side of their carapace (shell)**
- Black bands at tips of claws**



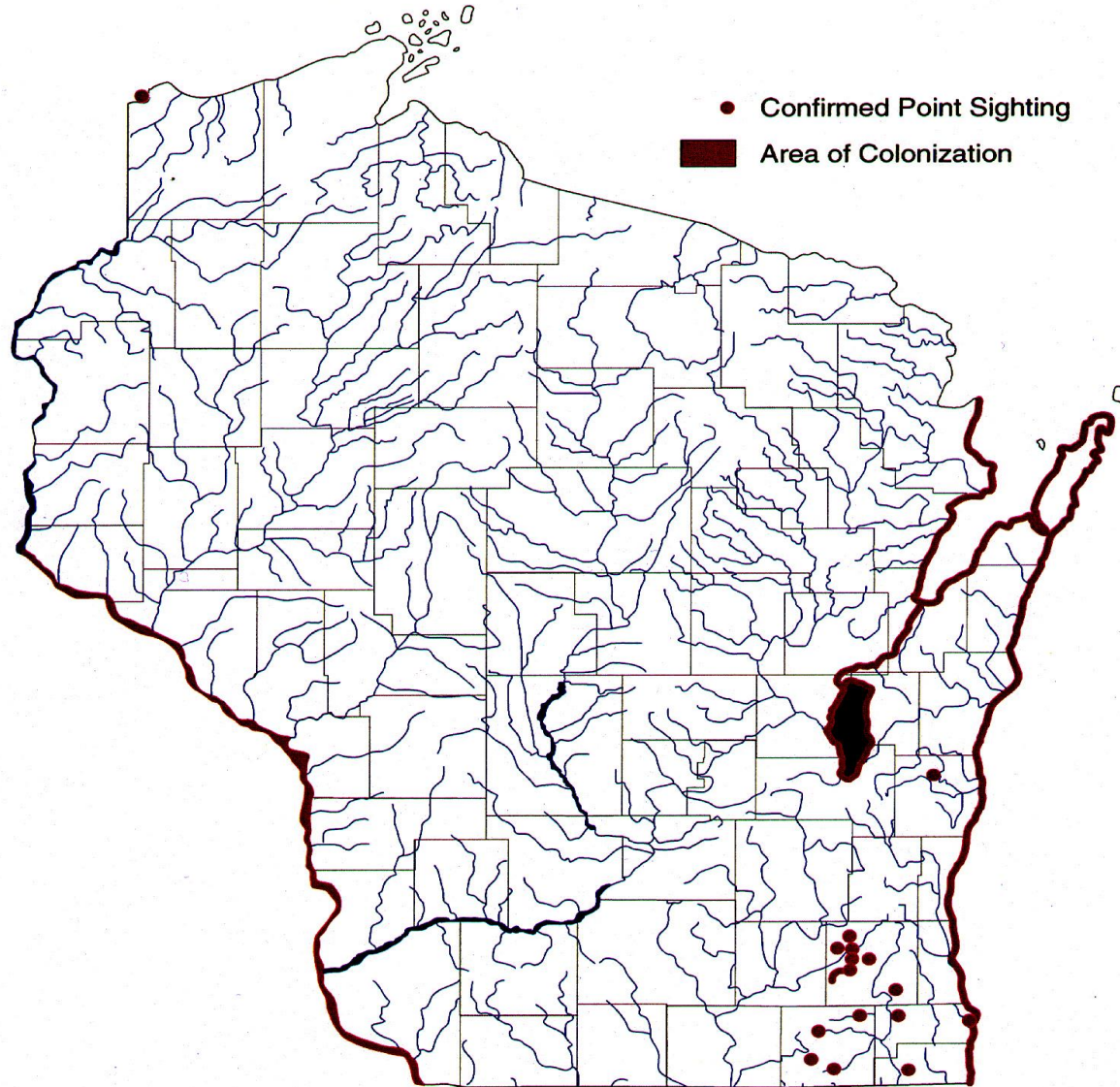
**Rusty crayfish inhabit lakes,
ponds, and streams!**



There is a market for crayfish meat!

Another exotic that has gotten our attention as we walk the beach ...
Zebra Mussels





*Currently, there
are 16
Wisconsin
inland lakes
that have
established
zebra mussel
communities.*

The range of Zebra Mussel in Wisconsin as of December 1999.
(16 inland lakes infested)



Zebra mussels are a small (2 inches), two-shelled clams with light and dark bands.

Why are Zebra Mussels a problem?



- High reproduction rate
- Clog water intake valves
- Effect the food chain, reducing the amount of food available for fish
- No known predator!

So what can you do to prevent the further spread of Zebra Mussels?



- Thoroughly wash your boat
- Flush your motor
- Let your boat sit out in the sun

Remember there is no cure once Zebra Mussels have entered the water!



**Prevention:
Clean boats,
Clean waters!**

Remove !

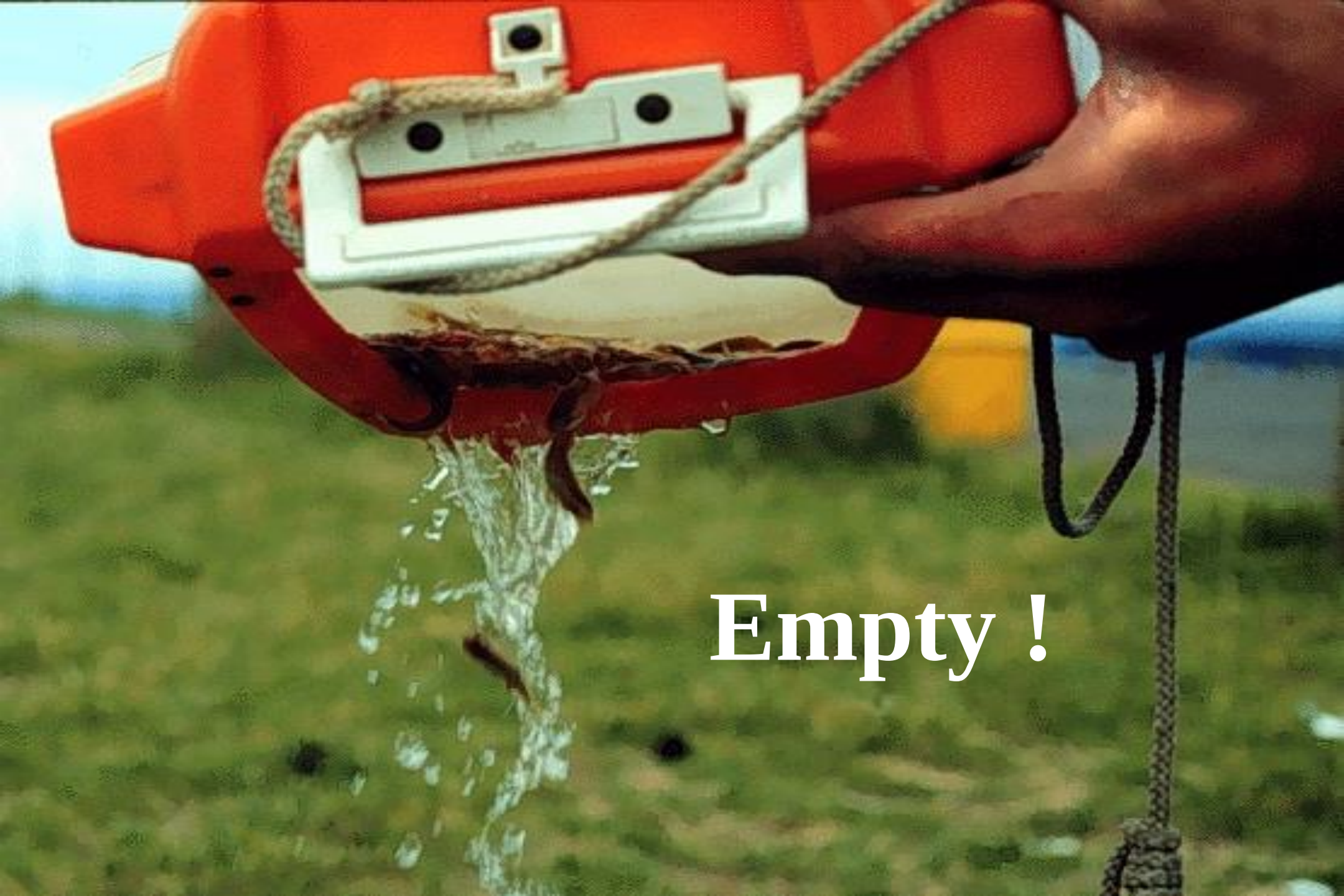




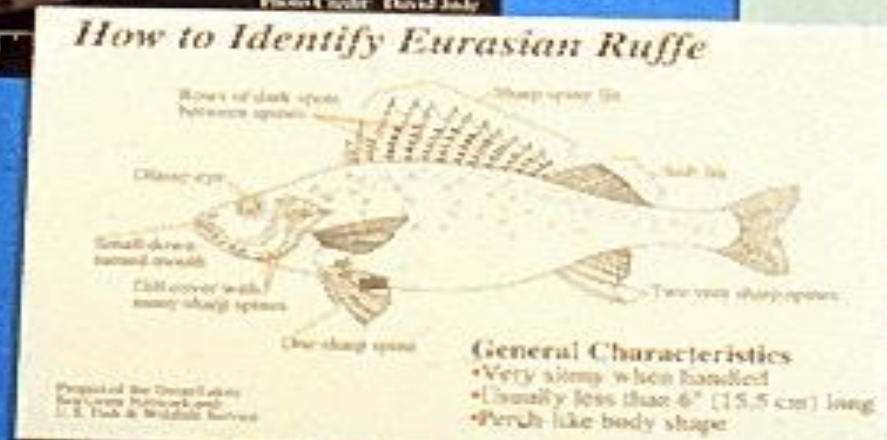
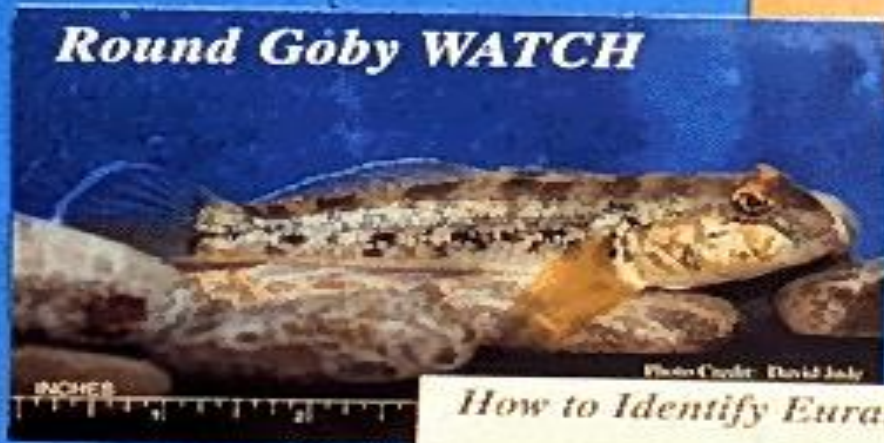
EVINRUDE

LUND

Drain!



Empty !



Learn !

All of us need to get in involved in preventing the spread of exotic species.



Remember, its up to us !