

New Zealand mudsnails in Wisconsin

Maureen Ferry

Aquatic Invasive Species Monitoring Lead

Wisconsin Department of Natural Resources



DANE COUNTY
LAND & WATER RESOURCES
DEPARTMENT



Golden Sands
Resource Conservator
& Development Council



RIVER ALLIANCE
of WISCONSIN



UW
Extension
University of Wisconsin-Extension



Overview

- Discovery
- Background
- Response strategy
- Next steps

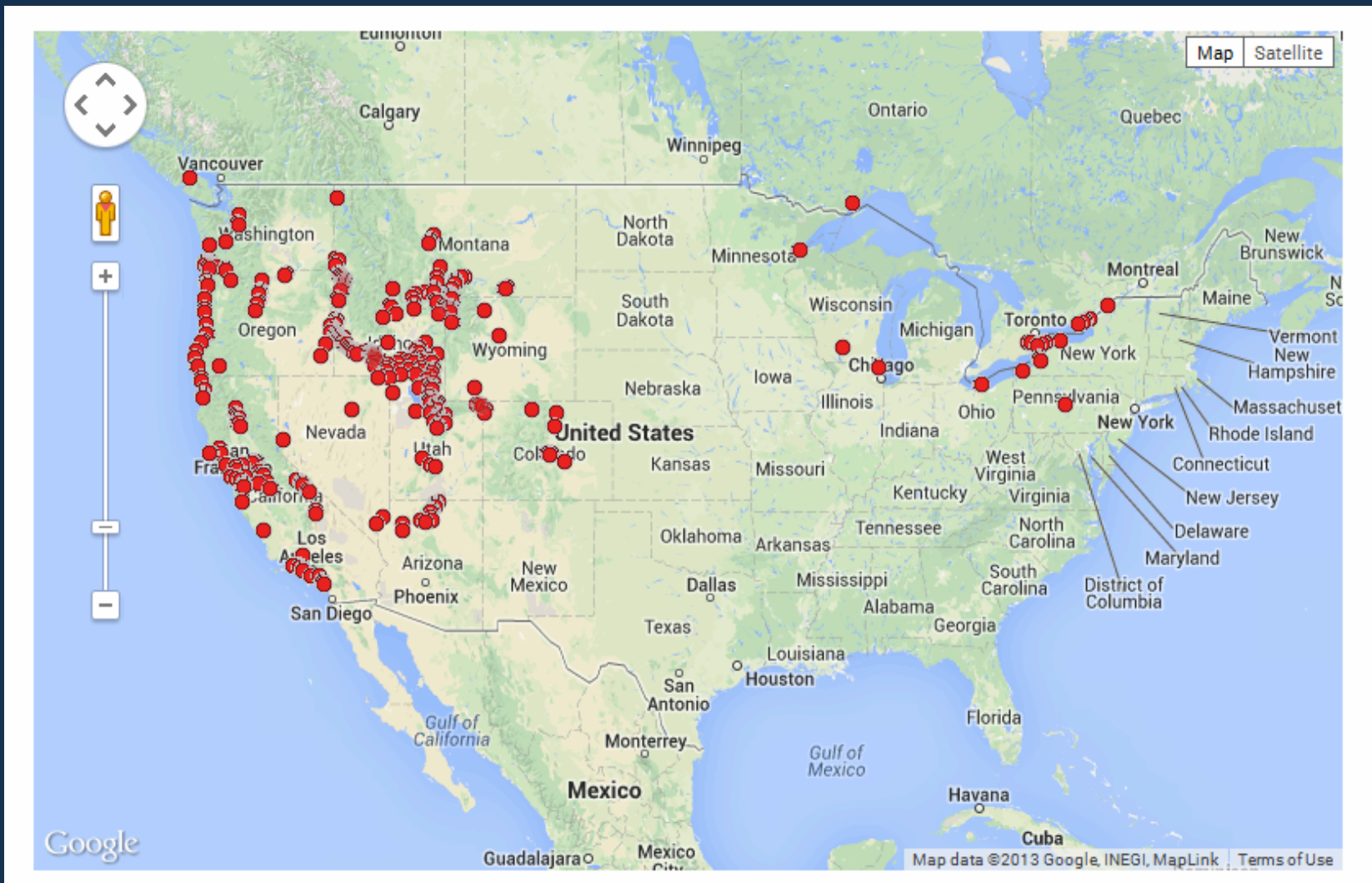
Discovery



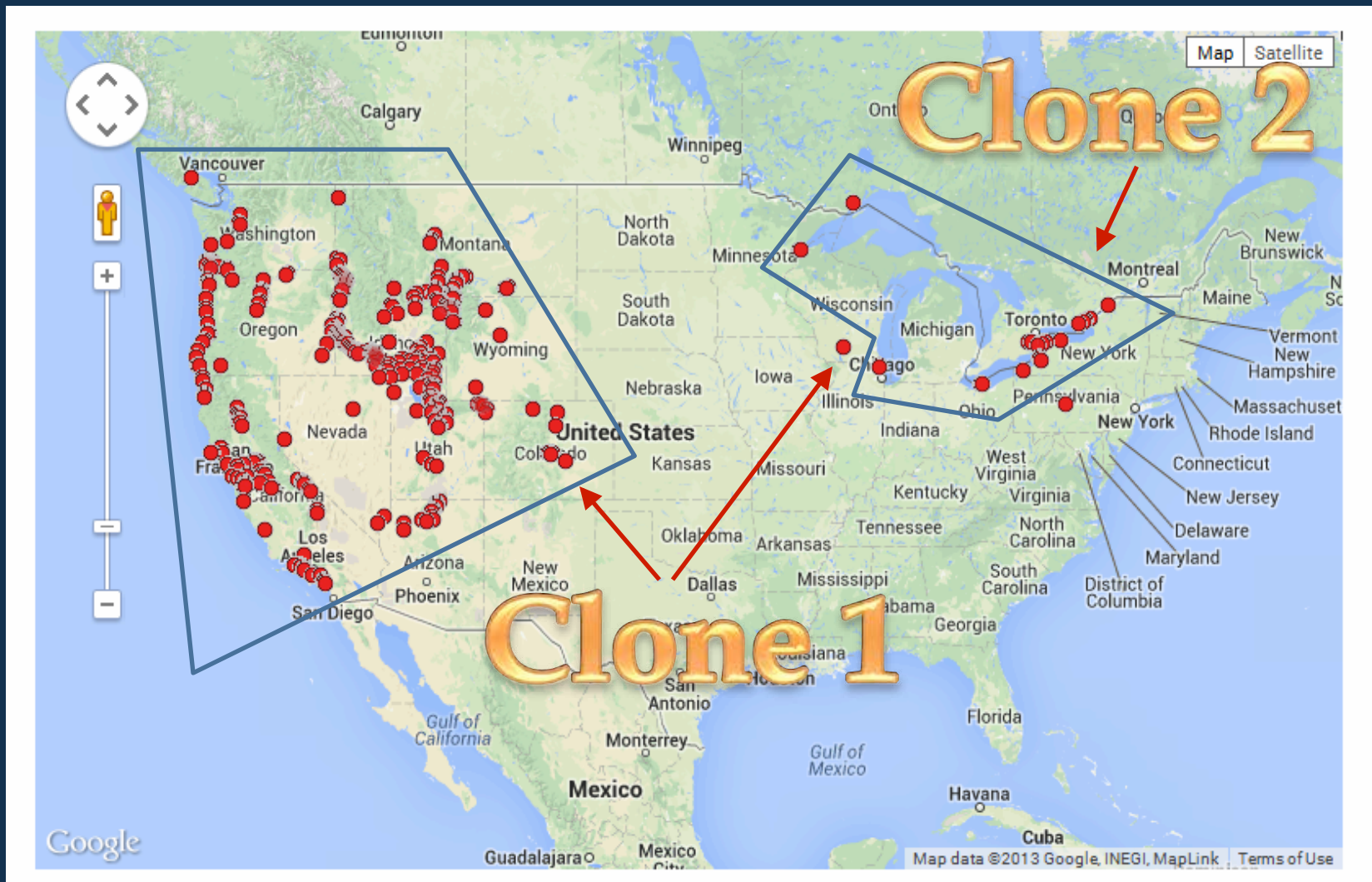
Discovery



U.S. Distribution



U.S. Distribution



Response Strategy

- Gather information
- Assess resources
- Monitor
- Prevent

Gather Information

- Biology
- Ecology
- Concern



Biology

- 1/4 inch
- 5-6 whorls
- Right-sided
- Clonal
- Move



Connie Isermann, University of Wisconsin-Stevens
Point Aquatic Biomonitoring Lab

Ecology

- Grazers
- Broad range
- Space
- Food



Concern

- Transferable
- Clonal
- Operculum



http://www.fsc.usgs.gov/Nonindigenous_Species/New_Zealand_Mudsnail/new_zealand_mudsnail.html

Assess Resources



DANE COUNTY
LAND & WATER RESOURCES
DEPARTMENT



UNIVERSITY of WISCONSIN
LA CROSSE



Monitoring

- Evaluate risk
- Benthic
- eDNA

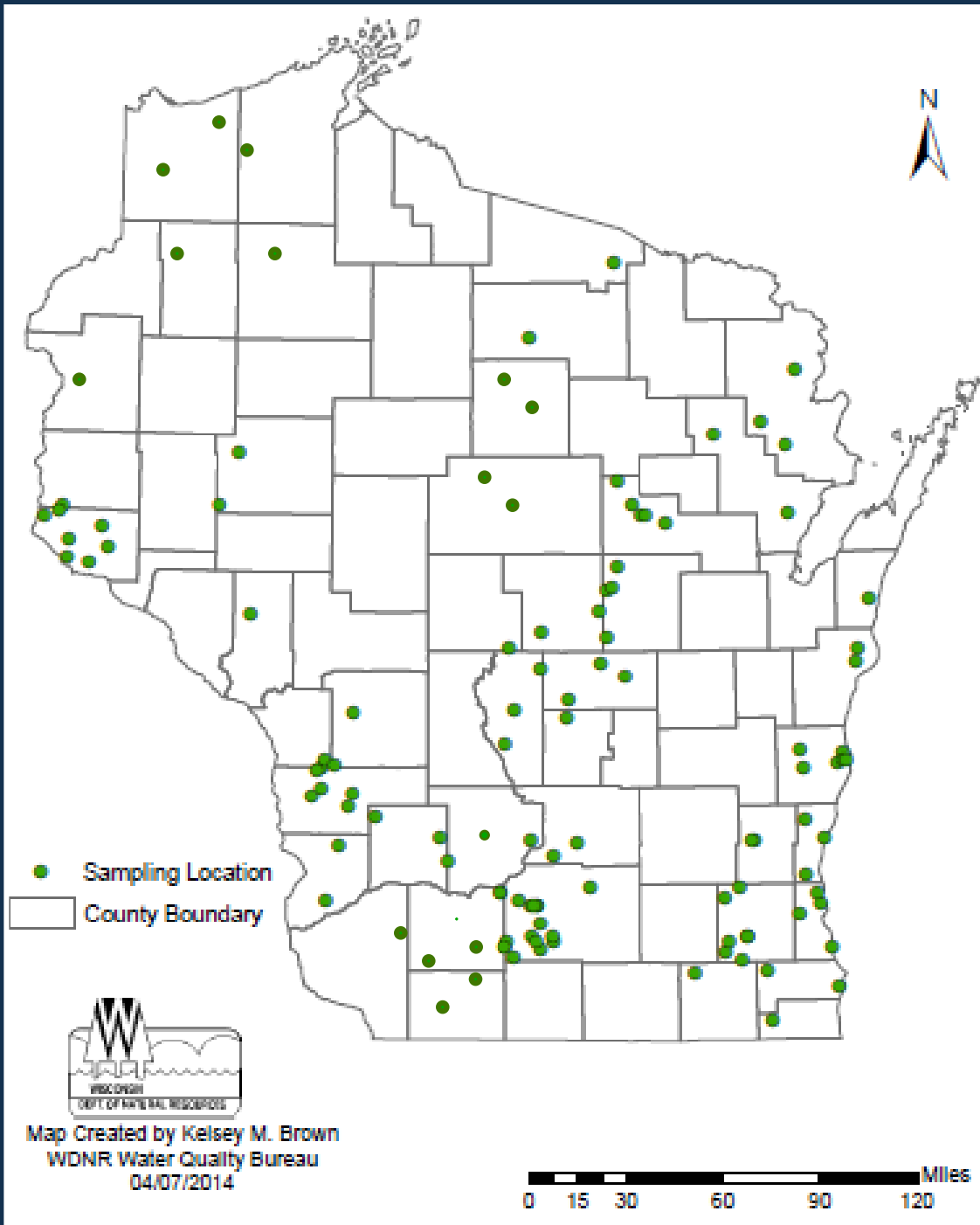


[http://www.fsc.usgs.gov/Nonindigenous_Species/
New_Zealand_Mudsnail/new_zealand_mudsnail.html](http://www.fsc.usgs.gov/Nonindigenous_Species/New_Zealand_Mudsnail/new_zealand_mudsnail.html)

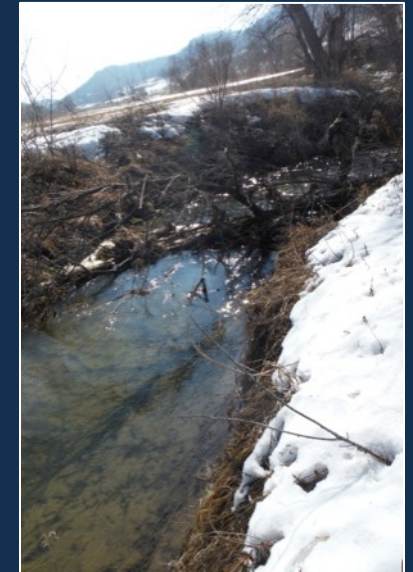
Evaluate Risk

- Staff are vectors
- Increase disinfection
 - scrub
 - rinse
 - freeze
 - Virkon





Benthic



Benthic screening



Benthic results

- ~ 100 sample sites
- ~ 60 screened
- 11 pending identification

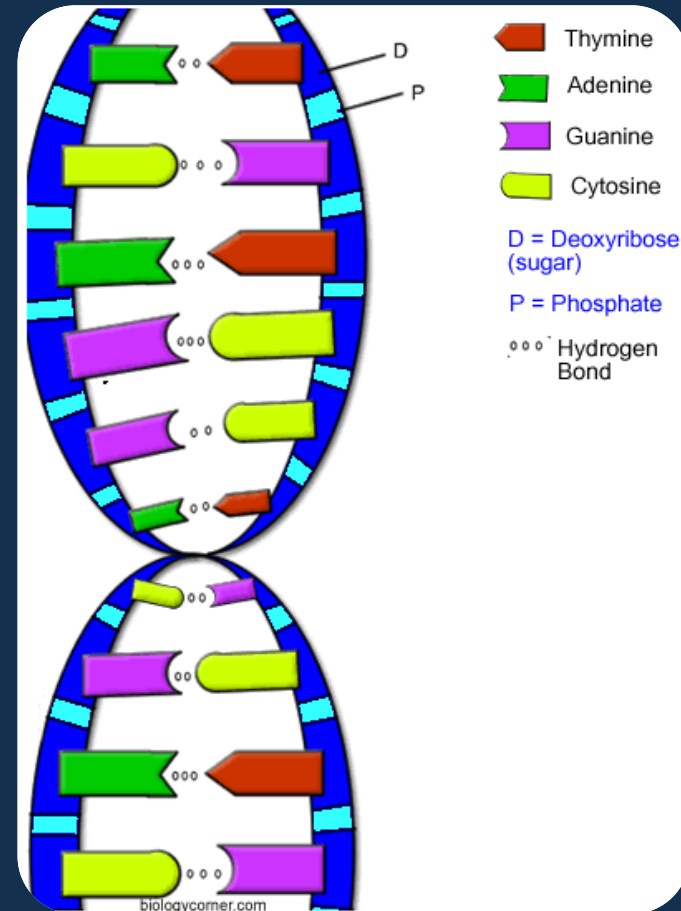


eDNA



eDNA

- DNA in environment
- Unique set
- Presence
- Abundance



eDNA

A - Z | [Directory](#) | [Locations](#)

University of Idaho



[ABOUT](#) | [ADMISSIONS](#) | [ACADEMICS](#) | [STUDENT LIFE](#) | [RESEARCH](#) | [ATHLETICS](#) | [CALENDAR](#) | [ARTS](#) | [OUTREACH](#)

[University of Idaho](#) » [CNR Home](#) » [Research & Outreach](#) » [Feature Stories](#) » [Stemming the Stream of Snails](#)

College of Natural Resources

- [Majors & Options](#)
- [Graduate Studies](#)
- [About the College](#)
- [Research & Outreach](#)
 - [Research Programs](#)
 - [Research Facilities](#)
 - [Outreach Programs](#)
 - [CNR News](#)
 - [Feature Stories](#)
 - [Submit an Item](#)
- [Student Services](#)
- [Meet Our People](#)
- [Calendar of Events](#)



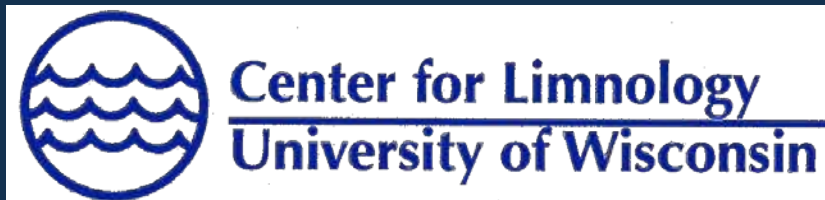
Stemming the Stream of Snails

UI research scientist investigates use of DNA to identify New Zealand mudsnails before they take over streams

eDNA

- Does it work in Wisconsin?
- Method development
- Reduce false negatives/positives
- Environmental influences

eDNA

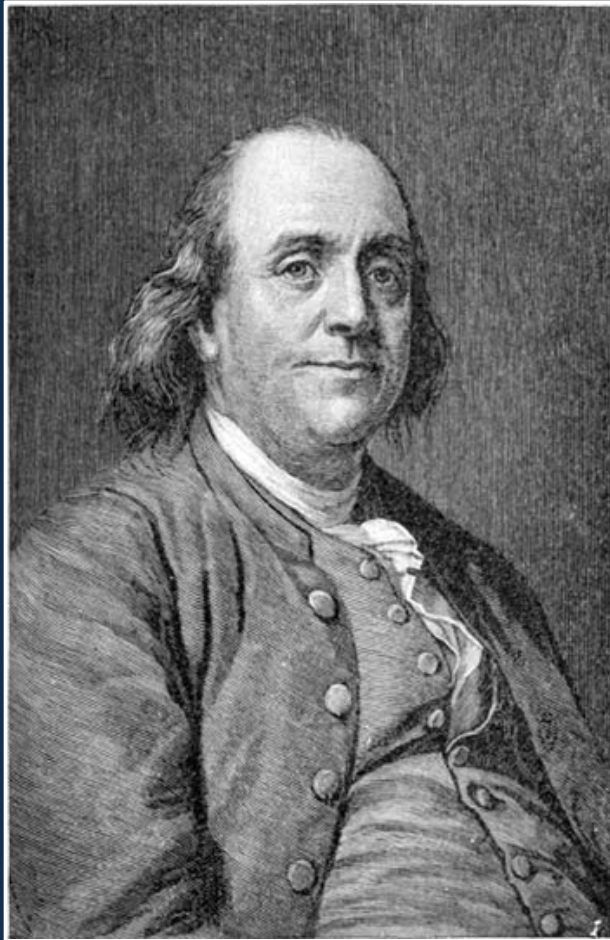


Pilot Project

- Black Earth Creek
- 15 sites
- Method
- Results soon



Prevention



“An ounce of prevention is worth a pound of cure.”

~ *Benjamin Franklin*

Prevention

- Identify target audience
- Message
- Outreach

Target audience



Target audience



Message

BEFORE leaving the water:

- **INSPECT** equipment, **REMOVE** plants and animals
- **DRAIN** all water from equipment

Message

BEFORE leaving the water:

- **INSPECT** equipment, **REMOVE** plants and animals, **SCRUB** with a stiff brush
- **DRAIN** all water from equipment
- **RINSE** equipment with tap water

Message

BEFORE entering another water:

- SWITCH gear
- RINSE in 120°F
- STEAM clean
- FREEZE for 8 hours
- SOAK in 2% Virkon for 20 minutes



River Alliance of Wisconsin

WARNING

These waters contain New Zealand mudsnails.
Help protect trout streams by preventing their spread.



- 5mm or less
- 5-6 whorls
- Right-side opening



Potamopyrgus antipodensis
New Zealand mudsnail
© Peter Doherty/USDA

**Prevent the spread
of invasive species,
It's the Law!**

For more information scan this
code using your mobile device

<http://dnr.wi.gov>



**UW
Extension**



BEFORE YOU LEAVE THIS WATERWAY:

ALWAYS

INSPECT equipment and
REMOVE attached plants
and animals (required)
DRAIN all water from
equipment (required)

BETTER

SCRUB equipment with
a stiff brush, including
crevices, and
RINSE equipment with
tap water

BEST

SOAK in 2% Virkon Aquatic
solution (2.7 ounces per
gallon) for 20 minutes and
RINSE clean at least 100
feet away from surface waters.

Outreach

- Wader wash stations



Photo: River Alliance of Wisconsin
Existing Wash Stations at Fly Shops



Photo: Bozeman Angler
Wash Stations in Greater Yellowstone Area

Outreach

- Personal contacts
- Meetings





Photo : Southern Wisconsin TU
Mike Burda with Healing Waters Participant



Black Earth Creek public meeting

Outreach

 **Upper Sugar River Watershed Association** shared a link.
November 2



Bad News on Invasive Species
campaign.r20.constantcontact.com

New Zealand mudsnails, tiny invasive snails measuring a mere four to six millimeters, have been found in Black Earth Creek in western Dane County this week by the Wisconsin Department of Natural Resources.

Like · Comment · Share 1

Upper Sugar River
Watershed Shares News
via Facebook

**New Zealand Mudsnails Discovered in
Black Earth Creek in WI**

Posted by [midway](#) on Wednesday, October 30th, 2013



+13  Like  Tweet  Pin  Share




Unfortunate news regarding New Zealand Mudsnails in Black Earth Creek in Dane County, Wisconsin. Attention anglers and hunters, there is compelling evidence that NZMS can be carried around on boots and waders. There are a number of recommended equipment cleaning techniques some of which are included in the following release from Wisconsin

TU National Blog
About Black Earth
Creek

Outreach

 [Business](#) [Licenses & Regulations](#) [Recreation](#) [Education](#) [Topics](#) [Contact](#) [Join DNR](#)  

[Previous issues](#) [View issue](#)  [Print](#)

New Zealand mud snails discovered in Black Earth Creek

Weekly News article published: October 29, 2013 by the [Central Office](#)

First occurrence in inland Midwest

Editor's note: This release was updated 11/7/2013 to clarify prevention guidelines.

MADISON - The invasive New Zealand mud snail that has been a problem in western U.S. streams has been detected in Black Earth Creek, a renowned trout stream in Dane County.

The discovery, the first in an inland Midwestern stream, is spurring the state to begin rapid response procedures to try to contain the snail, and to call on waterfowl hunters, trappers anglers and hikers to take precautions to avoid accidentally spreading the species.

"This is a significant and disappointing find in Wisconsin," says Bob Wakeman, who coordinates the Department of Natural Resources aquatic invasive species efforts. "The New Zealand mud snail can be extremely prolific, has altered the food chain and may be having an impact on fish populations in Western streams."

"We don't know what the impact will be in Wisconsin, but we do know that there is no good way to eradicate the snails so we are focusing on containing them as quickly as we can and ask for citizens' help in doing that as well."

Wakeman says DNR has notified partners of the discovery, and will work with citizens, the River Alliance of Wisconsin, Trout Unlimited, University of Wisconsin-Extension, Wisconsin Sea Grant

Current Alerts

✓ There are no [Air Quality Notices](#) for Wisconsin on Wednesday, April 23, 2014 at 9:44 pm CT. [[Refresh](#)]

[Check fire danger](#)

DNR news

News releases

Search, read, and find contact information for news releases

- Wood County septage hauler fined for disposal violations
- Interstate State Park picnic area is again open

Weekly news

Read the latest DNR Weekly News summary

- State wildlife biologists share why to Keep Wildlife Wild
- Deer Management Assistance Program enrollment begins April 29

Outdoor report

Learn about outdoor observations from around the state

- Spring continues to be a tease, and Mother Nature is presenting many c...
- What a difference a week can make in the Northwoods. Last week people ...

Next steps

- Monitoring
 - Benthic
 - eDNA
 - Citizen scientists
- Outreach

Lessons Learned

- Strong early response
- Disinfection
- Communication
- Environmental improvements
- Research needed
- Prevention is key

Questions?

Maureen Ferry

WDNR

(608) 261-6450

Maureen.Ferry@Wisconsin.gov



DANE COUNTY
LAND & WATER RESOURCES
DEPARTMENT



Golden Sands
Resource Conservator
& Development Council



RIVER ALLIANCE
of WISCONSIN



UW
Extension
University of Wisconsin-Extension

