From Shore to Shore

A publication of the University of Minnesota Shoreland Education Team

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Introducing Extension's Newest Water Resources Educator

Annette Drewes joined University of Minnesota Extension as a water resource educator in February at the Extension Regional Office in Crookston. Annette is an educator with a passion for connecting people with the landscape that they live and recreate in. For more than 20 years, she has enjoyed engaging communities in their understanding and respect for local and regional watershed issues. Annette obtained her M.S. in Environmental Studies at Bemidji State University, which led to positions with the Minnesota Department of Natural Resources and the Office of Environmental Assistance focused on watershed and aquatic education for nine years. In 2008, Annette received her Ph.D. from the University of Wisconsin-Madison. Annette co-authored the Minnesota Environmental Literacy Scope and Sequence, setting state standards for environmental education. In addition, she is a facilitator for the State Environmental Education Roundtable, a national organization focused on integrating environmental learning across school curriculum, with a place-based emphasis.

In her new position, Annette will focus on program development and leadership in partnership with North Dakota Extension and the International Water Institute in the Red River Basin. A large portion of her work will be with River Watch, a water quality-monitoring program geared for high school students and communities. You can reach Annette at 218-281-8027, aldrewes@umn.edu.

More Events

Linking Land Use to Water Resources in our Community NEMO workshop
Date: July 21
Location: Hinckley, MN
More Info: http://northlandnemo.org/images/Mora_Hinkley_Invite.pdf

Linking Land Use to Water Resources in our Community NEMO workshop
Date: July 26
Location: Mora, MN
More Info: http://northlandnemo.org/images/Mora_Hinkley_Invite.pdf

Stormwater Practices and Policies for Clean Lakes
Date: July 29
Location: Chisago Area Lakes LID
More Info: http://northlandnemo.org/images/07282011ChisagoSavetheDate.pdf

For the most current listing of Shoreland Education workshops, visit www.extension.umn.edu/shoreland.

Turfgrass Maintenance with Reduced Environmental Impacts
Date: July 12
Location: Rochester
More Info: Theresa Sowards, 651-480-7715, sowar006@umn.edu

Turfgrass Maintenance with Reduced Environmental Impacts
Date: July 13
Location: Eden Prairie
More Info: Theresa Sowards, 651-480-7715, sowar006@umn.edu

Winter Salt Management for Parking Lots and Sidewalks
Date: September and October
Locations: Brainerd (Sept. 14th), Fergus Falls (Sept. 21st), or Savage (Oct. 13th)
More Info: Theresa Sowards, 651-480-7715, sowar006@umn.edu

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Fishing Pros Join the AIS Fight

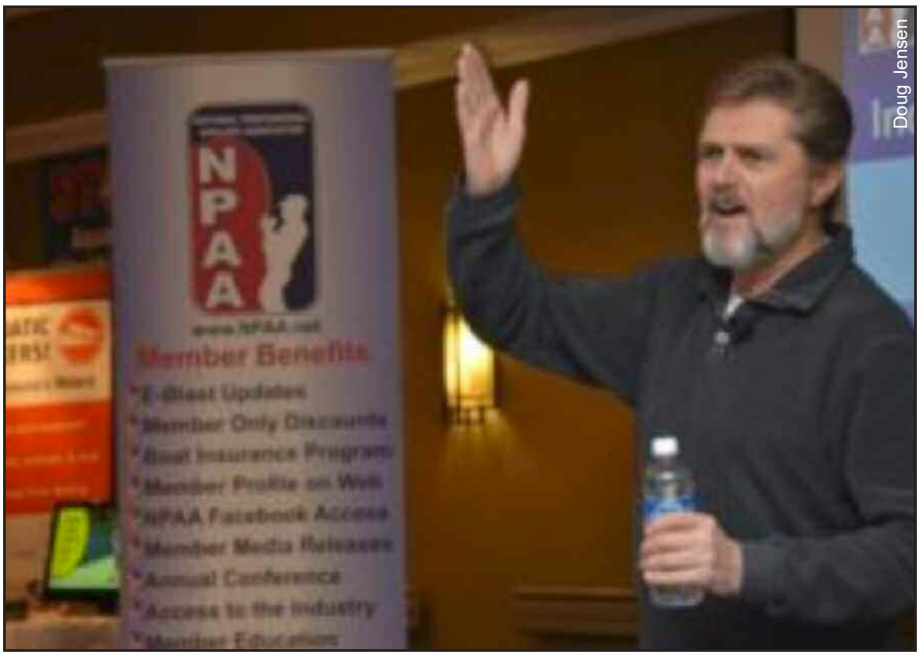
Doug Jensen, U of M Sea Grant, 218-726-8712, djensen1@umn.edu

Professional anglers love to fish. When they fish, they do so for the camaraderie, to hone their skills, and in hopes of becoming the next Fishing Champion. Fishing professionals recognize that protecting the waters where they fish is just as important as earning the respect of their peers and recreational anglers. Ask any of them; they are the last folks who want to mess up fishing by spreading aquatic hitchhikers.

Fishing professionals are joining the aquatic invasive species (AIS) fight. Led by Wisconsin Sea Grant, the Great Lakes Sea Grant Network, including Minnesota, is teaming up with four professional fishing groups to spread the word about how to help *Stop Aquatic Hitchhikers!*™ Throughout the 2011 fishing season, Sea Grant AIS experts and angler group members will speak to professional anglers from tournament stages, at thousands of seminars, in guide boats, and wherever they travel about the threats that AIS pose to our lakes and rivers.

"AIS messages will also be incorporated into youth fishing clinics," said Phil Moy, Wisconsin Sea Grant's AIS outreach specialist. "Solidifying those messages at an early age will pay off in future fishing years. We really value the cooperation from the national angler groups and are pleased that aquatic invasive species prevention is endorsed by these groups."

Pat Neu, Executive Director for the National Professional Anglers Association (NPAA) agreed. "We will make educational materials available to our members to help them understand and explain the severity of the invasive species problem," he said. One way the NPAA, an organization with over 800 members, has already done that is through a special all-member training session last January in Bloomington.



Al Linder, legendary professional angler, speaks at the National Professional Angler Conference, Bloomington, January 2011.

Over the next two years, Sea Grant AIS experts will help tournament operators put together Tournament Hazard Analysis and Critical Control Point Plans (or Tourney HACCP, pronounced *has-sip*), which will help eliminate the potential risk for spreading AIS via tournament operations and by tournament professional anglers.

Tournament anglers frequently move between bodies of water over short periods of time, a behavior known to facilitate the movement of invasive species such as Eurasian watermilfoil, curlyleaf pondweed, zebra and quagga mussels, spiny waterfleas, or possibly viral hemorrhagic septicemia virus. Like recreational boaters and anglers, tournament anglers can spread AIS if they do not take precautions at water accesses. Sea Grant is providing expertise to help them combat the spread of AIS. Knowing the threats and what to look for are good starts. Knowing where to look and what to do is critical. Besides NPAA, other partners on this initiative are the Cabela's Masters Walleye Circuit, The Bass Federation, and Wildlife Forever. North American Media Group will broadcast tournaments providing more exposure and will run articles in their popular North American Fisherman magazine, which will reach over a half-million readers encouraging them all to "*Stop Aquatic Hitchhikers!*" ■

River Watch: Red River Valley Students Learning and Doing

Annette Drewes, U of M Extension, 218-281-8027, aldrewes@umn.edu

Minnesota, the land of 10,000 lakes, is also home to nearly 70,000 miles of rivers and other moving waters. Rivers move soil and carry nutrients and pollutants into the greater rivers such as the Mississippi, Minnesota and the Red River of the North. Just how good is the water we are sending on to other states and in the case of the Red River, other countries? Students in the communities of Climax, Barnesville, Bagley and Crookston, to name a few, are finding out.

Combine motivated high school students, technical water quality training, and local rivers and you have the basis for the River Watch program. Since 1995 schools, watershed districts and River Watch staff from the International Water Institute have worked together to support citizen-based water quality monitoring in the Red River Basin. Students gain hands-on experience with real world technology and a greater understanding of their local area. The communities benefit by having access to monthly measures relevant to their local waterways, ensuring a scientific data set that can be used to assess water quality changes when they occur.

I like the notion of an applied learning program and not a strictly out-of-the-book program. Learning does not happen through just reading but applying what you have learned to practical uses." student quote from a River Watch partcipant

The Red River Basin, stretching across eastern North Dakota and western Minnesota, encompasses a land area of nearly 40,000 square miles. Of the major basins located in Minnesota, the Red River is the only river that flows northward, emptying into the waters of Lake Winnipeg in Manitoba, Canada.

Meandering for 394 river miles along the Minnesota/North Dakota boundary, the Red River starts at the confluence of the Otter Tail and Bois de Sioux rivers near Breckenridge, Minnesota. The flat land through which the river flows is the former lakebed of glacial Lake Agassiz. Used primarily for agriculture, the region has numerous drainage ditches and 16 major streams that drain into the Red River.

On the Minnesota side, major tributaries to the Red include the Sand Hill, Red Lake, Wild Rice and Roseau rivers. It is these tributaries, along with others, that students monitor for water quality once a month during open water season. Conductivity, dissolved oxygen, temperature, turbidity, depth and pH are measured and recorded at each river or drainage site. Student teams often monitor multiple sites, working with their local watershed district to identify strategic areas.

Collected data is uploaded onto the River Watch website and provided to the cooperating watershed district. Students compile their data over the winter, preparing for the annual River Watch Forum held in Crookston at the University of Minnesota campus each March. Here they share their results with the other River Watch schools, watershed district staff and local water professionals, including staff from the International Water Institute.

To learn more about the River Watch program, log on to www.internationalwaterinstitute.org or contact Wayne Goeken at wrg@gvtel.com or Annette Drewes at aldrewes@umn.edu. More information is also available through the River Watch fact sheet: www.internationalwaterinstitute.org/forms/River%20Watch%20Fact%20Sheet.pdf.

River Watch by the numbers:
- No. of years implemented: 16
- No. of schools participating: 25
- No. of monitoring sites : 130+
- Total no. of bodies of water monitored to date: 200 ■

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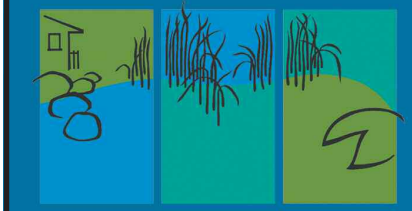

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A publication of the Shoreland Education Team, dedicated to educating Minnesota citizens about shoreland management to improve water quality, habitat, and aesthetics of our lakes and rivers.

From Shore to Shore is available in hard copy and electronic formats. Archived issues are available online at www.shorelandmanagement.org

To subscribe or unsubscribe, please contact Barb Anderson at bja@umn.edu or 218-998-5787.

Sea Grant Minnesota

University of Minnesota Extension

Pails of Snails!

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You can call them Chinese, mystery, banded, or trapdoor snails. Whatever you call them, large golf ball-sized, olive-colored or heavily banded Gastropods are washing up in droves on the shores of some Minnesota lakes. They can negatively impact shores and lakes in several ways, one of which is stinking up shorelands and beaches during summer.

Native to Asia, Chinese mystery snails (*Bellamya chinensis*) were shipped to California in 1892 for the Asian seafood market. They were discovered in the wild on the East Coast in 1915, likely the result of release by someone with an aquarium. Banded mystery snails (*Viviparus georgianus*) are common throughout the Mississippi River. Whether from the West, East or South, these aquatic snails are invading Minnesota lakes and rivers, causing noticeable changes.

Currently, Chinese mystery snails are found in more than 90 bodies of water in Minnesota and banded mystery snails occupy 60. Both species can be found in lakes, ponds, rice paddies, irrigation and roadside ditches. In Minnesota, they are regulated invasive species meaning they can be used for human consumption and in aquaria, but that may change if the Minnesota DNR designates them as a prohibited species.

Mystery snails feed on zooplankton and benthic algae. They outcompete native species for food and space. Chinese mystery snails can spread human intestinal flukes, if improperly prepared for human consumption. They can also spread trematode parasites found in native mussels. Banded mystery snails can cause mortality of largemouth bass embryos and are the intermediate host of trematodes that kill waterfowl. Shells can clog screens of water intake pipes.

Curiously, mystery snails give birth to live young through a reproductive strategy known as ovoviviparity; the eggs are retained in the body of the female until they are ready to hatch. The little snails grow for four years, breed, then die, a life cycle strategy called semelparity. The dead four-year-olds and others that have perished often wash up on shore.


Jennifer Bury, Minnesota DNR

The moniker "trapdoor snail" comes from their unique shell. Their shell home comes with a "door" that the snail can close to avoid unfavorable environmental conditions like desiccation (drying out) and chemical treatments. That means that they are nearly impossible to control once established.

How the mystery snails are spreading is a bit of mystery (pardon the pun). Historically, they got into the wild via release by aquarists and consumers who purchased them from live food markets. It's possible that young snails are moved around in bait buckets and the bilges of watercraft; however, there is little evidence to support this.

How can you help? Never move species from one body of water to another. Don't release them into the environment. If you have unwanted snails or other pets, seek these alternatives to release:

- ***Contact*** a retailer for proper handling advice or possible returns
- ***Give*** or ***trade*** with another aquarist, pond owner, or water gardener
- ***Donate*** to a local aquarium society, school, or aquatic business
- ***Seal*** aquatic plants in plastic bags and dispose in the trash
- ***Contact*** a veterinarian or pet retailer for guidance on humane disposal of animals ■