Lake Tides
The newsletter for people interested in Wisconsin lakes

What Can Plants Tell Us?

Well, it's already January, and my Olympian-sized triceps developed over three months of rake-slinging are finally assuming their normal, more humble proportions. My tan is gone too, and now all that's left to attest to an entire summer of aquatic plant surveys is what always remains: the data. The Fisheries and Habitat Research Program of the Wisconsin Department of Natural Resources (DNR) collected data on 75 lakes in 2008, and we now turn our once sun-kissed faces toward the glow of the computer screen. We seek to answer some pressing questions that result from the presence of aquatic invasive species (AIS), and specifically Eurasian water-milfoil (EWM). In case you're unfamiliar with our program and the specific goals we set regarding AIS, please allow me to bring you up to speed.

Question #1 – How does EWM management affect aquatic plants?

Much of the management conducted in Wisconsin in the past can be roughly characterized as "nuisance relief" and isn't necessarily intended to aid in ecosystem restoration. Currently, we see no relationship between the amount and frequency of management and the density and frequency of EWM statewide. However, what about management that is conducted strategically, with ecosystem restoration as its stated goal? Researchers are trying to answer this question in 22 strategically-managed lakes across the state by compiling treatment records, collecting plant survey data, and harvesting biomass. As we track the populations of both EWM and native plants over the next 10 to 15 years on these lakes, we'll be able to see whether or not strategic management can decrease the frequency and density of EWM and increase the frequency and density of native plants over the long term. The study is also designed to assess the importance of rapid response treatments, as well as identify regional management effects. The study is long, but the results will be worth the wait!

Question #2 – Is control of EWM with 2,4-D improved by treating in early spring?

Photo by Frank Koshere

Applying a granulated form of 2,4 D on the Pike Lake Chain.

We're addressing this question with an experiment in Bayfield County, as well as Madison's Lake Monona at Turville Bay. By applying 2,4-D (a popular weed killer) to treatment areas in early spring and comparing the results to untreated controls, we hope to help refine what we consider best management practices. The hypothesis states that since EWM generally emerges earlier than native plants, early spring treatments might be more effective while concurrently avoiding the harmful non-target effects on natives. I, for one, am looking forward to attending the 2009 Wisconsin Lakes Convention (March18-20) and the

(Continued on page 2)

Volume 34, No. 1 Winter 2009
Wisconsin Lakes Partnership

Photo by Frank Koshere

Ali Mikulyuk in the field.

management and control session on Thursday afternoon that will discuss some of these findings! (*see page 10*)

Question #3 – How can we further refine the statewide plant sampling protocol?

When compiled, the [plant sampling] data tells us where and how much of a species is present lakewide; it's a good method to track changes that occur in a lake over time.

If you have not heard of the Wisconsin standardized protocol recommended for baseline aquatic plant sampling, here's the quick version: Grid points (the number of which is determined by lake size and shoreline complexity) are located via GPS on the surface of a lake. A long double-sided rake on a pole is scraped along the bottom at each point to collect plant species for identification and assessment. When compiled, the data tells us where and how much of a species is present lakewide; it's a good method to track changes that occur in a lake over time. This past year, by sampling absurdly late and early in the growing season (handwarmers and parkas necessary), we were able to examine the seasonality of submersed aquatic plants. By identifying the time of year that most species are present and when they have a stable distribution within the lake, we can better determine an appropriate window of opportunity for good sampling. If you are interested in different plant species, especially their physical characteristics and how to identify them, check out the aquatic plant identification workshop with Susan Knight on Wednesday morning at the Lakes Convention (*see page 6*). If information about plant sampling is more your style, I'll be at the workshop helping Susan; come talk to me about joining us on a survey this summer!

Question #4 – What can we learn from baseline aquatic plant data?

The short answer is, quite simply, a lot. The long answer involves an exhaustively verbose discussion about remote sensing, runoff, topography, AIS timelines, and modeling, and that's just barely scratching the surface. Aquatic plant communities respond to a number of different factors researchers like to call independent variables. When we look at the plant survey data (the dependent variable), we can start to identify how plants respond to variation in certain conditions. Some of the things we know that affect aquatic plants are landuse, invasive species presence, lake depth, water clarity, shoreline development, aquatic plant management, climate, lake hydrology, geographical position, water chemistry, and lake trophic status, among others. By relating survey data to the changes observed in these independent variables, we can start to build a detailed picture of how plants in Wisconsin respond to their environment, as well as how they respond to human disturbance. It is, perhaps, this increase in understanding how our actions can affect the living things around us that will be the most valuable result of all.

To get a big picture perspective, join me in attending the Wisconsin Lakes Convention, March 18-20 in Green Bay. The Wednesday afternoon plenary session will cover aquatic invasive species on a global scale. I hope to see you there! For more information about this year's convention, see pages 5-15 of this issue of *Lake Tides*, or visit the convention website at http://www.uwsp.edu/cnr/uwexlakes/conventions. ♦

By Ali Mikulyuk, Fisheries and Habitat Research Program, Wisconsin Department of Natural Resources

Lake Fingerprints

Researchers Use Lake Data to Reveal a Lake's Structural Habitat Identity

It is no secret to anglers that certain species of fish can be found in specific areas of lakes depending on the species, the time of year, or even the time of day. That is why anglers may choose to fish for walleye by jigging off the bottom in deeper water, cast for northern pike among bulrush, or use top-water plugs for bass near fallen trees along the shore. These simple strategies are employed because certain species of fish will associate with particular types of habitat. And while biologists often debate the basic functional definition of habitat, one notion is universally accepted: habitat quality and quantity affect both fish abundance and the ability of anglers to catch fish. However, it is still largely unknown how much and what type of habitat is needed to keep a healthy balance.

In lakes, the majority of structural habitat is concentrated in the nearshore area, or littoral zone. The littoral zone, by definition, is the shallow region of the lake where aquatic plants may be found. These plants provide shelter and more living space for all types of aquatic organisms. Littoral zones are also the portion of the lake where fallen trees provide overhead cover for fish and homes for smaller creatures such as insects or algae. The fallen trees and aquatic plants exist above the lakebed, which is made of anything from "muck" to sand and/or gravel to large boulders. This variation in bottom substrates also provides a certain structural habitat for fish and other aquatic organisms. And finally, the steepness or slope of the littoral zone is also important when considering structural habitat in this near-shore region of lakes.

It is the littoral zones of lakes where nearly all lake-resident freshwater fish spawn. Moreover, fish and other aquatic organisms relate to different types of structural habitats during certain stages of their life cycle. For instance, young smallmouth and rock bass will assemble near larger bottom substrates, such as cobble and boulders. Bluegills and other panfish are usually found swimming among water plants, while emerald shiners may school along littoral zones having sand bottoms with very little structure. Green frogs undergoing final stages of metamorphosis are easy to spot on lily pads in calm bays.

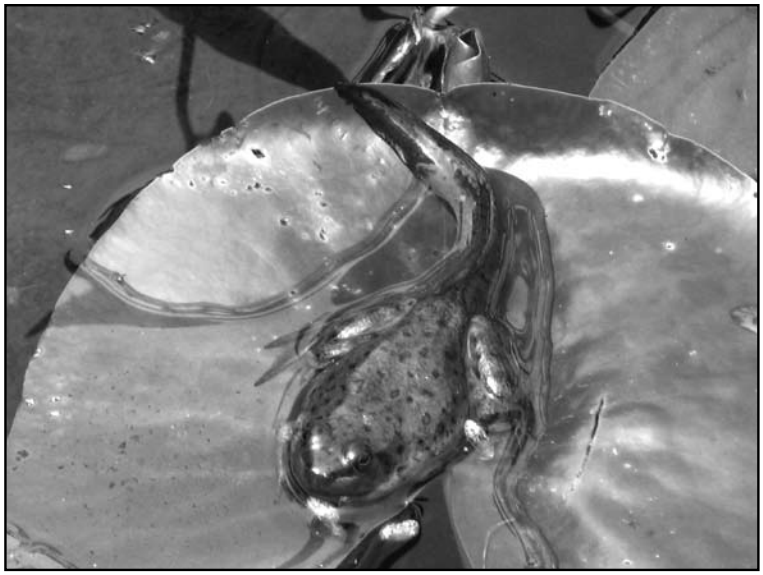


Photo by Sara Schmidt

Alterations of these habitat types can have an impact on the organisms that live there. For better or worse, structural habitat in littoral zones can be modified with relative ease. The depletion of this habitat can occur as human development along shorelines increases. Greater numbers of homes and cabins along lakeshores may lead to removal of shoreline trees and other vegetation, as well as aquatic plants in the littoral zone. To counteract this dilemma, structural habitat is sometimes added in the form of fish cribs and spawning reefs along with harvested trees placed in shallow water along the shore. This form of habitat mitigation is relatively easy to do, and we feel good about "improving" structural habitat in lakes. But how does this affect the organisms that live there?

Watery fingerprints reveal clear patterns of littoral zone habitat; in essence, the habitat personality of the lake.

Honestly, we don't know. We lack biologically based habitat assessment methods for these nearshore areas. Ultimately, we are not familiar with the type or amount of structural habitat we have already lost or continue to

(Continued on page 4)

Photo by Robert Korth

lose, nor do we have a good understanding of how much habitat is needed to sustain most species of fish. So how do we learn more about the relationships between structural habitat and aquatic organisms? The first step is to better understand the habitat that exists in littoral zones of lakes. The objective of current research at the Wisconsin Cooperative Fishery Research Unit, at UW-Stevens Point, is to provide a framework for displaying and measuring the complexity of this nearshore habitat. To tackle this objective, we measured depth, bottom type, and the abundance of aquatic plants and downed trees in eleven northern Wisconsin lakes. Combining the data in a four-dimensional graph, researchers can see a clear picture of the littoral zone habitat revealed as a "fingerprint" unique to each individual lake. Watery fingerprints reveal clear patterns of littoral zone habitat; in essence, the habitat personality of the lake. Essentially, each graph provides an opportunity to learn about a particular lake's "habitat identity".

Efforts to protect, restore, and enhance habitats will clearly be guided by measuring these [lake] fingerprints.

Research continues as we work to determine the potential, limitations and compatibility of a lake's habitat. As the concept of creating and using littoral zone fingerprints gets developed and refined, there will be many potential uses by biologists, landowners, and lake visitors. These fingerprints will help to locate rare habitats, show lake habitat diversity, or determine which species of fish and other semi-aquatic organisms can benefit from particular habitats. In turn, this will aid people in working with the particular habitat "capital" that their lake holds. Efforts to protect, restore, and enhance habitats will clearly be guided by measuring these fingerprints.

By Sara Schmidt, Graduate Research Assistant and Michael Bozek, Wisconsin Cooperative Fishery Research Unit Leader

Q&A Lake Districts

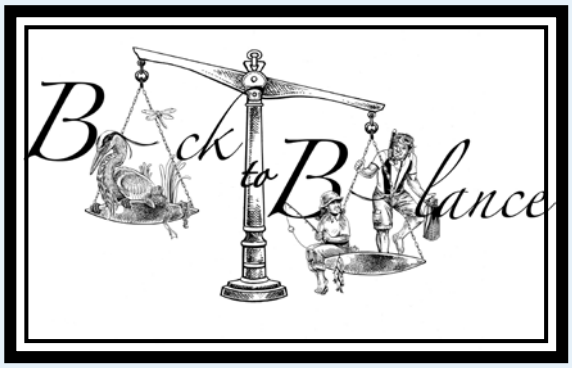
We often get phone calls and emails from Lake Tides *readers with a variety of questions about lake districts. Do you have a question about lake districts that you would like to see answered in* Lake Tides*? Send it to uwexlakes@uwsp.edu so we can include it in a future issue.*

Q: What should lake districts do about board of commissioner representation when their established boundaries cross a number of municipalities and the governing body with the largest assessed value of property in the district changes from one year to the next?

A: One member of the governing body of the town, village, or city having the largest assessed value of property in the district (appointed by that governing body) needs to have representation on the board of commissioners. Sometimes the largest valuation changes from one town to another given new assessments. When this happens, lake districts should see that the representation shifts accordingly. Again, the municipality with the largest assessed valuation gets an appointee to the board. If the valuation shifts, then the appointment power shifts. Further, when several municipalities are within a lake district's boundaries, it can be a good idea for them to allow each municipality to appoint ex officio members to the board to present their points of view and participate in discussions. Still, only the member of the municipality with the largest assessed valuation would be allowed to vote.

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

2009 Wisconsin Lakes Convention



Registration fee.....about $165
(Wow - no price increase!)

Gas to Green Bay & back.....about $30
(Good thing for the online ride share!)

Accomodations.....about $100
(Thanks for including meals in registration cost!)

Getting our lakes *back to balance*.....PRICELESS

Today's technologies and our global culture bring people together more than ever before in human history. Worldwide linkages happen in ways unimaginable just years ago. This interconnectedness brings unintended consequences to our nation's waters, including the introduction of aquatic invasive species (AIS). The looming troubles posed by the rise of some AIS pose one of the greatest challenges ever to face our lakes. With this in mind, the 2009 Wisconsin Lakes Convention is called Back to Balance, featuring an international symposium on AIS. Experts from around North America will gather to discuss the research, management options, educational ideas and needed policy changes to deal more effectively with this prevailing issue. The goal of the symposium is to share this knowledge with agency staff, lake citizens, businesses, elected officials, and others to help get our lakes "back to balance". Envision the day when our tinkering with the lake ecosystem is needed less, and human disturbance is minimized.

Help play a pivotal role in developing Wisconsin AIS policy! Come learn and share during these information-packed three days.

Agenda ...at a glance

Wednesday, March 18

8:00am	Registration Opens
9:00am	Exhibit Hall Opens
9:00am-Noon	**Morning Workshop Block** (5 offerings)
10:15-10:45am	Refreshment Break in Exhibit Hall
Noon-1:00pm	Lunch (Welcome)
1:00-5:30pm	**Plenary Session - Aquatic Invasive Species in an Era of Globalization: Making Linkages Around the World**
5:30-7:00pm	Networking time
6:00-7:00pm	Wisconsin Association of Lakes Meeting
7:00-8:00pm	Special Topic Meetings
8:00pm	**WI Lakes Convention Reception**

Thursday, March 19

7:30am	Registration Opens
8:00am	Exhibit Hall Opens
8:00am-Noon	**Plenary Session - Wisconsin's Aquatic Invasive Species Strategy: Smart Prevention, Containment and Control**
Noon-2:00pm	Lunch & **Poster Presentation Session**
2:00-2:50pm	**Concurrent Sessions I**
3:00-3:50pm	**Concurrent Sessions II**
3:50-4:20pm	Refreshment Break in Exhibit Hall
4:30-5:20pm	**Concurrent Sessions III**
5:30-7:00pm	Networking time
7:00pm	**Lake Stewardship Awards Banquet** (all participants welcome)

Friday, March 20

8:00am	Registration & Exhibit Hall Open
9:00am-4:30pm	**Workshops** (two all-day workshops)
9:00am-Noon	**Morning Workshop Block** (5 offerings)
9:50-10:10am	Refreshment Break in Exhibit Hall
Noon-1:30pm	Lunch & Speaker
1:30-4:30pm	**Afternoon Workshop Block** (5 offerings)
2:50-3:10pm	Refreshment Break in Exhibit Hall

Agenda subject to change.

Wednesday Workshops

9:00am-12:00pm

A. Name That Plant! Aquatic Plant ID

Learning to identify the water plants in your lake can help with a variety of lake projects, such as aquatic plant management plans, grants, or just add to the fun of learning more about water plants. This workshop will give a hands-on, up close view of aquatic plant intricacies and differences to aid you in their identification. Learn how plants survive underwater and how they contribute to the health of the lake ecosystem.
Presenters: Susan Knight, UW-Madison Center for Limnology Trout Lake Station and Ali Mikulyuk, WDNR

B. Lake Data on the Web

Interested in finding lake data on the web or producing maps for a report, newsletter or presentation? Want to report your Clean Boats, Clean Waters, Citizen Lake Monitoring Network or LoonWatch data online? Join us for this hands-on workshop and learn how to enter your lake data into the statewide database (SWIMS). Find out what's new on the DNR and UW-Extension Lakes websites, and discover how to create maps with the DNR's Surface Water Data Viewer. You'll be able to produce professional looking maps using tools available online.
Presenter: Jennifer Filbert, WDNR and Maud LaMarche, UW-Extension Lakes

C. Limnology 101

This workshop will cover the basics of lake science and management. Issues such as eutrophication, the impact of near shore development and the introduction of aquatic invasive species will be covered. Join us as we share insights about the physical, chemical, and biological characteristics that make these watery gems so unique. Learn why some lakes are green while others are blue. Understand why some are shallow and others deep, some full of aquatic plants while others are less so. We'll discuss the management challenges and opportunities we face in leaving a lake legacy for future generations. Bring your lake questions and observations to share!
Presenters: Pamela Toshner and Buzz Sorge, WDNR

D. Consultants Roundtable: Improving Lake Management and Planning Services Provided to Local Lake Organizations

Join us for a roundtable discussion of how to enhance and improve lake management and planning services provided to local lake organizations, increase consistency among lake management plans and projects, and clarify State expectations and requirements for Aquatic Plant Management (APM) and Lake Management Plan approval. This workshop is especially designed for lake management professionals, lake planning consultants, aquatic herbicide applicators, aquatic plant surveyors, and others involved in contracting for services as part of lake planning, protection, and aquatic invasive species (AIS) grants. As a result, presentations will focus on the latest AIS grant requirements as specified in NR198, elements of an "approved" lake management plan, recent changes in the APM Guide, large-scale lake and APM project guidelines, the recently adopted Northern Region Strategy to Protect Native Aquatic Plants and updated monitoring protocols. There will also be ample time for questions, discussion, and suggestions for improving the State's administration and oversight of grant-funded projects.
Presenter: Dwight Osmon, Hey & Associates, Inc.

E. Aquatic Invasive Species Management Tools and Guidance

Do you ever feel lost in the sea of ideas surrounding the management of aquatic invasive species (AIS)? Whether you are currently coping with an invasive plant or animal, or are trying diligently to keep your lake free of them, this workshop is designed for you. You need information to get a grip on AIS management. From contingency planning to aquatic plant management planning, to state grant programs, to chemical treatment permits, we'll cover all the basics and more. This workshop will be based on information provided in the guidebook entitled, "Aquatic Invasive Species: a Guide for Proactive and Reactive Management". Workshop participants will receive a copy of this citizen-oriented publication to keep for their own use.
Presenter: Carolyn Scholl, Vilas County Land and Water Conservation Department

Wednesday Plenary Speakers

1:00-5:30pm

Biological Invasions as a Form of Global Change: The Freshwater Perspective

Dr. Anthony Ricciardi

Keynote

We all live in a biological global village that has exotic species invasions increasing in frequency. They are the second-leading threat to biodiversity and can dramatically affect ecosystem processes, economic resources and human health. Come to the Aquatic Invasive Species Symposium at the 2009 Wisconsin Lakes Convention and hear world-renowned invasive species biologist Dr. Anthony Ricciardi. Tony hails from McGill University in Montreal, Canada, where he teaches a course on the ecology of species invasions. His expertise in assessing the causes and consequences of aquatic invaders to freshwater ecosystems is often tapped by media worldwide. Tony will use his background in population biology, community ecology and evolutionary biology to examine the reasons why certain species are highly invasive and why some ecosystems are more vulnerable to invasion than others. Resource managers lack the tools to anticipate and prioritize invasion threats, because there are very few risk assessment methods or models to predict the success and impact of aquatic invasions. Tony will highlight why a predictive understanding of invasions is hindered by the peculiar interactions between an introduced species and its new environment. He will discuss case studies that reveal some intriguing patterns that can help guide our efforts toward methods of risk assessment and management strategies to deal with this global challenge.

Aquatic Invasive Species: A Global Threat with Local Impacts

Dr. Philip Moy

Dr. Philip Moy has been a Fisheries and Nonindigenous Species Specialist for the University of Wisconsin Sea Grant Institute since 1999. In that role, Phil works with Great Lakes commercial, sport and charter anglers as well as inland lake groups to address fisheries and aquatic invasive species (AIS) concerns. Join him as he brings our interest back to the Midwest region and the aquatic hitchhikers that have threatened Wisconsin waters for over half a century. Phil will share insights he has gleaned from monitoring the spread of invasive species in Wisconsin waters over the last ten years and from producing a range of outreach and education materials, publications and exhibits. He will turn our attention to the highly mobile recreating public that offers these organisms a means of spreading, sometimes across great distances. Phil's presentation will review the pathways by which AIS have entered the Great Lakes, the impacts of some of these species, and the mechanisms via which these organisms spread to inland waters. Phil will also remind us how we can help with regional efforts to prevent the introduction and spread of AIS.

Wisconsin Lakes Photo Contest

Show us the beauty and uniqueness of your favorite Wisconsin lake through the lens of your camera. You could win $100! Just go to our website at http://www.uwsp.edu/cnr/uwexlakes/conventions, or contact Amy at 715-346-4744 to get the official rules and an entry form to the Wisconsin Lakes Photography Contest. Enter up to four photos (two in each category) that show "people enjoying lakes" and "the natural features in and around lakes and underwater."

All photo entries will be displayed at the 2009 Wisconsin Lakes Convention in Green Bay. **Deadline: March 2, 2009**

"American Toad on the Prowl," taken by Paul Skawinski, won second place in the 2008 Wisconsin Lakes Convention Photo Contest in the 'Natural features in and around lakes and underwater' category.

Ecosystem Impacts of AIS Spread by Shipping, Boating and Commerce

Dr. David Lodge

As Director of the Center for Aquatic Conservation at the University of Notre Dame, Dr. David Lodge facilitates partnerships, educational opportunities, and outreach efforts with resource managers, policy makers, and the public. An ecologist, David's interest in the natural environment grew from his childhood fascination with the fish, crayfish, insects and other freshwater life of Georgia and Alabama where he grew up. In his current research, he examines the impacts of global environmental changes on drinking water, recreation, fisheries, biodiversity, and other ecosystem goods and services. Much of David's research has a strong focus on ecological forecasting to better inform environmental risk assessment, policy, and management. David will present examples of analyses for prevention efforts targeting live organisms in commerce, ship-vectored species in the Great Lakes, and recreational boater-vectored species in inland lakes. Only with such information can policy-makers have increased confidence in the value of allocating more resources for management responses to aquatic invasive species.

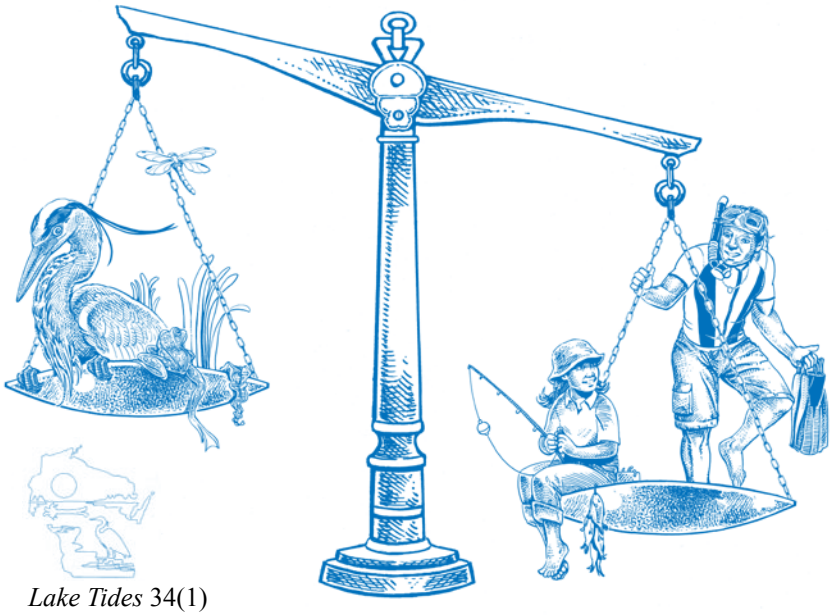
Movement of Invasive Aquatic Plants Through Water Gardening

Kristine Maki

Sales in the water garden industry have grown to approximately $1 billion per year. Leading this growth trend are online mail-order sales of aquatic plants. Kristine Maki, the Aquatic Invasive Species Coordinator for the Sawyer County Land and Water Conservation Department in Hayward, Wisconsin, will lead us in a discussion that examines the issues of intentional sale of illegal aquatic plants and unintentional shipment of such plants and other organisms. Kristy will share results of research by her and colleagues that points to the sales of mail-order plants for water gardens as possible pathways for the spread of invasive plants. She will provide a context for considering the impact water gardening enthusiasts can have on giving aquatic hitchhikers a ride. Kristy's research findings clearly indicate the need to raise awareness among riparian land owners, water gardeners, resource managers, and policymakers regarding the risks associated with the sale and use of aquatic plants. Given the popularity of water gardening and the accessibility of plants from all over the United States, there is significant potential to introduce a new species that may become problematic.

Panel Discussion

The plenary session will be completed by a question and answer panel discussion with our afternoon speakers. A moderator will lead the discussion with questions from the audience to our panel of speakers for answers. We will wrap up around 5:30 p.m.



Save a Stamp, Register Online!

Save yourself some time and 42 cents by taking advantage of our online convention registration. You can even conveniently pay with a credit card over our secure site. If you have any questions, call us at 715-346-2116.

www.uwsp.edu/cnr/uwexlakes/conventions

Thursday Plenary Speakers

8:00am-12:00pm

Strategic management of aquatic invasive species (AIS) requires multiple tools and approaches, including education and awareness, regulation and incentives, monitoring and surveillance, and cost effective containment and control strategies. This morning's plenary session will focus on Wisconsin's AIS Strategy and how these various tools and approaches are being implemented at the statewide, regional, and local level. The session will close with an expanded panel of experts discussing how Wisconsin could use these various concepts, tools and approaches more effectively in the future.

Smart Prevention

Dr. Jake Vander Zanden

Dr. Jake Vander Zanden is an Associate Professor of Zoology and Limnology at the University of Wisconsin-Madison. In addition to teaching courses in Limnology and Ecology of Fishes, he has been involved in a variety of national and international research efforts using science to improve environmental management, ranging from controlling non-point source pollution, to conserving Mongolia's giant trout. Invasive species pose a threat to our ecosystems, both globally and here in Wisconsin. There is an urgent need for research that will improve the effectiveness of on-the-ground aquatic invasive species (AIS) management. Jake will describe the smart prevention framework for managing AIS and explain how it can be used to direct AIS management resources more effectively. Smart prevention takes a regional approach, recognizing the fact that invasions at a given lake are deeply influenced by what happens in surrounding lakes. In addition, smart prevention focuses on the idea of ecosystem vulnerability. Incorporation of this approach into the broader program of AIS education, outreach and management will help managers and citizens make more informed decisions in the struggle against AIS.

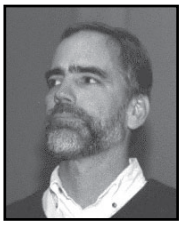
Controlling and Managing Aquatic Invasive Species

Dr. Jennifer Hauxwell

Dr. Jennifer Hauxwell serves as Chief of the Aquatic Research Program for the Wisconsin Department of Natural Resources, working closely with a great group of people involved with the Wisconsin Lakes Partnership and the Fisheries Management Program. As a scientist for the agency, Jen has worked primarily on aquatic plant ecology, effects of land use, and invasive species management in lakes. Jen will review the state of the nation's and Wisconsin's research on the control and management of AIS. She will explore the short-term successes and long-term difficulties with containment and control of AIS, specifically invasive aquatic plants.

Viral Hemorrhagic Septicemia: A New Aquatic Invasive Species

Michael Staggs



Michael Staggs has been the Director of the Bureau of Fisheries Management for the Wisconsin Department of Natural Resources since 1997. The bureau is responsible for managing and regulating sport and commercial angling, game and non-game fish populations, and aquatic habitat restoration and improvement in Wisconsin. Mike will illustrate how all of these management tools, from Smart Prevention to the lessons learned from aquatic invasive plant management, were brought to bear on a relatively new AIS threat in Wisconsin: viral hemorrhagic septicemia (VHS). Learn more about the impact of AIS on our surface waters and our fisheries, how are we dealing with viruses such as VHS, and what the future holds for our fish populations.

Thursday Concurrent Sessions

2:00-5:00pm

Understanding Impacts of Aquatic Invasive Species

- Sociological and Economic Impacts of AIS
- Effects of AIS on Property Values
- Impacts of Invasive Animals on Lake Food Webs
- Optimizing Smart Prevention Models in Wisconsin

Management & Control of Aquatic Invasive Species – Research

- Long-term trends in Eurasian Water-milfoil Management
- Evaluation of Chemical Control Methods to Manage AIS
- Draw-downs as a Management Tools for Aquatic Invasives in Impounded Systems

Success Stories

- Innovation in Carp Management at Green Lake
- Success in Aquatic Invasive Species Youth Education
- Case Study: Unified Eagle River Chain Lakes Commission – Challenges in Eurasian Water-milfoil Management

County/Regional Aquatic Invasive Species Coordination Strategies

- Aquatic Invasive Species Coordinators: Valuable Parts of AIS Strategies
- Establishing a Communication Strategy
- Great Lakes Indian Fish & Wildlife Commission's Cooperative AIS Efforts
- Engaging River Enthusiasts in the Fight Against Invasive Species

Invasives at the Water's Edge & in the Great Lakes

- Managing Invasive Species in Wetlands: New Invasives on the Horizon, Restoration & Biological Control
- Wisconsin's Coastal Wetlands: Impacts of Invasives & Restoration Challenges
- Status of Phragmites Management Along Lake Michigan Shorelines
- Great Ships Initiative – the Pilot Ballast Water Treatment Facility, Superior Harbor & Effectiveness of Various Ballast Water Treatment Methods

Friday All-day Workshops

9:00am-4:30pm

F. Lake District Commissioner Training

Whether you are new to your lake district or a seasoned lake district commissioner, this workshop will help you sort through the requirements of being a commissioner and operating a lake district. Topics covered include: how to comply with open meetings and open records requirements, running board meetings and annual meetings, voting requirements, and communicating with members. In addition, we will also cover lake district budget specifics, bookkeeping practices, and funding methods, including mill levies, special charges, and special assessments. Participants will receive a copy of "People of the Lakes: A Guide for Wisconsin Lake Organizations" and have a chance to examine and discuss its contents.

Presenters: Judy Jooss, County Supervisor, and Jeff Thornton, SE Wisconsin Regional Planning Commission.

G. Running an Effective Lake Organization

Could you use some tips about how to make your lake organization more effective, sustainable, and fun? This workshop will answer questions about running effective meetings, working with local governments, tax and non-profit issues, and insurance. If you have questions about Robert's Rules of Order, 501(c)(3), liability insurance for your organization or Board, or how to keep your organization fresh and vibrant – this workshop is for you! Participants will receive a copy of "People of the Lakes: A Guide for Wisconsin Lake Organizations" and have a chance to examine and discuss its contents with the presenters.

Presenters: Dan Hill, UW-Extension/UW-Madison; Fred Kluss, IRS; Rob Krohlow, Horton Group

Friday Morning Workshops

9:00am-12:00pm

H. "Clean Boats, Clean Waters" Training

Volunteers have been an integral part of protecting Wisconsin lakes for over two decades. With so many water bodies and so few state resources, we rely heavily on volunteer efforts to educate boaters about aquatic invasive species (AIS) and how to prevent their spread. Come join us for the "Clean Boats, Clean Waters" workshop and become a one of the 1,100 volunteers who have been trained to conduct watercraft inspections! We will discuss the latest AIS, what can be done to prevent their spread, and how you can get your community involved. Sharpen your inspection skills by role playing how to talk with people at the boat landing and discover the subtle differences between native and non-native invasive aquatic plants through hands-on plant identification. The watercraft inspection handbook, containing AIS distribution information, contacts, and more, and a kit of resources to aid inspection efforts will be available on-site for a $25 fee.
Presenter: Erin Henegar, UW-Extension Lakes

I. Succession Planning of Family Land/Legal Updates Session

There are several legal tools a landowner can use to protect conservation values on his or her property. Attorney Bill O'Connor will review material and ideas relating to families working through land succession planning. Come learn about land protection fundamentals and the difference between easements, bequeaths, donations, and bargain sales. See how you can leave a land legacy for future generations to cherish! Then, in a second session, legal counsel for the Wisconsin Association of Lakes Bill O'Connor will discuss recent court cases of interest to lake people. This session will also include discussions on pending legislation affecting lakes and lake organizations and a question/answer session for attendees to quiz the veteran water lawyer.
Presenter: Bill O'Connor, Wheeler, Van Sickle & Anderson, S.C.

J. Working with Media: Getting Them on your Side and Putting your Best Foot Forward

Get the tips, training and take-home materials you need to get your story on air, online or in print. Learn how to cultivate relationships with the media. We will discuss what kind of stories reporters are looking for, how and when to pitch them, what photos, audio files and other eye and ear candy you can offer, and the steps you can take to ensure the media's story is accurate. The session concludes with a dynamic presentation about TV interviews and on-camera practice so you leave with the confidence and tips to look good on TV and sound great!
Presenters: Mary Farmiloe and Lisa Gaumnitz, WDNR

K. Regional Approaches to Smart Prevention

If you were intrigued by Dr. Jake Vander Zanden's plenary presentation on smart prevention, join us for this workshop to learn how to apply the techniques in your region! Assessments of lake vulnerability are a potentially useful tool for those engaged in prevention efforts. This information can help guide prevention activities in vulnerable locations and needs to get into the hands of the citizens and resource managers working on our lakes. In this workshop, we will create a template for an AIS management strategy document based on the concepts of vulnerability and prevention. We will also discuss the merits of adopting a more regional approach to prevention and assess the barriers to implementing such an approach.
Presenter: Jeff Maxted, UW-Madison Center for Limnology

L. An Integrative Approach in the Management of Phragmites

Wetlands, lake shorelines and riparian zones are important ecological habitats. This hands-on workshop will investigate the status of the invasive phragmites and will present the current techniques and strategies employed to manage its long-term impacts. Participants will practice hands-on techniques in managing this common shoreline invasive (weather conditions permitting). The focus of the workshop will be on presenting current management techniques of phragmites and the long-term management of ecological systems, which may have multiple invasive plant species present. We will discuss how to incorporate best management strategies for your site to minimize the spread of invasives, as well as the importance of developing an integrated site management plan and a schedule for regular site monitoring.
Presenter: Ingrid West, UW-Extension Environmental Resources Center at UW-Madison

Friday Afternoon Workshops

1:30-4:30pm

M. Aquatic Invasive Species Monitoring Through the Citizen Lake Monitoring Network

Join us for this aquatic invasive species monitoring workshop, where you will learn how to identify aquatic invasive species, receive ideas on how to organize an effective monitoring team, learn where and when to look for the invasives, and find out what to do if you suspect that you have found an invasive plant or animal. You will take home the following: a manual covering the aspects you learned at the workshop, user-friendly identification keys (such as watch and wild cards, pamphlets, laminates, etc.), a hand lens for looking at the "smaller" identification characteristics, display samples, collection bags, and, most importantly, the confidence to go out and begin monitoring yourself! Your take-home items and new found confidence will help you to share your knowledge with all your fellow lake lovers.
Presenters: Laura Herman, UW-Extension Lakes, Jay Schiefelbein and Brenda Nordin, WDNR

N. County Roundtable Discussion

Calling all county staff and county-wide lake associations! After three info-filled days, take this opportunity to chew things over with your county-based colleagues from around the state. This roundtable workshop will give you a chance to network with your peers in an informal setting and bring forward topics that you would like to discuss. The roundtable will focus primarily on aquatic invasive species issues, but all topics are welcome.
Presenters: Julia Solomon, UW-Extension and WDNR, and Earl Cook, WAL

O. Groundwater Part Deux: Ordinance Development

Many high capacity wells have been installed in areas that draw upon aquifers which also provide groundwater to lakes and streams and many more are envisioned in those areas. A disruption of the flow of groundwater may alter the water budget of a body of water, changing the chemistry and temperature of the water. Such changes have the potential to disrupt an ecosystem and pave the way for invasive species. This workshop will examine the status of state regulations governing approval of high capacity wells, the significance of the public trust doctrine, and the potential harm done by permitting high capacity wells without proper regard for their impact on waterways and aquatic species.
Presenter: Daniel Bach, Lawton & Cates, S.C.

P. Aquatic Invasive Species Cuisine: Eating Your Way Toward Healthier Lakes

Eat your way to healthier lakes…by helping control aquatic invasive species with your stomach! Several of our common aquatic hitchhikers provide us with tasty opportunities for making culinary delights. These include rusty crayfish, common carp, rainbow smelt, watercress, the terrestrial nemesis garlic mustard, and others. This workshop will take attendees through assorted recipes, and together we will sample the tasty results, like crispy carp cakes with lemon dill beurre blanc and smoked smelt-filled filo cups with capers and spicy mayonnaise. Wash your hands before you arrive, as the chef may put you to work!
Presenter: Patrick Goggin, UW-Extension Lakes

Q. Educating for Stewardship: Inspiring and Engaging Youth

Educating the next generation of lake leaders, conservationists, environmentalists, and resource preservationists is an important responsibility of THIS generation! Teaching, mentoring and inspiring the young people who will assume the stewardship of our lakes and their surrounding natural habitats is a worthy and extremely important goal for all of us. This workshop will highlight a variety of hands-on, project-based learning experiences that have actively engaged youth in learning about lakes, shorelands, and watersheds. We'll explore many ways to involve youth in protecting and managing your community lakes, using examples of collaborative efforts that have involved K-12 teachers, lake organizations, DNR specialists, college teachers and researchers, county land and water conservation departments, and others. Curriculum and resource materials, funding ideas, and ways to meet state DPI academic standards will be included.
Presenters: DuWayne Behnke, Wisconsin River Academy; Mary Jo Fleming, Lake Wissota Association; Jeremy Williamson and Amy Kelsey, Polk County Land and Water Resource Department; Patty and Dave Zerger, Longfellow Elementary School Sheboygan; and Heather Weigelt, Heckrodt Wetland Reserve

Convention Registration Form

Please fill out both sides of this registration form.

31st Annual Wisconsin Lakes Convention - Back to Balance
An Aquatic Invasive Species Symposium
KI Convention Center, Green Bay

March 18-20, 2009

Name: _____
Address: _____
City: _____ State: _____ Zip: _____
Daytime Phone: ( ) _____ Email: _____
Affiliation (Lake Org., etc.) _____ County: _____
I am a WAL member ❑ (For more info. on the Wisconsin Association of Lakes, go to www.wisconsinlakes.org)

REGISTRATION

Registration fee includes major meals, breaks and materials.

	Regular	Early Bird (by March 1)
Wednesday, March 18 (see back of this form)	❑ $65	❑ $60
Thursday, March 19	❑ $80	❑ $70
Friday, March 20 (see back of this form)	❑ $65	❑ $60
Full convention, Wednesday-Friday, March 18-20	❑ $185	❑$165
(save $25 with the 3-day package!)		

Late Registration Fee (after March 11, 2009) ❑ $15

Check for vegetarian meals ❑

LODGING

Lodging Information:
KI Convention Center/Hotel Sierra
333 Main Street
Green Bay, WI 54301
(888) 695-7608 or (920) 432-4555

Rates:
$105 double or queen
$115 king
$20 for each additional person up to 6 maximum

Price includes full breakfast and 2 hours of complimentary beverages each evening.
Please refer to the Wisconsin Lakes Convention when reserving your room.

Nearby Holiday Inn: (920) 437-5900 ($85/night)
Nearby Days Inn: (920) 435-4484 (reasonable)

PAYMENT

Registration Fee: $ _____

Workshop Fee: $ _____
(See other side of form)

Late Fee (if applicable): $ _____

Total Enclosed: $ _____

Payment method: ❑ Check ❑ Credit Card

Check one: ❑ Visa ❑ Master Card
Cardholder's Name _____
Card No. _____
Expires _____

Or register and pay online at
www.uwsp.edu/cnr/uwexlakes/conventions

You will receive confirmation and additional information upon registering.

No refunds issued after March 15, 2009.

Please fill out both sides of this registration form.

Mail this form with your check (payable to UW-Extension Lakes) or credit card information to:
UWEX Lakes, UWSP/CNR, 800 Reserve Street, Stevens Point, WI 54481 (715) 346-2116 uwexlakes@uwsp.edu

Or register and pay online at www.uwsp.edu/cnr/uwexlakes/conventions.

Workshop Sign-up

Register early to save your spot!
Online registration available with secure payment options at www.uwsp.edu/cnr/uwexlakes/conventions.

www.uwsp.edu/cnr/uwexlakes/conventions

Wednesday a.m.

9:00am-12:00pm

*Please indicate your **first** and **second** choice. We will try to accommodate your first choice.*

___**A.** Name That Plant! Aquatic Plant ID
Limit: 25 Additional Fee: $30

___**B.** Lake Data on the Web
Limit: 20

___**C.** Limnology 101

___**D.** Consultants Roundtable: Improving Lake Management and Planning Services Provided to Local Lake Organizations

___**E.** Aquatic Invasive Species Managament Tools and Guidance

see descriptions on pages 6

Friday all-day

9:00am-4:30pm

___**F.** Lake District Commissioner Training

___**G.** Running an Effective Lake Organization

see descriptions on pages 10

If you sign up for one of these all-day workshops, please DO NOT sign up for any of the Friday half-day workshops below.

Friday a.m.

9:00am-12:00pm

*Please indicate your **first** and **second** choice. We will try to accommodate your first choice.*

___**H.** Clean Boats, Clean Waters Training
Limit: 25

___**I.** Succession Planning of Family Land/Legal Updates Session

___**J.** Working with Media: Get Them on Your Side and Put Your Best Foot Forward

___**K.** Regional Approaches to Smart Prevention

___**L.** An Integrative Approach in the Management of Phragmites
Limit: 30 Additional Fee: $30

see descriptions on pages 11

Friday p.m.

1:30-4:30pm

*Please indicate your **first** and **second** choice. We will try to accommodate your first choice.*

___**M.** AIS Monitoring Through the Citizen Lake Monitoring Network
Limit: 25

___**N.** County Roundtable Discussion

___**O.** Groundwater Part Deux: Ordinance Development

___**P.** AIS Cuisine: Eating Your Way Toward Healthier Lakes
Limit: 30

___**Q.** Educating for Stewardship: Inspiring and Engaging Youth

see descriptions on pages 12

Please fill out both sides of this registration form.

Mail this form with your check (payable to UW-Extension Lakes) or credit card information to:
UWEX Lakes, UWSP/CNR, 800 Reserve ST, Stevens Point, WI 54481
(715) 346-2116 uwexlakes@uwsp.edu
Or register and pay online at www.uwsp.edu/cnr/uwexlakes/conventions.

Celebrate Wisconsin's Lake Stewards

Celebrate!

Please join us in celebrating the 2009 Wisconsin Lake Stewardship Award winners and new nominees at our banquet and awards ceremony on Thursday evening, March 19, at the Wisconsin Lakes Convention.

The Wisconsin Lakes Partnership presents the annual Lake Stewardship Awards to recognize the extraordinary volunteer and professional efforts to protect and improve our lakes.

People are nominated for Stewardship Awards by their peers — what a meaningful way to say, "Thank you!" to the people in your community who work so hard to care for our lakes. Winners of these awards join a select group of women, men, students, and organizations whose unmatched dedication, vision, and commitment ensure that Wisconsin's legacy of lakes will be safe and secure for generations to come.

The Stewardship Awards represent our best collective effort to honor and celebrate all the incredible work that goes into securing a bright future for Wisconsin's lakes. Don't miss this opportunity to pay tribute to all those who are doing extraordinary things for Wisconsin's lakes!

There's still time to nominate a deserving person or group for a Wisconsin Lake Stewardship Award. Nominations are due by January 26, 2009. To learn more visit: www.uwsp.edu/cnr/uwexlakes/conventions

CALENDAR

February 25, 2009 – Conservation Lobby Day, Madison.
Share your lake conservation values with Legislators!
For more information: www.conservationvoters.org

March 1-4, 2009 – Midwest Aquatic Plant Management Society Annual Conference. Chicago Hotel and Executive Meeting Center, Lisle, IL.
For more information: www.mapms.org/MAPMSConf2009.html

March 5, 2009 – Wisconsin Ground Water Association (WGWA) 2009 Spring Conference. "Ground Water - What is Known and What is Practiced"
Held at the Ramada in Stevens Point, WI preceeding the annual meeting of the AWRA. For more information: www.wgwa.org

March 5-6, 2009 – American Water Resources Association (AWRA) 2009 Wisconsin Section Meeting. "Wisconsin's Changing Water Resources"
Held at the Ramada in Stevens Point, WI, immediately following the WGWA Conference. For more information: www.awra.org/state/wisconsin

March 27-29, 2009 – Lake Home and Cabin Show, Madison.
For more information: www.lakehomeandcabinshow.com/wisc

May 1, 2009 – Grants Deadlines.
Lake Protection and Lake Classification Grants
www.dnr.state.wi.us/org/water/fhp/lakes/lakeprot.htm
River Protection Planning Grants
www.dnr.state.wi.us/org/caer/cfa/Grants/Rivers/riverplanning.html
River Protection Management Grants
www.dnr.state.wi.us/org/caer/cfa/Grants/Rivers/riverprotection.html

Make sure to stay up-to-date on upcoming lake events with the online Lake Events Calendar at www.uwsp.edu/cnr/uwexlakes.

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

Volume 34, No. 1
Winter 2009

IN THIS ISSUE

Printed on recycled paper with vegetable-based ink.

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: Robert Korth & Erin Henegar, UWEX
Photos by: Robert Korth (unless otherwise noted)
Illustrations by: Carol Watkins, Chris Whalen

Reflections

In the depth of winter I finally learned that there was in me an invincible summer.

~ Albert Camus