



Phosphorus and the Great Circle Tour

Too much of a good thing almost always leads to problems. This is especially true when it comes to nutrients and lakes. Lakes need some nutrients, such as nitrogen and phosphorus, or they would be as bare as water-filled bathtubs. Nutrients are necessary for algae and plants, which in turn fuel the entire lake food web from tiny zooplankton to feisty crayfish, and from fish fry to trophy muskies. But with too many nutrients, and especially too much phosphorus, the algae multiply so fast that the lake's tiny herbivores, the zooplankton, cannot keep up and the lake turns a not-so-tempting green. Where do the algae get the phosphorus that allows them to multiply so dramatically? Most people know that lots of phosphorus comes from outside the lake every year. But in many lakes, much of the phosphorus stimulating algal growth is recycled from within the lake.

When phosphorus enters a lake from outside it is called external loading, and it is easy to see and understand the sources. The phosphorus may come from a readily identifiable source, called a point source, such as a pipe from an upstream wastewater treatment plant. It may come from less conspicuous, or nonpoint sources, such as runoff from fertilized lawns or as leachate from ineffective septic systems. Both point and non-point sources of phosphorus increase the total amount of phosphorus in the lake. But then what happens to it?

Upon entering a lake, phosphorus may be immediately taken up by algae or bacteria and become part of the food chain. Or, if the water is well oxygenated, it may form an insoluble compound with iron and sink to the bottom. It may also attach to organic particles, again sinking to the bottom. Even if algae take up the phosphorus, it will eventually fall to the bottom of the lake as part of a dead algal cell, in excreted fecal material, or as part of a dead critter higher in the food chain. Whatever the vehicle, most of the phosphorus that comes into the lake, eventually ends up in the sediments on the bottom of the lake. If the phosphorus stayed at the bottom, and we could control the external loading, we could more successfully control runaway algal growth. But, it doesn't stay put and that leads to trouble.



(Continued on page 2)

When conditions are right, phosphorus will be released from the sediments, re-suspended in the water column and ready to rejoin the world of the living.

Because of this rain of phosphorus-rich organic debris, the concentration of phosphorus in the bottom sediments is much higher than that of the overlying water. Typically with differing concentrations, there tends to be diffusion or movement from the place with the high concentration to the low. However, in the case of phosphorus, diffusion of nutrients from the sediments to the water (also known as internal loading) is a very complicated process controlled by a great number of physical, chemical, and biologic factors. When conditions are right, phosphorus will be released from the sediments, re-suspended in the water column and ready to rejoin the world of the living.

Oxygen is one of those chemical factors critical to the release of phosphorus. Bacteria in the sediments are always busy decomposing dead organic stuff accumulating at the lake bottom. Decomposition consumes oxygen and the bottom of the lake may become anoxic, meaning there is no dissolved oxygen in the water. (This can also lead to winter and summer fish kills but that is a story for another day). Under these anoxic conditions, phosphorus is no longer bound to iron and is released as free phosphate (the most biologically valuable form of phosphorus). Slowly, usable phosphorus

diffuses from the bottom and up into the water column. Some phosphorus will be rapidly re-suspended when the lake “turns over” in spring and fall. This “internally loaded” phosphorus will be taken up rapidly by algae, which is why we often see algae blooms during these times.

Aquatic plants are also important in getting phosphorus into the water column, albeit in a round-about way. Aquatic plants get most of their nutrients from the sediments and, in a sense, “mine” the sediments for phosphorus. These plants eventually die, are decomposed by bacteria, and then some of the phosphorus that had been locked in the sediment is released to the water column. Other lake bottom organisms, such as carp and small insect larvae, often stir up oxygen-poor, phosphorus-rich sediments near the sediment-water interface, also leading to more phosphorus circulation.

Cutting off the external load of phosphorus from point and non-point sources may not lead to an immediate decrease in algal levels. There will always be some phosphorus internal loading, at least seasonally. However, the lake’s phosphorus “memory” will slowly fade if the phosphorus inputs decline. If the external load is diminished, a lake over-endowed with nutrients may eventually see a return to a more natural phosphorus cycling regime. 💧

*By Susan Knight
UW-Center for Limnology, Trout Lake Station*

The lake’s phosphorus “memory” will slowly fade if the phosphorus inputs decline.





Legislative Updates



NR 115 Update - Shoreland Protection

The public comment period on proposed updates to Wisconsin's 40-year-old shoreland management rules (Administrative Code NR 115) ended September 7, 2007. DNR staff are now reviewing those comments and the oral testimony given at nine public hearings this summer and will be issuing a response summary outlining the changes made based on specific public comments.

These changes will be incorporated into the final rule proposals that will be presented to the Natural Resources Board this winter for consideration. If the Natural Resources Board approves the proposed changes to the shoreland management rules, the rules

will be sent to the Wisconsin State Legislature for review and possible changes. There will be opportunities for the public to comment again at both the Natural Resources Board and Legislative stages. Once new shoreland management rules are passed, counties will have two years to bring their shoreland ordinances into compliance and begin requiring property owners to follow the revised standards, which aim to protect clean water, healthy habitat and scenic beauty.

For more information, visit <http://dnr.wi.gov/org/water/wm/dsfm/shore/news.htm> OR Contact Toni Herkert at (608) 261-0161 or Toni.Herkert@Wisconsin.gov

SB 197 - Proposed Statewide Phosphorus Ban

SB 197 is a proposed statewide ban on phosphorus in lawn fertilizer. Concerned citizens, representatives from lake groups and other conservation organizations, lake experts, county and UW-Extension staff, and the Wisconsin Association of Lakes (WAL) assembled to testify in favor of the bill. These testimonials emphasized the negative impact of excess phosphorus on our state's lakes and the necessity of a statewide approach to regulate lawn fertilizer.

The reasoning behind a statewide ban versus city/village/town ordinances is to ensure consistency across the state for consumers and businesses. Although there is no statewide data on lawns, agricultural soil in every Wisconsin county has at least 20 parts per million (ppm) — the amount needed

to grow healthy turf — and an average of 53 ppm of soil phosphorus. A quantity 1000 times smaller (25 parts per **billion**) can promote excessive algae growth in lakes.

The Senate Committee on Environment and Natural Resources [Sen. Mark Miller (Chair), Sen. Robert Jauch, Sen. Neal Kedzie, Sen. Dale Schultz, and Sen. Robert Wirth] will continue to work on this bill, and there are many steps to take before this bill becomes law. Updates on the progress of SB 197 and other lake related legislation can be found at www.wisconsinlakes.org.



Invasive Species Prevention

One Step at a Time

These [invasive species] regulations encourage responsible behavior and thinking when buying plants, camping, or boating out of state.

Photo by Darrin Hoverson



Zebra mussels were one of many invasive species discussed at the SAG meetings.

Public awareness of environmental issues and support for solving the resulting challenges is at an all time high. The effects of water pollution, the benefits of green space, and even the occurrence of global climate change have become an everyday part of our conversations. Another environmental issue that we are hearing more and more about is the growing number of invasive species showing up in Wisconsin. Most residents are familiar with the word “invasives” and have heard about the potential for negative effects on Wisconsin’s environment. As a result, many believe that preventing their introduction and spread is an important cause.

As new invasives arrive and new impacts are seen, it can become more challenging for citizens to support potential management solutions. News of the arrival of another non-native plant or animal can easily evoke feelings of hopelessness, frustrating even the most optimistic of thinkers. What citizens hear about less often is the progress that is being made in creating regulations that form a legal framework to aid in preventing invasive species from ever entering the state. The group that helps develop these rules and then passes them on to the Department of Natural Resources (DNR) is the Wisconsin Council on Invasive Species.

Created in 2001, the Wisconsin Council on Invasive Species (WCIS) is composed of thirteen members. Six council members are representatives from the DNR, the Department of Administration, Department of Agriculture, Trade, and Consumer Protection, Department of Commerce, Department of Tourism, and

Department of Transportation. The remaining seven are individuals who represent public and private interests that are affected by the presence of invasives and are appointed by the Governor to serve five year terms. Essentially, the WCIS is charged with making recommendations to the DNR on invasive species and conducting studies of issues related to controlling invasives.

A prominent aspect of their regulation efforts is the recent formation and meeting of the advisory Species Assessment Groups (SAGs) that are intended to take place annually. SAGs, comprised of scientists, species specialists, and business representatives, classify invasive species based on their potential to negatively affect society and the environment. This September, the Aquatic Plants and Algae Species Assessment Group, met in Madison to discuss and evaluate 27 aquatic plant and algae species. Before the meeting, each group member was asked to read through over 200 pages of literature that reviewed the distribution, damage potential, and control options of each species, and to group each species into regulatory categories. Then, on the day of the meeting, individual member ratings were shared and discussed by the group, and each species was assigned a final group classification: *Non-restricted*, *Watch*, *Restricted*, or *Prohibited*.

SAGs conducted this summer

- Aquatic Animals
- Aquatic Plants and Algae
- Herbaceous Plants
- Woody Plants
- Terrestrial Vertebrates
- Soil and Terrestrial Invertebrates and Disease Pests of Native Plants

These classifications and any other recommendations from the SAG are passed on to the WCIS, which then advises the DNR staff who draft the rules. Once the rules are outlined, public input is gathered through listening sessions and written comments (see



diagram). At its shortest, the classification of invasive species into regulatory categories takes two years. The time span for such a process can be wearisome. Gathering feedback from the public, rule revisions, waiting for legislative operations, and other steps make the procedure lengthy and frustrating for everyone, especially when stopping invasives, both new and old, from entering the state is the urgent goal.

How are invasives categorized?

Prohibited: Species not yet in state or in very limited populations; Still have potential to eradicate and prevent; High potential for environmental damage if spread.

Restricted: Too widespread in state to realistically attempt eradication, but has high environmental impacts.

Watch: More information needed, uncertain if it will become invasive in state or of level of harm.

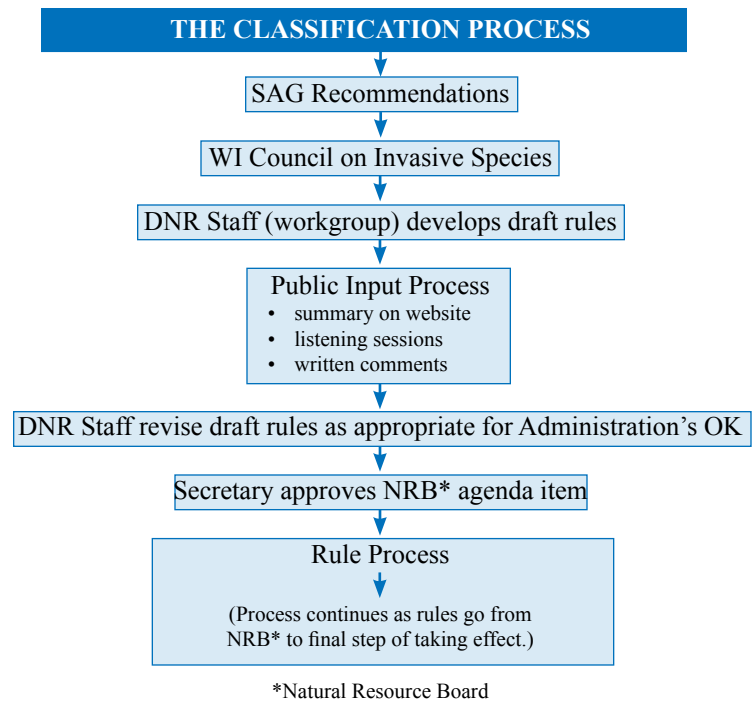
Non-restricted: Socio-economic benefits of species high; Environmental impacts of invasion variable.

The classification assigned to each invasive species will determine what activities will be allowed, such as the importation, transportation, possession, stocking, etc.

However, regardless of the challenges, the results of the WCIS and SAG efforts are important to invasive species prevention. These regulations encourage responsible behavior and thinking when buying plants, camping, or boating out of state. As more time passes, public awareness of the effects of invasive species will continue to increase and conversations on smart prevention of invasives will become a common part of our culture. 💧

*By Erin Henegar
UW-Extension Lakes*

Look for more information on the DNR website www.dnr.state.wi.us/invasives.



Southeastern Wisconsin AIS Workshop

Concerned about aquatic invasive species in your neighborhood? Learn about what has been done, and what still needs to be done to control these unwanted visitors at the Southeastern Aquatic Invasive Species Workshop.

When: Saturday, February 16, 2008, 8:00am-5:00pm
(Join us Friday evening, February 15th for a good ol' Wisconsin fish fry!)

Early bird registration - \$35 before January 25, 2008
\$40 after January 25, 2008

Where: Milwaukee Hyatt Regency Hotel
333 West Kilbourn Avenue
Milwaukee, Wisconsin
(414) 276-1234

Register on-line at
www.windlake.org

Who should attend? Anglers, boaters, lake residents, decision-makers, lake association and lake district board members, and friends of our lakes and rivers.

For more information, email info@wlmd.org OR telephone Dr. Thomas M. Slawski or Dr. Jeffrey A. Thornton at the Southeastern Wisconsin Regional Planning Commission, (262) 547-6721.



Citizen Lake Monitoring

Seasonal Steps for Lake Residents

When you walk out the door and the crisp autumn air meets your lungs, it's time to think about those fall chores. Along with turning up the garden and putting away the water toys for the season, the Citizen Lake Monitoring Network (CLMN) would like to remind you to add one final check of your shoreline for aquatic invasives.

Lake Resident check list:

For more information on these aquatic invasive species, go to www.uwsp.edu/cnr/uwexlakes/CLMN/publications.asp.



Check docks, piers, boats, etc. for zebra mussels.

If you suspect that you have zebra mussels, please notify your local Citizen Lake Monitoring contact. The contact information can be found on the CLMN website at: www.uwsp.edu/cnr/uwexlakes/CLMN.



Check shoreline for Eurasian water-milfoil (EWM) fragments.

If your lake is not known to have EWM, and you suspect it is present, please contact your local CLMN coordinator.

Residents living on lakes with EWM: Save yourself some work and **DO NOT** rake up leaves or fallen brush along your shoreline. The weevil that eats EWM uses these areas to survive the winter. It is very difficult for these weevils to survive the winter if your lawn extends all the way to the shoreline.



Check shoreline for mystery snails.

If your lake is not known to have Chinese or banded mystery snails and you suspect that you have found these snails, please email your information to Pieter Johnson (pieter.johnson@colorado.edu) or Laura Herman (Laura.Herman@uwsp.edu). 💧

www.uwsp.edu/cnr/uwexlakes/CLMN



CLMN Volunteers - Please remember to:

- ◆ Update your email, address and phone number by contacting your regional coordinator or going online.
- ◆ Get your data into SWIMS.
 - Volunteers who entered their data online DO NOT need to mail in paper copies.
 - Volunteers who phoned in their data SHOULD mail in paper copies.

Secchi volunteers – Please remember to:

- ◆ Store secchi disks and ropes out of the reach of chewing rodents.
- ◆ Measure your secchi rope to make sure it hasn't stretched. Please contact your local CLMN coordinator for information on what to do if the rope has stretched.
- ◆ Recycle old manuals and update revised sections.



Photo by Laura Herman

Chemistry Volunteers - Please remember to:

- ◆ Store integrated sampler upside down so mold does not grow on the ball mechanism.
- ◆ Store your Van Dorn and temperature meter (ropes & cables) out of the reach of chewing rodents. Make sure your Van Dorn is not propped open as this stretches and ages the rubber tubing.
- ◆ Store chemicals appropriately (do not let them freeze).
- ◆ Check expiration dates on your chemicals. Properly dispose of out-dated chemicals.
- ◆ Return Styrofoam sulfuric ampoule holder and unused acid ampoules to the DNR.
- ◆ Recycle unused lab slips.
- ◆ Make sure kit is dry so equipment and papers do not mold.
- ◆ Make sure your pH paper is kept dry in a Ziploc bag.
- ◆ Take out the Doric meter batteries so they do not leak and replace with new batteries in the spring. Contact your coordinator for a new 9-volt battery.
- ◆ Let coordinators know if you have any broken equipment.



AIS and Plant volunteers – Please remember to:

- ◆ Send in AIS Watch Reports and/or native plant monitoring results.

Volunteers who are leaving – Please remember to:

- ◆ Inform regional coordinator if you are retiring or leaving the program or if new volunteers are to be added in the 2008 season.
- ◆ Return unused equipment (Secchi disks, Van Dorns, Temperature meters, DO Kits, SLOH mailers, etc.) to your local CLMN contact. This equipment will be used by new volunteers.

VOLUNTEERS



Bats

The Ultimate Mosquito Repellent

Little brown bats have the widest range of core body temperatures ever recorded for a mammal (between 39°F and 130°F).

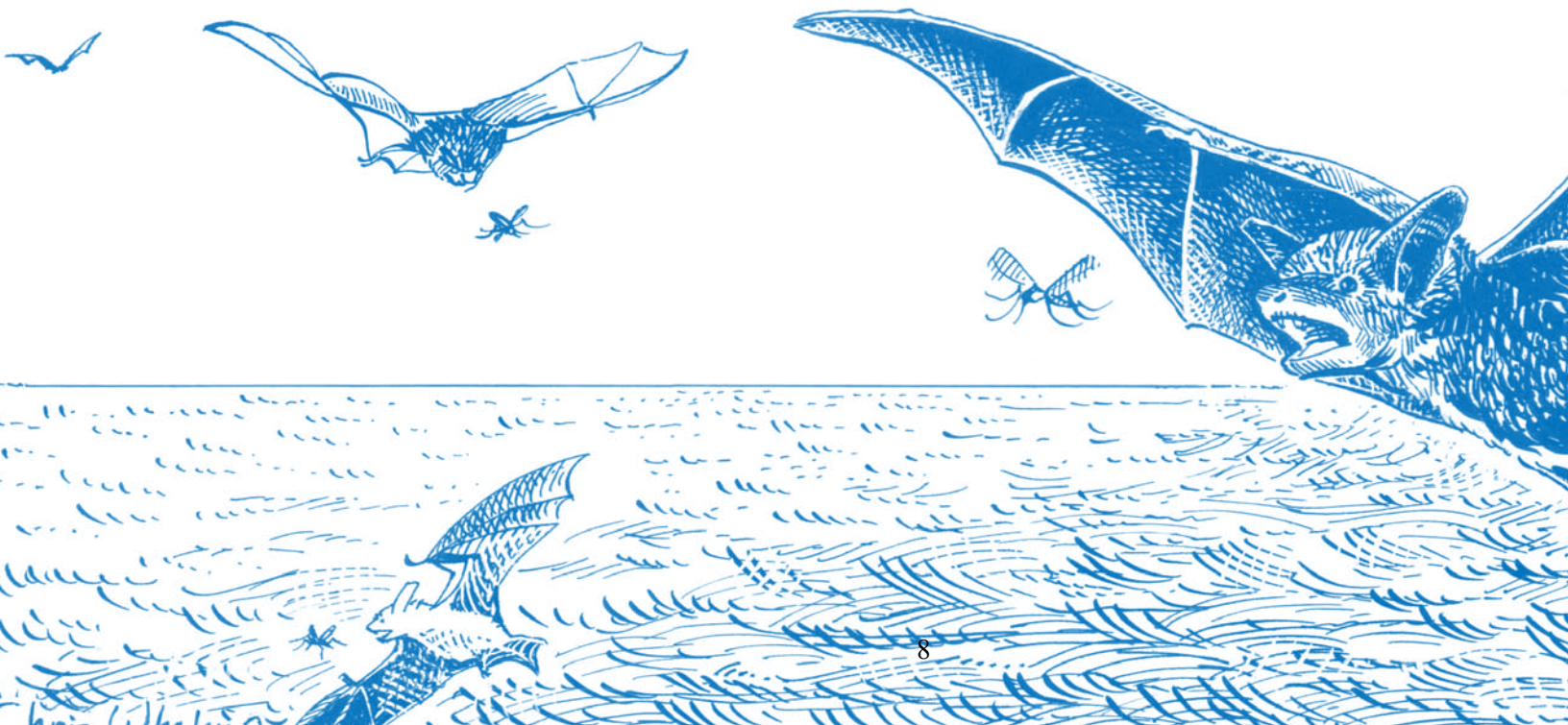
One of my favorite Wisconsin animals has to be the little brown bat (*Myotis lucifugus*). There is not a large diversity of bats in Wisconsin. Only seven species are common in the state, and they all belong to the same taxonomic family Vespertilionidae. All seven species of Wisconsin bats eat insects. Look at the molar of a Wisconsin bat under the microscope and you'll recognize a sharp W-shaped cusp advertising its specialized diet. Bats feed on insects of different sizes, and the size can be determined, in part, by the frequencies of bat echolocation calls. In general, lower frequency calls detect larger insects and higher frequency calls detect smaller insects. Also, high frequency calls can distinguish prey from background. The Northern myotis bat has the highest frequency calls for any Wisconsin bat and can pick a mosquito off a leaf! Little brown bats can also detect very small insects.

Little brown bats are most active during the second and third hours after sunset, foraging over streams and ponds. You may have seen them flying close to the water feeding on insects such as mayflies and other mosquito-sized insects. A lactating female eats more

than her body weight in insects each night (waiter, I'll have the 150lb steak and a side salad). Keeping me safe from mosquito bites is only one reason I find little brown bats so interesting.

Little brown bats have the widest range of core body temperatures ever recorded for a mammal (between 39°F and 130°F). They act more like lizards, allowing their body temperature to track ambient temperature. This saves a lot of metabolic energy. Think about the energy we expend maintaining a range of temperatures in our comfort zone. You can look at your energy bill, but also think about the myriad of behaviors we have to keep cool or stay warm. At what temperature do you put on a sweater? Do you try and park in the shade on a hot summer day? Little brown bats don't waste time on such things.

Little brown bats travel up to 200 miles to hibernation caves. During the winter months mating occurs and sperm is stored by females until spring when fertilization of the eggs takes place. It sounds strange, but basically, male bats mate with freezers!



About late May or June females give birth to a single pup. This is common in bats and is thought to be related to the energetics of flight. The 0.1 ounce pup is about 25% of the mother's body weight. Try and imagine a 100 pound human carrying a 25 pound fetus foraging for over 100 pounds of food everyday (forget about dad helping out). Now imagine her flying. Although single pups are the norm, a few Wisconsin bats, including the silver-haired and the hoary bat, give birth to twins. The red bat can give birth to as many as five young, the largest litter ever reported for a bat.

Finally, here are some thoughts about those bats in your attic. The little brown bat is the bat most commonly found in buildings in Wisconsin. These colonies can number from 150 to 300 bats and consist exclusively of females and pups. The males remain solitary during the summer. Females are site loyal and will return to the same roost year after year. A bat control expert I know trapped a bat in a building, released it 180 miles away, and captured it in the same building the following year. He also told me that it's usually the juveniles that get disoriented and end up in the house. Amazingly, little brown bats live for more than 30 years. Doing some quick math, the senior bats in your attic may have consumed up to 90 pounds of mosquito-sized

insects during their lifetimes!

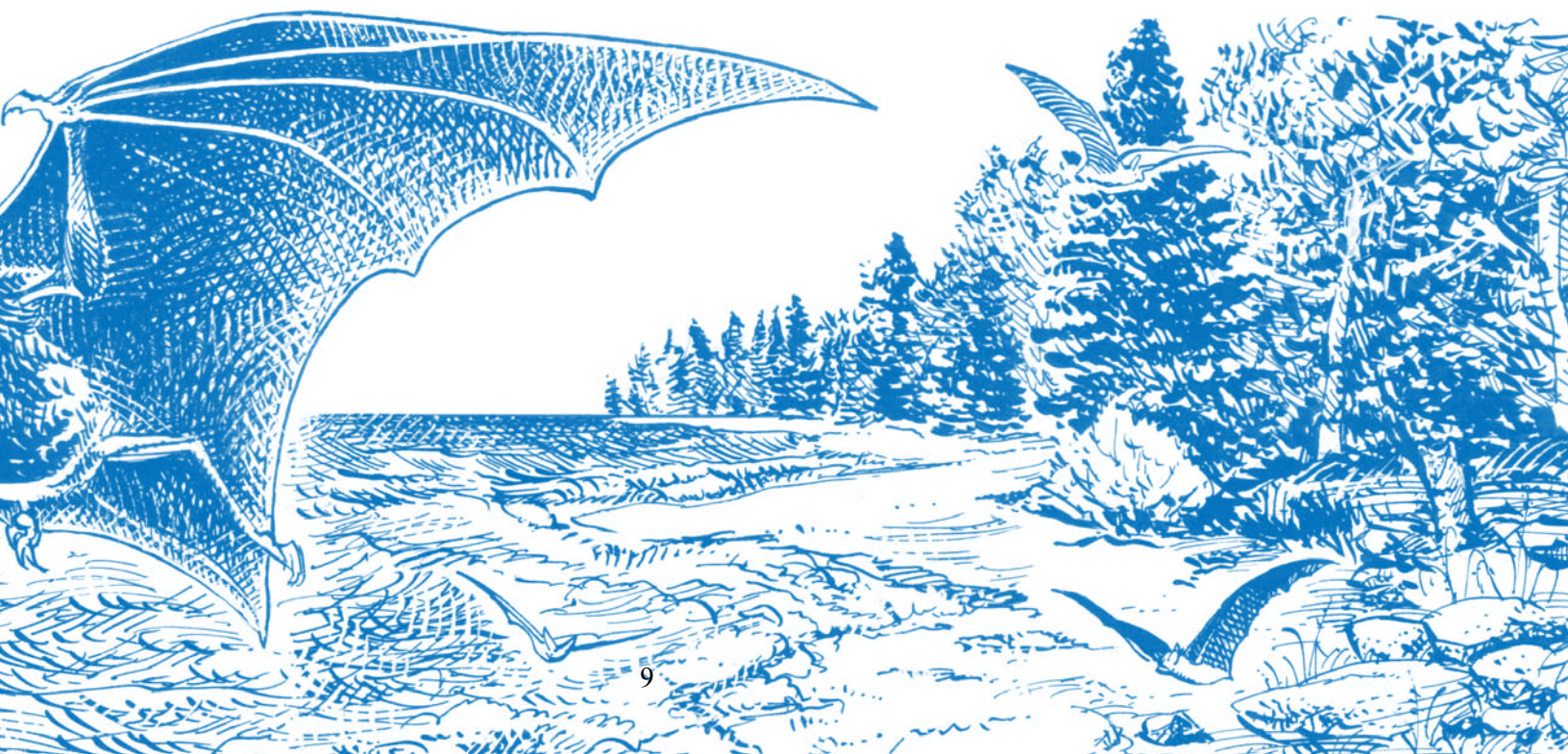
Most of us find bats mysterious, if not a bit frightening, but we have a lot in common with them. We're the only two mammals capable of true powered flight (okay, we need a little help from Boeing). We are both relatively long-lived species that typically give birth to single offspring. Vampire bat mothers form babysitting co-ops, leaving their pups with close relatives while they go out for a bite to eat and a drink (bet you can't guess their favorite drink). The following night, belly full, they'll take on the babysitting duties. One thing bats and humans don't agree on is mosquitoes. Bats crave them and we despise them, but that important difference is why we love bats. ♦

*By Christopher J. Yahnke
Curator of Birds and Mammals
Museum of Natural History and Department of
Biology, University of Wisconsin-Stevens Point*



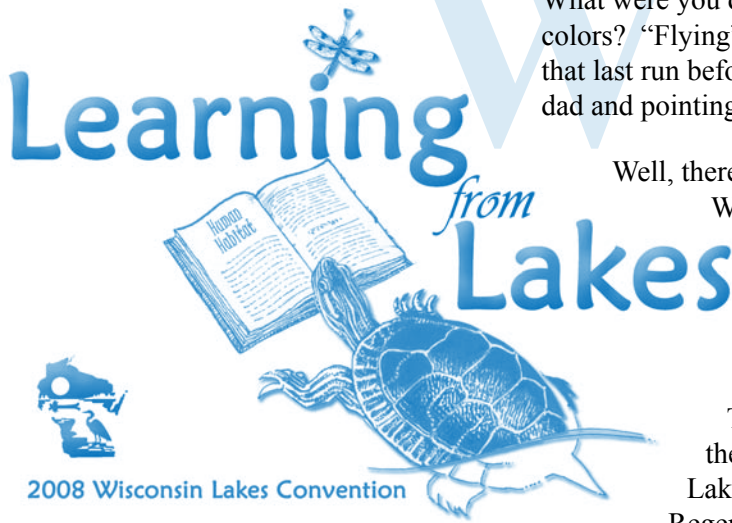
Life-size little brown bat

Senior bats in your attic may have consumed up to 90 pounds of mosquito-sized insects during their lifetimes!



2008 Wisconsin Lakes Convention

Learning from Lakes–Cheers to 30 Years!



What were you doing 30 years ago? Sitting on the dock enjoying the fall colors? “Flying” at top speed in your boat loaded with your buddies to get in that last run before the snow flew? Taking a walk through the woods with your dad and pointing out tracks? Or were you just a twinkle in your mom’s eye?

Well, there were some state lakes folks busy preparing for the first Wisconsin Lakes Convention. The gathering was a bit smaller then, with approximately 80 citizens and lake professionals. Through the years, more folks have converged at this annual event to network with other lake enthusiasts, get new data from lake professionals and learn from lakes.

This year we are saying “Cheers to 30 Years!” and marking the successes of Wisconsin’s lakes. The 30th Annual Wisconsin Lakes Convention will be held April 17-19, 2008 at the KI Center/Regency Suites in Green Bay. You will get a chance to hear about

state-wide accomplishments from keynote speakers, as well as local success stories during breakout sessions and networking time. You will also have the opportunity to practice some of the methods that have led to these local lake management successes while attending the hands-on workshops.

As always, the Wisconsin Lakes Convention will cover a wealth of information on lakes and lake issues such as water law, lake science, lake organizations management, citizen involvement, wildlife and fisheries, aquatic invasive species, and the value of lakes. On Thursday of the convention, hands-on workshops and a field trip will be offered. Friday and Saturday will feature plenary and breakout sessions, special meetings, networking time and entertainment. There will be a wealth of information for you to explore, learn about, and celebrate WI Lakes.

Watch for more information on the convention agenda and how to register in the next issue of *Lake Tides* or online at www.uwsp.edu/cnr/uwexlakes/conventions. We can learn much from the years of working with our lakes and the people who are passionate about them. So join us in saying, “Cheers to 30 Years!” and share in the learning experience. ♦

**Join us April 17-19,
2008 for the 30th
Annual Wisconsin
Lakes Convention!**

Lakes Photo Contest

Show us why you love your lake through the eye of your camera. Enter the Wisconsin Lakes Partnership photography contest. The two categories are “people enjoying lakes” and “natural features in and around lakes and under water.” Get the official rules and an entry form at www.uwsp.edu/cnr/uwexlakes/conventions.



www.uwsp.edu/cnr/uwexlakes/conventions

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: Is there a limit on how much a lake district can tax?

A: Yes - general property taxes levied by a lake district are capped at a rate of 2.5 mills or \$2.50 per \$1,000 of equalized valuation (\$250 for a property valued at \$100,000). General property taxes are applied as a tax rate on each taxable parcel within the district and are typically used for operating expenses such as administrative costs, lake studies, monitoring and other general government activities.

Lake districts are also authorized to use special charges for services identified in the annual budget. These are typically used for services that benefit individual properties, such as sewer or water service, aquatic plant harvesting, algae control and garbage pickup. Similarly, special charges are capped at \$2.50 per \$1,000 of assessed valuation.

Special assessments can also be used, but are typically reserved for larger capital projects and involve fairly complex notices, hearings and procedures.

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

Join the Wisconsin Lake Leaders!

Nominations are being accepted for the Wisconsin *Lake Leaders Institute*. This leadership program assists citizens in developing and enhancing both their technical and people skills to enrich their communities and the waters within them. The Institute also encourages participants to share experiences and learn from each other. Participants learn in an atmosphere of openness, trust, friendship and camaraderie.

The program consists of three seminars, each lasting two days. They are typically held during May, September and October at retreat type centers throughout the state with the opportunity to take field trips, enjoy natural beauty, exchange ideas, and develop friendships.



Photo by Tiffany Lyden

If you or someone you know would thrive in this type of environment, please consider joining us or nominating a friend for the next *Lake Leaders Institute*. The first seminar will be in May 2008.

For more information please visit our web site at www.uwsp.edu/cnr/uwexlakes/lakeleaders or call Kim at (715) 346-2116.

Nominations are due March 15, 2008.



Clean Boats, Clean Waters

2007 Watercraft Inspection Data Report



Happy fall, fellow lake lovers! As the weather turns cooler and we all start reminiscing about the warmth and fun of summer, it's a good time to think back to the watercraft inspections conducted this past year and see what the information gathered at the landings can tell us.

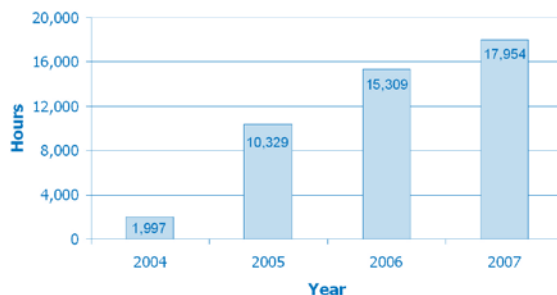
Here are some numbers from across the state:

- ◆ 30,807 boats were inspected by volunteers and paid inspectors
- ◆ 64,336 people were contacted about the *Clean Boats, Clean Waters* message
- ◆ Over 17,950 hours were spent conducting watercraft inspections (6,249 hours by volunteers)
- ◆ 5% of boats had plants attached when launching
- ◆ 10% of boats had plants attached when leaving the landing
- ◆ 40% of boats had been in another water body in the last five days
- ◆ 44% of boats had previously been in a water body with invasives present
- ◆ 91% of boaters stated that they regularly take prevention steps
- ◆ 90% of boaters stated that they were aware of the AIS launch law

So, how do these numbers compare to previous years?

- ◆ Watercraft inspections were conducted for over 2,600 more hours in 2007 than in 2006. Thanks to both volunteers and paid inspectors for their awesome efforts this summer! As you can see below, we've come a long way in our number of hours since 2004.

Total Hours Spent on Watercraft Inspections 2004-2007



- ◆ This year, **91% of boaters said that they regularly take the prevention steps** every time they boat. As seen in the graph below, that number is **up 19% from last year**, when 72% of boaters stated that they took prevention methods. Alright! This suggests that boaters are hearing our 'Clean Boats' message and taking the appropriate steps to prevent spreading aquatic invasives to other lakes.

Boaters Who Reported Taking Prevention Steps 2004-2007

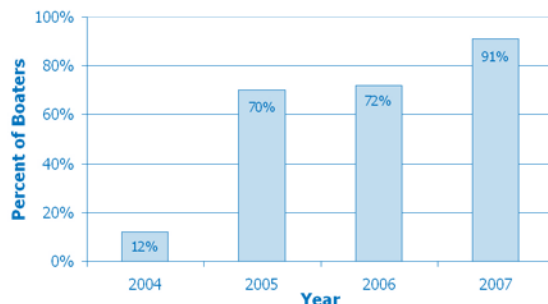
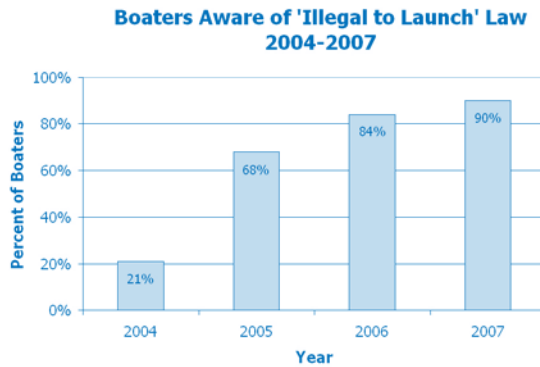


Photo by Laura Felda-Marquardt



- 💧 **Boater awareness of the aquatic invasive species law has seen a rise of 6% since 2006.** This is also an exciting trend! Since 2004, awareness of the regulation has continued to rise and reached 90% this year.



There have also been many changes this summer. With the presence of viral hemorrhagic septicemia in some of Wisconsin's lakes, the number of boaters who had previously visited a water body with invasives has risen significantly. Spiny waterflea, previously found only in the Gile Flowage in Iron County, was discovered in Stormy Lake in Vilas County, and an invasive plant called hydrilla was located in a private artificial pond in Marinette County this summer.

The arrival and spread of these relatively new aquatic invasive species, while aggravating to us all, emphasizes the importance of our inspection efforts. And progress is being made! The data collected in 2007 is quite encouraging. As you can see in the previous graphs, we're getting the word out about the value of preventing the spread of aquatic invasive species, and more people report taking the prevention steps than ever before. In addition, more of Wisconsin's boaters are aware of the 'Illegal to Launch' regulation. The number of boaters entering the water and leaving the landing with plants or animals attached continues to steadily decrease.

We have our volunteers to thank for much of the success and improvement seen in 2007. Thanks so much to all of you who devote time to spreading the message 'Clean Boats = Clean Waters'!! Your hard work and commitment is appreciated and, as can be seen in the data, really does make a difference!

For more information about the *Clean Boats, Clean Waters* watercraft inspection program, go to www.uwsp.edu/cnr/uwexlakes/CBCW or contact Erin Henegar at Erin.Henegar@uwsp.edu or (715) 346-4978. 💧

This year, 91% of boaters said that they regularly take the prevention steps every time they boat.

AIS Prevention Steps

What can you do to aid our prevention efforts? Take these important steps every time you leave the landing and encourage others to do the same.

- 💧 **Inspect and remove** aquatic plants and animals
- 💧 **Drain** all water from boat and equipment
- 💧 **Dispose** of unwanted bait in trash
- 💧 **Ice your catch** before you leave
- 💧 **Rinse** boat and equipment with hot/high pressure water
- OR **Dry** boat for at least 5 days

Statewide VHS Emergency Rules Passed

On October 24, 2007, the state Natural Resources Board approved emergency rules that require all people boating and fishing in Wisconsin to take steps to prevent the spread of viral hemorrhagic septicemia (VHS), a recently discovered aquatic invasive species. The emergency rules require boaters and anglers to drain their boats and make sure the fish they take away are dead, including bait minnows, before they leave any Wisconsin water body. And, in a requirement reflecting concern that boaters were arriving in Wisconsin from other states where VHS is present, the board made it illegal to transport by land any water in livewells, boats or other equipment into the state. Action on permanent rules is tabled until December.

For more information on VHS or to view the detailed list of emergency rules, visit <http://dnr.wi.gov/fish/pages/vhs.html>.



Lake Planning Series

A Call to Action

The convenience of an action plan is that it is visual, to the point, and can be pulled out at every meeting.

So far in this series we have focused on the details of making a plan. Although these details are important, we need to give ample consideration to the most important aspect: putting the plan to work! We've all heard the cliché about plans sitting on the shelf collecting dust. While that's never a deliberate outcome, failure to consider and include an implementation strategy increases the odds that the plan will fail the "white glove test."

Considering the questions of what, how, where, who and when is critical for plan implementation to be successful.

What - the specific actions or tasks that are needed to achieve the recommendation or management objectives listed in the plan.

How - the methods needed to meet plan objectives in addition to the time and money involved. Are volunteers doing the work? Does the activity require spending money (most do)? Costs need to be detailed in a budget along with a description of where the money will come from (i.e. grants, taxes, donations, etc.)

Where - the need to specify locations in the lake or watershed where the actions will take place. A labeled map is a useful part of your action plan.

Who - the person, committee or vendor responsible for completing the task; this is a simple, but critical assignment. Be sure the "who" is willing and supportive of the assigned task to ensure follow through.

When - the time frame. Rarely do we have the financial and human resources to implement the entire plan at once, so part of action planning is organizing priorities. What recommendations are going to be tackled first and what can wait? This is often facilitated by classifying recommendations as short, medium or long term. Also, to achieve results, activities often need to be in a proper sequence (for

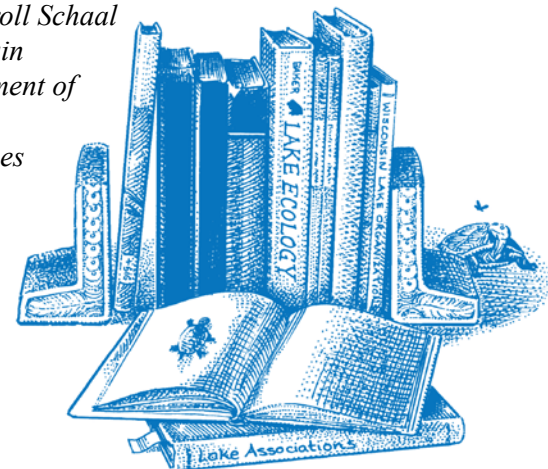
example, task A needs to be done before task B can begin). This is called critical path analysis. Finally, developing an overall timeline of expected starts and completions of the various tasks is extremely helpful for communication among the stakeholders, as well as for tracking and accountability.

An implementation or action plan should be easy to read and represented in tables or charts. There are several free and low cost software programs available that can be used to organize the what, how, where, who and when into flow charts displayed over a calendar (type Gantt Charts into any Internet search engine).

Simply put, an implementation plan is a detailed schedule of actions. After all, action is what we want! It does not have to be part of the full management plan. In fact, it is more useful as a stand alone document. While the management plan may remain fairly static, the implementation plan will constantly be updated. The convenience of an action plan is that it is visual, to the point, and can be pulled out at every meeting allowing the main plan to be on the shelf as a reference without its ideas collecting dust. Be sure to include a brief description of the expected results in your implementation plan.

After all of the effort that your group puts into creating a management plan that will benefit your lake, make sure the work is carried out. Then take a stroll to the water's edge and enjoy the results. ♦

By Carroll Schaal
Wisconsin
Department of
Natural
Resources





Wisconsin's Loss Montana's Gain

Tiffany Lyden, UW-Extension Lakes Specialist, has taken her life in a new direction, and that direction is north and west. She and her family have moved to Polson, Montana, just south of Glacier National Park. We are sad to see our colleague and friend leave, but understand that the path we follow through life's journey sometimes splits.

We are proud to have worked with such a talented young woman. Tiffany personifies what it means to be a professional. Her kind manner, honesty and unselfish thinking have made her a trusted friend to people from all across the state. Tiffany's philosophy has always been one of inclusion. She believes that when people take ownership of an issue or task there is a greater likelihood that those actions, expectations and philosophies will be carried out and integrated into community routines. She has put her beliefs into practice throughout the state, from her work with small communities to her efforts in developing state policy. We wish Tiffany and her family the best as they start this new chapter in their lives.

WISCONSIN LAKES

Paradise Lost? Climate Change Art Tour

November 16-December 1, 2007 – Center for the Visual Arts, Wausau

January 12-February 8, 2008 – Olbrich Botanical Gardens, Madison

February 16-April 11, 2008 – Bell Museum of Natural History, Minneapolis, MN

For more information: www.wisc.edu/cbe/K12/paradiselost.html

Groundwater Model Workshops for Educators

January 15, 2008 – Jefferson

January 23, 2008 – Green Bay

January 30, 2008 – Stevens Point

Educators from schools and nature centers that provide environmental training to students grades 6-12 are encouraged to apply for a free groundwater sand tank flow model along with training and tools that can improve their programs (8 models given away at each workshop).

Application deadline: November 1, 2007.

For more information: <http://dnr.wi.gov/org/water/dwg/gw/educate.htm>

January 31-February 1, 2008 – Wisconsin Wetlands Association Conference,

Oconomowoc. For more information: www.wisconsinwetlands.org

February 1, 2008 – Application deadline for Lake Planning and Aquatic Invasive Species 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 16, 2008 – Aquatic Invasive Species Workshop, Milwaukee

For more information see page 5 of this issue.

February 22, 2008 – Nomination Deadline – WI Lake Stewardship Awards

Nominate an individual or group who dedicates time and talent to Wisconsin's waters for this prestigious award.

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

April 17-19, 2008 – 30th Annual Wisconsin Lakes Convention, KI Center, Green Bay.

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



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Reflections

A few days ago I walked along the edge of the lake and was treated to the crunch and rustle of leaves with each step I made. The acoustics of this season are different and all sounds, no matter how hushed, are as crisp as autumn air.

~ Eric Sloane

