

NR 115 - Shoreland Zoning

Working Our Way To Healthier Waters



The land surrounding our beautiful state waters is not only a means to an end; we don't just use it to get to the water. It's where we keep our homes – humans, animals and insects alike – it's where we picnic and walk with a friend, it's where memories are made and remembered. The shores of our lakes, rivers and streams are their security blanket, their shock absorber, and the people of Wisconsin believe it's worth keeping them healthy for the sake of our waters. One of the ways Wisconsin tries to accomplish this is through rules like NR 115 that help keep this "security blanket" strong.

Background

One of the major tools in caring for our shorelands is undergoing change. Shoreland development regulations are a major component of the state's "protect, conserve and restore" lake management strategy. While public ownership or conservation easements protect many miles of critical lake and river shorelands, private land owners (who may or may not be citizens) control what happens on the vast majority of this ecosystem. Many lake property owners are protecting and even restoring their shorelands voluntarily to ensure their lake's natural scenic beauty, minimize water quality impacts and provide important habitat. Unfortunately, not all waterfront owners share a conservation ethic regarding shorelands and many people underestimate the role shorelands play in healthy water resources. Shoreland development regulations provide a common minimum level of statewide lake protection by trying to reduce the negative environmental and aesthetic impacts associated with shoreland building and development projects.

What is going on now?

Wisconsin's Shoreland Protection Program provides the minimum requirements that counties must follow to ensure compliance with state statutes and administrative codes. After seven years of debate and public input, the key rule in this program, NR 115, was updated in 2010. Counties now have until February 2012 to modify their ordinances to comply with the new rule. In addition to the rule, the DNR has updated its model shoreland zoning

ordinance that provides an example of the language counties can use to make sure their changes are consistent with the new rule. The new language draws from existing county zoning codes that satisfy NR 115 and offers options for increased lake protection.

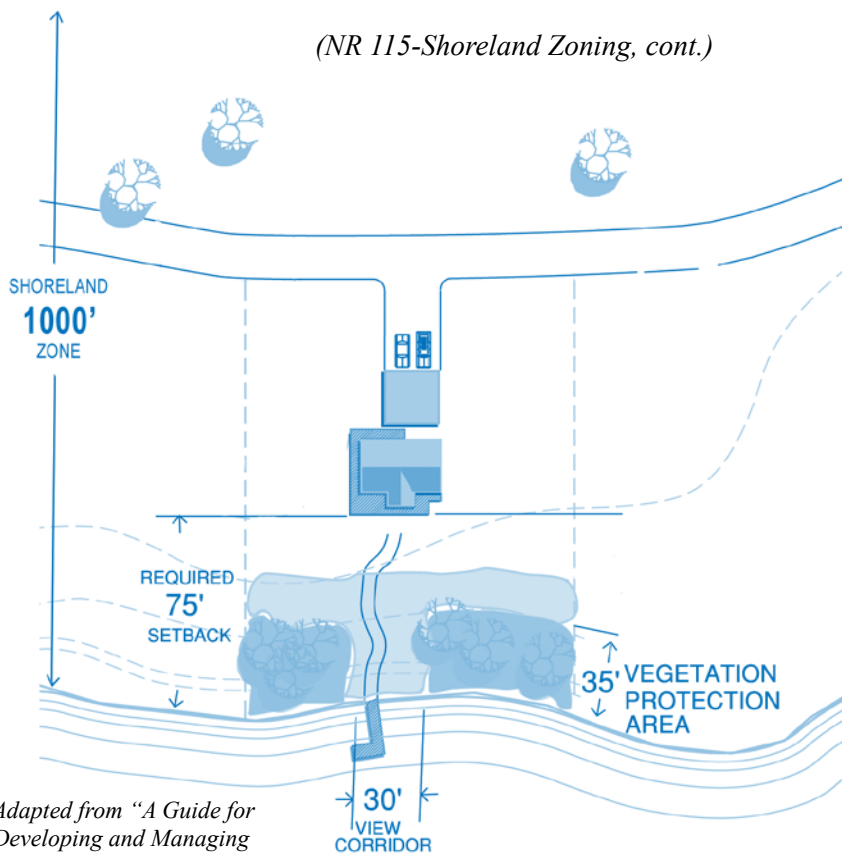
Shoreland Zoning is Required by Law

Section 281.31, of Wisconsin State Statutes, provides that shoreland subdivision and zoning regulations shall: "further the maintenance of safe and healthful conditions; prevent and control water pollution; protect spawning grounds, fish and aquatic life; control building sites, placement of structure and land uses; and reserve shore cover and natural beauty." Other provisions of law require counties to implement these protections through shoreland zoning regulations for unincorporated areas as guided by the Department of Natural Resources. These 44-year-old laws have not changed, but the DNR has modernized its Administrative Code to guide how the law is implemented.

What exactly do counties have to do?

At a minimum, counties must revise their ordinances to meet or exceed the new standards identified in NR 115. Since the code replaces or modifies some of the old statewide standards, all current ordinances will need some modification. What counties do not need to do is simply repeal their current ordinance and adopt the new model. The fact is, since the DNR shared the original

(Continued on page 2)



Adapted from "A Guide for Developing and Managing Shoreland in Burnett County"

"Keep what you have" is one of the main points of the new NR 115.

model ordinance with counties in the 1960s, many communities have developed their own rules to reflect a stronger local desire to protect lakes. In these cases, adoption of the model ordinance would be a step backward and inappropriate since many counties integrate shoreland development regulations with other land use, subdivision and building codes. Almost all counties have responded to requests from local people familiar with the nearby lakes and streams for some provisions in their local ordinances that are more restrictive than the state minimums. To keep their lakes healthy, counties may choose to retain their more restrictive provisions, or even use this opportunity to include more shoreland protection measures.

How does this affect homeowners?

None of the new rules immediately affect existing properties or structures, and until a county adopts a revised ordinance, their existing rules still apply. "Keep what you have" is one of the main points of the new NR 115. When a homeowner is considering a future change or expansion of their home or other structures in the shoreland zone, the new rules will likely mean more options and opportunities than are available today.

Some standards will remain the same. The shoreland zone is still 1,000 feet from lakes and 300 feet from rivers and streams. Homes must still be set back at least 75 feet from the water. Minimum lot size requirements remain at 20,000 square feet for homes with septic systems and 10,000 square feet for those served by municipal sanitary sewers.

Major changes to shoreland standards include:

Vegetation removal

There are more explicit standards limiting the removal of shoreland vegetation in new development. Previously the code allowed clearing most but not all shoreland vegetation. The new law requires the preservation of trees, shrubs and understory, eliminating existing "loopholes" that in effect allowed clearcutting.

Legal pre-existing (or nonconforming) structures

Expansion of an existing home closer than 75 feet from the water is allowable under the new NR 115 in some cases: a property owner can build a second story or otherwise add-on vertically, if their existing house is at least 35 feet back from the water. The new law also allows unlimited interior repairs and modifications. However, property owners expanding the physical footprint of a non-conforming structure will be required to offset or "mitigate" the environmental impact of the expansion.

Some shoreland standards are new:

Height restrictions

The new law limits the maximum vertical height of a shoreland structure to 35 feet. Previously there was no maximum. This provision protects the visual integrity and natural beauty of lakes and rivers.

Impervious surface restrictions

A new standard caps the total amount of hard or "impervious" surfaces such as roofs, pavement and decks allowed on shoreland property. The caps apply only to properties within 300 feet of lakes or rivers, and they do not affect existing property owners unless the owners seek to make changes that would cover up more land with hard surfaces. No limitations exist for additions or new buildings where the lot's impervious surfaces do not



exceed 15 percent of the total lot size. Where the sum total of impervious surfaces is between 15 percent and 30 percent of the lot size, property owners would be required to mitigate the environmental impact of their proposed project.

Why get involved locally?

Many counties in northern Wisconsin, and some in southern Wisconsin, have gone well above the minimum with their shoreland ordinances. In response to the building boom of the 1990s, the state supported counties with plans to protect their lakes through lake classification grants. Approximately 30 counties have participated in the program and 17 of them enacted deeper setbacks and larger minimum lot sizes than NR 115 requires for classes of smaller and more development-sensitive lakes, rivers and streams. That translates to some 8,300 smaller, lightly developed lakes, and thousands of miles of rivers and streams that are now permanently protected from over-development that could legally occur under state minimums. These waters will never see the density of development and the consequential impacts of shoreland development allowed on larger, somewhat more resilient lakes and waterways. Ideally, the new NR 115 provisions should not have any significant impact on the regulations in place for the more restrictive classifications.

The lakes need citizen advocates once again. Your ideas and points of view were crucial over the past years to fashion and revise the state standards. Now your time, talents and thoughts are needed to shape how this revised law will be implemented in your county and at your local lake. There are fears that some counties will use the guise of a new “state mandate” as an opportunity to repeal regulatory gains made through lake classification. “I don’t see that happening, though there could be a change in momentum when the issues come to the table in county committees,” says Earl Cook, President of the Wisconsin Association of Lakes who also served on the State’s NR 115 revision committee. “Hopefully, discussions will revolve around lake-healthy options as counties revise their ordinances.”

There are several different opportunities available for stakeholders to get engaged at the


What is Mitigation?

As you may have noticed, mitigation is a big deal in the new NR 115. It will be required when a lot is developed with hard impermeable or impervious surfaces (mostly roofs and pavement that sheds rather than absorbs rainfall), exceeding 15% of the property. No property may exceed 30% impervious surface. Though 30% and even 15% is high compared to what scientific research suggests to maintain healthy waters, the old rules had no limit on impervious surfaces. While 15% is the statewide minimum, counties may decide to require mitigation when a permit is required for any expansion or disturbance in the shoreland zone as long as it also clearly applies the 15% provision.

The new law requires counties to include a mitigation provision but does not prescribe the techniques or methods. Mitigation schemes already in place in some counties include planting a buffer, removing impervious surfaces in the buffer areas, like boat houses, sheds or patios, installing rain gardens and things as simple as redirecting downspouts away from the lake or toward side yard swales or wetlands.

Robert Korth



local level. The winter edition of *Lake Tides* will describe some of the specific questions that local ordinances must resolve, including a definition of what counts as impervious surface and detailed provisions for mitigation. In spring, we will be sharing examples of innovative county codes and revision processes that effectively ensure long term lake protection. In the meantime, check out the online resources available from UW-Extension Lakes (www.uwsp.edu/cnr/uwexplakes) and Wisconsin Lakes (www.wisconsinlakes.org).

“Hopefully, discussions will revolve around lake healthy options as counties revise their ordinances.”

- Earl Cook

By Carroll Schaal, Wisconsin Department of Natural Resources



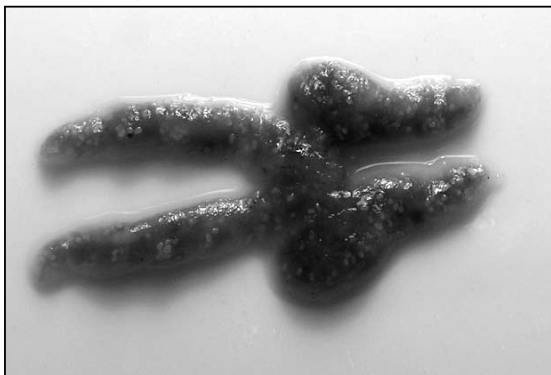
Parasite Appears to Reduce Rusty Crayfish Populations

Trapping [of rusty crayfish] was discontinued in 2007 [on Middle Eau Claire Lake] due to declining catches.

Since about 1980, Middle Eau Claire Lake in Bayfield County was widely known as the place to go to trap rusty crayfish. Commercial crayfish trappers operated hundreds of traps in the lake every summer. One trapper reported trapping 16,000 pounds of crayfish during one month! Then, a few years ago, the population quickly dropped. Trapping was discontinued in 2007 due to declining catches. Declines in abundant rusty crayfish populations had also been noted in a few other northwest Wisconsin lakes.

In 2008, rusty crayfish from Middle Eau Claire Lake were sent to Dr. John Hawke at Louisiana State University to check for the presence of disease. Dr. Hawke found that the crayfish livers were heavily infected with a trematode parasite. Samples were sent to Dr. Robin Overstreet at the University of Southern Mississippi (USM), who identified the parasite as *Microphallus sp.*

Provided by Craig Roesler



Extracted rusty crayfish liver with Microphallus metacercariae visible (2x). Liver color can be a range of yellows or greens. Metacercariae are usually not clearly visible without magnification, especially on lighter colored livers.

This genus of trematode parasite has a 3-stage life cycle. A snail is the initial host. Cercariae released by the snail then infect the liver of a crayfish and develop into metacercariae.

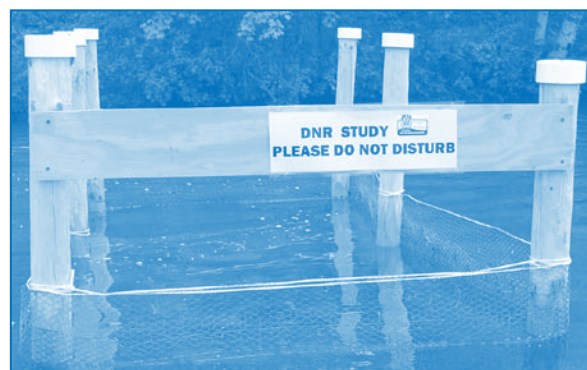
A final host, which is probably a bird or

mammal, feeds on the crayfish and becomes infected, with the adult trematode attaching to the host's intestinal wall. Eggs released with feces hatch into larvae that infect snails and complete the cycle.

What Caused the Crayfish Crash?

Was the parasite the cause of the rusty crayfish population crash in Middle Eau Claire Lake? Additional work was done in 2009 to try to answer that question. Crayfish were collected from 37 additional lakes. Fourteen of the 38 lakes had a significant presence of

Microphallus. Most lakes with low densities of rusty crayfish (79%) were found to have *Microphallus* present. Most lakes with high densities of rusty crayfish (92%) were found to have *Microphallus* absent. This suggests *Microphallus* is limiting rusty crayfish abundance.



Provided by Craig Roesler

Crayfish cage enclosure.

A caged crayfish exposure test was also conducted in 2009 in Middle Eau Claire Lake. Uninfected specimens of rusty crayfish and our 2 most common native crayfish, the northern clearwater crayfish and the virile crayfish, were placed in cages in the lake over the summer. At the end of the summer the crayfish averaged 233 parasites per liver. All 3 species of crayfish had comparable levels of the parasite.

Additional Work In 2010

- Dr. Overstreet at USM has identified a snail host of the parasite, *Amnicola limnosa*. This is a small snail about 1/8 inch in length that can be abundant on aquatic vegetation. He is also doing DNA testing to determine the species of *Microphallus* present and whether there is more than one species.
- Kevin Towle, a student at the University of Notre Dame Environmental Research Center, conducted a shelter competition behavior test using northern clearwater crayfish (*Orconectes propinquus*) with



varying levels of the *Microphallus* parasite. Two crayfish of similar size and sex were placed in a container with a single shelter present. The crayfish that competed effectively for the shelter were found to have far fewer parasites per liver (mean = 1.5) than the crayfish that were excluded from the shelter (mean = 16). This suggests that *Microphallus* may reduce a crayfish's competitiveness for available cover and make them more susceptible to be eaten by predators.

- Several lakes sampled in 2009 were trapped to provide better estimates of rusty crayfish populations. In Middle Eau Claire Lake, 35 traps set overnight captured only 3 crayfish. This shows how dramatic the population decline has been in this lake.
- Rusty crayfish and northern clearwater crayfish co-existing along a shoreline at Lac Courte Oreilles (Sawyer County) were examined. Both species were found to have similar levels of infection by *Microphallus*. This further indicates that native crayfish and rusty crayfish are equally susceptible to *Microphallus* when

they occupy similar habitats and locations.

- The Town of Plum Lake Lakes Committee trapped rusty crayfish in Plum Lake and Star Lake (Vilas County). Both lakes had similar catch rates (12 crayfish per trap). Plum Lake had an average of 1,921 *Microphallus* per liver, while Star Lake had an average of only 4 *Microphallus* per liver. While Plum Lake still has a fairly high density of rusty crayfish, trapping data from 2002 to 2010 does suggest a downward trend. The Committee plans to trap these lakes annually for a while, so it will be interesting to see what happens. 💧

By Craig Roesler, Wisconsin Department of Natural Resources, Hayward



Q&A Lake Districts

We often get phone calls and emails from Lake Tides readers with a variety of questions about lake districts. Do you have a question about lake districts that you would like to see answered in Lake Tides? Send it to uwexlakes@uwsp.edu so we can include it in a future issue.

Q: What specific actions are required of the electors and property owners at the annual meeting?

A: The lake district law requires that the electors and property owners at the annual meeting conduct an election to fill vacancies in the positions of elected commissioners, and that they approve a budget for the coming year. In addition to these required actions, the electors and property owners at the annual meeting are authorized to take other actions, such as appropriating money for the conservation of natural resources or approving borrowing, among others. These discretionary powers may only be used by the electors and property owners. These actions cannot be taken by the board of commissioners without authorization by the electors and property owners at the annual meeting or a special meeting.

For more information on lake districts, see *People of the Lakes: A Guide for Wisconsin Lake Organizations*, www.uwsp.edu/cnr/uwexlakes/districts.



Citizens Keep Tabs on AIS

An ever-growing concern facing all of us today is the encroachment of invasive species and the negative impacts they can impose on the natural resources that we all enjoy. The Wisconsin Lakes Partnership along with several county staff members have been working with volunteers through the Clean Boats Clean Waters (CBCW) program and the Citizen Lake Monitoring Network (CLMN) to not only train and educate others, but to monitor for the more common aquatic invasive species (AIS). Monitoring data is then used to allow resource managers to better understand the life cycles and the spread of AIS in their new environment. Additionally, volunteer data is provided to the state legislature, federal, tribal, and local agencies, all of whom may use the data to determine funding for program expansion and/or grants to help educate, contain, or control invasive species. With a task as daunting as managing invasive species, stories of new infestations and continued spread may dominate headlines while stories of success, which are desperately needed, are in short supply.

In 2010, over 300 participants attended workshops where they learned about either becoming an AIS casual observer or conducting the AIS monitoring for the Citizen Lake Monitoring Network.

Joe Mass is among the volunteers on the Cloverleaf Chain in Shawano County monitoring for AIS, including rusty crayfish (*Orconectes rusticus*). They follow the protocol developed by the CLMN. Rusty crayfish are native to the streams in the Ohio River Basin and were likely introduced to Wisconsin primarily by anglers who used them as bait. Once introduced to a lake or stream, the rusty crayfish can quickly outcompete the native crayfish populations for food and space. These voracious feeders eat up to four times the amount of forage as native crayfish and commonly chase native

crayfish from their burrows, making the native crayfish more vulnerable to be eaten by predators. Additionally, as a result of their messy eating habits, rusty crayfish can decimate an already compromised aquatic plant community. By eating only a small portion of the plant fragments they clip off and allowing the other pieces to float away, these mini-lawn mowers accelerate the spread of plants such as Eurasian water-milfoil (*Myriophyllum spicatum*) or curly-leaf pondweed (*Potamogeton crispus*) which reproduce by fragmentation.

Since 2005, Joe has been trapping rusty crayfish, and the capture numbers have shown a dramatic reduction; 400 individuals trapped in 2005 compared to 3 captured in 2010.

During trapping, the largest of the rusty crayfish population are typically captured, while the smaller specimens remain. The benefits of smaller specimens are two fold: 1. They are easier for fish to prey upon, thereby allowing the fish to help keep the rusty population in balance, and 2. They do not out-compete the native crayfish to the same extent as the larger rusty crayfish.

If a lake has both rusty crayfish and Chinese mystery snails, there are greater risks to native snail populations than if the lake has just one of these invasive species.

This is one example of the great work that our volunteers do. Please share your success stories with CLMN staff so that they can share it with others. Thank you to all who volunteer in the monitoring networks! Your participation is critical to the protection, preservation, and enhancement of our natural resources.

For more information on AIS, or to find out how to begin participating in the CLMN, please visit www.dnr.wi.gov/lakes/CLMN.

By Jay Schiefelbein, Wisconsin Department of Natural Resources



Cardinal Flower

A Bright Red Wetland Treasure

Paul Skawinski



The cardinal flower (*Lobelia cardinalis*) is one of the most beautiful flowering displays that line our Wisconsin streams in mid-late summer. Growing to over a meter tall, cardinal flowers produce many bright red, 5-petaled flowers in a raceme [rā-'sēm] (a stalk of flowers where the flowers bloom in sequence with the lowest blooming first). The individual flowers are tubular and pollinated by ruby-throated hummingbirds as the birds seek out the tasty nectar within. The history of the name 'cardinal flower' comes from the similarity of the bright red flowers to the color of the clothing worn by Roman Catholic cardinals.

Cardinal flowers are herbaceous perennials that grow well in rich, moist soils and partial shade. These conditions are typical of floodplains, which is where cardinal flower is most commonly found. The native range includes most of North America and Central America. In Wisconsin, look for them in wetlands along streams or on islands throughout the Wisconsin River system. Early in the season, the small rosettes of elliptical leaves are hard to spot, so you'll want to search for them during the blooming period. The ornamental trade has created several cultivars

of cardinal flowers, which are popular in gardens where the soil is too moist for many plant species. These are sold under names such as "Twilight Zone," "Angel Song," and "Queen Victoria" in garden centers.

A member of the *Lobeliaceae* family, cardinal flower is closely related to three other native wetland lobelias in Wisconsin, including Kalm's lobelia (*Lobelia kalmii*), great blue lobelia (*Lobelia siphilitica*), and water lobelia (*Lobelia dortmanna*). Often admired for their beauty, cardinal flowers and other lobelias can be negatively affected by people overpicking them when in bloom. Cardinal flowers and other lobelias can make striking additions to shoreline restoration projects, and are readily available for purchase on the Internet or at local garden centers. Next summer, take a walk or paddle along a wet floodplain. Watch for fiery red spires extending above the vegetation. If you're patient, you might see a ruby-throated hummingbird as it whizzes by, searching for the same wetland treasure as you. 💧

By Paul Skawinski
AIS Education Specialist
Golden Sands RC&D
SkawinsP@co.portage.wi.us

For more information go to <http://wisplants.uwsp.edu/namesearch.html> and enter cardinal flower in the 'common name' area.

Cardinal flowers and other lobelias can make striking additions to shoreline restoration projects.





2010 Data Report

Trends in Watercraft Inspection

The summer of 2010 was again a record-breaking inspection season.

Happy fall LT readers! The colors we've seen so far this autumn have been amazing in comparison to previous fall seasons, and the data that has been reported thus far by our watercraft inspectors across the state is equally impressive! Thanks to the efforts of our passionate, committed watercraft inspectors, the summer of 2010 was again a record-breaking inspection season.

This summer's inspection team was comprised of a variety of inspectors from lake organizations, citizen groups, state agencies, and non-profit organizations. Working at area boat landings, these dedicated folks educated boaters and anglers on the importance of taking action to prevent the spread of aquatic invasive species (AIS) and shared information about Wisconsin's AIS regulations,

encouraging people to drain all their water and clean plants off their boat and equipment to prevent the transport of AIS to other inland lakes. The data these inspectors collect at the landings provides us with a snapshot of boater actions and awareness of AIS in 2010, and adds another year to our long term data trends that have been collected since 2004.

Robert Korth



Ten Water Guards were also out conducting inspections and enforcing AIS regulations around the state this summer.

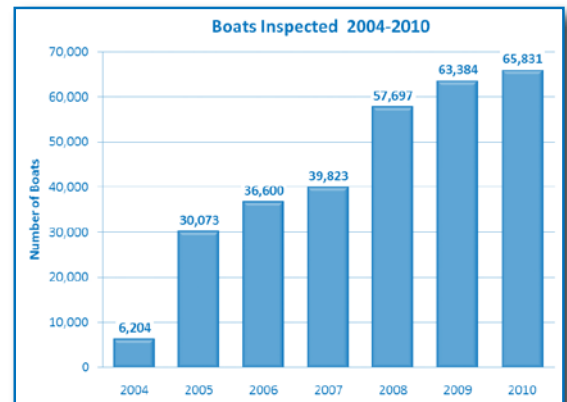
As promised, here are some impressive statewide data totals for 2010:

- ◆ 65,831 boats were inspected by volunteers and paid inspectors
- ◆ 142,104 people were contacted about the 'Clean Boats, Clean Waters' message
- ◆ Over 38,809 hours were spent conducting watercraft inspections
 - ~ 70% hours by paid inspectors
 - ~ 30% hours by volunteers
- ◆ 18% of boats had been in another waterbody in the last five days.
- ◆ Boaters and other landing users were asked about whether they took each prevention step after they last used their boat and equipment.
 - 95% said they inspected their boat and equipment for plants and removed any found

- 96% said they drained all water from their boat and equipment
- 88% said they drained all water from their fish and livewell
- 85% said they disposed of their unused bait
- ◆ 91% of boaters stated that they were aware of WI's AIS laws
- ◆ 81% of people said they would be willing to use a boat wash station at the boat landing if one was available.

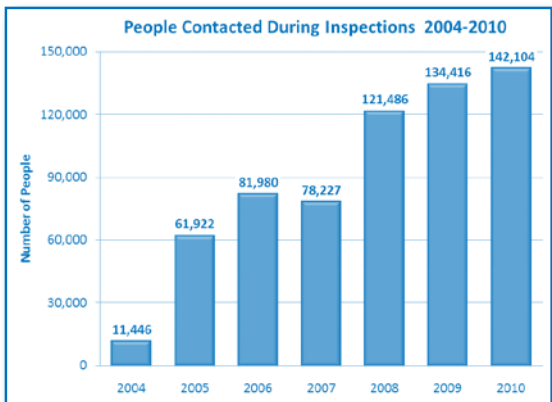
And just think, these numbers will continue to increase as more inspection data is entered over the coming weeks! The trends in the watercraft inspection data over the years are also promising, as 2010 data continued trends we were hoping would persist. These trends and new information collected for the first time this year can be seen in the following graphs.

Excitingly, boat inspections increased again this season. More inspections were conducted in 2010 than ever before!

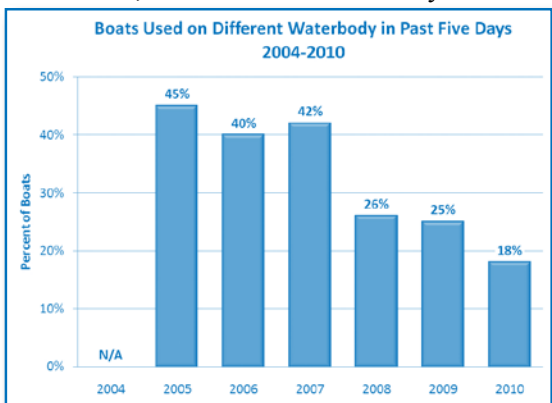


The number of contacts made at the boat landing increased again this year as well. Inspectors shared their AIS prevention message with over 140,000 people! Some of these folks may have been inspected multiple times throughout the summer as they traveled around boating, resulting in being counted as a contact more than once, but this repetition is a great thing for AIS prevention. It helps ensure our message will be remembered.

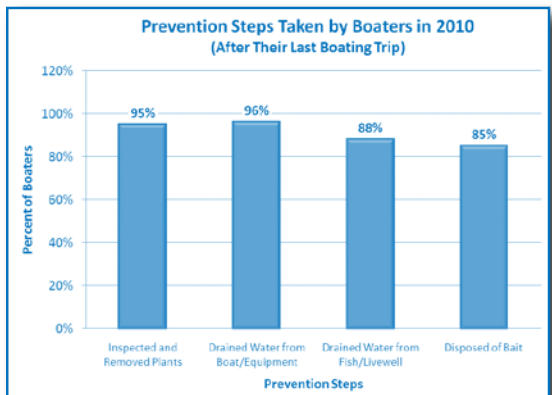




Quite a large drop was seen this year in the number of boaters who reported visiting a different waterbody in the past five days. From 2009, the number decreased by 7%.

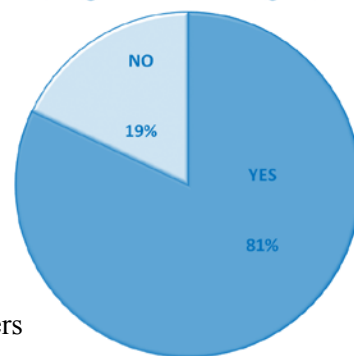


Inspectors have been asking boaters about their specific AIS preventative actions since 2008, and this season the prevention questions were broken down even more specifically to learn more about how citizens handle the AIS regulation requiring water to be drained. According to the data collected, boaters and anglers seem to inspect their boats for plants and remove them and drain the water from their boats and equipment more readily than from their fish and livewell. Also, disposing of unwanted bait was not an action taken quite as often. Perhaps this is because fewer anglers than boaters were contacted by inspectors.

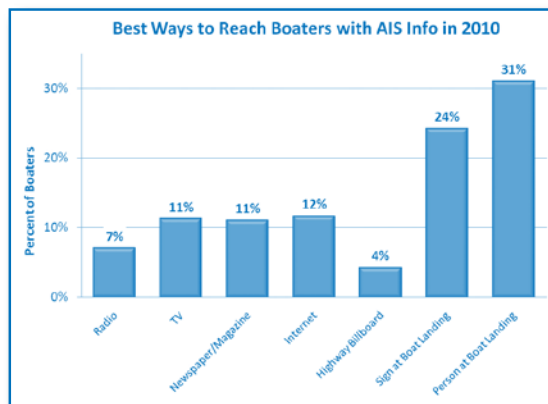


Some really interesting data was gathered in 2010 regarding boat wash stations. This year, inspectors asked boaters if they would be willing to use a boat wash station at a boat landing to clean their boat and equipment before leaving the landing if one was available. A resounding 81% of people said “Yes”!

Boaters Willing to Use a Boat Washing Station in 2010



Inspectors have also been asking boaters about their sources of AIS information for many years. This year, the question was refined to learn more about how a boater or angler can best be reached with AIS news and information. Inspectors asked “what are some good ways to reach you with AIS information?” Surprisingly, face-to-face contact with another person at the boat landing is still the number one way folks prefer to receive their information.



As you can see, the data collected by our watercraft inspectors is very valuable to our AIS program. The trends revealed provide us with information on how to best communicate our AIS prevention message and containment efforts around the state. It’s important to remind ourselves that these numbers and data trends wouldn’t exist if it wasn’t for the hard work and dedication of our Clean Boats, Clean Waters inspectors. Their efforts propel our prevention message across the state and help preserve Wisconsin’s lakes for future generations. A tremendous THANK YOU to all of you who have spent time conducting inspections over the years! 💧

The trends revealed provide us with information on how to best communicate our AIS prevention message and containment efforts around the state.

To view the complete 2010 Data Summary or for more information about *Clean Boats, Clean Waters*, go to: www.uwsp.edu/cnr/uwexlakes/CBCW/CBCWbehaviortrends_2010.pdf or contact Erin McFarlane at erin.mcfarlane@uwsp.edu or 715-346-4978.



Major Victory for Water Quality Statewide

This summer saw the culmination of years of hard work by environmental advocates, regulated parties, and the DNR to better address phosphorus pollution from both urban and agricultural sources. This victory comes in the form of two DNR administrative rule packages that were finalized in September.

Many of us are all too familiar with the impacts on our lakes from excessive phosphorus, which remains the number one culprit behind water quality problems across the state. Phosphorus is the nutrient that feeds algae blooms, including potentially toxic blue-green algae, leading to detrimental impacts on fish and wildlife, water quality and clarity, and ultimately our enjoyment of the water.

The first rule package, which modified NR 216 and 217, set water quality standards for phosphorus in all waters across the state. These are levels of phosphorus in the water above which we know problems will result. This rule package will lead to new, reduced phosphorus discharge limits for industrial and wastewater treatment plant sources. The rules will allow for a new approach to pollution “trading” between sources of phosphorus, resulting in the most cost-effective way of reducing phosphorus and meeting water quality standards. This option works by bringing together industrial and municipal sources, which bear the

majority of the regulatory and financial burden to reduce phosphorus, with agricultural sources, which generate the majority of the phosphorus pollution in the state but have historically been much less regulated. In many parts of the state, we will finally be able to reduce pervasive agricultural phosphorus pollution in a cost-effective and cooperative way.

The second major change came in revisions to NR 151, which will limit nutrient applications to agricultural land depending on the potential for phosphorus to run off from each field. The revisions will keep farmers from over-applying manure and other fertilizers that then run off into our rivers and lakes. This rule change also created a minimum setback to keep farmers from plowing too close to streams, rivers, and lakes, which causes erosion and resulting damage to the water.

When taken together, these rules will lead to significant reductions in phosphorus statewide, reducing algal blooms and significantly cleaning up our waterways over time. Implementation will take time, but we can expect visible water quality improvements in the years to come thanks to these exciting water policy developments.

By Ezra Meyer, Water Resources Specialist, Clean Wisconsin, www.cleanwisconsin.org

To read statutes relating to water quality, go to <https://health.wisconsin.gov/admrules/public/Rmo?nRmoId=4783>

WI Lake Leaders Institute - 2010 Graduates

On Thursday, October 21, 2010, near Aldo Leopold’s Shack in Baraboo, twenty-one individuals graduated from the Wisconsin Lake Leaders Institute. They joined the over 200 dedicated citizens and lake professionals who have reached

“Lake Leader” status since the institute’s inception in 1996. Each made a commitment to themselves and their “crew mates,” promising to draw from this experience in their future lake stewardship work.

Crew VIII Lake Leaders Institute graduates include:



Patrick Goggin

Rich Charts
Mary Curtis
Cathie Erickson
Rick Georgeson
Audrey Greene
Robert Heise
Nick Homan

Mike Kapocius
Maud LaMarche
Ted Ludwig
John Lyon
Tom Mahoney
Anna Mares
Peggy McAloon

Erin McFarlane
Aleisha Miller
Heather Palmquist
Karen Saarinen
Paul Skawinski
Gail Swaine
Scott VanEgeren



Korth Moves On....

After 20 years at UW-Extension Lakes I have decided it is time for me to move on. My last official day of work was September 1, 2010.

I have been a very lucky person. I had the best job one could hope for, working with the dedicated women and men preserving and protecting our Wisconsin lakes. From north to south this state is rich with those willing to roll up their sleeves and do whatever it takes to assure our legacy of lakes.

It has been an honor and a privilege to work with you, I have learned so much from you over the years. You have been a part of my extended family. We have worked together, we have struggled together, we have laughed together. I know that Wisconsin's lakes are better because of you.

Sincerely,

Robert Korth

Bob,
Thank you for all of the tireless hours you have dedicated to our Wisconsin waters!

Your loyalty and leadership are unmatched. Your friendship are treasured.

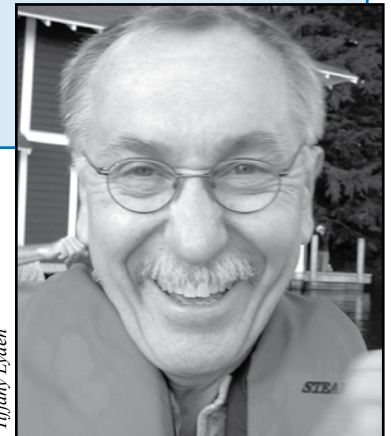
With love and admiration,
UWEX Lakes staff

Bob Korth
123 Relax Road
Chill, WI 53015

Scholarship in Korth's Honor

Those who would like to salute Bob Korth's career and retirement are asked to consider contributing to a new scholarship in his name: the "Robert M. Korth Scholarship – Blending the Arts & Science" in the College of Natural Resources at UW-Stevens Point. You can donate online by going to <http://www.uwsp.edu/Foundation/givingForm.shtm> (please specify Bob Korth Scholarship), or by sending a check made payable to "UWSP Foundation – Bob Korth Scholarship" and mailed to:

UWSP Foundation
2100 Main Street
Stevens Point, WI
54481



Tiffany Lyden



Amy Konwinski

Eric Olson
Director, Lake Specialist
UWEX Lakes
715-346-2192
eric.olson@uwsp.edu

UWEX Lakes Hires New Director

I am humbled and honored to be taking on the role of Director at the UW-Extension Lakes program. I originally hail from Minnesota but have lived in Wisconsin since 1997. Many of my favorite memories of my youth include lakes, including vacations at a mom-and-pop resort on Lake Ossawinnamakee near Brainerd and summer camp on Lake Sagatagan near Collegeville, MN. Like many people, I am naturally drawn to the calming yet ever changing qualities of water.

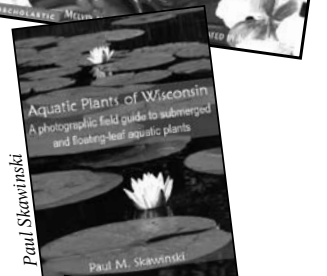
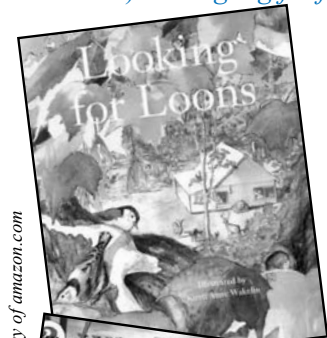
Some of you may know me from my previous role as a Land Use Specialist in the Center for Land Use Education at UW-Stevens Point. I have already worked closely with some of the *Lake Tides* readers through watershed planning projects in Douglas and Washburn Counties. In those projects, I have gained both a detailed understanding of the fragility of lakes and a deep appreciation for the time and effort that citizen volunteers and professionals invest in lake science and protection.

I am very excited to be working with the staff of the UWEX Lakes program and the great people of Wisconsin. I welcome your input and hope to hear both your successes and challenges as we carry forward the ideal of protecting in partnership our legacy of lakes.



Keeping Lakes in the Family: Books Help Us Share the Magic of Lakes

Because of the positive feedback we received, we are again offering reviews of lake books for many ages. Whether you are looking for a holiday gift, some new reading material for the cottage, or another reason to cuddle up and share some stories with the grandkids, we have reviewed some great options here (in addition to the Fall 2008 and 2009 issues of Lake Tides). Giving a gift of a book to your local library or school allows many folks to enjoy the magic of lakes.



Looking for Loons

Author: Jennifer Lloyd

Illustrator: Kirsti Anne Wakeland

This fictional story is about a family's experience watching and listening for loons on the porch of a lakeside cabin. The pencil-and-watercolor illustrations illuminate the plants and animals of the lake, creating a visually appealing and appropriate setting for loon-watching.

Why Frogs Are WET

Author: Judy Hawes

Illustrator: Mary Ann Fraser

Why Frogs are Wet is a nonfiction picture book that presents information about the physical characteristics, evolution, and behavior of frogs. The colorful acrylic pictures and interesting fun-facts makes this book ideal for children in grade-school.

Beavers

Author: Helen H. Moore

Illustrator: Terri Talas

How do beavers build dams? How long can they swim underwater without coming up for air? How do they say hello to each other? Do they ever take vacation? Find the answers to these and other questions with your young reader as you enjoy this nonfiction book.

How Do Frogs Swallow With Their Eyes?

Authors: Melvin and Gilda Berger

Illustrator: Karen Carr

This book is a children's educational picture book that provides an introduction to amphibians, their habitat, and their biological processes, such as molting and metamorphosis. With 48 pages of brightly-colored illustrations and information, this book is ideal for children in upper primary-school.

Lily Pad Pond

Author/Photographer: Bianca Lavies

Lily Pad Pond is a nonfiction picture book written about pond ecology. Author Bianca Lavies, an award-winning photographer, accompanies the text with beautiful and unique photography.

Aquatic Plants of Wisconsin: A photographic field guide to submerged and floating-leaf aquatic plants

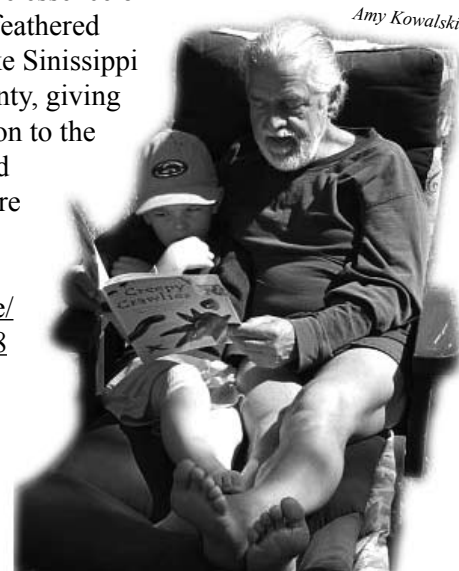
Author/Photographer: Paul M. Skawinski

This is a full-color, photographic guide to Wisconsin's true aquatic plants, highlighting 120 species. This guide is designed to be comprehensive and user-friendly for professionals and casual users alike. Species accounts include detailed descriptions, sharp photos, and many magnified inset photos, with special attention to important characteristics that simplify identification. For more information: www.uwsp.edu/cnr/uwexlakes/publications

Birds of Lake Sinissippi

Author/Photographer: Eileen Worman

Allow your senses to take flight as you peruse the stunning photographs in this beautiful coffee table book. Eileen does a superb job of capturing the essence of her backyard feathered friends on Lake Sinissippi in Dodge County, giving special attention to the American Bald Eagle. For more information: www.blurb.com/bookstore/detail/1622738



Amy Kowalski

Hook, Line, & Thinker! Grades 7 - 12

Provided by Theresa Stabo

“Hook, Line, & Thinker” is the Department of Natural Resources’ latest addition to the Aquatic Resources Education Program.

Designed for students in grades 7 -12, this program addresses life sciences and related social issues through the eyes of an angler. A companion field guide incorporates a fishing experience.

The curriculum is divided into two main parts:

Science Guide

The Science Guide uses fish and water as focal points for teaching broader life science concepts and supports many academic standards for science, environmental education, language arts, and social studies.

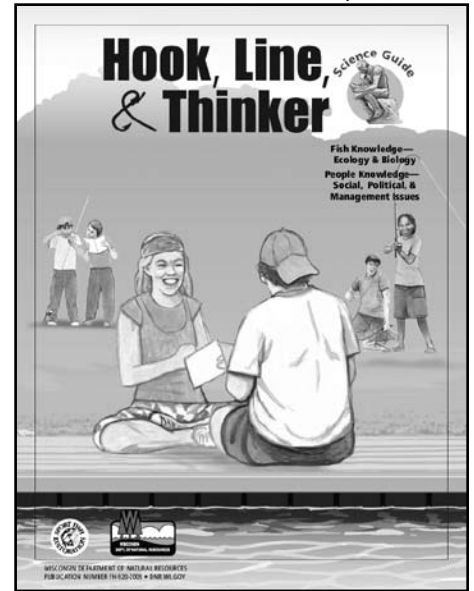
Field Guide

The Field Guide is aimed at physical education students or those in after-school programs, summer camps, or other places that have the ability to provide an angling field trip. We encourage instructors to work together to give their students the full Hook, Line, & Thinker experience.

Hook, Line & Thinker Instructor Guides include individual step-by-step lesson plans, vocabulary reviews, assessments, and service-learning project ideas. Supporting resources like fish illustrations, field data sheets, and tackle craft instructions are included in appendices. Correlations to the Wisconsin State Academic Standards, Project Wet, Project WILD, and Water Action Volunteers are listed. While standards are listed with the most basic presentation of the activity in mind, additional standards may be addressed through extensions and deeper investigations of issues related to the activities.

The materials are posted online at <http://dnr.wi.gov/fish/kidsparents/anglereducation/teaching.html#7>. A limited supply of CD versions are also available at volunteer and teacher training workshops and conferences.💧

For more information contact Theresa Stabo at Theresa.Stabo@wisconsin.gov or (608) 266-2272.



Because Every Drop Counts

Are you the type of person that can't help but look to the skies when a thunderstorm is brewing? Do you find the changing of the seasons fascinating? Well, you might want to check out this opportunity to get involved in a national grassroots network of volunteer precipitation observers. It takes very little time and money, but provides excellent data for natural resource, education and research applications. The Community Collaborative Rain, Hail & Snow Network (CoCoRaHS) originated in 1998 at Colorado State University and now has volunteers in all 50 states, and just passed 10 million daily reports! To get more information, view training videos, find your local coordinator and more go to www.cocorahs.org.



Speaking for Lakes

2011 Wisconsin Lakes Convention

Tuesday-Thursday, April 12-14, 2011
 KI Convention Center, Green Bay, WI

Robert Korth



Looking for an opportunity to get on your soap box and share some successes of your lake group? Maybe you have a lot to say, but aren't quite sure who you should be talking with. You might even be looking for the best way to communicate your message. Well, the 2011 Wisconsin Lakes Convention is focusing on all of these different ways to 'speak for lakes.'

Join other lake enthusiasts from around the state in April to share successful lake projects, research, questions and more.

As always, the Wisconsin Lakes Convention will cover a wealth of information on lakes and lake issues such as water law, lake science, lake organization success stories, citizen involvement/leadership, native plants/animals, aquatic invasive species, and communications/technology. Full-group sessions, hands-on workshops, break-out sessions and networking opportunities will be just part of this gathering.

Look for more information in January about the convention agenda and how to register at www.uwsp.edu/cnr/uwexlakes/conventions. Whether you want to do the talking, or you'd just like to hear others 'speak for their lakes,' the Wisconsin Lakes Convention is the place to be April 12-14, 2011.








Speak for Lakes Through Your Lens!

Want to share your photographs with other lake enthusiasts, decorate the convention center during the Wisconsin Lakes Convention, and maybe win \$100? Then submit your photos to the 9th annual Wisconsin Lakes Photography Contest.



"No Wake Zone" by Nancy Gill won 1st prize in the 2010 photo contest.

-  Deadline: March 14, 2011
-  \$100 for 1st prize in each of two categories
-  Everyone is eligible
-  Maximum of 4 pictures
-  Rules and entry form online at www.uwsp.edu/cnr/uwexlakes/conventions

Nominate a Local Lake Steward

Deadline: February 11, 2011

Do you know a person or group who is going above and beyond to protect and preserve your favorite lake? The Wisconsin Lake Stewardship Awards are a great way to say, "thank you!" to the people who are really making a difference in your lake community.

Nominate someone today! Go to www.uwsp.edu/uwexlakes/conventions and click on "Nominate a Lake Steward" or contact Wisconsin Lakes at 608-661-4313 or 800-542-5253 or lakeinfo@wisconsinlakes.org.

The 2011 Wisconsin Lake Stewardship Award winners will be celebrated at the Wisconsin Lakes Convention in Green Bay.

New nominees this year, plus those from the previous 2 years, will be considered for the 2011 awards in each category.



CALL for POSTERS

Deadline: January 10, 2011

Share your exciting lake project, success story, research results, or helpful resources by participating in the poster session at the Wisconsin Lakes Convention. The poster session will allow lake stewards, researchers, educators and other specialists to ‘speak for lakes’ by highlighting their noteworthy projects.* Posters will provide another educational and networking opportunity for all participants at the convention. We invite you to participate in this exciting forum.

When: Wednesday, April 13, 2011 from 12:30-1:30PM
You are required to attend your poster during this time.

Questions: Please contact the UWEX-Lakes office at (715) 346-2116 or uwexplakes@uwsp.edu.

For more information and to submit your abstract, go to www.uwsp.edu/cnr/uwexplakes/conventions and click on “Call for Posters”.

**The Wisconsin Lakes Convention does not endorse specific products or services. Therefore, posters presented by individuals representing corporations or projects conducted by corporations should avoid the use of trade or brand names and refer to the products or services by a generic descriptor.*

CALENDAR

January 10, 2011 – Call for Posters Deadline, Wisconsin Lakes Convention

Share your successes, conundrums and/or findings during the poster session at the Wisconsin Lakes Convention. Just go to www.uwsp.edu/cnr/uwexplakes/conventions and click on “Call for Posters”. More details above.

January 14, 2011 – Early bird Deadline, WI Wetlands Association Conference

For more information: www.wisconsinwetlands.org/2011conference.htm

February 1, 2011 – Application deadline for Lake Planning and AIS Control Grants

For more information contact your DNR Lake Coordinator or go to www.dnr.state.wi.us/org/caer/cfa/Grants/Lakes/invasivespecies.html

February 11, 2011 – Nomination Deadline – WI Lake Stewardship Awards

Nominate an individual or group who dedicates time and talent to Wisconsin’s waters for this prestigious award (see previous page for more details).

For more information: www.uwsp.edu/cnr/uwexplakes/conventions

February 16-17, 2011 – WI Wetlands Association Conference, Baraboo, WI

For more information: www.wisconsinwetlands.org/2011conference.htm

March 21, 2011 – Early bird Deadline, Wisconsin Lakes Convention

For more information: www.uwsp.edu/cnr/uwexplakes/conventions

April 12-14, 2011 – 33rd Annual WI Lakes Convention, KI Center, Green Bay

Agenda details and online registration will be available in January 2011. Register before the March 21st early bird deadline and save your hard-earned cash!

For more information: www.uwsp.edu/cnr/uwexplakes/conventions



Lake Tides -- 905032
College of Natural Resources
University of Wisconsin
800 Reserve Street
Stevens Point, WI 54481

NON-PROFIT ORG
U.S. POSTAGE
PAID
PERMIT NO. 19
STEVENS POINT, WI

Volume 35, No. 4
Fall 2010

UW
Extension

IN THIS ISSUE

NR 115-Shoreland Zoning.....	1-3
Parasite in Rusty Crayfish.....	4-5
Lake District Q&A.....	5
Citizens Keep Tabs on AIS.....	6
Cardinal Flower.....	7
CBCW - 2010 Data.....	8-9
Statewide Phosphorus Rules.....	10
Lake Leaders Graduates.....	10
UWEX Lakes Staff Changes.....	11
Keeping Lakes in the Family.....	12
Hook, Line & Thinker.....	13
CoCoRaHs.....	13
2011 WI Lakes Convention.....	14-15
Calendar.....	15

Wisconsin Lakes Partnership



Published Quarterly

Internet: www.uwsp.edu/cnr/uwexlakes

E-mail: uwexlakes@uwsp.edu

Phone: 715-346-2116

Editor: Amy Kowalski

Design & Layout: Amy Kowalski

Regular Contributors: Patrick Goggin, UWEX

& Carroll Schaal, WDNR

Contributing Editors: Erin McFarlane & Eric

Olson, UWEX

Illustrations by: Carol Watkins & Chris Whalen

The contents of *Lake Tides* do not necessarily reflect the views and policies of UW-Extension, UWSP-CNR, the Wisconsin DNR or the Wisconsin Association of Lakes. Mention of trade names, commercial products, private businesses or publicly financed programs does not constitute endorsement. *Lake Tides* welcomes articles, letters or other news items for publication. Articles in *Lake Tides* may be reprinted or reproduced for further distribution with acknowledgment to the Wisconsin Lakes Partnership. If you need this material in an alternative format, please contact our office.

Printed on recycled paper with vegetable-based ink.

Reflections

A lake is the landscape's most beautiful and expressive feature. It is earth's eye; looking into which the beholder measures the depth of his own nature.

~ Henry David Thoreau

