

# Project **RED**

Riverine Early Detectors Manual:  
Finding **Invasive Species** First.



New Zealand mudsnail

**Find It! Report It! Fight It!**

Version 2, March 2010



**RIVER ALLIANCE**  
*of Wisconsin*

[www.wisconsinrivers.org](http://www.wisconsinrivers.org)

# Welcome to Project RED

The health of your river depends on you! Wisconsin's rivers are vulnerable to invasion by a number of invasive species from Eurasian water-milfoil to Japanese knotweed. The key to successfully protecting your river is detecting invasives early when it is still possible to isolate or eradicate them. The longer we wait to find them and fight them the more money and time it will take. Volunteers like you are invaluable for early detection and rapid response.

Find it, report it and fight it! Project RED provides you with the necessary tools to be a Riverine Early Detector. Our protocols are easy and fun. Use this activity to become more familiar with your river or stream and to engage your friends and neighbors!

Project RED has four steps: collect samples of suspect invasives on your river, verify the specimens, submit the data, and advocate for control.

The River Alliance of Wisconsin and the Wisconsin DNR can help you take the next step of eradication or containment if you find a pioneer population! There are funding and technical resources available to you!

Grab your paddle or waders and get out on the water! We need your help.



Find It, Report It and Fight It!

## Why Should You Join Project RED?

- Easy, Fun Protocols to Identify 15 Species of Concern
- Great Opportunity to Engage New Members/Volunteers
- Educate Local Landowners About Invasive Species
- GPS Units Available for Your Use at Technology Libraries Statewide
- Online Data Management Tools
- Species Verification by Professionals
- Eradication and Containment Technical Support
- Its Free!

## Step I: Collecting Data and Samples

Specific monitoring and sample collection protocols for each category of invasives (wetland plants, snails, mussels, and emergent and submersed plants) are on the following pages.

We recommend you start at the headwaters or at areas of potential introduction, such as bridge crossings or boat landings. If monitoring from a canoe, it is recommended that you wade or pay particularly close attention within the 100 meters upstream and downstream of boat landings, bridge abutments or other probable locations of introduction.

Invasive species do not respect private property lines, but we do. Inform riparian landowners about Project RED and always ask permission to venture onto their property. You must help us educate landowners in your watershed to help in the fight!

## Monitoring Schedule

The time of the year can determine how easily a species can be identified and the likelihood of detection. For example, purple loosestrife is difficult to see from a canoe before it blooms. However, once it is in bloom its vibrant color is difficult to miss. It is recommended that you monitor the same segment of river at least twice a year, once in May or June and once in August or September. Three times is even better and will increase your chance of successfully detecting invasives. The schedule below is an estimation of when you should look for each species. This schedule might vary slightly dependant upon your latitude, micro-climates and the year's weather. Remember, be prepared for potentially cold and dangerous weather in May and September in the northern portion of the state. Safety is ALWAYS our first priority.

MAY	JUNE	JULY	AUGUST	SEPTEMBER
curly-leaf pondweed snails and mussels didymo	flowering rush curly-leaf pondweed Eurasian water-milfoil snails and mussels didymo	purple loosestrife common reed grass Japanese hops flowering rush Eurasian water-milfoil hydrilla Brazilian waterweed snails and mussels didymo	Japanese knotweed purple loosestrife common reed grass Japanese hops flowering rush Eurasian water-milfoil hydrilla Brazilian waterweed snails and mussels didymo	Japanese knotweed purple loosestrife common reed grass Japanese hops hydrilla Brazilian waterweed snails and mussels didymo

## Recommended Supplies

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Paddling or Wading Equipment  
Clip board or other hard surface for writing  
Project RED Field Data Collection Sheets  
Ziploc bags  
Waterproof sharpie pen (to write on Ziploc bags)  
GPS unit  
Heavy trash bag  
Paper towels  
Camera  
Ice chest for keeping samples cool  
Polarized sunglasses



## Step II: Verification

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Invasive species are often easily confused with native look-a-likes. To ensure quality data volunteers are encouraged to send or deliver samples or photographs to professionals to verify their findings. Verification is often required if you plan to apply for funding or technical assistance to contain or eradicate the invasive.

**Species that are rare or have not been reported in Wisconsin yet have a red asterisk (\*) after the species scientific name (ex. New Zealand mudsnail). These species if found must be sent in for verification immediately.**

Plant specimens should be placed in a plastic bag with a damp paper towel and delivered or mailed to your DNR regional AIS verification contact (*see contacts on page 9*) as soon as possible. Digital or film photographs are another alternative. Be sure that you photograph all parts of the plant.

Live mussels and snails should be placed in rubbing alcohol to prevent them from decay. If the shells are empty this is not necessary. **Mailing alcohol is illegal.** If you preserve a specimen in alcohol it must be hand delivered to your DNR Regional AIS Verification Contacts (*see contacts on page 9*).

See protocols on the following pages for more on sample collection and preservation.

Prior to submitting your samples for verification double check your identification with print and online resources provided on page 9. If you have any questions about sample preparation or who to submit your sample to contact Courtney LeClair or Heidi Bunk.

### Information About Plant Verification:

Courtney LeClair  
(608) 267-7438  
InvasivePlants@mailplus.wisc.edu

### Information About Mussel or Snail Verification:

Heidi Bunk  
(262) 574 2130  
Heidi.Bunk@Wisconsin.gov

## Step III: Submit Data

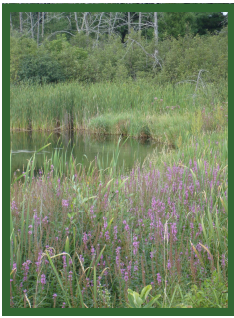
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Don't forget to submit your data! Data sharing is important to help researchers and resource managers better understand the threats invasive species pose on our rivers in Wisconsin. Post your data on CitSci.org! CitSci.org has been developed by NIISS (the National Institute of Invasive Species Science) for projects like Project RED. It provides online data management, sharing, and viewing. Data posted here will be used by the River Alliance of Wisconsin and the Wisconsin Department of Natural Resources to allocate statewide resources to help eradicate and control invasives. If you and your fellow volunteers have not received training on how to use CitSci.org contact the River Alliance at (608) 257-2424 x110. The training is free!

## Step IV: Taking Action

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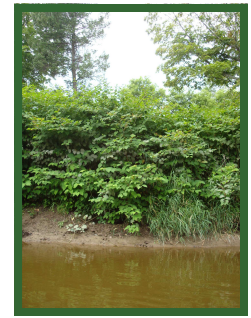
Finding and reporting an invasive unfortunately does not ensure that necessary resources will be allocated to address the problem. Your work does not stop here. Engage your neighbors and help educate landowners. With landowner consent and the necessary volunteer power, you can accomplish a lot in terms of containing or eradicating an invasive. There are technical and financial resources available to you. Contact the River Alliance of Wisconsin or your local WDNR Water Resource Management Specialist for best control practices, regulations on herbicide application, and available funding. We are here to help you.



purple loosestrife on the White River

# Project RED

## Wetland Invasive Plants



Japanese knotweed on the Sheboygan River

The four species pictured to the right have been found on streambanks and in wetlands throughout Wisconsin. They displace native plants that provide habitat for birds and other native animals, alter nutrient cycles that sustain native life, impede recreational activities and can alter the hydrology of our watersheds.

### MONITORING AND SAMPLE COLLECTION PROTOCOL

While floating or wading search both banks and surrounding wetlands for these four plants. It is best to search for these in mid-July through September while they are blooming.

If possible collect a fresh sample in a plastic bag with a moist paper towel. Write the location where the specimen was found on the plastic bag and assign the sample an AIS ID# with a permanent marker. If it is not possible to safely obtain a sample, due to private property boundaries or otherwise, take detailed photographs (digital or film) for verification. Try to include flowers, seeds or fruit, buds, full leaves, stems roots and other distinctive features. In photos, try to place a coin, pencil or ruler for scale. If you can send a specimen and photos, all the better. Send samples or photos to the UW Herbarium (page 3) for verification. **Be careful not to spread seeds or fragments, see preventative note on back cover.**

### SPECIES OVERVIEW

#### Japanese hops (*Humulus japonicus*)

Herbaceous vine climbing clockwise. No tendrils. Leaves opposite, 2 to 5 inches long with 5-7 deep lobes and coarse, downward pointing sticky hairs. Leaf stalk equals or exceeds length of leaf. Greenish flowers.

#### common reed grass (*Phragmites australis*)

3 to 20 ft tall grass with linear green leaves 10 –20 in. long. Large, dense, featherlike grayish purple plumes in July through September. Dull, tan, rough and ribbed cane-like stems.

#### Japanese knotweed (*Polygonum cuspidatum*, *Fallopia japonica*)\*

Upright, semi-woody, shrub that can reach 10 feet tall. Stems resemble bamboo. Leaves about 6 inches long, heart shaped or triangular. Small green or white flowers bloom in August and/or September. Grows in dense stands.

#### Purple loosestrife (*Lythrum salicaria*, *Lythrum virgatum*)

Upright, semi-woody, perennial. Square stem 3 to 9 ft tall. Purple flowers with 5 or 6 petals on numerous long spikes. Leaves linear shaped, smooth edge, attached directly to stalk.

### TIMELINE

Common Name	Scientific Name	May	June	July	Aug	Sept
purple loosestrife	<i>Lythrum salicaria</i>			x	x	x
Japanese knotweed	<i>Polygonum cuspidatum</i>				x	x
Japanese hops	<i>Humulus japonicus</i>		x	x	x	x
common reed grass	<i>Phragmites australis</i>			x	x	x



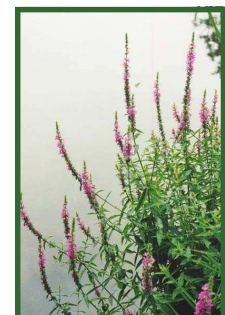
Japanese hops (Photo by John Randall)



common reed grass (photo by E. Czarapata)



Japanese knotweed (photo by E. Czarapata)



purple loosestrife (photo by E. Czarapata)



flowering rush  
(photo by E. Czarapata)

# Project RED

## Emergent and Submersed Invasive Plants



curly-leaf pondweed

Emergent and submersed invasive plants alter the substrate of a waterbody and alter habitat and food source for birds, bugs and fish. Brazilian waterweed and didymo have not yet been found in Wisconsin but we anticipate their arrival soon.

### MONITORING AND SAMPLE COLLECTION PROTOCOL

If you observe plants growing in the water, stop and closely observe them. Polarized sunglasses or a Aqua-View Scope can help. If the water is too deep to clearly identify the submerged plants or to reach a sample, drag a long-handled rake across the bottom of the river with a rope attached to the end to bring a sample to the surface. See the University of Wisconsin Extension Citizen Lake Monitoring Network Training Manual for more information about this technique. Until you grow familiar with both natives and invasives, collect suspect samples in plastic bags labeled with AIS ID #. Remember to record the AIS ID# and the sample location using your GPS on your field data sheet. At home use both print and online resources to identify them to the best of your ability and submit them for verification .

### SPECIES OVERVIEW

#### flowering rush (*Butomus umbellatus*) \*

Emergent herb 1 - 5 feet tall, stiff, narrow and triangular in cross-section leaves. Pink or white flowers with 3 petals and 3 sepals in a distinctive flat-topped spray atop a tall stalk.

#### hydrilla (*Hydrilla verticillata*) \*

Submersed herb with slender, branching stem up to 25 feet long. Green leaves about .6 inches long with pointed tips in whorls of 3 to 10. Leaf edges are sawtoothed, rough to touch.

#### curly-leaf pondweed (*Potamogeton crispus*)

Submersed. Leaves are reddish-green, oblong, and about 3 inches long, distinct wavy edges that are finely toothed. The stem is flat, reddish-brown and grows from 1 to 3 feet long

#### Eurasian water-milfoil (*Myriophyllum spicatum*)

Submersed herb with slender stems whorled by feathery leaves and tiny flowers above water surface. Leaves threadlike, 9-21 pairs of leaflets per leaf typically uniform in length.

#### Brazilian waterweed (*Egeria densa*) \*

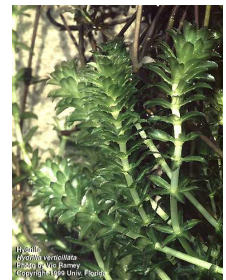
Submersed, bushy herb without tubers. Stem is single or branching. Leaves bright green, .8 – 1.2 inches long, up to .2 inches wide in whorls of 4 to 6 along stem. Leaf edges minutely serrated. Flowers white, .7 to 1 inch across with 3 petals.

#### didymo (*Didymosphenia geminata*) \*

Large diatom forming massive blooms on bottom of stream on substrate or vegetation. Forms flowing ‘rats tails’ that can turn white at their ends and look similar to tissue paper. Although the algae appear slimy, it feels like wet cotton wool. Bloom is a pale yellow-brown to white color.

### TIMELINE

Comon Name	Scientific Name	May	June	July	Aug	Sept
flowering rush	<i>Butomus umbellatus</i>		x	x	x	
hydrilla	<i>Hydrilla verticillata</i>			x	x	x
curly-leaf pondweed	<i>Potamogeton crispus</i>	x	x			
Eurasian water-milfoil	<i>Myriophyllum spicatum</i>		x	x	x	
Brazilian waterweed	<i>Egeria densa</i>			x	x	x
didymo	<i>Didymosphenia geminata</i>	x	x	x	x	x



hydrilla  
(photo from Vic Ramey)



Eurasian water-milfoil  
(photo from TNC)



Brazilian waterweed  
(photo from TNC)



didymo  
(photo by Stu Sutherland)



New Zealand mudsnails  
(Photo by Matt Elyash)

# Project RED

## Invasive Snails



New Zealand mudsnails  
(Photo by Dan Gustafson)

Invasive snails displace native invertebrates, serve as vectors for the transmission of parasites and diseases, destroy instream habitat and alter food chains threatening native fish populations. The mystery snails shown here have been found in several rivers throughout Wisconsin. The New Zealand mudsnail has been discovered in the Great Lakes and the St. Louis River on the Wisconsin and Minnesota border.

### MONITORING AND SAMPLE COLLECTION PROTOCOL

Search for snail shells along the shoreline where they may have washed up. Where possible look for snails under the water on the bottom of the river. Mystery snails typically are found in mud or sand. New Zealand mudsnails can be found on any substrate including vegetation. Kicknets with a mesh .5mm or smaller can be used to collect these tiny snails (optional). Collect the largest specimen possible. Larger specimens are typically easier to identify.

There is a native mystery snail, the brown mystery snail (*Campeloma decisum*), that can be confused with the non-natives. It typically lacks bands, does not grow as large as the non-native mystery snails, and is more elongated.

Suspect snails and mussels need to be sent to an expert for vouchering. Collect the largest specimen possible and place it in a plastic bag labeled with the AIS ID # and location. If there is a body in the shell, once you are home transfer it into a container of 70-95% ethanol or rubbing alcohol. If it is an empty shell you may leave it in the ziplock bag. If you transfer to alcohol be sure to label the new container with AIS ID# and location. It is illegal to mail alcohol, so please arrange to deliver sample(s) with alcohol to your local DNR (see page 9 for contact information). Remember to save a copy of your reporting forms for your own records.

### SPECIES OVERVIEW

#### New Zealand mudsnail (*Potamopyrgus antipodarum*) \*

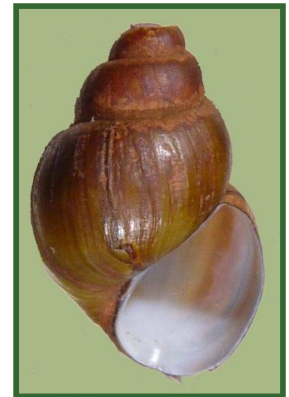
Very small snail ranging from 3 to 6 mm. Brown or black cone-shaped shells with five to six whorls. Operculum (hard “lid”) covers the shell opening. Opening is on right side when shell is pointed up. Can reach incredible densities.

#### banded mystery snail (*Viviparus georgianus*) \*

Large snail ranging from 14 to 45 mm. Yellow to green shell with 4 to 5 whorls with three or four darkly pigmented bands. Prefers slow flowing shallow water and lakes. Has been found in the Tomahawk River.

#### Chinese mystery snail (*Cipangopaludina chinensis malleata*) \*

Large snail that can reach 65 mm in size with 6 to 7 whorls. The shell has a olive green, greenish brown, brown or reddish brown pigmentation. It prefers lakes; however, it has been found in large rivers such as the Wisconsin and the Manitowish.



Native brown mystery snail  
(Photo Credit Pieter Johnson)



banded mystery snail  
(Photo Credit USGS)



Chinese mystery snail  
(Photo Credit USGS)

### TIMELINE

Common Name	Scientific Name	May	June	July	Aug	Sept
New Zealand mudsnail	<i>Potamopyrgus antipodarum</i>	x	x	x	x	x
Chinese mystery snail	<i>Cipangopaludina chinensis</i>	x	x	x	x	x
banded mystery snail	<i>Viviparus georgianus</i>	x	x	x	x	x



zebra mussel

(Photo from Michigan Sea Grant Archives)

# Project RED

## Invasive Mussels



quagga mussel

(Photo by Mike Quigley, NOAA)

The zebra mussel and the quagga mussel are two invasive mussels that have been found in Wisconsin's rivers. They clog intake pipes, cover recreational equipment, destroy instream habitat, and outcompete native filter feeders.

### MONITORING AND SAMPLE COLLECTION PROTOCOL

Search in shallow areas near shorelines for the presence of mussels (alive or empty shells) that may have washed up. Zebra mussels may be found on any hard surface (rocks, litter, piers, etc). Quagga mussels can colonize on either hard or soft surfaces. Rub your hands along rocks, piers, and vegetation. Mussels can make otherwise smooth surfaces feel like sandpaper. Be careful as to not cut yourself. Search under rocks. It is illegal to collect live native mussels (also known as clams). You may however collect empty shells of any species.

Suspect snails and mussels need to be sent to an expert for vouchering. Collect the largest specimen possible and place it in a plastic bag labeled with the AIS ID # and location. If there is a body in the shell, once you are home transfer it into a container of 70-95% ethanol or rubbing alcohol. If it is an empty shell you may leave it in the ziplock bag. If you transfer to alcohol be sure to label the new container with AIS ID# and location. It is illegal to mail alcohol, so please arrange to deliver sample(s) with alcohol to your local DNR (see page 9 for contact information). Remember to save a copy of your reporting forms for your own records.



zebra mussel

(Photo from USGS)

### SPECIES OVERVIEW

#### zebra mussels (*Dreissena polymorpha*)

A tiny (1/8-inch to 2-inch) bottom-dwelling clam. Yellowish or brownish D-shaped shell, usually with alternating dark and light colored stripes. Attach to solid objects. Generally found in shallow, algae-rich water.

#### quagga mussel (*Dreissena bugensis*)

Light tan to almost white, with narrow stripes or mottled lines. It is fan-shaped, with pointed edges at either side. The ventral (bottom-side where the 2 shells attach) side of the mussel is convex which makes it topple over when placed ventral side down on a flat surface. The zebra mussel will remain upright when placed in this position.



zebra mussels in a intake pipe

(Photo from Michigan Sea Grant Archives)



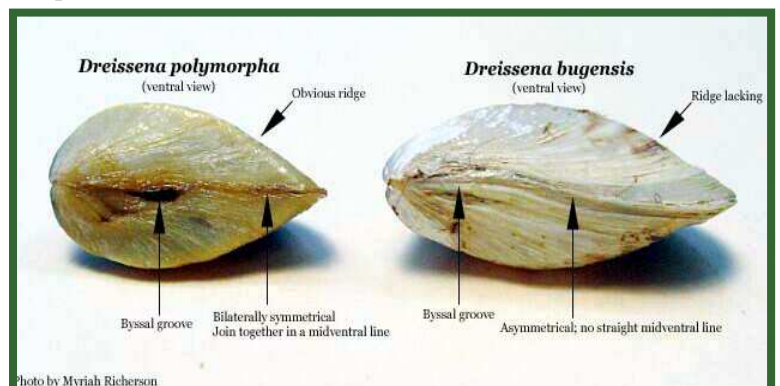
*Dreissena polymorpha*  
(Actual size is 15 mm)

*Dreissena bugensis*  
(Actual size is 20 mm)

Sits flat on ventral side  
Triangular in shape  
Color patterns vary

Topples over; will not sit flat on ventral side  
Rounder in shape  
Usually have dark concentric rings on shell  
Paler in color near the hinge

Photo by Myriah Richerson



*Dreissena polymorpha*  
(ventral view)

*Dreissena bugensis*  
(ventral view)

Obvious ridge

Ridge lacking

Byssal groove

Bilaterally symmetrical  
Join together in a midventral line

Byssal groove

Asymmetrical; no straight midventral line

Photo by Myriah Richerson

(Photos by Myriah Richerson, USGS)

### TIMELINE

Common Name	Scientific Name	May	June	July	Aug	Sept
zebra mussel	<i>Dreissena polymorpha</i>	X	X	X	X	X
quagga mussel	<i>Dreissena rostriformis bugensis</i>	X	X	X	X	X

# Project RED

## Field Data Collection Sheet



**RIVER ALLIANCE**  
of Wisconsin



Project: (ex. Friends of Clear Creek) \_\_\_\_\_ Waterbody \_\_\_\_\_ County \_\_\_\_\_  
Date Collected / Observed \_\_\_\_\_ Observer's/Collector's Name \_\_\_\_\_  
Observer's/Collector's Street Address \_\_\_\_\_ City \_\_\_\_\_ State \_\_\_\_\_ Zip \_\_\_\_\_  
Phone \_\_\_\_\_ Email \_\_\_\_\_

### STEP 1 DATA COLLECTION

Datum WGS84, NAD27, or NAD24 (*circle one*)

Record at least five decimal places for latitude and longitude. If a sample is collected, circle sample and be sure to label the sample with the corresponding sample number below.

AIS ID # _____	Species _____	Latitude _____	N Longitude _____	W Accuracy _____	M Area _____	M <sup>2</sup> (Photo) (Sample)
AIS ID # _____	Species _____	Latitude _____	N Longitude _____	W Accuracy _____	M Area _____	M <sup>2</sup> (Photo) (Sample)
AIS ID # _____	Species _____	Latitude _____	N Longitude _____	W Accuracy _____	M Area _____	M <sup>2</sup> (Photo) (Sample)
AIS ID # _____	Species _____	Latitude _____	N Longitude _____	W Accuracy _____	M Area _____	M <sup>2</sup> (Photo) (Sample)
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AIS ID # _____	Species _____	Latitude _____	N Longitude _____	W Accuracy _____	M Area _____	M <sup>2</sup> (Photo) (Sample)
AIS ID # _____	Species _____	Latitude _____	N Longitude _____	W Accuracy _____	M Area _____	M <sup>2</sup> (Photo) (Sample)

### STEP 2 VERIFY SAMPLE(S) (*refer to Project RED manual for instructions*)

Samples delivered/mailed to \_\_\_\_\_ on \_\_\_\_\_  
*name(s) of professional verifier(s)* \_\_\_\_\_ *date* \_\_\_\_\_  
Verified on \_\_\_\_\_ *date* \_\_\_\_\_

### STEP 3 SUBMIT DATA ON WWW.CITSCI.ORG (*refer to CiSci.org folder for instructions*)

Verified samples were reported on CiSci.org on \_\_\_\_\_ by \_\_\_\_\_  
*date* \_\_\_\_\_ *signature of reporter* \_\_\_\_\_

### STEP 4 TAKING ACTION (*refer to page 3 of Project RED manual for instructions*)



## Other Resources

### PRINTED PUBLICATIONS

\*\* Call Amanda Boyce (DNR) for these publications (608) 261-6450

- *Purple Loosestrife: A major threat to Wisconsin's Wetlands and Waterways.* WI-799-2007 \*\*
- *Japanese Knotweed: A new threat to Wisconsin's Waterways, Lakeshores, and Wetlands.* ER-657-2007\*\*
- *Invasive Plants of the Future.* ER-634-2005
- *Eurasian Water-milfoil/Northern Water-milfoil ID Cards* WT-394 \*\*
- *Recognizing Eurasian Water-milfoil and Native Look-A-Likes* WT-783 \*\*
- *Wisconsin DNR Wildcards \*\**  
Eurasian water-milfoil WT-741-2003  
Japanese knotweed ER-106V-2003  
purple loosestrife WT-740-2002  
common reed grass ER-106 W  
zebra mussel WT-738 2002  
curly-leaf pondweed WT-759 2003  
VHS FH-930ww 2007
- *Wisconsin DNR Watch Cards \*\**  
New Zealand mudsnail WT-844  
zebra mussel WT-730  
purple loosestrife WT-744  
eurasian water-milfoil WT-745

### ONLINE PUBLICATIONS

- *Aquatic Invasive Species Monitoring Procedures.* University of Wisconsin Extension Citizen Lake Monitoring Network Training Manual <http://www.uwsp.edu/uwexlakes/CLMN/AIS-Manual/AIS-CLMNmanual.pdf>

- UWEX and DNR Citizen Lake Monitoring Network Publications <http://www.uwsp.edu/cnr/uwexlakes/clmn/publications.asp>
- *New Zealand Mudsnail: A threat to Wisconsin's Waters.* WT-903-2008 <http://www.wisconsinrivers.org/>
- *Hydrilla Factsheet* WT-884 <http://dnr.wi.gov/invasives/fact/HydrillaFactsheet07.pdf>
- *Water-milfoil Turion Factsheet* WT-861 <http://www.uwsp.edu/cnr/uwexlakes/cbcw/Pubs/NWMTurions08.pdf>
- *Purple Loosestrife: A major threat to Wisconsin's Wetlands and Waterways.* WI-799-2007 <http://www.uwsp.edu/cnr/uwexlakes/CBCW/Pubs/new%20Purple%20Loosestrife.doc.pdf>
- *Keep A Lookout for New Aquatic Invasive Plants in the Midwest.* Midwest Invasive Plant Network. <http://mipn.org/Aquatics%20Early%20Detection%20Flyer.pdf>
- *Keep A Lookout for New Invasive Plants in the Midwest.* Midwest Invasive Plant Network. <http://mipn.org/New%20Invasives%20Flyer.pdf>

### WEBSITES

- WDNR Invasive Species Webpage <http://dnr.wi.gov/invasives/>
- River Alliance of Wisconsin [www.wisconsinrivers.org](http://www.wisconsinrivers.org)
- Midwest Invasive Plant Network [www.mipn.org](http://www.mipn.org)

## Contacts

### Laura MacFarland

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Citizen Science Program Coordinator  
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#### Jay Schiefelbein

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920-303-5449 or 920-662-5175  
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Photographs courtesy of the River Alliance of Wisconsin if not noted otherwise.



## PREVENT THE SPREAD

**WIPE YOUR FEET** INSPECT ALL EQUIPMENT INCLUDING YOUR BOOTS AND BOATS BEFORE AND AFTER MONITORING. CLEAN ALL PLANTS, ANIMALS AND MUD OFF.

**BAG IT** WHEN COLLECTING SAMPLES BE SURE TO BAG THEM IMMEDIATELY. DO NOT PLACE SPECIMENS IN THE BOTTOM OF THE BOAT TO BE BAGGED LATER. IT ONLY TAKES A FRAGMENT OF A PLANT OR ONE SNAIL IN MOST CASES TO START A NEW INFESTATION.

**GO WITH THE FLOW** MONITOR FROM UPSTREAM TO DOWNSTREAM TO HELP PREVENT THE INTRODUCTION OF INVASIVES IN THE HEADWATERS.

**LOSE THE FELT** FELT SOLED WADING BOOTS ARE MORE LIKELY TO HARBOR INVASIVE SPECIES. WE RECOMMEND USING HARD RUBBER BOOTS, NOT FELT.

**LEAVE 'EM HIGH AND DRY** LET ALL EQUIPMENT DRY BEFORE MOVING FROM ONE WATERBODY TO ANOTHER.

**Remember only you can protect your waters and stop aquatic hitchhikers!**

**Visit [www.ProtectYourWaters.net](http://www.ProtectYourWaters.net) for more information.**

