Town of LaValle Aquatic Invasive Species Education, Prevention & Planning Grant
Working Together To Monitor Aquatic Invasive Species
WDNR Grant Final Report 2011

Lake Redstone & Dutch Hollow Lake
Town of LaValle, Sauk County, Wisconsin

I. Purpose

The Town of LaValle Aquatic Invasive Species (AIS) Grant project focusing on the education, prevention and planning regarding aquatic invasive species in two lakes, Dutch Hollow Lake and Lake Redstone, commenced late in the summer of 2010 and ended on December 31, 2011. The purpose of this project was to proactively address the growing concern over the threat of aquatic invasive species by spreading awareness on these issues among the public, especially lake users, as well as provide educational opportunities to area high school students and their teachers.

Both Dutch Hollow Lake and Lake Redstone are known to contain Euarsian Water Milfoil (*Myriophyllum spicatum*) and Curly-leaf Pondweed (*Potamogeton crispus*). Furthermore, just this summer, the Wisconsin Department of Natural Resources discovered the Banded Mystery Snail (*Viviparus georgianus*) in Dutch Hollow Lake. Still many other invasive species have been found in nearby lakes. Due to the beauty of the area, these lakes are frequently visited by anglers and recreational boaters from the Madison area lakes and Lake Wisconsin, which harbor many invasive species not yet found in Dutch Hollow Lake or Lake Redstone. As remediation efforts are extremely expensive and must be maintained year after year, preventing the spread of these invaders is the more sustainable approach to dealing with aquatic invasive species.

Therefore, the Town of LaValle decided to take a more active role in preventing aquatic invasive species before they entered the area's lakes through this grant by reviving and expanding on the Clean Boats, Clean Waters Program, organizing educational presentations for lake residents and students, and monitoring and/or mapping projects, etc.

II. Project Goals

Goal 1 - to provide educational outreach on aquatic invasive species

1) A two hour presentation on aquatic invasive species will be conducted by UW Extension – Lakes (Stevens Point) for lake residents in June, at the start of the boating season. Targeted audience will be residents of Lake Redstone and Dutch Hollow Lake. Area sports fishing groups also will be invited to attend the presentation.
2) Presentations by UW Extension - Lakes (Stevens Point) on AIS will be made to one environmental or biology class in each of the participating high schools (Reedsburg Area High School, Wonewoc High School, Weston High School).
3) Create an ad campaign on AIS that addresses the problem both on a statewide and local level. Students in participating high school classes will create infomercials for local TV stations, radio minutes, and design informational signs for local boat landings. Other projects, per instructor's discretion could include PowerPoints on AIS for presentation to classes in their respective school districts and other educational activities.

4) Enhancement of information on AIS at the town and county boat landings is an essential part of this grant initiative. The Town of La Valle invested in new boat landing sign boards in the summer of 2010. These sign boards measure 4 X 8 and include state statute language addressing AIS. Signs with images of local AIS threats and boat inspection techniques will be created by students, and once approved by the Town of La Valle, will be professionally created for display on the boat landing signs noting each class' investment. It is believed that this local ownership of the problem of AIS will enhance awareness, monitoring, and participation with the objectives of the Clean Boats Clean Waters program.
5) Dissemination of information on AIS will occur through WDNR and UW Extension-Lakes brochures. These will be available at the local marinas, local retail stores that cater to lake populations, county boat landings, and handed out at planned volunteer boat inspections.
6) Pertinent information and media developed by students will be posted on the town website (http://townoflavalle.us).

Goal 2 - to establish an active Clean Boats Clean Waters (CBCW) program

1) A CBCW volunteer inspection class will be held at the town hall by the AIS Volunteer Coordinator for UW-Extension-Lakes in May. Participants will include students and teachers from participating high school classes, individuals participating in Youth Environmental Projects of Sauk County (YEPS), students from the UW-Baraboo campus, and interested town residents. A core group of 15 dedicated CBCW volunteers will be created.
2) Two volunteer boat inspection days will be scheduled for each lake. Inspection sites would include the Dutch Hollow Boat Landing in the Town of La Valle and the Lake Redstone Boat Landing at County F. These landings have been chosen because of their available parking space for boaters and safe work area for volunteers.
3) A survey of lake use will also be conducted on these days, similar to the survey conducted by the River Alliance for the Lower Wisconsin River, to gain data on other lakes frequented by boats using Dutch Hollow Lake and/or Lake Redstone. This data will be valuable in assessing the AIS threat to both lakes.

Goal 3 - to monitor, map, and assess the threat of AIS - focus on Eurasian Water Milfoil and Purple Loosestrife (*Lythrum salicaria L.*)

1) Students in participating high school classes will learn about the designated critical habitat areas on Lake Redstone through study of the 2009 DNR critical habitat study in regard their importance to lake health and the threat posed to them by AIS.
2) Interested individuals, including lake residents, students, and YEPS will work with the Dutch Hollow Property Owners Association and the Lake Redstone Protection District to identify and map current areas of known invasion of both species.
3) A plan for mapping, data collection, and monitoring of both species will be designed by high school classes, with guidance and assistance provided as needed by UW Extension - Lakes, the project manager, and the WDNR.
4) Individuals will utilize WDNR resources for identification of any potential AIS species when immediate identification is unclear.
5) An additional monitoring or mapping project that includes data collection may be designed and carried out by participating high school or YEPS groups, upon approval of the project manager and WDNR. This could include such initiatives as identification of common bait used for fishing and proper disposal offish bait.
6) Though monitoring of zebra mussels is not within the purview of this grant because of the costs and skills needed, students will monitor collection nets already in place at Lake

Redstone and Dutch Hollow Lake, and will collect and turn in for identification to the WDNR any zebra mussels they believe may have been found.

Goal 4 - to collate data and develop a list of suggestions to prevent the spread of AIS

1) Students at participating high schools will collate data collected over the summer months.
2) Under the guidance of their teachers, students at each participating school will create a map and report on the presence or absence of the targeted AIS.
3) Students will generate a report that includes the information gathered and provide suggestions for future monitoring and prevention of AIS at Dutch Hollow Lake and Lake Redstone.
4) Students will present their findings to the Town of La Valle Town Board, the Dutch Hollow Property Owners Board of Directors, and the Lake Protection District Board of Commissioners.
5) A professional report detailing the goals and outcomes of this grant will be presented to the WDNR at the conclusion of this grant cycle.

Goal 5 - to sustain the 2011 efforts addressing AIS

1) The Dutch Hollow Property Owners Association, Lake Redstone Protection District, and Town or La Valle will coordinate efforts to maintain the volunteer Clean Boats Clean Waters Program for Dutch Hollow Lake and Lake Redstone. This will fall under the guidance of the Town of La Valle Lakes Committee.
2) Efforts will be made to continue instruction in AIS at all participating high schools, with ongoing monitoring and mapping of targeted species of AIS.
3) The Town of La Valle will continue its efforts to provide clear and timely information at its public boat landings in regard to AIS.

III. Outcomes and Impacts

Goal 1 - to provide educational outreach on aquatic invasive species

A major goal of this grant was to offer educational presentations to several different groups about aquatic invasive species, including lake residents, sports fishermen, boaters, and area students, especially high school students. This spring, three separate education presentations about local AIS issues were presented to students at Reedsburg Area High, Wonewoc High School, and Weston High School by UW Extensions-Steven's Point and DNR staff. A short presentation was also given by the grant manager to the Boater's Safety class and at the annual Lake Redstone Property Association meeting. A separate informational session for the public was combined with the Clean Boats, Clean Waters workshop held by DNR staff in which trainees were given multiple invasive species identification cards, informative brochures, and hands-on identification training by viewing AIS samples donated by UW Extensions-Steven's Point.

An advertisement campaign was launched in order to create awareness about AIS for the general public. An informational brochure was created specifically for the Town of LaValle, based off what was learned by both the students and citizens this summer. The brochure includes information about the AIS specific to the area and how local residents can get involved in the future (See Appendix C). These will be disseminated at local public buildings, fish and tackle shops, and boat landings at both lakes. The town also created and posted an informational slideshow/video on the town's website for public viewing with contents similar to the brochure (See Appendix C).

Last year, the Town of LaValle invested in informative signs for each of the public boat landings that included state statute language addressing AIS and information on the state's concerns with these invaders. Through the grant, the town designed and purchased another set of signs for each boat landing, highlighting local AIS threats and the Clean Boats, Clean Waters program. Additionally, a set of preserved aquatic invasive species was acquired from UW-extensions for display and other educational purposes by the town of LaValle.

Any materials created by the students or volunteers will be available at the Town of LaValle Town Hall or on the town's website (http://townoflavalle.us) for public viewing.

Goal 2 - to establish an active Clean Boats Clean Waters program

Though the Dutch Hollow Property Owners Association previously participated in the Clean Boats, Clean Waters program, the effort had become inactive. Therefore, the town resumed the program and extended the effort to Lake Redstone. Two Clean Boats, Clean Waters workshops were held to train volunteers early in June with the help of the WDNR. These workshops were held outside at the landings. Students and teachers from the three local high schools, lake association members, and the general public were invited to attend. Nine people attended the training including local law enforcement personnel.

The town also held three CBCW volunteer boat inspection days, including participating in the 4th of July Clean Boats, Clean Waters blitz. During the three events, volunteers made contact with over 80 separate groups of boaters across three separate public boat landings, many of whom were not aware of the laws regarding the transportation of invasive species. To the surprise of our volunteers, most boaters were very receptive and willing to listen to our message as well as genuinely concerned about the health of Wisconsin's lakes. Time and time again boaters reported that watercraft inspectors at the landings are the most effective way to spread the message of AIS (see Appendix D).

Volunteers at the CBCW events also collected data on lake use and AIS awareness as part of the CBCW protocol. This data was entered into the state wide Surface Water Integrated Monitoring System and will be presented to the Town of LaValle to assist in assessing possible threats to the area's lakes from other parts of the state.

Goal 3 - to monitor, map, and assess the threat of AIS - focus on Eurasian Water Milfoil and Purple Loosestrife

After the grant was written, it was found that Purple Loosestrife was not a significant problem in either of the local lakes. The focus was switched to the pervasive Eurasian Water Milfoil and the most recently discovered Banded Mystery Snail. Monitoring and mapping efforts of Eurasian Water Milfoil were taken on by a citizen volunteer over the summer months.

For the fall semester, students in the AP Environmental Science class at Reedsburg Area High School completed an extensive project monitoring the Banded Mystery Snails, Eurasian Water Milfoil and lake conditions/chemistry on Dutch Hollow Lake and Lake Redstone. Students learned about the life cycle and ecology of the snails and produced a report about the invasive species (see Appendix B). They also collected plant samples and performed water chemistry tests to see how these conditions might affect AIS and completed a report.

Goal 4 - to collate data and develop a list of suggestions to prevent the spread of AIS

Students completed presence/absence of targeted AIS as part of their scientific reports in the aforementioned study. A select scientific report from a student about the Mystery Snails was printed in the Lake Redstone monthly newsletter and will be posted on the town's website (See Appendix B).

Goal 5 - to sustain the 2011 efforts addressing AIS

Just this year, the Wisconsin Department of Natural Resources discovered the Banded Mystery Snail in Dutch Hollow Lake. This serves a wakeup call to the area's lake users. As the snails were not found in Lake Redstone, it has become more important than ever to spread the awareness of this issue. Both Lake Redstone's and Dutch Hollow's lake associations have provided funding to continue the Clean Boats, Clean Waters program for both lakes under the guidance of the Town of LaValle Lakes Committee and LaValle Town Board. This effort will be led by one of our most committed volunteers recruited this season.

The Town of LaValle will also make efforts to continue to work with local high schools to monitor and report on AIS in both lakes. Students at Reedsburg Area High School enjoyed the hands-on learning experience of monitoring AIS and lake conditions. The AP Environmental Science teacher plans to implement the project as a yearly part of the curriculum, and in the future, the data may be useable by the town for monitoring and prevention purposes.

IV. Objectives not met

Though we reached our goal of training 15 volunteers to participate in the Clean Boats, Clean Waters program, volunteer recruitment and retention was difficult. Despite reaching out to the public through multiple news articles and press releases as well as multiple personal appeals in classrooms and town and lake association meetings, volunteer participation was low. Understandably, summer is a busy time for most people and as our CBCW events were during holidays, since these are high-use times on the lakes, potential volunteers were likely unable to participate. Hopefully, as the project continues in subsequent years, word of mouth and more opportunities for CBCW events during the summer will increase volunteer participation. The squeaky wheel does get oiled eventually!

As stated previously, a large portion of the grant included involving entire classes in creating materials and designing and presenting an ad campaign addressing AIS. Unfortunately, state budget issues led to the rearrangement of classes and teaching staff, limiting the ability of the students' involvement during the academic year. However, with the aid of the AP Environmental Science class' teacher and students, a suitable monitoring and educational project was carried out.

V. Appendix

Appendix A – Financial Documentation

Table 1. Project Costs Table

Project Elements	Project Details	Projected Cost	Actual Cost
Project Manager	200 hours @ $28/hour	$ 5,600.00	$ 5,600.00
Volunteers ($12/hr)	Training	$ 540.00	$ (132.00)
	5 boat inspections	$ 1,920.00	$ (636.00)
	Data collection	$ 1,200.00	$ (2,460.00)
	Data reporting	$ 300.00	$ (624.00)
	Other		$ (276.00)
Camera/memory chip	Maximum allowed cost	$ 200.00	$ 200.00
Mileage			
	Project manager @ .50/mile	$ 150.00	$ 150.00
	Bussing for field study by students		
	Approximately 6 busses @ $85/bus	$ 510.00	$ 153.00
Invasive species signs	Materials for students	$ 400.00	$ 391.10
Invasive species signs	Permanent signs made		$ 1,000.00
	4 town boat landings	$ 800.00	
	1 county landing	$ 200.00	
Clean Boats, Clean Waters Kits			
	2 kits	$ 50.00	$ 50.00
	15 shirts/aprons for volunteers	$150.00	$ 150.00
Toner cartridges/paper	Reporting of data collection	$ 150.00	$ 150.00
Total Grant Expenses		**$ 8,210.00**	**$ 7,844.10**
Volunteer Match Dollars		**$ 3,960.00**	**$ 3,960.00 +**
Grant Dollars Requested		**$ 12,170.00**	**$ 12,170.00**

Table 2. Donated Volunteer Labor Summary

Date	Name of Volunteer	Description of Work Performed	Number of Hours	X Rate ($)	Total Match Dollars
4/6/2011	Beverly Vaillancourt	High School Presentations	6	12	72
6/11/2011	Beverly Vaillancourt	CBCW workshop	3	12	36
7/3/2011	Beverly Vaillancourt	CBCW event	4	12	48
7/30/2011	Beverly Vaillancourt	CBCW event	2	12	24
8/30/2011	Beverly Vaillancourt	Educational Planning Meeting	1	12	12
5/10/2011	Gary Herritz	Boat Tour	4	12	48
6/11/2011	Gary Herritz	CBCW workshop	1	12	12
7/3/2011	Gary Herritz	CBCW event	8	12	96
7/30/2011	Gary Herritz	CBCW event	7	12	84
multiple	Gary Herritz	Lake Monitoring	10	12	120
9/5/2011	Gary Herritz	CBCW event	5	12	60
9/12/2011	Gary Herritz	Town Hall Meeting	1	12	12
6/11/2011	Bruce Vermilyea	CBCW workshop	1	12	12
6/11/2011	Dave Weiss	CBCW workshop	1	12	12
6/11/2011	James Astle	CBCW workshop	4	12	48
6/11/2011	Arlene Hantson	CBCW workshop	1	12	12
7/3/2011	Al Exner	CBCW event	2	12	24
7/3/2011	Adam Bubolz	CBCW event	2	12	24
7/3/2011	Thomas Bubolz	CBCW event	2	12	24
7/3/2011	Joan Whitehurst	CBCW event	2	12	24
7/3/2011	Cody Shaw	CBCW event	8	12	96
7/30/2011	Jacob Glisch	CBCW event	7	12	84
7/30/2011	Geeg Drum	CBCW event	2	12	24
7/30/2011	Glenn Drum	CBCW event	2	12	24
8/30/2011	Joyce Johnson	Education Planning Meeting	1	12	12
multiple	Joyce Johnson	Education Planning	10	12	120
multiple	Joyce Johnson	Student Research	4	12	48
9/16/2011	Joyce Johnson	Student Monitoring	5	12	60
10/11/2011	Joyce Johnson	Student Monitoring	5	12	60
10/11/2011	Boat Drivers X 3	Student Monitoring	12	12	144
multiple	Students X 13	Student	65	12	780

		Research @ 5hours each			
9/16/2011	Students X 13	Student Monitoring @ 4hours each	52	12	624
9/17-9/18/2011	Students X 13	Student Reporting @ 2hours each	26	12	312
10/11/2011	Students X 13	Student Monitoring @ 4hours each	52	12	624
10/12-10/13/2011	Students X 13	Student Reporting @ 2hours each	26	12	312
		Total	**344**	**12**	**4128**

Table 3. Mileage of Project Manager

Date	**# of Miles**
1/10/2011	70
2/17/2011	70
3/08/2011	70
4/06/2011	80.9
5/10/2011	91.6
6/11/2011	86.4
6/29/2011	70
7/03/2011	80.7
7/30/2011	112.5
8/01/2011	70
8/30/2011	70
9/03/2011	82
9/12/2011	70
10/11/2011	22.2
12/14/2011	16
Total	**1062.3**

Appendix B – Volunteer Participation

Photos

Image 1&2: Erin McFarlane of UW-extensions Steven's Point presents to local high school biology class about aquatic invasive species (left) Don Barrette from the WDNR gives a hands-on training workshop for volunteers on aquatic invasive species and the Clean Boats, Clean Waters program


Image 3&4: Volunteer Gary Herritz informs boaters about the dangers of inadvertently transporting invasive species on watercrafts (left). Volunteers at the Dutch Hollow boat landing for the weekend of the 4th of July Clean Boats, Clean Waters Blitz (right).


Image 5&6: Students from Reedsburg High School AP Environmental Science class collect plant samples and water chemistry data on Lake Redstone.

Student Reports

www.wisconsinlakes.org/3415947

Snails the Latest Threat to Area Lakes?

by Amanda Kinsman

The stated problem was the effects of invasive Chinese Mystery Snails on native snail populations. We hypothesized that if an invasive species, such as the Chinese Mystery Snail, were introduced to an area, say Dutch Hollow Lake, the invasive species would drive out the native population.

Our experiment to test the hypothesis was to go out to Dutch Hollow Lake and take some random samples of the shoreline. To do this, we put together 1 m by 1 m of PVC pipes to measure out the same quadrant all four times. We had to measure out 100 m of shore line to walk along and randomly drop our quadrants. Once placed in the water and settled, we counted the number of native snails and the number of Chinese Mystery Snails in each separate quadrant. Along with taking down the number of snails, we measured the size of a few random snails in each quadrant. Along with counting and measuring the snails, we recorded conditions of the quadrants such as sandiness, rockiness, or weeds.

In the end, the data collected showed that there were at least 45 Chinese Mystery Snails in each and we found only one native snails out of all the four quadrants we looked in. To have a better picture of how the Chinese Mystery Snails have affected the area, we should first find out the original population of the native snails. But from what we can conclude from the information collected, one can deduct that the Chinese Mystery Snails have, in fact, driven out the native snails.

Environmental Studies students at Reedsburg Area High School recently conducted research on the impact of invasive species in area waters. In this report, Amanda Kinsman discusses her group's study of the Chinese Mystery Snail. Now found in roughly half of the lakes in northern Wisconsin, the non-native snail was discovered in Dutch Hollow Lake this past summer.

Figure 1 Student report on Mystery Snails in the Lake Redstone Protection District newsletter.

Eurasian Water Milfoil at Lake Redstone

Presented by:

Mikaela Zenz, Amanda Kinsman, Kyle Scanlon, Luke Bjorklund, Will Harrison, Will Watkins

Problem: Invasive Species at Lake Redstone - EWM

Research:

Eurasian Water Milfoil (EWM) is a submersed aquatic plant native to Europe, Asia, and northern Africa. It is the only milfoil in Wisconsin water bodies that is not native to Wisconsin. It is distinguishable from the other milfoil by its slender stems with feathery leaves and a pinkish-red color.

EWM first arrived in Wisconsin in the 1960s and began to move during the 1980s. By 1993, EWM was in 39 Wisconsin counties, 75 lakes, and 540 water bodies. EWM grows best in fertile, fine-textured, inorganic sediments. It reproduces vegetatively by fragmentation. To do this it produces fragments after fruiting or flowering once or twice during the summer. These fragments float downstream or are carried by boaters, animals, etc., to another water body, where they take root and grow. Floods cause EWM to rise and it also grows better is southern lakes, reservoirs, lower water clarity areas, shallow rooting depth areas, and drainage lakes.

A natural predator of EWM is the Milfoil Beetle. They are only 2-3 mm long and eat the milfoil as it's pretty much only source of food. A downfall of this beetle is that it is a weak swimmer and its life span is 21-30 days. A natural predator to the beetle are bluegill fish.

Preventing EWM is not simple. All the DNR and other concerned citizens can do is manually pull out colonies along the shore and inform the public to be careful to not spread it. Watershed management is another method which would help EWM from not reaching the water source and taking root.

Hypothesis: If the nitrate, phosphate, and dissolved oxygen levels increase, then the amount of EWM will increase.

Experiment (at lake): We collected milfoil plant, and water samples while also collecting data on phosphate, nitrate, and dissolved oxygen levels at the surface of the lake near the collected samples. We also took water samples at a depth of 10 feet to sit for a week so we can later determine dissolved oxygen levels.

Experiment (in class): While examining samples taken from the lake, we found there to be mostly EWM, some whorled water milfoil, dragon fly nymphs, damsel fly weevils, and stone fly larva.

Data: Phosphate in every location was 2 ppm. Nitrate came out also to be 2 ppm at every location. Dissolved oxygen for the first location was 9.2 ppm, 10.2 ppm for the second location, 7.1 ppm for the last location. Certain fish, like bluegill and muskies were spotted at the fist location.

Conclusion: Judging by our numbers, the milfoil was most prevalent where the dissolved oxygen was the greatest (site two). The dissolved oxygen affected the milfoil growth, while in our research, the nitrate and phosphate levels were too low to have an impact.

Figure 2 Report on EWM from students in Reedsburg Area High School's AP Environmental Studies Class

Appendix C – Products

Brochure

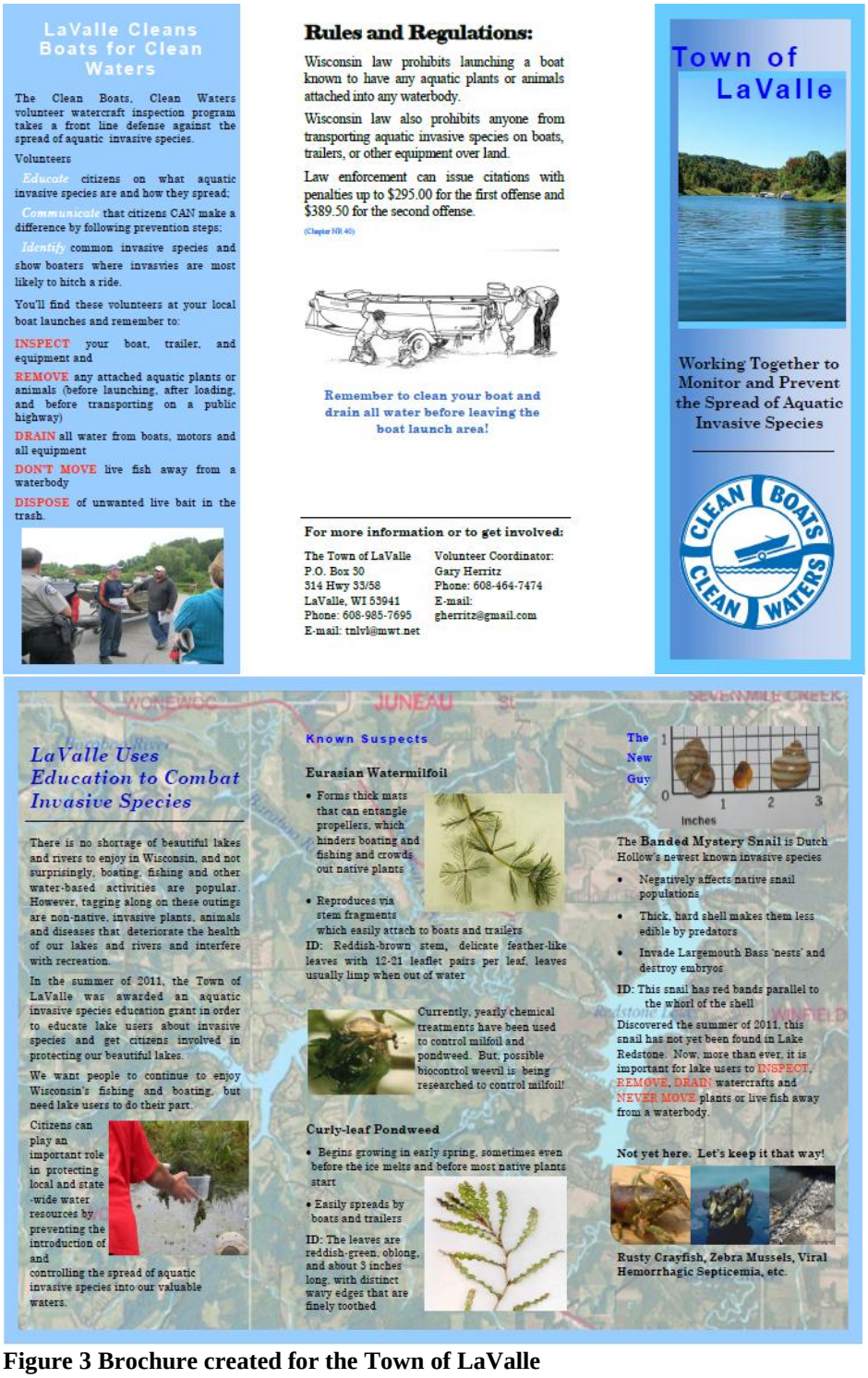
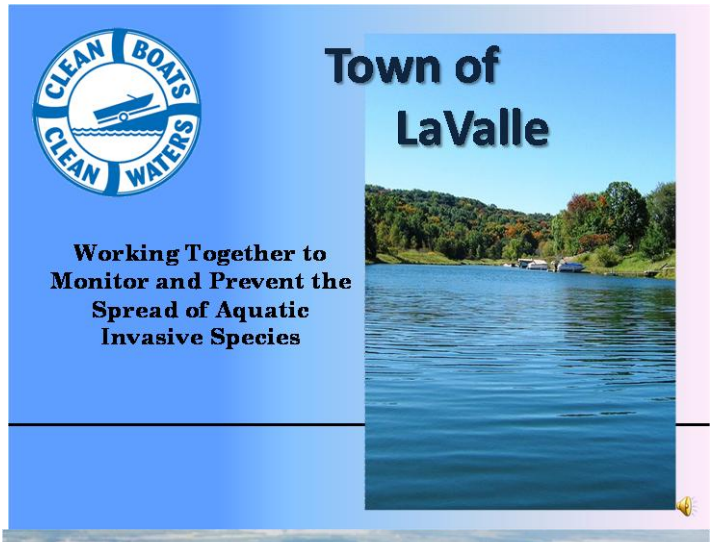


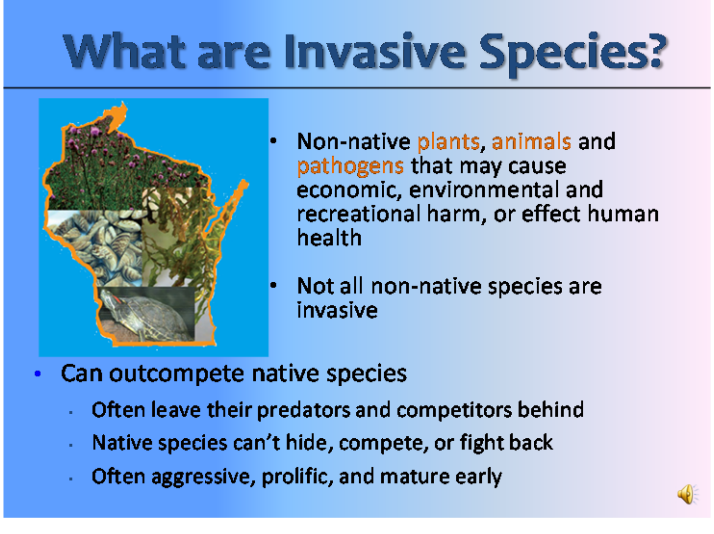
Figure 3 Brochure created for the Town of LaValle

PowerPoint with Audio



With the growing concern over the spread of aquatic invasive species to Wisconsin's inland lakes, citizens and local governments are looking for ways to get involved and stop the invasion.
Within the Town of La Valle are two lakes: Lake Redstone & Dutch Hollow Lake. Both lakes offer opportunities for boating, fishing and other water-based recreation, and are threatened by invasive plants, invasive animals, and pathogens. With that in mind, the Town of La Valle took the initiative to educate lake users about aquatic invasive species and get citizens involved in protecting our beautiful lakes through volunteer efforts of the Clean Boats Clean Waters program.

With several thousand inland lakes and close to a thousand miles of shoreline along the great lakes, boating is undoubtedly one of the most popular recreational activities in Wisconsin.
The numbers to focus on here, however, are the numbers of lakes and numbers of boats – an estimated 1 million boaters are on WI waters each year!



So, what are invasive species, and why should Wisconsin's boaters be concerned?
We have all seen stories on the news of large Asian Carp flying out of the water into boats, and of shorelines covered with Zebra Mussels that cut the beach-goer's feet.
First, invasive species are non-native plants, animals, and pathogens that may cause economic, environmental, and recreational harm, or affect human health.
These species become invasive because they no longer have the predators, parasites, pathogens, and competitors that kept these harmful species in check back in their native environments.
These species can out-compete native species because they often reproduce quickly and mature early.

Once these invaders get into our lakes and rivers, aquatic invasive species easily "hitch a ride" around the state from lake to lake on the underside of boats and trailers. They can also travel in bait buckets, livewells, and even scuba equipment.

Aquatic invasive species cause major economic, ecological, and recreational impacts.

The Economic impacts

Controlling invasive species can be very expensive. Chemically treating invasive plants such as Eurasian water-milfoil and curly-leaf pondweed can cost tens of thousands of dollars per year to simply manage these plants. Once the plants are in a body of water, eradication is close to an impossiblity.

Invaders like the zebra mussels clog water intake, which is costly to repair. Invasive species also threaten native sport fish populations and therefore the multi billion dollar fishing industry

The Ecological impacts of invasive species can be devastating. Invasive species have the ability to change habitats and threaten the plants and animals that live in them. This picture shows how the invasive virus Viral Hemorrhagic Septicemia causes large fish kills. Invasive plants can choke out native vegetation and alter oxygen levels and aggressive invasive species, such as the Rusty Crayfish outcompete native crayfish for food and cover.

Finally recreational activities are impacted by invasive species. Invasive plants can form dense mats that make boating, fishing, and swimming difficult. Zebra mussel shells that are washed up on beaches can cut the feet of unsuspecting swimmers.

Like many lakes around the state, including both Lake Redstone and Dutch Hollow Lake, are home to a few invasive species. The first and most prolific is Eurasian water-milfoil. First found in Wisconsin in the 1960s it can now be found in over 500 waterbodies around the state.

This plant can form thick, dense mats that crowd out native plants and can interfere with recreation.

It can reproduce via small stem fragments, so even a small strand attached to a boat could start a new population if introduced to a new waterbody.

The Town of LaValle currently chemically treats these lakes to control Eurasian Water-milfoil.

Another invasive species found in both lakes is Curly-leaf Pondweed. This plant was introduced by hobbyists for use in aquariums.
Like Eurasian Water-milfoil, this plant can form dense mats,
But what makes this pondweed such a problem is that it begins growing earlier than most native species and can even begin to grow before the winter's ice has melted and quickly outcompete beneficial species that bloom later.
Furthermore, in mid-summer, when most other plants are still growing, curly-leaf dies off, which can result in a loss of dissolved oxygen and can increase nutrients that contribute to algal blooms.

The Banded Mystery Snail is the newest invasive species in Dutch Hollow Lake. It was discovered the summer of 2011 by the Department of Natural Resources.
The Banded Mystery Snail and other related Mystery Snails often outcompete native snail populations. Their shells are much harder, which makes them difficult prey for predators and they have negative impacts on fish larvae.
This snail is easily identified by the red bands circling the shell.
This snail has not yet been found in Lake Redstone. That means that now, more than ever, it is important for lake users to INSPECT, REMOVE, DRAIN watercrafts and NEVER MOVE plants or live fish away from a waterbody.

Another invasive species in the area's wetland and lowland area's is Purple Loosestrifel
This attractive perennial wetland plant can produce over 1 million seeds each year and quickly outcompetes native vegetation for space.
However, this invader has decreases substantially in recent years with the introduction of Galleruccella calmariensis and Galleruccella Pusilla. These two related beetles are the natural predators of Purple Loosestrife in Europe. The Purple Loosestrife Biocontrol program, established in the 80's, has had great success in controlling loosestrife by volunteers who raise and release the beetles into infested areas.
Scientists are now looking at a native weevil to help control the spread of Eurasian water-milfoil. This weevil prefers Eurasian watermilfoil to native milfoils and may, in the future, reduce the spread of Eurasian water milfoil.

There is no shortage of aquatic invasive species trying to hitch a ride closer and closer to LaValle's lakes. Two such species are the Rusty Crayfish and the Zebra Mussle.

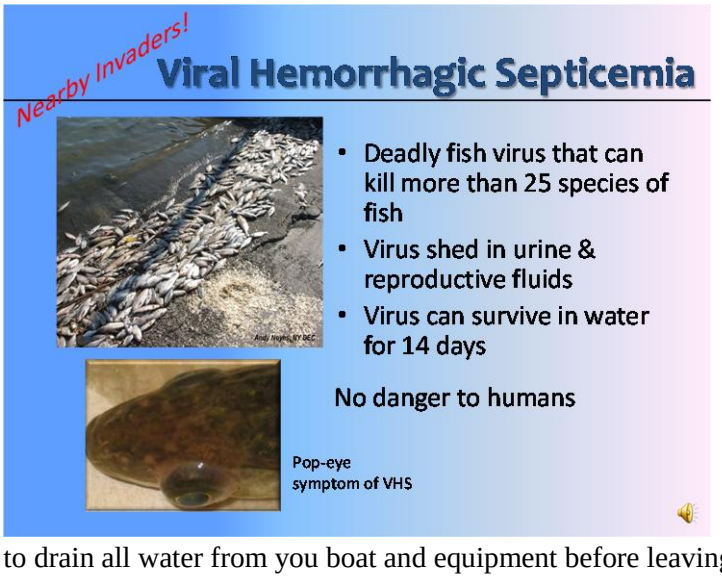
On the left, the Rusty Crayfish is an aggressive species that competes with native crayfish for food and space. They also eat a lot more vegetation than native crayfish and can devastate aquatic plant beds; or conversely they can assist with the spread of non-native species like Eurasian Water-milfoil and Curly-leaf Pondweed by helping to break the plant up into fragments, which we know can start new plant colonies elsewhere.

On the right, we have the Zebra Mussel. Zebra Mussels attach to any hard surface, including docks, piers, boats and even other mussels. This becomes a problem as they can clog water intakes resulting in huge clean-up expenses. They can even sink navigational markers and fishing buoys.

Furthermore, they are filter feeders and can quickly clarify the water in a lake. This may seem like a good thing, but it reduces food for young fish and can lead to algea blooms

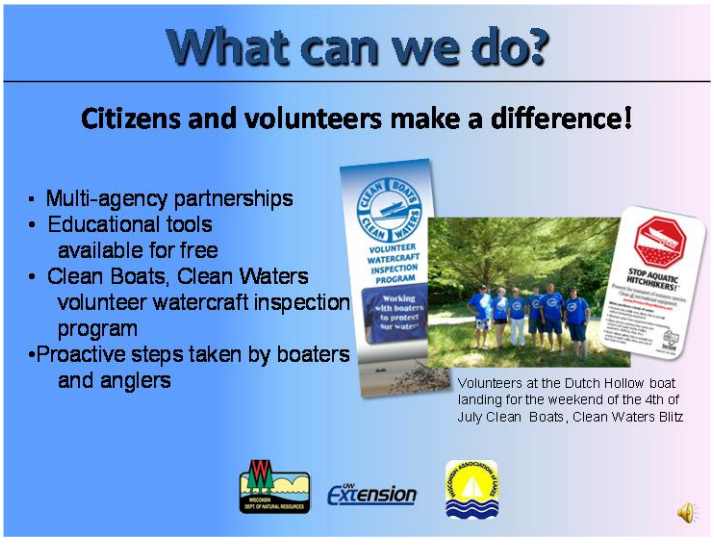
Zebra Mussel larvae are microscopic and can travel on boats and in bait buckets without us knowing, so it is important to drain any water and completely dry off your equipment before traveling to another lake.

To date, these species do not appear to be in either Lake Redstone or Dutch Hollow Lake. With vigilance and pro-active lake protection practices, we can keep it that way.

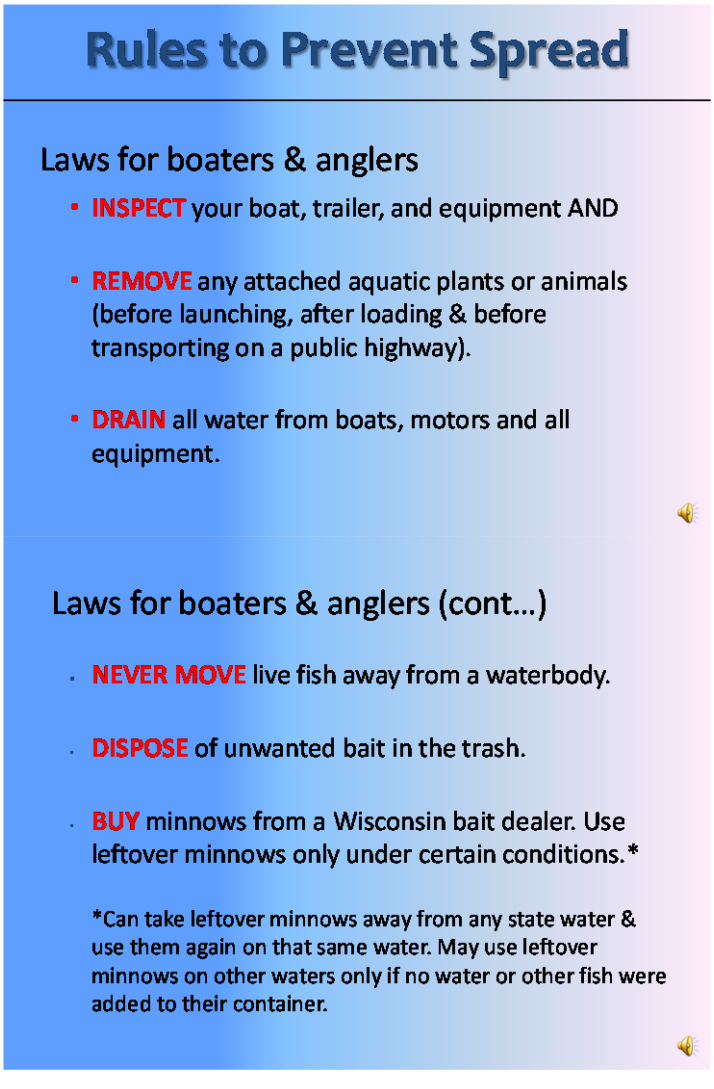


Viral Hemorrhagic Septicemia, or VHS, is an invasive virus that is deadly to more than 25 species of fish in Wisconsin, but it's not a threat to people who handle infected fish or want to eat their catch. Infected fish shed the virus in their urine and reproductive fluids. This virus can survive in water for at least 14 days. Virus particles in the water infect gill tissue first, and then move to the internal organs and the blood vessels causing the fish to bleed internally. Large fish kills have been reported in lakes that have the VHS virus.

No one is sure how the virus arrived in WI. It may have been introduced by fish migrating from the Atlantic Coast or in the ballast water of ocean-going ships. But it's important, once again, to remember to drain all water from you boat and equipment before leaving the lake and avoid transporting live fish from one waterbody to another.



So, what can we as citizens do to stop the spread of aquatic invasive species? Citizens and volunteers do make a difference!
There are many efforts underway to prevent and control the spread of aquatic invasive species that anyone can get involved in.
Multiple agencies such as the DNR, UW-Extension, the Wisconsin Association of Lakes, and the UW Sea Grant are heavily involved in education and outreach. You may see their publications, signs, displays, etc. near boat launches or in bait shops. Take some time to read these publications to make sure you understand how aquatic invasive species are spread and what you can do to help.
Also, the DNR and UW-extensions runs a volunteer watercraft inspection program called Clean, Boats Clean Waters. The Clean Boat, Clean Waters volunteers staff Wisconsin's boat launches and educate boaters about aquatic invasive species.
Lastly, there are a few steps that any lake user should do to prevent accidentally spreading before entering or leaving a lake. The next few slides show what these steps are.



You are likely to see Inspect, remove, drain, and never move posted at boat landings across the state. These steps are vital to preventing the spread of aquatic invasive species. New laws passed in 2009 actually make it illegal to NOT take the AIS prevention steps listed on these slides.
So
INSPECT your boat, trailer, and equipment AND
REMOVE any attached aquatic plants or animals before launching, after loading & before transporting on a public highway.
DRAIN all water from boats, motors and all equipment.

NEVER MOVE live fish away from a waterbody.
The final two:
DISPOSE of unwanted bait in the trash.
BUY minnows from a Wisconsin bait dealer. Use leftover minnows only under certain conditions. Have some caveats.
You may not transport any live fish or live fish eggs away from any state waters, but there is an exception for minnows obtained from a Wisconsin bait dealer. These minnows may be transported away live and used again: On the same water, or
On any other waters if no lake or river water, or other fish were added to their container.
For more specific information on these rules, contact the department of natural resources or you local Warden.

Along with these rules, state law NR 40 makes it illegal to launch, load, or transport boat, trailer or boating equipment with aquatic plants attached or with water in livewell or equipment. These laws can be enforced by conservation wardens or local law enforcement officers and large fines can be assessed. For more specific information on these rules and laws, contact the department of natural resources or you local Warden.

The Town of La Valle was awarded an aquatic invasive species education grant for the year of 2011. The goal was to involve the local community in protecting both Lake Redstone and Dutch Hollow Lake from these invaders.
The town revived and expanding the Clean Boats, Clean Waters Program, organized educational presentations for lake residents and students, and involved high school students in scientific research on aquatic invasives in these lakes.
On the top left we see WDNR staff gives a hands-on training workshop for volunteers of the Clean Boats, Clean Waters program
Both the lower left hand corner and upper right corner show students from an AP Environmental Science class collecting plant samples and water chemistry data on Lake Redstone
Clean boats, clean waters volunteers speak to a boater about inspecting his boat for aquatic invasive species before leaving the boat launch inhe final picture in the lower right hand corner

As stated previously, as part of the education grant, the Town of LaValle started a Clean Boats, Clean Waters program for Lake Redstone and Dutch Hollow.
The Clean Boats, Clean Waters volunteer watercraft inspection program is an opportunity to take a front line defense against the spread of aquatic invasive species. The program was developed in 2002 by three middle school students in an effort to stop the spread of Eurasian water-milfoil and other nuisance species in local lakes and to positively affect their community using science and education.
The Clean Boat, Clean Waters has since been adopted by UW-extensions and the DNR and volunteers staff lakes across the entire state.
This volunteer program teaches citizens how to conduct a boater education program in their community. Volunteers first learn and then teach boaters which aquatic invasive species are threats, why invasives are problematic, and why inspecting and removing aquatic plants and animals from watercraft is important. In addition, volunteers are trained on how to organize a watercraft inspection program, how to inspect boats and equipment while interacting with the public, and how to identify the most common invasive species.

Time and time again boaters reported that watercraft inspectors at the landings are the most effective way to spread the message of AIS. So look for the volunteers in the blue shirts at Lake Redstone and Dutch Hollow to learn more about aquatic invasive species.

We want people to continue to enjoy fishing and boating on Lake Redstone & Dutch Hollow, but need lake users to do their part.

Citizens play an important role in protecting local and state-wide water resources by preventing the introduction of and controlling the spread of aquatic invasive species into our valuable waters.
To get involved or to find out more about aquatic invasive species resources please contact the Town of La Valle or Gary Herritz, the volunteer coordinator for the Clean Boats, Clean Waters program.
Working together for keep our lakes beautiful.

Appendix D – News Media

Reedsburg Independent, Thursday, July 14, 2011 • Page 18

Clean Boats Clean Waters volunteers work at one of the boat landings in the Town of LaValle to inform boaters about the dangers of inadvertently transporting invasive species on their watercraft.

Cazenovia Reds fall to Richland Center

The Cazenovia Reds suffered a tough 14-5 loss to Richland Center on Sunday in Home Talent League action. The defeat knocked the Reds' record in the Western Division of the Northern Section down to 4-9, putting Caz in a virtual third place tie with Mazomanie and Plain. The top four finishers in the division will make the playoffs.

With three games left to play in the regular season, Cazenovia hosts Plain in a very important game this Sunday at 1 p.m.

Last Sunday Richland Center, which was winless coming into the game, scored six runs over the first two innings, to take early control. Jared Fish and Sam Overlien each had two hits for the Reds against Richland Center.

Spots still available for World's Fair Open/Bob Schmitt Memorial Golf Outing this Sat.

Clean Boats Clean Water helps keep invasives out of LaValle lakes

by Gary Herritz

Last September, the Town of La Valle was awarded a grant to address the monitoring and prevention of aquatic invasive species (AIS) for Lake Redstone and Dutch Hollow Lake. The grant application was written by Bev Vaillancourt with the support of the La Valle Town Board, the Dutch Hollow Lake Association Board, and Lake Redstone Protection District Board.

For anyone unfamiliar with the Clean Boats Clean Waters program, it is a training tool to inform individuals using the boat landings and the lakes in general about aquatic invasive species. These include such things as Eurasian milfoil, curly tail pond leaf, and zebra mussels. Many materials are provided on the identification, the removal and disposal, and also how fast these species can take over a lake.

The call went out for volunteers to participate in the Clean Boats Clean Waters program as part of the grant's efforts to educate individuals about aquatic invasive species. The program sounded interesting, so I thought I would give it an afternoon of my time.

After working as a volunteer for roughly six hours on the Clean Boats Clean Waters program on July 2, I have to give my thanks to the Town of LaValle for submitting the grant application and to the DNR for funding this program. I was expecting to go out to the town's public boat landings and offer advice and be ignored for the most part, but this was 100 percent opposite of what happened at the landings.

After the first few visitors, it was clear that most had a very limited scope or no scope at all of the potential damage brought about by invasive species in our lakes. They were also unfamiliar with the laws that go along with AIS including draining the bilge, draining live wells, and making sure no vegetation is present on the boat, vehicle, or trailer. These are very easy things to do and take only a few seconds. After talking to a conservation warden the fine for first offense is around $300 and second over $500, so taking that minute of extra time to do these tasks is worth every second after seeing those numbers.

So why now? Well, I think there are a couple answers to this question. 1.) The DNR has been educating for multiple years and now the time for enforcement is drawing very close. 2.) This is a very proactive program for La Valle's lakes. Though we do have Eurasian milfoil on the lakes, as of yet there are no zebra mussels present or any signs of Viral Hemorrhagic Septicemia (VHS). But, zebra mussels are in nearby lakes, so concern needs to be foremost for boats that come to Lake Redstone or to Dutch Hollow Lake from contaminated lakes.

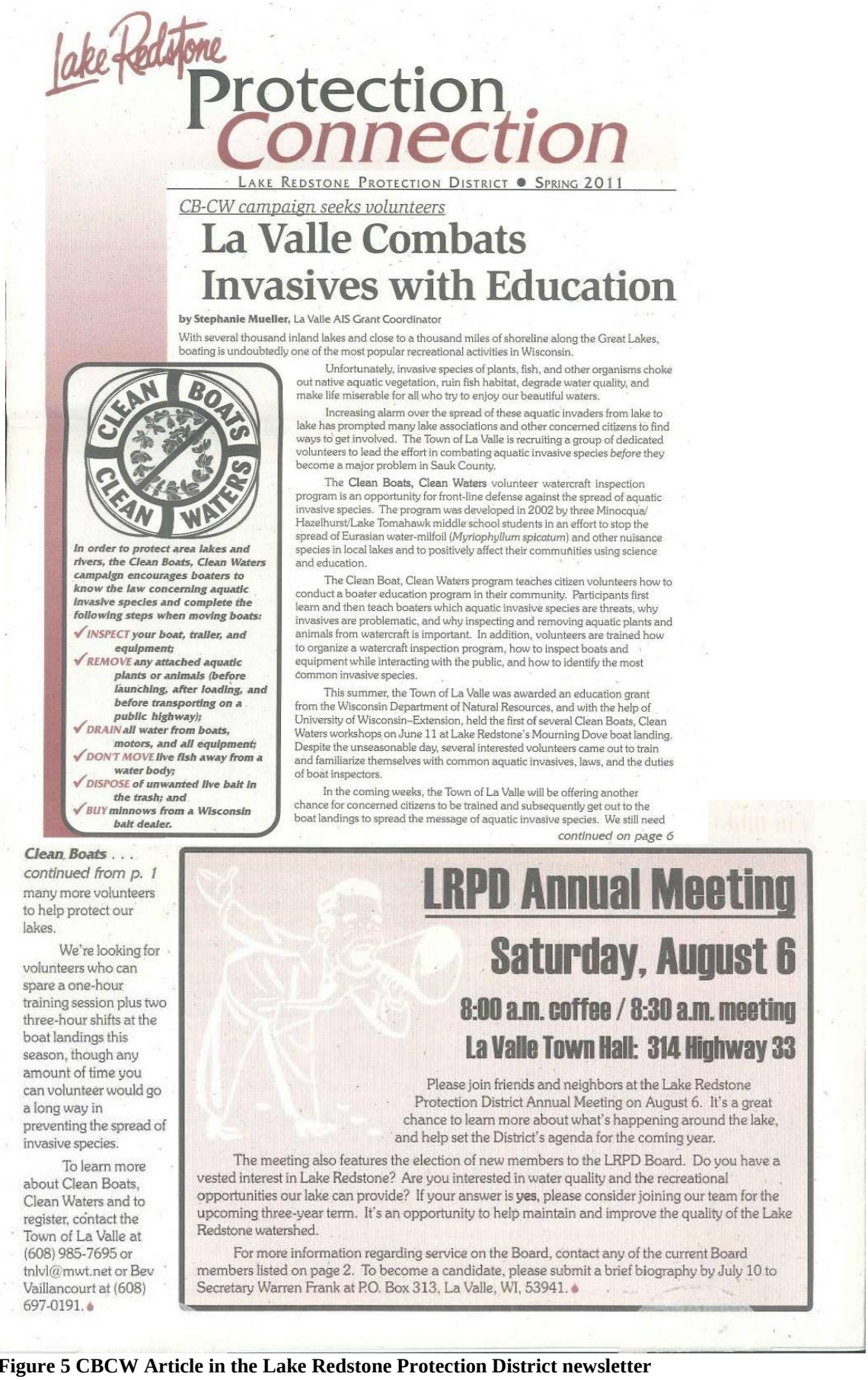
Between the two groups of volunteers last Saturday, we spoke to almost 60 unique boating groups. Some boats were coming up from fishing the Winnebago system, which is the only inland system in Wisconsin that has VHS. VHS can cause large fish kills and affects many gamefish as well. It would only take a couple gallons of water from one of these systems to infect water bodies the size of Redstone or Dutch Hollow.

What would be great is to have some more volunteers, though many individuals may think that because they only use lakes in La Valle, there really is no need to get involved. But we need to be mindful of boats coming into our lakes. I know that a lot of people may not want to give up half a day on a weekend, but anytime would be better than no time, including time on a Friday afternoon or Sunday afternoon. It's easy to volunteer. Just call the La Valle Town Hall at 608-985-7695 to share your contact information. Project manager, Stephanie Mueller, will get back to you. High school students also are welcome to volunteer.

So when you see Clean Boats Clean Waters volunteers in their blue T-shirts at the landings, give us just a second of your time to give you some literature that I encourage you to read. We will explain what the state is requiring of boaters when a boat leaves a body of water. I decided to participate in this program for the love I have for the lakes in the area. Together we can help keep our lakes healthy. Thanks a lot!

Pirates clinch Home Talent

Figure 4 Newspaper article in the Reedsburg Independent



Lake Redstone Protection Connection

LAKE REDSTONE PROTECTION DISTRICT • SPRING 2011

CB-CW campaign seeks volunteers

La Valle Combats Invasives with Education

by **Stephanie Mueller,** La Valle AIS Grant Coordinator

With several thousand inland lakes and close to a thousand miles of shoreline along the Great Lakes, boating is undoubtedly one of the most popular recreational activities in Wisconsin.

Unfortunately, invasive species of plants, fish, and other organisms choke out native aquatic vegetation, ruin fish habitat, degrade water quality, and make life miserable for all who try to enjoy our beautiful waters.

Increasing alarm over the spread of these aquatic invaders from lake to lake has prompted many lake associations and other concerned citizens to find ways to get involved. The Town of La Valle is recruiting a group of dedicated volunteers to lead the effort in combating aquatic invasive species *before* they become a major problem in Sauk County.

The **Clean Boats, Clean Waters** volunteer watercraft inspection program is an opportunity for front-line defense against the spread of aquatic invasive species. The program was developed in 2002 by three Minocqua/Hazelhurst/Lake Tomahawk middle school students in an effort to stop the spread of Eurasian water-milfoil (*Myriophyllum spicatum*) and other nuisance species in local lakes and to positively affect their communities using science and education.

The Clean Boat, Clean Waters program teaches citizen volunteers how to conduct a boater education program in their community. Participants first learn and then teach boaters which aquatic invasive species are threats, why invasives are problematic, and why inspecting and removing aquatic plants and animals from watercraft is important. In addition, volunteers are trained how to organize a watercraft inspection program, how to inspect boats and equipment while interacting with the public, and how to identify the most common invasive species.

This summer, the Town of La Valle was awarded an education grant from the Wisconsin Department of Natural Resources, and with the help of University of Wisconsin–Extension, held the first of several Clean Boats, Clean Waters workshops on June 11 at Lake Redstone's Mourning Dove boat landing. Despite the unseasonable day, several interested volunteers came out to train and familiarize themselves with common aquatic invasives, laws, and the duties of boat inspectors.

In the coming weeks, the Town of La Valle will be offering another chance for concerned citizens to be trained and subsequently get out to the boat landings to spread the message of aquatic invasive species. We still need

continued on page 6

CLEAN BOATS CLEAN WATERS

In order to protect area lakes and rivers, the Clean Boats, Clean Waters campaign encourages boaters to know the law concerning aquatic invasive species and complete the following steps when moving boats:

- ✓ ***INSPECT your boat, trailer, and equipment;***
- ✓ ***REMOVE any attached aquatic plants or animals (before launching, after loading, and before transporting on a public highway);***
- ✓ ***DRAIN all water from boats, motors, and all equipment;***
- ✓ ***DON'T MOVE live fish away from a water body;***
- ✓ ***DISPOSE of unwanted live bait in the trash; and***
- ✓ ***BUY minnows from a Wisconsin bait dealer.***

Clean Boats . . .
continued from p. 1

many more volunteers to help protect our lakes.

We're looking for volunteers who can spare a one-hour training session plus two three-hour shifts at the boat landings this season, though any amount of time you can volunteer would go a long way in preventing the spread of invasive species.

To learn more about Clean Boats, Clean Waters and to register, contact the Town of La Valle at (608) 985-7695 or tnlvl@mwt.net or Bev Vaillancourt at (608) 697-0191.

LRPD Annual Meeting

Saturday, August 6

8:00 a.m. coffee / 8:30 a.m. meeting

La Valle Town Hall: 314 Highway 33

Please join friends and neighbors at the Lake Redstone Protection District Annual Meeting on August 6. It's a great chance to learn more about what's happening around the lake, and help set the District's agenda for the coming year.

The meeting also features the election of new members to the LRPD Board. Do you have a vested interest in Lake Redstone? Are you interested in water quality and the recreational opportunities our lake can provide? If your answer is **yes**, please consider joining our team for the upcoming three-year term. It's an opportunity to help maintain and improve the quality of the Lake Redstone watershed.

For more information regarding service on the Board, contact any of the current Board members listed on page 2. To become a candidate, please submit a brief biography by July 10 to Secretary Warren Frank at P.O. Box 313, La Valle, WI, 53941.

Figure 5 CBCW Article in the Lake Redstone Protection District newsletter