

## Douglas County Aquatic Invasive Species Program

**Carrie Sanda**

**Outreach Specialist, UWS-LSRI  
Douglas County AIS Coordinator**



## AIS Program Beginnings

- **Lake Associations**
- **2008 WDNR grant**
  - AIS Coordinator
  - Develop Strategic Plan
- **2010 WDNR grant**
  - Implement Strategic Plan
  - New AIS Coordinator



## AIS Strategic Plan Goals

- 1) AIS infestations already existing in the County are controlled or eradicated and prevented from spreading; new AIS infestations are prevented.
- 2) Communication between lake and river residents, watershed groups, visitors, and other waterway organizations is improved and education is provided for all users.
- 3) The County and municipalities participate in the protection of water resources and understand how critical the resource is to the County, municipalities, northern Wisconsin and the region.
- 4) Sustainable funding for AIS research, monitoring, planning, restoration and education activities are adequately provided by private, local, County, state, federal, and tribal sources.

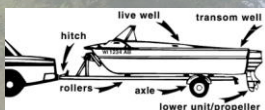
## Educational & Outreach

- **Workshops**
  - Clean Boats, Clean Waters
  - Citizen Lake Monitoring Network
  - Riverine Early Detectors



## Education & Outreach

- **Boat Landing Inspectors**
  - Lake Superior & inland
  - Portable boat decon. unit
- **Boat Landing Signs**



## Education & Outreach

- **Media stories**
- **County website**
- **County AIS Listserv**
- **Informational booths at events**
- **Presentations to local groups & lake associations**



## Purple Loosestrife Beetle Bonanza

- 2012-2013 school year
- Raising P.L. beetles
- Field trip to adopted lake



## Controlling Purple Loosestrife

- Lake association outreach
  - Presentations, newsletters, biocontrol
- Targeted mailing to county residents
- County biocontrol program

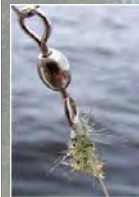


## AIS Monitoring

- County monitoring began in 2008
- Seven lakes monitored in 2011
  - Selection criteria
- 2012 monitoring plan



## Monitoring for:



Spiny Waterfleas



Eurasian Water Milfoil



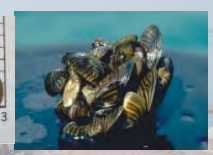
Purple Loosestrife



Curly Leaf Pondweed



Mystery Snails



Zebra Mussels



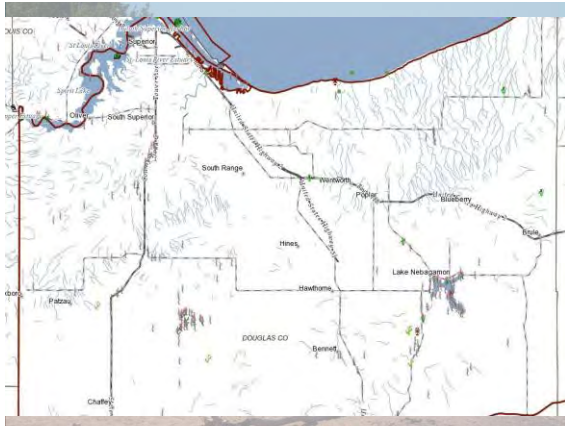
Hydrilla



Didymo  
"Rock Snot"

Waterway Name	Basin	AIS Present
Amnicon Lake	Lake Superior	Curly-leaf pondweed <sup>2</sup> , Eurasian watermilfoil <sup>4</sup>
Amnicon River	Lake Superior	Round goby <sup>1</sup> , ruffe <sup>1</sup> , sea lamprey
Bois Brule River	Lake Superior	Alewife <sup>1</sup> , ruffe <sup>1</sup> , threespine stickleback <sup>1</sup> , watercress <sup>1</sup>
Cranberry Lake	Saint Croix	Eurasian watermilfoil
Crystal Lake	Saint Croix	Freshwater jellyfish
Eau Claire River	Saint Croix	Rusty crayfish
Lake Minnetonka	Lake Superior	Rusty crayfish <sup>1</sup>
Lake Nebagamon	Lake Superior	Rusty crayfish
Lake Superior	Lake Superior	Eurasian ruffe, Eurasian watermilfoil, fishhook waterflea, flowering rush, New Zealand mudsnail, round goby, spiny waterflea, zebra mussels, and sea lamprey
Lower Eau Claire Lake	Saint Croix	Rusty crayfish
Middle River	Lake Superior	Ruffe <sup>1</sup>
Minong Flowage	Saint Croix	Curly-leaf pondweed, Eurasian watermilfoil, rusty crayfish
Mud Lake	Saint Croix	Zebra mussels
Saint Croix Flowage (Gordon)	Saint Croix	Curly-leaf pondweed, Eurasian watermilfoil, Chinese and Japanese mystery snails
Saint Croix River	Saint Croix	Chinese mystery snail, Japanese mystery snail, rusty crayfish, curlyleaf pondweed <sup>2</sup> , Eurasian watermilfoil <sup>4</sup>
Saint Louis River	Lake Superior	Curly-leaf pondweed, zebra mussels, alewife <sup>1</sup> , round goby <sup>1</sup> , threespine stickleback <sup>1</sup> , New Zealand mudsnail <sup>1</sup>
Superior Bay, Lake Superior	Lake Superior	Curly-leaf pondweed, Eurasian watermilfoil, quagga <sup>1</sup>
Upper Saint Croix Lake (Whitfish (Barron) Lake	Saint Croix	Banded mystery snail, rusty crayfish <sup>5</sup>
	Saint Croix	Rainbow smelt <sup>1</sup> , spiny waterflea <sup>2</sup>





## Other Duties and Projects

- **County No Transport Ordinance**
- **Contact for citizens**
- **Resource for other agencies/groups**
- **Seek grant funding for continuation of County AIS program & other projects**

**Thank you!**

**Carrie Sanda**  
**[csanda@uwsuper.edu](mailto:csanda@uwsuper.edu)**  
**[www.douglascountywi.org](http://www.douglascountywi.org)**

## Aquatic Invasive Species in Douglas County

**Carrie Sanda**  
**Douglas County AIS**  
**Coordinator**



## The Public Trust

Wisconsin lakes and rivers are public resources, owned in common by all Wisconsin citizens under the state's **Public Trust Doctrine**. Based on the state constitution, it declares that all navigable waters are "common highways and forever free", and held in trust by the Department of Natural Resources.

## What does this really mean?

The public has the right to access waterways to fish, swim or just motor around...



Riparian landowners have special rights to place piers to access public waters



## Our Lakes and Streams...

Are Our  
Responsibility!



## The Douglas County Land & Water Conservation Department

Work with landowners on best management practices on their farms and shorelands



Work on projects to restore fish habitat



Received a 2010-2012 Wisconsin DNR Aquatic Invasive Species Grant

## The Douglas County Aquatic Invasive Species Program

- Provide training workshops for CBCW/CLMN
- Conduct AIS monitoring on county lakes
- Provide AIS information on county web page
- Provide AIS education to the community
- Seek grant funding to continue AIS work





## What are Aquatic Invasive Species?



White Perch, John Lyons, WI DNR

Aquatic species that never existed here naturally

## Where Did They Come From?

Eurasia	77
Atlantic	18
Asia	12
Mississippi	7
Pacific/Southern U.S.	7
Unknown	18
<b>Total:</b>	<b>139</b>

(data taken from Mills et al. 1993)

8

## How did they Get here?

Mechanism	Number of Species	Percent <sup>1</sup>
Ballast Water Discharge	30	35
Cultivation	19	22
Stocked Fish	12	13
Unknown	9	10
Diseases and Parasites with Fish	9	10
Canals and Diversions	6	7
Aquarium Releases	4	5
Live Bait Releases by Anglers	3	3
Recreational Boaters	2	2
Railroads and Highways	1	1
Packaging Hitchhiker	1	1
Other Release	1	1

<sup>1</sup>exceeds 100% since six species arrived via multiple pathways

## Natural and not so natural modes of transport



## The Problem with Invasive Species

- Can disrupt complex communities of plants and animals that have evolved over thousands of years.
- Expensive and difficult to control; nearly impossible to eradicate
- Harm recreation
- Can alter food web



Photograph by Jane Alden Stevens  
Courtesy of the Lake George Association  
Girl swimming in milfoil

## Native vs. Non-Native Species

- **Native species traits:**
  - Have narrow food preferences
  - Require certain spawning habitat
  - Intolerant of poor water quality
- **Invasive species traits:**
  - High reproductive rate
  - Mature quickly
  - Eat various types of food
  - Tolerate poor water quality
  - Easily adapt to new habitats
  - Few natural predators

## Are all Non-Native Species Invasive?



Brown trout

Rainbow trout



87 invasive species, 27 are a problem

## Aquatic Exotics In Wisconsin

### • A Quick look at six recent invaders:

- Spiny water fleas
- Zebra mussels
- Ruffe
- Round goby
- Purple loosestrife
- Eurasian milfoil

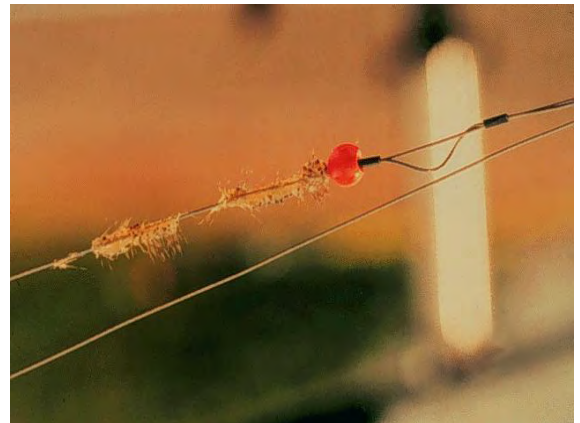


## Spiny and Fishhook Water Fleas

5mm Long  
Max. 1/3"



Long spines make them hard for fish to eat  
Foul fishing lines and nets (look fuzzy or gooey)  
Introduced via ballast water from Europe  
Present in all the Great Lakes



## Zebra Mussel



Max. size ~ 2"

© Eric Sisk Grant

Introduced via ballast water from Europe  
First found in Lake St. Claire (MI) in 1988  
Eats plankton, filters up to 1 liter of water per day  
Produce 40,000 eggs/year  
Densities up to 700,000 per sq. meter = 43,000 on a piece of notebook paper

## Zebra Mussels Colonize Lots of Things







Zebra mussels get moved to new lakes by water in and weeds on boats.



## Ruffe

3-4" Long  
Max. 10"

First found in 1986 in Lake Superior  
Introduced via ballast water from Southern Europe  
Affects perch, whitefish and minnows  
Eats fish eggs, bottom-dwelling insects and worms  
Now Present in Lakes Superior, Huron and Michigan



## Round Goby

3-4" Long  
Max. 10"

Introduced via ballast water from Europe  
Affects sculpins and other bottom-dwelling species  
Eats fish eggs, bottom-dwelling insects and worms  
Present in all the Great Lakes, Chicago River



## Purple Loosestrife

4-Sided Stem  
2 Million Seeds per Year  
Displaces Native Vegetation  
Destroys Habitat

Controlled by:  
Physical Removal  
Beetles



## Eurasian Watermilfoil

- Displaces native vegetation
- Clogs boating & swimming areas
- Spread by boaters through fragmentation

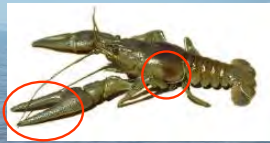
Control:  
Northern milfoil beetle  
Chemical



## Eurasian compared to Northern milfoil



## Rusty Crayfish



- Native to southern U.S.
- Introduced with bait
- Aggressive
- Destroys vegetation as they feed
- Displaces native crayfish
- Present in many Wisconsin lakes
- Often spread as bait

## Other Aquatic Invasives of Concern



Faucet Snail

Quagga Mussel



Sea Lamprey



New Zealand Mudsnail



Larry Mayer

Daniel L. Gustafson



Curly Leaf Pondweed

## Asian Carp

- Brought into US to clean catfish farm ponds
- Escaped in 1993 due to flooding
- Spread through Mississippi River & its tributaries
- Voracious eaters, can cause native fisheries to collapse
- September 2011
  - Traces of Silver Carp DNA found below the St Croix Falls Dam
  - Bighead carp caught in lower Wisconsin River
- No young fish or other signs of reproduction have been found in Wisconsin waters to date

## Asian Carp

- Bighead
- Silver
- Black
- Grass

## Common Carp

- Present in Lake Superior for over a century

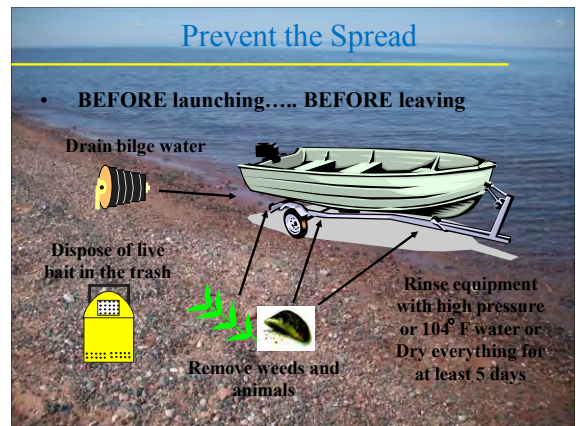
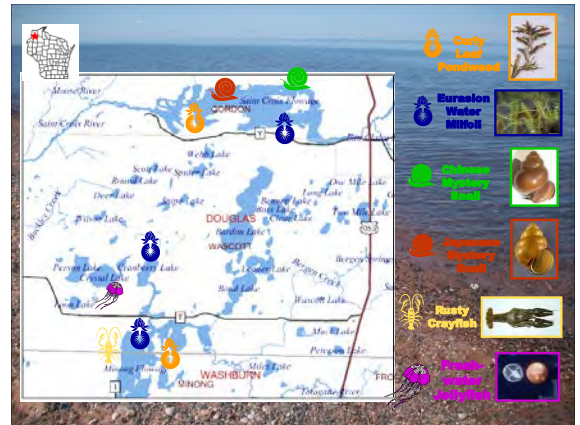
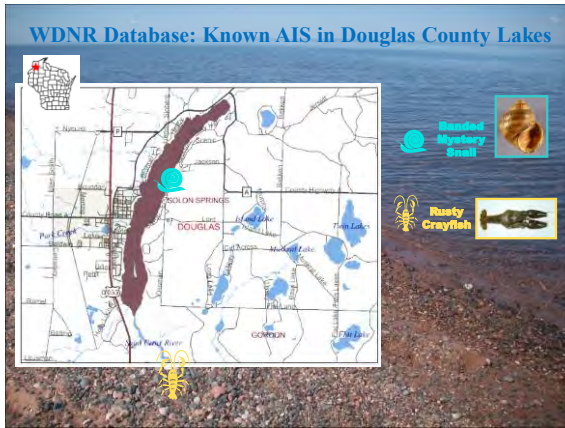


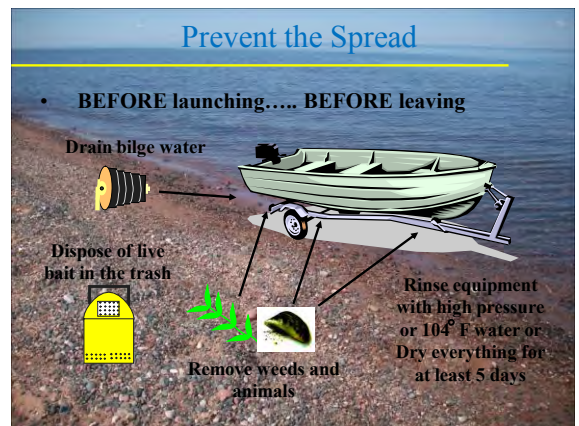
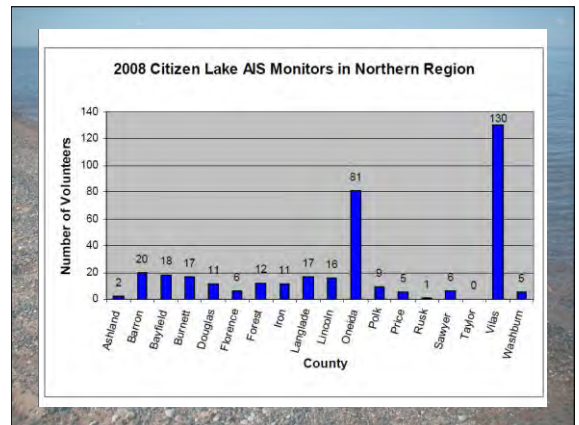
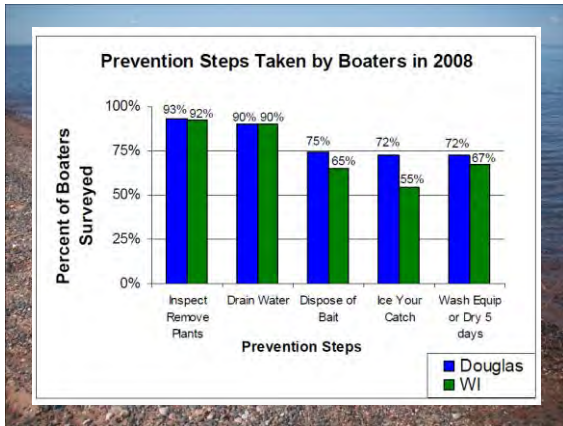
## What is Being Done?

- NR 40 & Bait Laws
- Minnow harvesting closed on VHS affected waters. Minnows can be harvested on other non-VHS affected waterways but can only be used on the same water body they are collected from AND never transported away from it.
- CSSC electro-barrier (25 mi from Lake Michigan)
  - Recent legal efforts against Chicago Area Waterway System unsuccessful
- Education











## What to do if you find AIS

- 1) Collect a Specimen
- 2) Preserve in Freezer
- 3) Contact AIS Coordinator or WDNR



Thank You!

Contact Information:  
Carrie Sanda, AIS Coordinator  
(715) 394-8525  
csanda@uwsuper.edu

## Purple Loosestrife Beetle Bonanza

### ■ Aquatic Invasive Species

- Carrie Sanda, Douglas County AIS Coordinator
- Farrah Wirtz, AIS Program Assistant



## Preview

### ■ AIS

- What & How

### ■ Purple Loosestrife

- What & Why

### ■ Planting Rootstock

- Observe & Take Care

## Wait...What are Aquatic Invasive Species?

### ■ Aquatic Invasive Species:

Plant or animal that lives in or near the water and never existed here naturally.



## Examples of AIS



## How Did They Get Here?

### The Main Culprits:

1. Ballast Water  
Zebra Mussels
2. Cultivation  
Water Hyacinth
3. Stocked Fish  
Asian Carp
4. Releases  
Rusty Crayfish



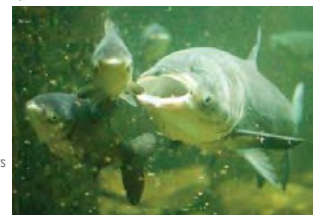
## The Problem with Invasive Species

### ■ Native species traits:

- Have narrow food preferences
- Require certain spawning/reproductive habitats
- Intolerant of poor water quality

### ■ Invasive species traits:

- High reproductive rate
- Mature quickly
- Eat various types of food
- Tolerate poor water quality
- Easily adapt to new habitats
- Few natural predators





## The Effect of Invasive Species

- Disturb the food web
- Expensive and difficult to control
- Almost impossible to get rid of
- Hurt recreational activities: swimming, boating, fishing



## Are all Non-Native Species Invasive?



## Purple Loosestrife

- Came in 1800's
- Brought by settlers for gardens
- Seeds in soil used as ship ballast



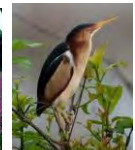
## Characteristics

- Opposite leaf pairs alternate at 90° from each other
- Magenta flower stalks
- Square/hexagonal woody stem
- Lance-shaped leaves



## Purple Problem

- Dense patches can take over an area
- Hurt native plant populations by out-competing them
- Decreases overall plant diversity and affects wildlife



## Controlling Purple Loosestrife

- Spraying herbicides
- Pulling by hand
- Mowing



## Biological Control

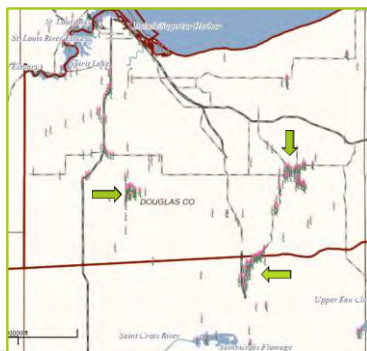
### Definition:

Using a pest's own naturally occurring predators, parasites, or pathogens to control its spread.

- Galerucella Beetles feed, live and reproduce exclusively on Purple Loosestrife



## Purple Loosestrife in Douglas County



## Planting Purple Loosestrife

1. Fill planter with dirt about 1/3 full
2. Place rootstock chunk in planter
3. Cover with dirt, about 2" over the rootstock
4. Place planter in container with about 2" of water in bottom
5. Place under grow lamp
6. Label with your class info





## Plant Care

1. Make sure the plants have a constant supply of water, about 2" deep in the white containers
2. Timer will turn on the grow lamp each day
3. Make sure the emerging stems don't get damaged



## Journaling

### Journal Format:

1. Date
2. Take measurements and make observations  
NOT opinions: "The plant is cool looking." VS. "The plant has grown 2 inches to a total height of 18 inches."
3. Drawing of plant

## Coming up...

- April - Introduce *Gallerucella* beetles and place on plants to raise beetles. 8 Journal observations.
- May and June - Field Trip
  - Canoeing
  - Water Quality Measuring
  - Macroinvertebrate sampling
  - AIS Monitoring
  - Aquatic Plant Identification
  - Critical Habitats
  - Release Beetles

## Wild Cards Activity

1. List the six Aquatic Invasive Species and what they are (plant, fish, disease, etc.)
2. What impact does each have on native species?
3. Which of the six do you think is the most invasive species? Why?
4. How can you help prevent the spread of invasive species?

## Purple Loosestrife Beetle Bonanza!

- **Aquatic Invasive Species**
  - Carrie Sanda, Douglas County AIS Coordinator
  - Farrah Wirtz, AIS Program Assistant



## JEOPARDY!

What does AIS stand for?

Give an example of an AIS.

How do AIS affect native species?

What are our names?

Who do we work for?

What is the name of the invasive plant we are trying to control?

What type of the insect we are going to be raising? What is it called?

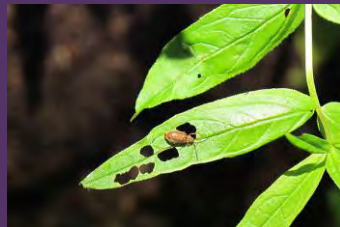


## Preview

- **Host Specificity**
  - Beetle Smorgasbord Experiment
- **Biological Control**
- **Galerucella Beetles**
- **Beetle Life Cycle**
- **Journaling**

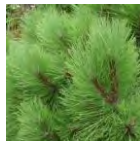
## Beetle Host Plant Specificity

- Galerucella only feed on Purple Loosestrife (as far as we know)
- Adults can fly to seek out new stands of Purple Loosestrife.



## Beetle Smorgasbord Experiment

So.... Let's see if we can tempt the beetles to eat something besides Purple Loosestrife...



## Journal Entry

- Date: **April 5, 2013**
- Title of Experiment: **Beetle Smorgasbord**
- Purpose: **To test host plant specificity of the galerucella beetle**
- Methods: **Place three plant samples in a container with a Purple Loosestrife leaf. Record beetle location & activity as time passes.**



## Journal Entry

Leaf #1	Leaf #2
Leaf #3	Purple Loosestrife Leaf

## Journal Entry

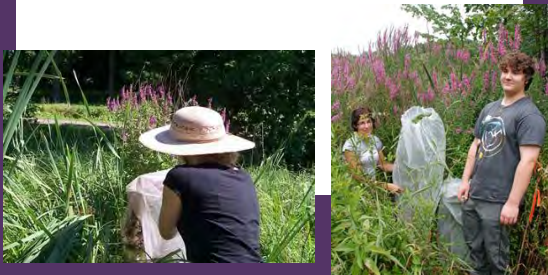
## • Observations:

# of minutes after initial placement	Location of beetle and activity taking place

## Biological Control

Biological Control:

Using a pest's own naturally occurring predators, parasites, or pathogens to control its spread.

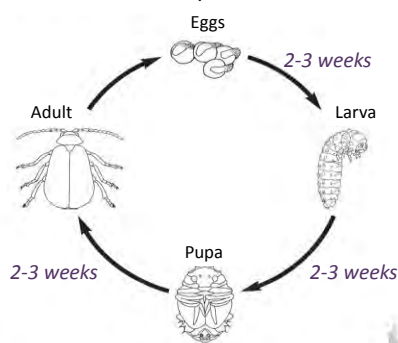


## Galerucella Beetles

- Native to Europe and Asia
- Introduced to U.S. in 1992
- 2 species:
  - *G. californiensis* (a)
  - *G. pusilla* (b)

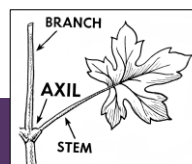


## Galerucella Beetle Life Cycle 6-8 weeks

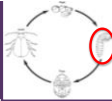


## Life Cycle - Eggs

- Egg laying lasts about 2 months in spring
- Eggs laid in clusters of 2-10 daily on the stem and leaf axils.
- Eggs are less than 1mm and cream colored.
- Females can lay 500 eggs per year



## Life Cycle - Larva



- Larvae (about 1mm) feed on bud, leaf, and stem tissue.
- Are yellow with a dark head and molt 5 times, increase in size each time.



## Life Cycle - Pupa



- Pupation takes place in the top inch of soil where we can't see them.



## Life Cycle - Adult

- Adults are 3-6mm in size – very small!



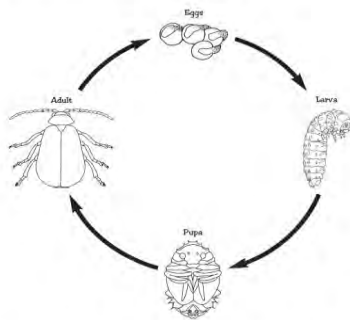
## Video: Purple Loosestrife: Beauty or Beast?



You Tube Video:

<http://www.youtube.com/watch?v=UjrecaegVBo>

*Galerucella Beetle Life Cycle*



## Design the Ultimate Invader

- Think about the characteristics of what you would call the ultimate aquatic invasive species.
- Draw a picture of your Ultimate Invader.
- On your poster, draw and describe:
  1. The characteristics of this species & its native habitat
  2. How it got here & who or what brought it
  3. What it's capable of doing that makes it invasive
  4. How it reproduces
  5. Where it lives in the aquatic environment (littoral zone, shoreline, deep water, etc.)
  6. What it consumes and if anything consumes it
  7. What could be done to control it or co-exist with it





## Beetle Smorgasbord Results

- Final observation
- Write observation in journal
- Results: Write a few sentences (3-5) about the overall results of the experiment.

# Douglas County AIS Report

Carrie Sanda  
Douglas County AIS Coordinator

## Agenda

- Upcoming Workshops
- AIS Monitoring
- Boat Landing Signs
- Events
- Portable Boat Washer
- Media Coverage
- Communication
- Work Plan
- Your Coordinator



## Workshops

- Clean Boats Clean Waters
  - Preferred timing (April, May, etc.)
- Citizen Lake Monitoring Network
  - Offering on site training for lake associations for 2012



## AIS Monitoring

- Five waterways monitored
  - Bond Lake, Lake Minnetonka, Upper Lake St. Croix, Red Lake, Whitefish Lake
  - Assisted WDNR monitoring on Lake Nebagamon and St. Croix Flowage
  - Results and 2012 monitoring plan at Spring meeting



## Monitoring for:



Invasive Snails



Curly Leaf Pondweed



Eurasian Water Milfoil

Others...  
-Purple Loosestrife  
-Hydrilla  
-Phragmites  
-Yellow Iris



Freshwater Jellyfish



Zebra Mussels (adults and veligers)



Spiny Waterfleas

## Boat Landing Signs

- Old AIS signs removed
- One unified, statewide message
- 22 of approximately 58 placed
- Signs for Rivers
  - Brule
  - St. Croix





## Events

- Eau Claire Lakes POA Educational Event
- DCFGL Introductory Meeting
- WLSTA AIS Presentation
- County Conservation Tour
- Upper St. Croix Watershed Alliance Meeting
- Lake Association Meetings
  - Talk about invasives, bring samples, recruit volunteers for CBCW, CLMN



## Events

- Drummond School Eco Education
  - Eco Education Curriculum developed to share



## Portable Boat Washer

- USFS GLRI grant
- Available A, B, D, I Counties
- Fishing tournaments
- High use days on Lake Superior
  - Target boats heading inland
- Additional \$3000 for CBCW activities
  - Additional landing inspector



## Media

- CBCW, AIS Fox 21 News Story Amnicon/Dowling Lake
- Press releases prior to workshops
- Portable Boat Decon Unit
  - KDAL Radio
  - Northland Newscenter
- Upcoming
  - AIS article prior to fishing opener
  - Article on Purple Loosestrife Project



## Communication

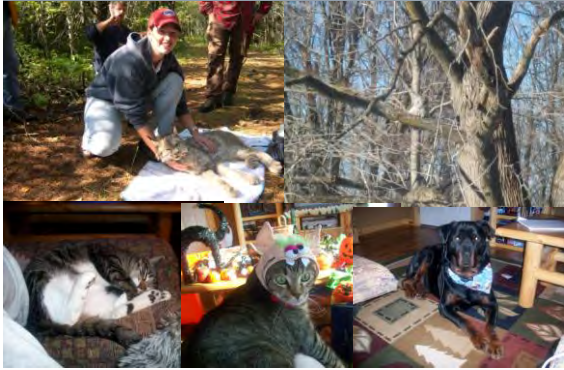
- Douglas County AIS listserv
  - Too much, not enough, just right?
  - **Information, articles, etc. you'd like to get?**



## Winter and Spring Work Plan

- Develop CBCW inspector schedules
  - Lake Superior focus
  - Use existing SWIMS data to identify priority lakes
- Host CBCW, CLMN, Project RED workshops as needed
- Identify priority lakes for AIS Monitoring 2012
- County AIS website expanded
- Develop county no transport ordinance
- Develop County AIS display
- Purple Loosestrife Project
- Bait Dealer Outreach
- AIS Signs: Lakes and Brule & St Croix
- Part time to full time

## Get to know your AIS Coordinator



Thank You!

Questions?



# Douglas County AIS Report

Carrie Sanda  
Douglas County AIS Coordinator

## Agenda

- Workshops
- Events
- AIS Monitoring
- Purple Loosestrife Beetle Bonanza
- Purple Loosestrife Biocontrol
- Ordinance
- Grant Projects
- Your Coordinator
- Needs



## Workshops

- City of Superior Riparian Landowner AIS Workshop
  - August 15<sup>th</sup>
  - Survey results report
  - River Voice Article



## Workshops

- CLMN
  - June 23<sup>rd</sup>
  - Follow up Field Experience



## Events

- JAWS Fishing Tournament
- Captain's Platter Fishing Tournament
- Muskies Inc.



## Events

- Eco Education Field Trip
  - Drummond School 7<sup>th</sup> grade students
  - Critical habitat, AIS



## Events

- Superior/Douglas County Leadership Class
  - September 19
  - Pontoon Presentation on AIS @ Amnicon
  - Went through AIS Program, monitoring, and AIS effects on waterways



## Events

- Brule Hatchery Family Fun Day



## Lucuis Woods Weed Pulling Days

- June 28<sup>th</sup> & August 8<sup>th</sup>
- Pulling Buckthorn, Honeysuckle, Purple Loosestrife, Spotted Knapweed



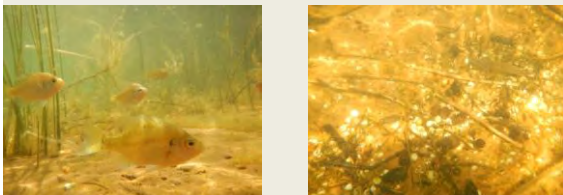
## Lake Nebagamon Lake Association Meeting

- June 30
- General AIS presentation
- Follow up CLMN Workshop
  - July 28, 15 participants, 2 pontoons



## Crystal/Person's Lake Association Meeting

- August 4<sup>th</sup>
- General AIS presentation



## AIS Monitoring

- Crystal Lake
- Person Lake
- Radigan Flowage
- Bear Lake
- Lyman Lake
- Interfalls Lake
- DNR
  - Lower Eau Claire
  - Red Lake
  - Upper Ox Lake





## Erie Pier Assessment

- Phragmites, Cattails, Purple Loosestrife
- September 14<sup>th</sup>



## Purple Loosestrife Beetle Bonanza

- Grant funding
- Rootstock
- Lesson plans
- Field Trips
  - Volunteers?

**Purple Loosestrife Beetle Bonanza**

Helps students become responsible, environmental citizens.  
 Engages students in addressing a real life environmental problem.  
 An exciting & fun hands-on learning experience.  
 Learn about plants, insect life cycles, invasive species, wetlands & more!

The Purple Loosestrife Beetle Bonanza Project is an opportunity for students to help the County address Purple Loosestrife infestations. Students will help grow the plant and cultivate populations of beetles for release in area wetlands. The project will break down as follows over the 2012-2013 school year:

- September: Purple Loosestrife & ALP presentation activity (one class period)
- September Field Trips: Dig up rootstock from area wetland (~2.5 hrs, dependent on funding)
- February: Plant rootstock, classroom lesson activity (one to two class periods)
- April: Adult beetles placed on plants, classroom lesson activity (one to two class periods)
- Late May Field Trip: Bring beetles to infested area (~2.5 hrs, dependent on funding)

Space is limited, so sign up now!

## Purple Loosestrife Biocontrol

- Rootstock & beetles from WI Point
- Distributed 5 pots on WI Point



## Ordinance Update

- Where we are

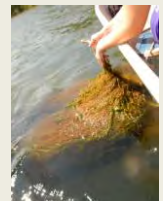


## WI Coastal Kiosk Project

- Kiosks will be installed on boat landings in City of Superior
  - Arrowhead
  - Barker's Island
  - Loon's Foot
  - North 21<sup>st</sup> Street (Billing's Park)

## St. Louis River Aquatic Invasive Plant Monitoring and Outreach Project

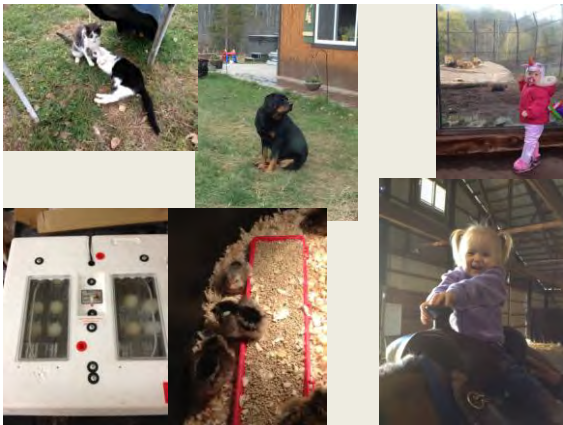
- Grant proposal submitted November 5<sup>th</sup>
- Invasive aquatic plant monitoring
- Clean Boats Inspector
- Nursery outreach



## WDNR AIS Grant

- Applied to August 2012 cycle
- Received funding for 2013-2015
- Copy of deliverables

## Get to know your AIS Coordinator



Needs?

Thank You!

Questions?





## AIS Monitoring

- Ten waterways monitored by 2012
  - Bond Lake, Lake Minnesuing, Leader Lake, Red Lake, Whitefish Lake
- Citizen Lake Monitoring Protocol

WBIC	Name	Rusty Crayfish	Spiny Waterflea	Zebra Mussel	Total
28655000	Lake Nebagammon	1	1	1	3
28940200	Whitefish Lake	1	1	1	2
28937000	Bond Lake	1	1	1	2
28380000	Interfalls Lake	1	1	1	2
28662000	Lake Minnesuing	1	1	1	2
28693800	Leader Lake	1	1	1	2
24821100	Red Lake	1	1	1	2
28714000	Beaure Springs	1	1	1	1
26956000	Bergen Springs	1	1	1	1
28686000	Big Lake	1	1	1	1
28696000	Blue Springs	1	1	1	1
28931000	Cranberry Lake	1	1	1	1
27409000	Eau Claire River Flowage	1	1	1	1
24790000	Loon Lake	1	1	1	1
24798000	Lower Eau Claire Lake	1	1	1	1
27418000	Lower Eau Claire Lake	1	1	1	1
27443000	Lower Ox Lake	1	1	1	1
28684000	Lucius Lake	1	1	1	1
28564000	Lyman Lake	1	1	1	1
28694000	McDougal Springs	1	1	1	1
28645000	Minnow Lake	1	1	1	1
27728000	Rush Lake	1	1	1	1
24953000	Sand Lake	1	1	1	1
24971000	Simms Lake	1	1	1	1
28668000	Twain Lakes	1	1	1	1
28711000	Unnamed (50)	1	1	1	1
27447000	Upper Ox Lake	1	1	1	1
27473000	Upper Saint Croix Lake	1	1	1	1

## Monitoring for:



Invasive Snails



Curly Leaf Pondweed



Eurasian Water Milfoil



Freshwater Jellyfish



Zebra Mussels (adults and veligers)



Spiny Waterfleas

## Boat Landing Signs

- 52 boat landings identified in Douglas County
- Old AIS signs removed
- One unified, statewide message
- Permission letters sent
- Begin placement this month



## Media

- Fox 21 News Story
  - [Amnicon and Dowling Lakes](http://www.fox21online.com/news/douglas-co-inspectors-buckle-down-invasive-species-searches)
  - <http://www.fox21online.com/news/douglas-co-inspectors-buckle-down-invasive-species-searches>



## Communication

- Douglas County AIS listserv developed
  - Area Lake Associations
  - WDNR
  - Clubs & Organizations



## Events

- Fish and Game League Expo
- Wisconsin Lakes Convention
- Watershed Festival
- Northwest Lakes Conference
- Lake Superior Day
  - WNDR Water Guard Tim Werner



## Future

- Continue coordinating CBCW schedules
  - County inspectors
- Host CBCW, CLMN, Project RED workshops
- Identify priority lakes for AIS Monitoring
- County AIS website developed
- County no transport ordinance?
- County AIS display

Thank You!

Questions?

# Douglas County AIS Report

Carrie Sanda  
Douglas County AIS Coordinator

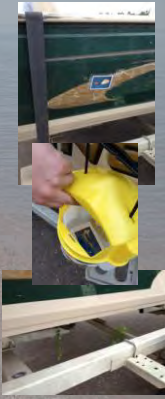
## Agenda

- Workshops
- Events
- Portable Boat Washer
- Media Coverage
- Summer Work Plan
  - AIS Monitoring
  - Boat Landing Signs
  - Events
  - City of Superior AIS Project
  - Purple Loosestrife BB
  - Purple Loosestrife Biocontrol
- Needs
- Your Coordinator



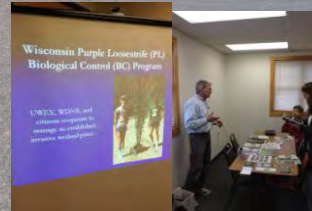
## Workshops

- Clean Boats Clean Waters  
– April 25<sup>th</sup> & May 1<sup>st</sup>



## Workshops

- Purple Loosestrife Biocontrol  
– April 28<sup>th</sup>



## Workshops

- Citizen Lake Monitoring Network  
– Offering on site training June 23<sup>rd</sup>



## Events

- DC Fish & Game League Expo
- Barnes AIS Committee Meeting



## Events

- Science Night at UWS
- Water Watch



## Events

- St Louis River Estuary Summit
- Drummond School Eco Education



## Portable Boat Washer

- USFS GLRI grant
- Available A, B, D, I Counties
- Fishing tournaments
- High use days on Lake Superior
  - Target boats heading inland
- Additional \$3000 for CBCW activities
  - Additional landing inspector



## Media

- AIS article on Lake Superior & moving inland
- Ice Fishing & AIS
  - News story 6 & 10
  - Handouts to tournaments

## AIS Monitoring

- Waterways to monitor
  - Lower EC, Bass, Crystal, Persons, Lyman, Upper Ox, rivers
  - 2012 results
  - Enbridge Grant



## Monitoring for:



Invasive Snails



Curly Leaf Pondweed



Eurasian Water Milfoil

Others...  
 -Purple Loosestrife  
 -Hydrilla  
 -Phragmites  
 -Yellow Iris



Freshwater Jellyfish



Zebra Mussels (adults and veligers)



Spiny Waterfleas



## Boat Landing Signs

- Summer/Fall
- Approximately ½ way done
- Signs for Brule



## Events

- Northwest Wisconsin Lakes Conference
- Water Watch
- Lake Superior Day
- Eau Claire POA Educational Conference
- Brule Hatchery Family Fun Day
- Fishing Tournaments
  - JAWS
  - Captain's Platter

## City of Superior AIS Grant

- Survey to riparian landowners
  - Gage knowledge of AIS
  - Coupon
- Workshops
  - AIS ID
  - Remove & replace
  - Coupon
- On-site help with ID of invasives

## Purple Loosestrife Beetle Bonanza

- Duluth Superior Area Community Foundation Grant

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Space is limited, so sign up now!

## Purple Loosestrife Biocontrol



Needs?

## Get to know your AIS Coordinator



Thank You!

Questions?