

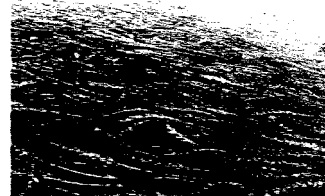
Lac du Flambeau Town Lakes Committee

- Watercraft Inspection &
- Aquatic Invasive Species

- June 19, 2008
- AEPP-130-08



EURASIAN WATER MILFOIL



Welcome & Introductions

- > The Town Lakes Committee
- > DNR AIS Grant AEPP-130-08

Town lakes Committee

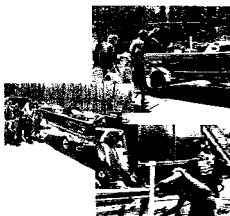
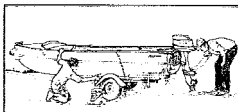
- > Educate & Communicate
- > Prevent AIS Infestations
 - Watercraft Inspections
 - Monitor the Lakes
- > Manage Infestations
 - Purple Loosestrife
- > Plan for the Future

Objectives & Purpose

- > To learn the basics about watercraft inspection
- > To learn the basics about some Aquatic Invasive Species



Watercraft Inspection



- Inform and educate boaters
- Perform watercraft inspections
- Collect and record inspection data
- Monitor and report invasive species

Inform & Educate

- > Wear CBOW hat, t-shirt, apron...
- > Discuss prevention steps: inspect, remove, drain, and dispose
- > Discuss the "illegal to launch" law
- > Distribute an

Be yourself & do what you are comfortable doing.

Watercraft Inspection

- > The soft touch: polite discussion on prevention while recording information
- > More assertive approach: polite discussion while helping to remove plants
- > Strongest approach: complete violation report, take a picture, record registration numbers, report violation

Watercraft Check Points

Watercraft Check Points

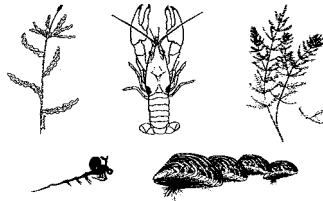


Collect & Record Data

- > Complete WDNR Form 3200-120
- > Give completed form to the AIS Coordinator, or place it in the "tub", or give it to the next volunteer
- > Or, somehow get the forms to the Town Hall

Time for a Demo

Aquatic Invasive Species



Aquatic Invasive Species & VHS Virus

- > Curly-leaf Pondweed*
- > Eurasian Water-milfoil*
- > Purple Loosestrife
- > Zebra Mussels
- > Rusty Crayfish
- > Spiny Water flea
- > Viral Hemorrhagic Septicemia (Virus)

WHY MONITOR LAKES FOR AIS?

LITTLE ST. GERMAIN LAKE

- > Curly-leaf Pondweed: 100 Acres Identified in 2002
- > Eurasian Water-milfoil: 10 acres found in 2003
- > Annual control measures now \$30,000 - \$40,000

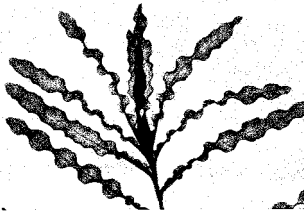
CURLY-LEAF PONDWEED



CURLY-LEAF PONDWEED LITTLE ST. GERMAIN - 2002



CURLY-LEAF PONDWEED

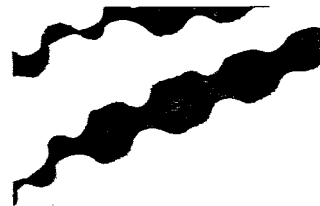


CURLY-LEAF PONDWEED

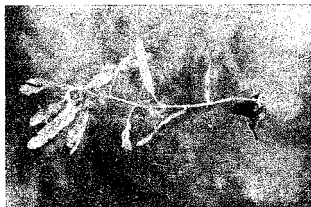
162-165

- Tolerates wide range of water quality conditions
- Germinates in fall / dies back mid-summer
- Die back can create:
 - Oxygen Deprivation
 - Algae Blooms

CURLY-LEAF PONDWEED



CURLY-LEAF PONDWEED: TURION



CURLY-LEAF PONDWEED: TURION

- Falling water temps prompt turion germination
- Turion germination rate is 60%-80%
- Turions can lay dormant for up to five years

CURLY-LEAF PONDWEED: WHEN TO MONITOR

- Early spring to mid-summer (Before die back)
- Fall (As turions germinate)

CURLY-LEAF PONDWEED: WHERE TO MONITOR

- Throughout littoral zone (Aqua-Viewers)
- Shorelines (Wash-up)
- Anchors
- Fishing Lures
- Near Docks & Boat Landings
- On Boats & Trailers

CURLY-LEAF PONDWEED: MANAGEMENT

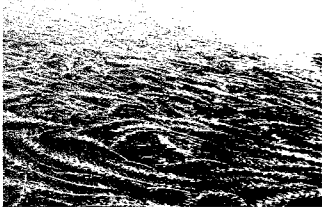
- Spring herbicide application (Before turions form)
- Management is very costly in well-established infestations
- Early detection saves \$\$\$

What to do when finding potential AIS

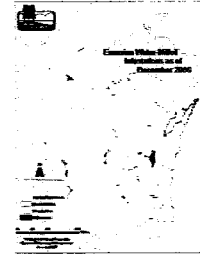
- Collect & identify sample
- Record precise sample location
- Notify
 - Local lake contact:
 - LDF Town Lakes Committee
 - Tribal DNR
 - Watercraft Inspection Coordinator
 - Vilas County Land & Water Department

EURASIAN WATER MILFOIL

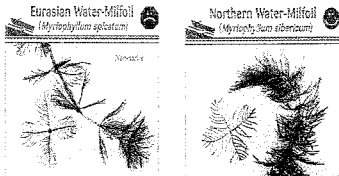
220-221



E
W
M



EURASIAN VS NATIVE MILFOIL



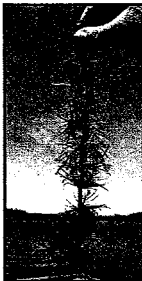
EURASIAN WATER MILFOIL

- Form dense surface mats
- Reduces fish habitat diversity
- Can reduce oxygen levels
- Annual decay of plant mass can lead to algae blooms

EURASIAN WATER MILFOIL

- Germinates early
- Grows quickly
- Displaces native plant species
- Spreads easily within waterbody and beyond

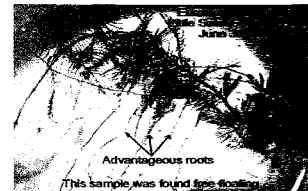
Northern water-milfoil leaves are stiff when the plant is removed from water.



Eurasian water-milfoil leaves are limp when the plant is out of water



EURASIAN WATER MILFOIL: AUTO FRAGMENTATION



EURASIAN WATER MILFOIL WHERE TO MONITOR

- > Littoral Zone (Aqua-Viewers)
- > Near Boat Landings
- > Floating
- > Shoreline wash-up
- > On boats and trailers
- > Anchors
- > Fishing Lures

EURASIAN WATER MILFOIL: WHEN TO MONITOR

- > Begin early spring (May)
- > Continue into early fall (Oct.)

EURASIAN WATER MILFOIL: MANAGEMENT

- > Very difficult to manage
- > Spring herbicide application before native plants emerge
- > Beetles/weevils
- > Management very costly in established infestations
- > Early detection saves \$\$\$

What to do when finding potential AIS

- > Collect & identify sample
- > Record precise sample location
- > Notify
 - Local lake contact
 - LDF Town Lakes Committee
 - Tribal DNR
 - Watercraft Inspection Coordinator
 - Vilas County Land & Water Department

Check for Understanding

Check for Understanding

You're walking along the shoreline of Squaw Lake and pick up a piece of a plant that you believe may be Curly leaf pondweed.

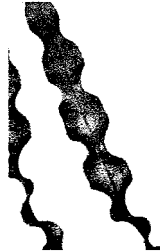
What is it about this plant that leads you to believe it is Curly leaf pondweed rather than some other plant?

Check for Understanding

What are some of the main differences between Eurasian water milfoil and Northern water milfoil?

Check for Understanding

Most likely,
this is a
sample of...



Check for Understanding

Most likely, this
plant is:

- > Eurasian water milfoil
- > Curly leaf pondweed
- > Northern water milfoil



Check for Understanding

- >What is this called?
- >What is its purpose?
- >What is the name of the plant?



Check for Understanding
Which plant is EWM?



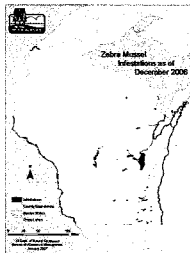
Check for Understanding

What do you do if you find a potential AIS?

Practice

Plant Samples

Zebra Mussels



Zebra Mussels
Life Stages

- >4-5 Year life span
- >Veliger: Microscopic, able to swim
- >Juvenile: Byssal Threads have formed – able to attach to firm surfaces
- >Adult after 2 years: female produces 30,000-40,000 eggs per year
- >2% survive to adult stage

Zebra Mussels Where to Monitor

Hard Surfaces

- > Dock Legs
- > Swimming Ladders
- > Boat Hulls
- > Any hard surface with long-term water exposure



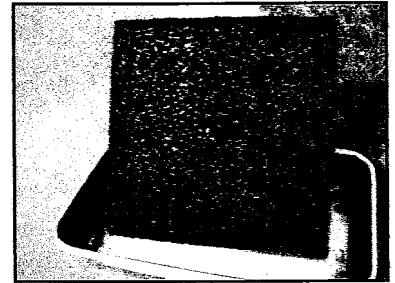
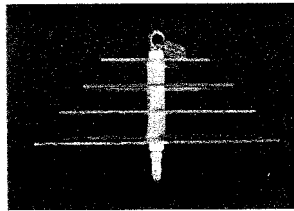
Zebra Mussels When to Monitor

ICE-OUT TO ICE-IN

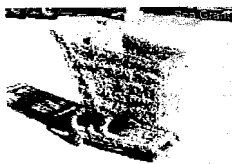
Zebra Mussels How to Monitor

- > Non-detectable in veliger stage
- > Feel like sandpaper as juveniles
- > Accumulate in high density colonies as adults

ZM Monitoring Tools



ZM Monitoring Tools



This shopping cart is covered with zebra mussels.

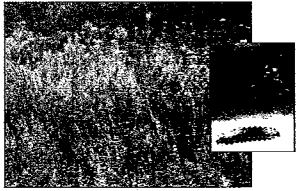


Purple Loosestrife Where to Look

- Roads
- Hiking trails
- Lake Shore
- Streams



Raising Galerucella Beetles



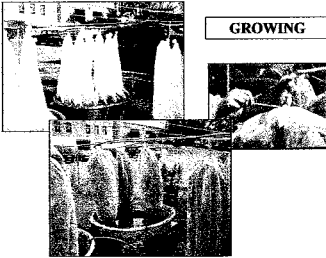
DIGGING



PLANTING



GROWING



Host plant roots are dug up and planted in pots. Pots are covered in netting to protect the loosestrife beetles from predators. Beetles are added once the plants reach 2 feet tall.



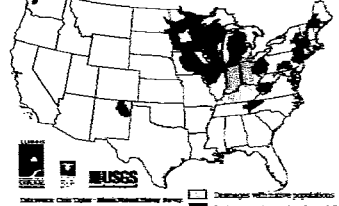
Beetle larvae damage on host plant

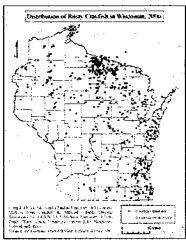


Rusty Crayfish



Rusty crayfish





Crayfish Monitoring Tools



Rusty Crayfish Where to Monitor

- > Shallow water – near shorelines
- > Firm, rubble lake bottom
- > Wherever crayfish are normally seen

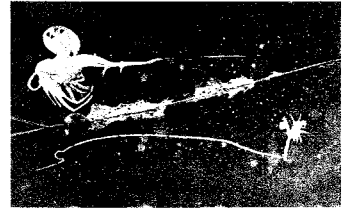
Rusty Crayfish When to Monitor

JUNE - AUGUST

Spiny Water Flea



Spiny and Fishhook Water Flea



Spiny water Flea

- > Not insects, but crustaceans
- > Disperse in water column
- > 1/2" Long, But 70% = Tail Spine
- > Reproduce rapidly
- > Consume zooplankton
- > Disrupt food chain
- > Not eaten by fish < 2"
- > Life span of up to one week

Spiny Water Flea Monitoring Tool



Spiny Water Flea Where to Monitor

- > Deep, open water
- > Away from plants and other obstructions in the water column

Spiny Water Flea When to Monitor

JUNE - AUGUST

Viral Hemorrhagic Septicemia

External
hemorrhaging



THANKS!

AQUATIC PLANT IDENTIFICATION AIDS



<http://www.usrep.edu/cw/resources/publications/TLGDdescription.asp>

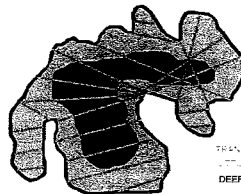
AQUATIC PLANT IDENTIFICATION AIDS

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COORDINATE MONITORING EFFORTS

- ⊗ ADOPT A SHORELINE
- ⊗ ADOPT A BAY
- ⊗ ADOPT A TRANSECT LINE

TRANSECT LINES



TRANSECT LINE
DEEP WATER