



Blastomycosis - A Northwoods Nuisance

For many families, the lakes and streams of north central and northern WI, away from the bustle of larger city life, create an environment that can be very satisfying and relaxing. However, for a small number of people it may be a life threatening experience. Throughout the year, but particularly late spring and late fall, many health care providers in Wisconsin annually encounter a respiratory or pneumonic-like disease called blastomycosis.

Blastomycosis is an uncommon airborne disease caused by the fungus *Blastomyces dermatitidis*. The infectious spores become airborne when soil in which the fungus is growing is disturbed.

Infection develops after the inhalation of spores (photo 1) into the lungs. Once established in lung tissue, the fungus undergoes a change into the characteristic "broad-necked" budding yeast (photo 2) which increases in number and can potentially spread to other organs of the body via the bloodstream. Based on outbreak investigations of blastomycosis infections in which likely sources of exposure to *Blastomyces* spores could be reliably fixed, incubation periods usually ranged from 30-90 days. This data may indicate that infections recognized late in the fall and winter months are typically associated with

[Blastomycosis] is treatable, especially with early diagnosis, and treatment is crucial.

autumn exposures. The illness resulting from exposure to this organism is extremely variable.

Symptoms of the illness can range from infected individuals that may not develop any symptoms, to cases that develop mild respiratory symptoms characterized by a persistent cough, shortness of breath, night sweats, chest tightness, loss of appetite, and low-grade fever, to a life-threatening illness involving multiple organ systems such as bones, the prostate gland, testes and kidneys. Skin lesions with ulcerating centers may also

(Continued on page 2)

Photo courtesy of John Archer

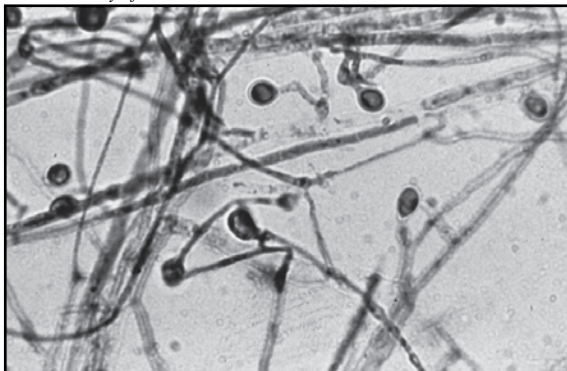


Photo 1 - Mycelial form producing conidiophores, 2-3 μ m

Photo courtesy of John Archer

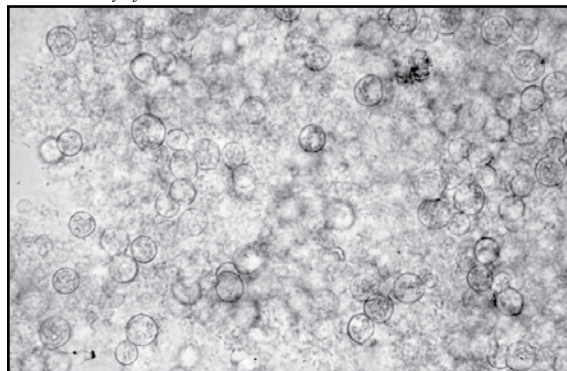


Photo 2 - "Broad-based" budding yeast cells in sputum, 8-15 μ m

(Blastomycosis, continued)

occur in approximately 25% of cases. These usually occur on the exposed parts of the body such as the face, hands, wrists, feet, and ankles.

Symptomatic individuals usually have abnormalities present on their chest x-rays. However, these abnormalities are not unique to blastomycosis and may occur with many other respiratory illnesses such as bacterial pneumonia or lung cancer. The diagnosis of blastomycosis can be confirmed by the identification of the fungus *B. dermatitidis* in a culture of the sputum, skin, or biopsy specimen of infected tissue. The disease is treatable, especially with early diagnosis, and treatment is crucial. There is no vaccine available for blastomycosis. Most clinical cases occur in adults, and the disease is rarely reported among children, even in areas of the state with higher cases. Blastomycosis is not transmitted from person-to-person.

In spite of recent publicity, blastomycosis is a relatively uncommon disease with approximately 3 cases per 100,000 people.

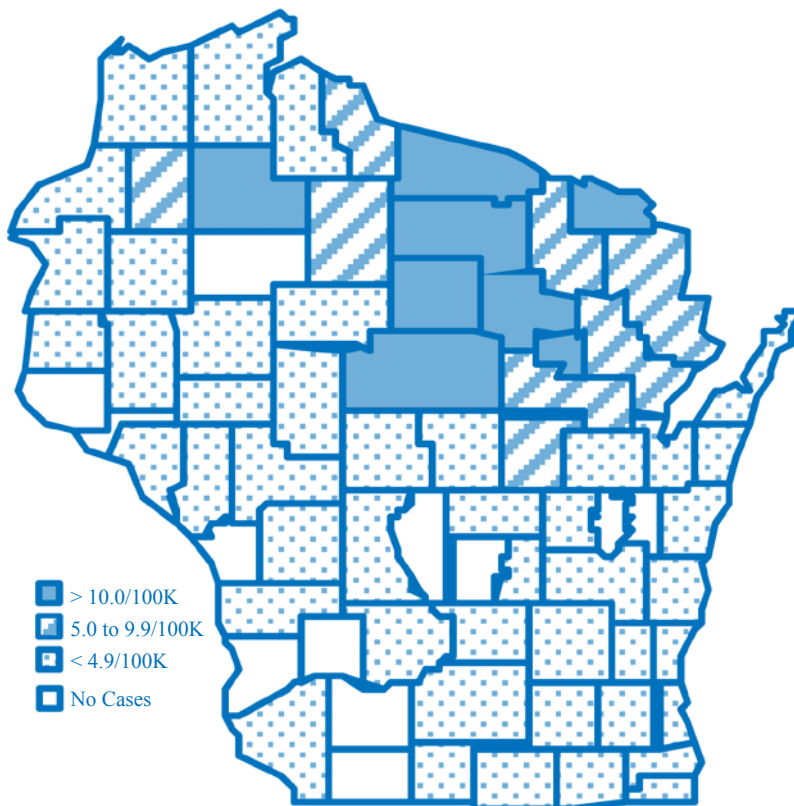
Blastomycosis in Wisconsin

Blastomycosis became a reportable disease in Wisconsin in 1984. It is the most prevalent of the systemic fungal infections in the state and annually has the highest number of cases among all states where it is a reportable disease. From 2005 through 2009, Wisconsin averaged 132 cases of this disease, resulting in 48 hospitalizations and 9 deaths per year. It is likely that some people are infected with the fungus but only develop minimal symptoms and are not diagnosed or reported to the Wisconsin Division of Public Health. Most cases of blastomycosis occur as isolated events, and only rarely have outbreaks or clusters of cases been reported. Although cases of blastomycosis have been reported from most areas in Wisconsin, the highest numbers come from the central and north central counties. In spite of recent publicity, blastomycosis is a relatively uncommon disease with approximately 3 cases per 100,000 people.

Nationally, blastomycosis occurs along the Mississippi River Valley from Minnesota and Wisconsin to Arkansas, along the Ohio River Valley, and in the southeastern United States.

Blastomycosis in the Environment

Although little is known about the ecology of *Blastomyces dermatitidis* in the environment, it is a fungus that appears to favor areas characterized by sandy, acidic soils with high organic content, abundant soil moisture, and decaying vegetation – all areas typically found along many Wisconsin waterways. Specific conditions of humidity, temperature and nutrition also appear to be contributing factors for growth and formation of spores by the fungus. While *B. dermatitidis* is widely distributed geographically, the actual area infected with the fungus is likely to be small and may be limited to one rotting log or several square yards of infected soil. Depending upon environmental conditions, the area may be infected for only a brief time. Environmental factors that increase the occurrence of *B. dermatitidis* remain a mystery. Without a more precise understanding of the ecology of *Blastomyces* in nature, it is extremely difficult to prevent recurrent



*Top 10 Counties of Blastomycosis
Infections in Wisconsin, 2005-2009
Incidence Rate per 100,000 population*



illness or apply appropriate control measures. More effective skin and blood tests are needed to diagnose blastomycosis, and more individual surveys need to be conducted in areas where blastomycosis is suspected to occur. Through such surveys, high-risk areas in the environment could be identified, and hopefully, the necessary environmental conditions for the growth of *B. dermatitidis* could also be identified. Control efforts may then be possible. Despite thousands of attempts, the fungus has rarely been isolated in nature. Even repeated testing at specific locations where the organism was previously isolated yielded negative results. There are no standardized procedures currently available for environmental testing of soil samples.

Blastomycosis Prevention

At this time, there is no way to identify areas where the organism exists. Therefore, until more is known about the existence of *B. dermatitidis* in nature, it cannot be successfully identified and controlled. A big factor in determining whether individuals may become infected is directly related to their lifestyle and where they live. People that spend time in the woods are much more likely to become infected. If they travel in swamps or near water, they are at an even greater risk.

People with impaired immune systems (e.g., diabetics, cancer patients, the elderly) who participate in activities that involve disrupting the soil are at the highest risk for acquiring blastomycosis through the inhalation of *Blastomyces* spores. Using dust masks, gloves, boots and coveralls is strongly encouraged for individuals in this high-risk category who partake in such activities.

Blastomycosis in Dogs

Dogs commonly develop blastomycosis because they frequently dig in the soil and sniff along the ground, increasing their opportunity to inhale *Blastomyces* spores. Infected dogs have rarely been known to transmit the disease or cause localized infections to humans through bites. It may be possible to indicate areas populated with the fungus by documenting cases of the disease in our four-legged companions.

Scientists at the Wisconsin Division of Public Health are exploring ways to identify, track and control the fungus *Blastomyces dermatitidis* that causes this lung disease. In the mean time, continue to enjoy your trips to the lake building sandcastles with your grandkids, playing fetch with your dog, and working on that shoreland restoration project you've been planning all winter. Remember, cases of blastomycosis are very rare, and with the right precautions, you can prevent becoming exposed, even in areas that may be more susceptible to the fungus. If you think you have been exposed to infectious spores, contact your physician immediately so a diagnosis can be determined and treatment can begin if needed. 💧

By John Archer

Wisconsin Division of Public Health

For more information on Blastomycosis, go to <http://dhs.wisconsin.gov/communicable/factsheets/index.htm> or contact John Archer, Wisconsin Division of Public Health at 608-267-9009 or john.archer@wi.gov.

People that spend time in the woods are much more likely to become infected. If they travel in swamps or near water, they are at an even greater risk.

And the Green Grass Grows All Around

Living with Lawns in Wisconsin

Photo by Lynn Markham



Carcinogen: A chemical that causes cancer

It's spring again, and you're probably making plans, and maybe even starting to dig in to those landscaping projects you've been planning all winter. You may be thinking of taking a trip to your local lawn and garden store to get lawn supplies or calling a lawn care company that promises to transform your lawn into a lush, green carpet of grass.

Green grass is an iconic part of American home life. There is nothing like running your toes through the lush green or smelling the freshly mown grass. Some amount of lawn in the right place can be great, but our love affair with lawns can have some unexpected consequences. Before you start your annual lawn routine, consider this.

One lawn is only a small piece of land, but when you add up all the lawns across the country they cover over 40 million acres – larger than the entire state of Wisconsin. Within Wisconsin, turfgrass is the state's fourth largest crop in terms of acreage, covering an estimated 1.2 million acres of home lawns, parks, roadsides, golf courses, athletic fields and sod farms. Lawns for homes and apartments make up nearly two-thirds of this acreage.¹

In the home and garden market, 163 million pounds of pesticide active ingredients were used in the United States in 2001, the most recent year for which data is publicly available.² The next sections discuss the

Table 1: Top 10 home and garden pesticides

Pesticide	Type	Pounds of active ingredient used in the U.S. in 2001 ²	Potential to cause cancer ³
2,4-D	H	8-11 million	Not classifiable as to human carcinogenicity
Glyphosate (Roundup)	H	5-8 million	Evidence of non-carcinogenicity for humans
Diazinon	I	4-6 million	Not likely to be carcinogenic to humans. EPA eliminated all residential uses December 31, 2004 ⁵
MCPP	H	4-6 million	Suggestive evidence of carcinogenicity, but not sufficient to assess human carcinogenic potential
Pendimethalin	H	3-6 million	Possible human carcinogen
Carbaryl	I	2-4 million	Probable human carcinogen
Dicamba	H	2-4 million	Not classifiable as to human carcinogenicity
Malathion	I	2-4 million	Possible human carcinogen
DCPA (Dacthal)	H	1-3 million	Possible human carcinogen
Benfluralin (Benefin)	H	1-3 million	Suggestive evidence of carcinogenicity, but not sufficient to assess human carcinogenic potential

H=herbicide
I=insecticide



potential of these pesticides to cause cancer and suggest tips for creating a lawn that is safe for all.

Step 1

Forget the Pesticides

Children and pets like to play on lawns, but are they safe? Do we know what has been sprayed on the grass at the park down the road, or on their friends' back yards? We do know that there are 35 active ingredients in pesticides used frequently on lawns, and over 185 other active ingredients used less frequently.³ Pesticides include herbicides to control weeds, insecticides, and fungicides. Weed-and-feed products contain pesticides.

How are lawn pesticides tested for safety? According to the U.S. Environmental Protection Agency (EPA) lawn pesticides are tested to see whether they cause irritation, sensitization, or toxicity after a single exposure to various parts of the body. EPA has often required additional studies for new pesticides based on their chemical structure. However, they do not routinely require long-term toxicity testing.³

The EPA reviewed the top 10 lawn and garden pesticides for their potential to cause cancer. The results of their review are shown in Table 1 (*page 4*). One of the pesticides is a probable carcinogen, three are possible carcinogens, and two have suggestive evidence of carcinogenicity.

How do lawn pesticides affect wildlife? Birds are injured and killed more by insecticides than any other type of pesticides. People should be extremely cautious when using insecticides and should attempt to limit their use to emergency situations only. At least 40 to 50 different insecticides (organic-phosphates and carbamates, which include malathion and carbaryl from the top 10 list of lawn pesticides above) are known to kill birds even when the label instructions and rates are followed.⁶

Herbicides and fungicides are usually not considered acutely toxic to birds, but have been shown to cause endocrine and other internal system effects, which can impact reproduction and other normal functioning of birds.⁶

Areas to Explore

People choose to have more or less lawn in their yard depending on how they use it. Some people follow the suggestion to “only mow where you go.” To create areas to explore in your yard, consider:

- Trees and shrubs. Think shade, fruit, or a place to hang a swing. Native trees and shrubs can create habitat for birds – a natural source of insect control.
- Shade gardens of attractive native ferns and spring flowers that also provide homes for frogs and toads – another natural source of insect control.
- Patches of native prairie that provide long-lasting flowers – food for butterflies as well as food and nesting materials for birds.
- Trails and paths around or through natural areas.
- Gardens for flowers, herbs, strawberries or veggies.
- Boardwalks or bridges.
- Rocks and logs.

For Wisconsin-specific resources related to native plants, see:

- *Wild Ones*, an organization that provides information about landscaping with native plants, has 12 local chapters in Wisconsin www.for-wild.org
- *Wisconsin Native Plant Sources* provides a list of nurseries that sell seeds and plants for natural landscaping <http://dnr.wi.gov/org/water/wm/dsfm/shore/documents/nativeplants.pdf>

A 2004 study found that frogs exposed to Roundup, which contains glyphosate, the most common lawn pesticide, had abnormal growth and abnormal sex organs.⁷

Step 2

Consider All the Options

How do you want to use your yard? Clearly there are many landscaping options and your choices will likely depend on what uses you have in mind. Is it a place to play, relax, watch birds, have a picnic, plant flowers or vegetables, or all of these?

Once you've decided how you want to use your yard, consider the following recommendations for creating and maintaining a pesticide-free lawn.⁸

Key #1: Start with healthy turf

Maintaining a weed free lawn without pesticides can be as simple as keeping the turf canopy dense by judiciously using fertilizers, using corn gluten meal annually to prevent weeds, and pulling or spot-treating the occasional weed. Eliminating existing weeds

Children and pets like to play on lawns, but are they safe? Do we know what has been sprayed on the grass at the park down the road, or on their friends' back yards?



Citizen Lake Monitoring Network

www.uwsp.edu/cnr/uwexlakes/CLMN



Lake Tides 35(2)

With the early ice-off conditions, many Citizen Lake Monitoring Network (CLMN) volunteers are already taking Secchi readings. So, now is an excellent time to cover a few staff contact modifications for 2010.

Due to Wisconsin Department of Natural Resources (WDNR) staffing vacancies and the hiring freeze, we will have to be creative in finding ways to ensure that the volunteers get the training and support they deserve. WDNR has vacancies in Western, Southeast and Southern Wisconsin, so 38 out of 72 counties will be impacted.

To cover Western Wisconsin (normally covered by the WDNR in Eau Claire), we have secured 1- and 2-year grants and contracts with Beaver Creek Reserve, Adams County Land and Water Conservation Department (LWCD) and Golden Sands Resource Conservation and Development (RC&D) Council, Inc. Since these are not permanent, we need to continue to negotiate contracts to ensure coverage and consistency.

Western

Sarah Braun and Anna Brady Mares, Beaver Creek Reserve, will be the local CLMN contacts for all CLMN activities in St Croix, Dunn, Chippewa, Pierce, Pepin, Eau Claire, Buffalo, Trempealeau, Clark, LaCrosse, Jackson, Vernon, Juneau and Monroe counties. Sarah and Anna bring in a wealth of educational and field experience so we are confident that this will be a smooth transition and benefit the CLMN volunteers. Contact Sarah Braun at sarah@beavercreekreserve.org or Anna Brady Mares at anna@beavercreekreserve.org or call 715-877-2212.

Reesa Evans, Adams County LWCD, will continue to be the local CLMN contact for all CLMN activities in Adams County. Reesa has been overseeing the CLMN activities for

several years and the volunteers receive extra attention as Reesa accompanies them when they collect chemistry samples and dissolved oxygen readings. Her presence ensures consistency in the data collection process. Reesa will be hosting several workshops and refresher sessions this season, covering CLMN and Clean Boats, Clean Waters (CBCW) activities. Contact Reesa if you would like to attend her workshops or if you need CLMN Assistance in Adams County (608-339-4275 or revans@co.adams.wi.us).

Paul Skawinski, Golden Sands RC&D Council, Inc. will cover Portage, Wood, Marathon and Waushara counties for CLMN Secchi and aquatic invasive species (AIS) monitoring workshops. Paul will only cover three counties (Portage, Wood and Marathon) for chemistry trainings as Jay Schiefelbein (WDNR Oshkosh) covers Waushara County chemistry monitoring. Paul is working on several AIS projects that will be used state-wide, such as AIS monitoring protocol for use at boat landings, giving volunteers and staff consistent steps to follow. Paul is also working with John Haack on an aquatic invasive animal photo guide. Paul will conduct several workshops this summer for CLMN, CBCW and Project RED (Riverine Early Detection). Contact Paul if you would like to attend his workshops or if you need CLMN assistance in Portage, Wood, Marathon or Waushara counties (715-343-6278 or skawinsp@co.portage.wi.us).

Southern

Sue Graham from WDNR's Southern Region oversees trainings in Crawford, Grant, Sauk, Columbia, Dodge, Iowa, Dane, Jefferson, Lafayette, Green and Rock counties. She was not able to hire an assistant for 2010, so Laura Herman will be conducting some of the CLMN workshops and will fill in as needed on other aspects of CLMN. Sue will continue to be the local contact and remains

very committed to ensuring CLMN activities continue without interruption. You can contact Sue at 608-275-3392 or susan.graham@wisconsin.gov.

Heidi Bunk from WDNR's Southeast Region oversees trainings in Sheboygan, Washington, Ozaukee, Waukesha, Milwaukee, Walworth, Racine and Kenosha counties. She was unable to hire an assistant for 2010, so Laura Herman will also be assisting her with CLMN workshops and other needs related to the CLMN. Heidi will continue to be your local contact and remains very committed to ensuring CLMN activities continue without interruption. There may, however, be a few modifications to the zebra mussel and waterflea monitoring in which the volunteers have been assisting. Heidi is also working on controlling red swamp crayfish and yellow floating-heart infestations in the southeast part of the state. This is a high priority and may affect Heidi's response time. She can be reached at 262-574-2130 or heidi.bunk@wisconsin.gov, or contact Laura Herman at 715-365-8998 or laura.herman@uwsp.edu.

We have done our best to ensure volunteers are not negatively impacted. If you have questions, call your local CLMN contact. Thanks for your understanding and patience!💧

Record 2010 Ice-off Data

Please enter your lake's 2010 ice-off data. The ice-off/ice-on forms are in SWIMS. Follow the same entry process as when you add in other CLMN data. Just toggle down to the ice-off form located in your project box. For those of you not in SWIMS, please email your ice-off data to laura.herman@uwsp.edu.

<http://dnr.wi.gov/org/water/swims/>

New Watercraft Inspection Report Form

Involved with the Clean Boats, Clean Waters initiative? Please stay up-to-date and use the new watercraft inspection report form at www.uwsp.edu/cnr/uwexplakes/cbcw or contact Erin McFarlane at 715-346-4978 or erin.mcfarlane@uwsp.edu



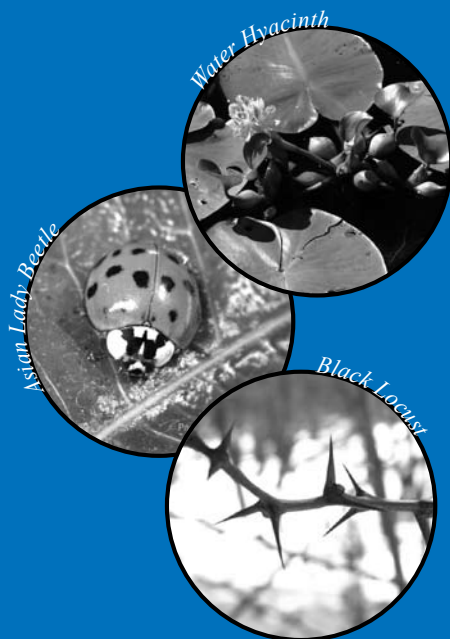
June is Invasive Species Awareness Month

Slow the Spread by Sole and Tread

Over 200 invasive species impact Wisconsin, costing residents millions of dollars every year. These organisms can clog water intake pipes, kill native trees, devastate fisheries, and destroy ecosystems. Everyone in Wisconsin is impacted by invasive species whether they are aware of it or not. Simple steps, such as using native plant species in gardens or removing plants and mud from boats and equipment before leaving the boat landing, are actions that all Wisconsin citizens can put into practice to help protect our natural world. During Invasive Species Awareness Month, numerous field trips, workshops, presentations and work parties will be held throughout the state.

To learn more and find out what events are occurring near you, visit: <http://invasivespecies.wi.gov/awareness> or contact the ISAM Coordinator at isam_wi@yahoo.com.

Photos by Paul Skawinski



Pretty Floating Natives

For more information on native plants, check out these resources:

Through the Looking Glass (www.uwsp.edu/cnr/uwex-lakes/publications/)

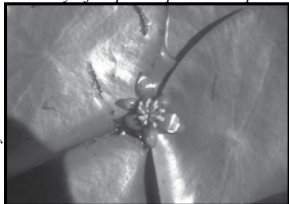
Robert W. Freckmann
Herbarium - UWSP
(<http://wisplants.uwsp.edu>)

Have you ever paddled through a mass of water plants, turning to watch them float back into place behind your wake? Have you had to leave your bait snagged in the long, tangled stalks of some floating plants? Do you remember rubbing the slimy undersides of those leaves across your face after discovering a patch next to your swimming area?

Chances are you dismissed all those floating green leaves as “lily pads.” Who wants to collect them and pull out the plant guides anyway? Actually, there are a few memorable characteristics we can use to sort them out in the field.

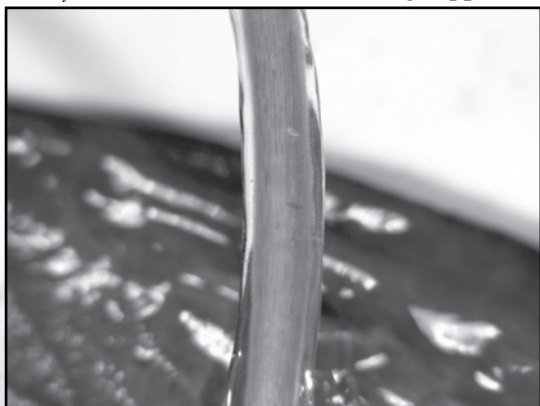
Courtesy of <http://wisplants.uwsp.edu>

Photo by Robert Bierman



Watershield's small, pink/purple flowers

Photo by Paul Skawinski



Watershield's thick, gelatinous underside

Watershield or Water Target, *Brasenia schreberi*

This native, floating leaf plant is easily identified by the thick, gelatinous coating on the undersides of its leaves and along all submersed parts of the plant. Watershield leaves are elliptical and have maroon undersides. These leaves are able to resist becoming flipped over by wind or waves

because their leaf stalks are attached directly in the center of the leaf. The long, semi-elastic leaf stalks allow the leaves to bob along with water depth changes, rather than getting engulfed. Watershield has small pink to purple flowers that peek their heads above the surface from

June through August. The young, slippery sprout of watershield, or “junsai” in Japanese, is considered a summertime delicacy, as well as a medicine used to slow the growth of certain types of cancer.

Quick ID Tips: **Watershield**

- ✓ Tiny pink and purple flowers
- ✓ Elliptical leaves
- ✓ Dark red, gel-like leaf-bottom



Photo by Paul Skawinski

American lotus has large, showy flowers.

American Lotus, *Nelumbo lutea*

For quick identification of the American lotus, look for the funnel-shaped leaves which can be held above the water. Like Watershield, the American lotus has centrally attached leaf stalks. Its large, un-notched leaves range from 1 to 2½ feet in diameter and can stretch up to 3 feet out of the water as they compete for summer sunlight. Their bright yellow flowers are very showy and measure 6-10 inches across. After flowering, the acorn-like fruits are held above the water in brown structures that resemble a shower head.

Photo by Paul Skawinski



American lotus' large, un-notched leaves can measure up to 2½ feet in diameter.

Quick ID Tips: **American Lotus**

- ✓ Showy yellow flowers
- ✓ Funnel-shaped leaves
- ✓ Brown fruits resemble shower head





Yellow pond lily leaves extending out of the water.

Yellow Pond Lily, *Nuphar advena*

Unlike the previous two water plants, yellow pond lilies have thick leaves that are round or heart-shaped. The leaves are attached to a long stalk which extends into the water and mud below the surface. This enables the leaves to stand above the water during times of low water and float on the water's surface when water levels rise again. Most yellow pond lily leaves are held above the water's surface. Pond lily leaves are more elliptical than lotus leaves and have a central vein from which secondary veins diverge. Like the common name suggests, this pond lily has yellow flowers.

Quick ID Tips: **Yellow Pond Lily**

- ✓ Round or heart-shaped leaves
- ✓ Central leaf vein
- ✓ Yellow flowers

Photo by R. Korth



Bullhead pond lily leaves and flowers rest on the water's surface.

Bullhead Pond Lily or Spatterdock, *Nuphar variegata*

While yellow pond lilies hold their leaves mostly above the surface on rounded leaf stalks, bullhead pond lily leaves rest on the surface and have flattened, winged stalks.

The heart-shaped leaves are 2 to 6 inches long and have rounded lobes. Bullhead pond lilies have saucer-shaped flowers that are mostly yellow with some reddish coloration inside. Its flowers are 1 to 2 inches wide and bloom June through August. This pond lily seems to prefer waters with soft sediment that are less than 6 feet deep.

Quick ID Tips: **Bullhead Pond Lily**

- ✓ Globe-shaped yellow flowers
- ✓ Rounded, arrow-shaped leaves
- ✓ Blooms June to August

White Water Lily or Fragrant Water Lily, *Nymphaea odorata*

As one of its common names suggests, the white water lily is known for the fragrant, floating white blooms it produces. Numerous white petals surround yellow stamen on each bloom that ranges from 2 to 6 inches wide. White water lilies have leaves that are more rounded than pond lilies and are bright green on top with reddish-purple undersides. They provide a habitat for insects and food and shelter for fish. Beaver, deer, muskrats, and porcupine will eat white water lily rhizomes.

All of these floating-leaf plants send up the leaves and stems we notice on the water's surface from rhizomes that rest on the lake bed. These submerged rhizomes play a valuable role in the growth and success of the plant, providing nutrients and support to the floating leaves. I invite you to try your hand at identifying your floating leaves and see if you can find the rhizomes when the waters warm back up. 💧

By Cari Schmitz
Student, UW-Stevens Point

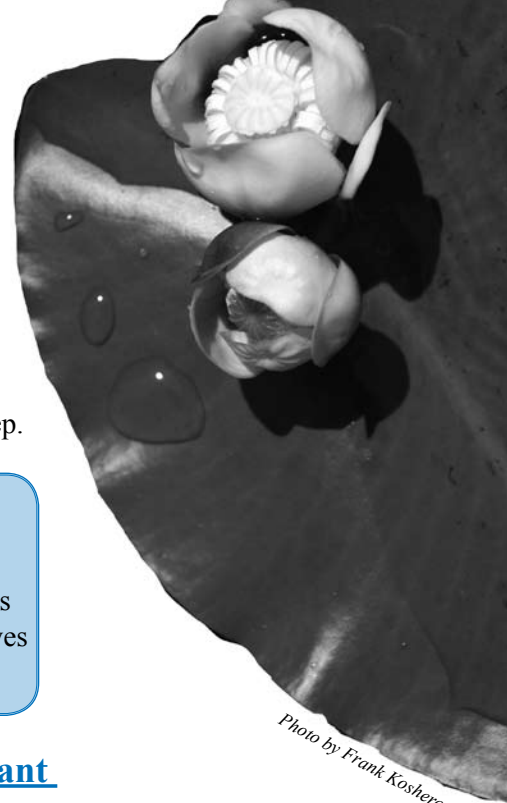


Photo by Frank Koshere

Bullhead pond lily leaf and flower.

Photo by R. Korth



White water lily

Quick ID Tips: **White Water Lily**

- ✓ Fragrant white blooms
- ✓ Rounded green leaves
- ✓ Reddish-purple leaf-bottom



Get Involved!

Volunteer Workshops get you out to the lake!

Want to dedicate some time this summer to your favorite lakes? Check out a workshop in your area to learn about educating folks at a boat landing to prevent the spread of aquatic invasive species (AIS) or monitoring the water quality and chemistry of your lake.



Clean Boats, Clean Waters (CBCW) Watercraft Inspection

General program information: www.uwsp.edu/cnr/uwexlakes/cbcw
List of workshops: www.uwsp.edu/cnr/uwexlakes/cbcw/workshops-schedule.asp
Nothing in your area? Contact your local AIS staff to schedule a workshop:
www.uwsp.edu/cnr/uwexlakes/cbcw/AIScontacts.pdf

CBCW
Statewide Coordinator
Erin McFarlane
715-346-4978
erin.mcfarlane@uwsp.edu

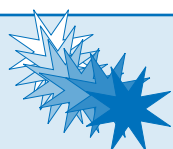
Citizen Lake Monitoring Network (CLMN)

General information: www.uwsp.edu/cnr/uwexlakes/clmn/
List of workshops: www.uwsp.edu/cnr/uwexlakes/clmn/schedule.asp
Nothing in your area? Contact your CLMN Regional Coordinator to schedule a workshop:
www.uwsp.edu/cnr/uwexlakes/clmn/CLMNregional.pdf



CLMN
Statewide Coordinator
Laura Herman
715-365-8998
laura.herman@wisconsin.gov

Workshops for CBCW and CLMN are also listed on the UWEX Lakes Event Calendar at www.uwsp.edu/cnr/uwexlakes/calendar (see page 15 for more details).



CLMN Superstars



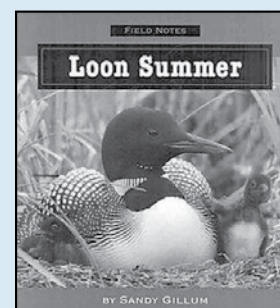
Wisconsin is fortunate to have many talented and knowledgeable people acting as Citizen Water Quality Scientists on their lakes. We would like to highlight some of the accomplishments of the volunteers in the Citizen Lake Monitoring Network (CLMN). If you would like to see a CLMN volunteer acknowledged in Lake Tides, please send information to Laura Herman, CLMN Statewide Coordinator at Laura.Herman@uwsp.edu or to your regional CLMN Coordinator.

Spring 2010 CLMN Superstars



Sandy Gillum, and her husband Don, monitor the quality of Anvil Lake in Vilas County. Sandy is a wildlife biologist who has been involved in a number of research projects with loons, songbirds and frogs. She is the current Vice-President of the Wisconsin Association of Lakes and co-Chair of the Town of Washington Water Resources Committee. Sandy recently published *Loon Summer: An Amazing and True Account of Loon Parenting for Adults and Children to Share*. This captivating story about loon natural history and behavior describes the world through the eyes of a loon. The photographs are stunning.

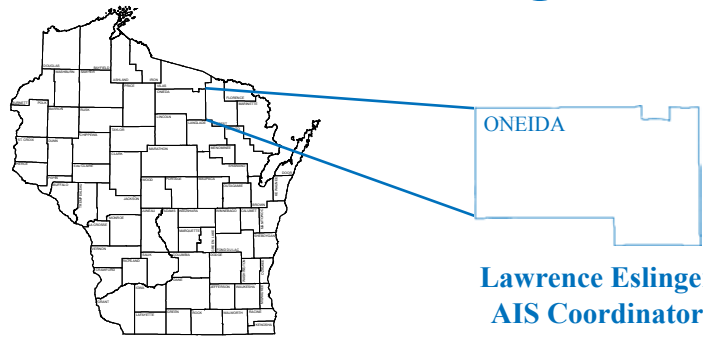
Don and Sandy received the 2008 Wisconsin Shoreland Stewardship Award, given for exemplary efforts to keep Wisconsin lakes and rivers clean, healthy and beautiful by maintaining a natural, low maintenance landscape or by restoring native shoreline vegetation. Sandy has taught shoreland restoration techniques and organized the first shoreland restoration project in Vilas County.



Meet Wisconsin's AIS Staff

Let's Get to Know Lawrence Eslinger

I am working for the Oneida County Land & Water Conservation Department, and am also working cooperatively with the UW-Extension office here in Rhinelander.



Lawrence Eslinger
AIS Coordinator

Oneida County was successful in acquiring a grant from the WDNR to help raise awareness about aquatic invasive species (AIS) and to develop prevention and planning techniques to combat them. Some of the activities scheduled to occur in Oneida County this year include: CBCW and CLMN workshops and monitoring, presentations to local lake and school groups, mapping locations of AIS, developing and distributing educational tools and materials, and forming unified lake groups to develop AIS prevention and management strategies over a larger, spatial scale.

What's new with AIS in Oneida County?

In 2009, Eurasian water-milfoil (EWM) was discovered in Squash Lake. With prompt action, the Squash Lake Association (SLA) was able to secure an "Early Detection and Rapid Response" grant from the WDNR. The SLA has decided to manage EWM by enlisting divers to hand pull plants and continuing to stay active in the CBCW watercraft inspection program.

This year, Oneida County, the Minocqua/Kawaguesaga Lakes Association, the Tomahawk Lake Association, and the Kathan Lake Association are scheduled to participate in an U.S. Army Corps of Engineers project (in cooperation with WDNR) to determine residual concentrations of chemicals after chemical management of AIS. The results of this study will improve our understanding of the effectiveness of chemical control techniques along with the length of time required for chemical residues to break down.

In your opinion, what is currently the most prominent AIS issue in Oneida County?

I believe changing personal behavior is the most prominent AIS issue here in Oneida County. At present, most people know that AIS

are "bad." However, many people probably still have a certain degree of disconnect when it comes to the realization of how AIS can affect their personal enjoyments. Thousands of visitors from across the state and beyond visit Oneida County's beautiful lakes, rivers, and streams every year. Therefore, as individuals, we all need to lead by example: develop a routine habit of taking the steps to clean our boats and equipment, and educate our children and visitors on why taking a little extra time to do these things is important, and that we really can make a difference!

Why is AIS prevention important to you?

AIS prevention is important to me because I value clean and healthy aquatic ecosystems. Being an avid fisherman, I feel fortunate to have the ability to enjoy these great resources.

How do you think preventing the introduction and spread of AIS should be addressed?

I feel that raising awareness of AIS impacts, through educational efforts, is key in preventing the introduction and spread of AIS. I also think that managing current AIS infested waters is extremely important. In particular, I feel we need to work cooperatively among individual lake groups, local units of government, and management agencies to be most successful in combating AIS.

To learn more about AIS in Oneida county, contact Lawrence at 715-365-2750 or leslinger@co.oneida.wi.us. To find out who is working on AIS issues in your area, go to www.uwsp.edu/cnr/uwexlakes/CBCW/AIScontacts.pdf. 💧

Photo provided by Lawrence Eslinger



I'm very impressed with the number of people that are actively involved in protecting our lakes and rivers...and I'm happy to be part of that group.



2010 Wisconsin Lakes Convention

Wrap-up

The expression “timing is everything” really holds true when it comes to planning an event like the Wisconsin Lakes Convention. This 32nd annual convention, titled *Fringe Benefits: Restoring Wisconsin Shorelands & Shallows*, came at a perfect time, considering the recent shoreland legislation (NR 115) that took effect on February 1, 2010.



Over 500 participants from 10 states and 54 Wisconsin counties attended sessions featuring resource professionals who enthusiastically shared their visions for maintaining and enhancing shorelands and shallows. Additional talks and presentations during hands-on workshops, concurrent sessions and special evening events explored proven strategies, introduced policy initiatives, and highlighted effective projects found here in

Wisconsin and beyond. Participants gleaned valuable information from these assorted success stories and networked with the presenters and other participants for strategies they could take back to their lake or local organization.

Many exhibitors and educational booths displayed valuable resources and tools, which convention attendees could utilize.

If you missed a presentation, you're in luck. Many of the presentations and educational tools that were made available at this year's statewide convention can be viewed or downloaded from the UWEX Lakes web site: www.uwsp.edu/cnr/uwexlakes/conventions/2010/archive.asp

The Wisconsin Lakes Stewardship Award winners joined the ranks of some very special women and men as they were recognized with a special ceremony. See page 13 for this year's award winners. We congratulate each and every one of them for their dedication and commitment to Wisconsin's lakes.

Photographers from across the Midwest shared their photographic prowess in a beautiful display of “people enjoying lakes” and “the natural features in and around lakes and underwater.” You can view these images on the convention archive page listed above. 🌊

Natural Features In and Around Lakes and Underwater

- 1st - No Wake Zone - Nancy Gill
- 2nd - Call of the Wilderness - Denise Dupras
- 3rd - Blue Morning - Nancy Gill

People Enjoying Lakes

- 1st - Fishing Buddies - Denise Dupras
- 2nd - Fishin' for Whales & Dreamin' Up Tales - Steven Lepak
- 3rd - Mystical Morning Fishing - Denise Dupras

Highlights

Data from the recently completed Environmental Protection Agency (EPA) **National Lakes Assessment** revealed trends that shoreland disturbance and associated habitat alterations are of national importance.

Presenters challenged lake citizens to **get involved with their county revision process for the NR 115 standards**. Contact your area zoning departments and committee members and ask them how you can participate in the development of updated county shoreland ordinances at the local level.

Research presented showed us that working with our neighbors to maintain healthy lakes and rivers takes effort. It is important to **work within people's comfort level and aesthetic values when thinking about shoreland restoration projects**.

Attendees also learned about **steps** they can take on their individual lakefront property **to bolster water quality and wildlife habitat along their shores**. Landowners can think about installing rain gardens, other native plantings, or employing eco-friendly technologies like porous pavements and green roofs.





Citizen
Earl Cook



Youth
Boy Scout
Troop 1035



Public Service
Carolyn Scholl, Vilas
County Conservationist

Group
Florence County Lakes
and Rivers Association



Photos by Michael Engleson

Partnering with Mills Fleet Farm to Stop Aquatic Hitchhikers

Do you know any kids that enjoy fishing, exploring the world underwater, or are just curious about what lives in our lakes? On Saturday, July 10, from 11AM-3PM, Mills Fleet Farm is hosting a fun and educational opportunity for youth to learn more about fishing and about aquatic invasive species (AIS) at their annual Kid's Fishing Day. Last year, more than three dozen volunteers and natural resources professionals across Wisconsin and Minnesota took part in Kid's Fishing Day to educate more than 4,000 youth about AIS.

**Saturday
July 10
11am-3pm**

In addition to learning how to fish, kids learn how to identify and prevent the spread of aquatic invasives in Wisconsin while out fishing their favorite waters. Each participating store will have a station devoted to AIS complete with specimens, lots of free educational resources, and Stop Aquatic Hitchhikers tattoos. While families are the primary audience, Mills Fleet Farm staff members also learn how they can join the

fight against invasive species. "This is a great opportunity to educate not only kids, but parents and staff about aquatic invasive species, and how to protect our lakes today and well in to the future" said Diane Schauer, Calumet County Aquatic Invasive Species Coordinator.

If you're interested in staffing an aquatic invasive species booth at the Mills Fleet Farm near you, please contact Diane Schauer at schauer.diane@co.calumet.wi.us.



Photo by Steven Lepak - "Fishin' for Whales & Dreamin' up Tales"



(And the Green Grass Grows, continued)

will rely on hand pulling or renovation of weed-infested areas. If you're establishing a lawn or renovating problem areas, laying sod is a good place to start because it has no weeds and provides dense turf cover.

Key #2: Fertilize properly

Proper fertilization, along with appropriate watering and mowing practices, is one of the most critical aspects of a successful pesticide-free lawn. If recommended by a soil test report, apply fertilizer or lime at the appropriate times of year and at the correct rate. *Lawn & Garden Fertilizers* is a UW-Extension publication that includes details about when and how much to fertilize.⁹

Key #3: Consider using corn gluten meal for weed control

Applying corn gluten meal to established lawns at 10 to 50 pounds per 1,000 square feet in May is a way to prevent weeds and fertilize at the same time. Applying corn gluten meal at a rate in the higher part of this range will more effectively prevent weeds, cost more and deliver more nitrogen. Ten pounds of corn gluten meal contains 1 pound of nitrogen.

Key #4: Water seldom if at all

Rainfall alone is often sufficient to sustain lawns. Watering is very rarely recommended by UW-Extension specialists for home lawns. This is due in part to the fact that ground water levels are falling in southeast Wisconsin, Dane County and central Wisconsin.¹⁰ During extended periods of drought the grass will stop growing and turn brown, but dormant plants can remain alive for 2-3 months. For pesticide-free lawns, watering may be used during droughts to keep the grass growing when plants that are more tolerant of drought (including crabgrass and many broadleaf weeds) have a competitive advantage. Consider using rain barrels to collect the runoff from rooftops to water plantings. Water early in the morning to reduce the amount of water that is lost to evaporation.

Key #5: Optimize your mowing or plant a fine fescue mix to minimize mowing

Mow the lawn at a height of at least three inches using a sharp mower blade to maximize rooting and shade for potential weeds. Follow

the "one-third rule" and never mow off more than one third of the grass tissue at a single time. Fine fescue grasses, sometimes marketed as "no mow turf," do well in full sun and shade but are not appropriate for high traffic areas or areas with wet, compacted soils. Look for the following species in a fine fescue mix: Chewings fescue, hard fescue, and creeping red fescue. Fine fescue sod is available from many growers.

Key #6: Aerate when needed

Aeration (removing cores of soil from the ground) is recommended when soil is compacted, when the thatch layer is more than one inch thick, and before seeding into an existing lawn. Most lawns will benefit from being aerated every 1-5 years. Sandy soils, however, generally don't become compacted and rarely need to be aerated.¹¹

There are many steps we can take to make our own lawns safe for kids, pets and wildlife. If you follow these steps, you are sure to have peace of mind as you relax in your Adirondack chair in the shade of your sun-kissed locust sipping lemonade on a beautiful summer day. You will not worry about your daughter crawling around in the grass, chasing that ant who stole a crumb from her sandwich. You will know your dog is safe as he sniffs the flowerbeds in the backyard. 💧

*By Lynn Markham
Center for Land Use Education*

The author gratefully acknowledges the review and contributions of Robert Korth and Patrick Goggin, UW-Extension Lakes; Nancy Turyk and Paul McGinley, UW-Stevens Point Center for Watershed Science and Education; Christine Mechenich; Doug Soldat and John Stier, UW-Madison Department of Soil Science; Chad Cook and John Haack, UW-Extension Natural Resources Educators; Ken Schroeder, Portage County UW-Extension; Randy Slagg, Portage County Planning, Zoning and Land Conservation; and Bret Shaw, UW-Madison Department of Life Sciences Communication.

All cited resources in this article can be found online at www.uwsp.edu/cnr/uwexlakes/laketides/vol35-2/Text-only.htm.

For more information about pesticides and the implementation of the "Clean Lakes" bill (Act 9), see recent fact sheets at www.uwsp.edu/cnr/uwexlakes/ecology/.

Consider using rain barrels to collect the runoff from rooftops to water plantings.



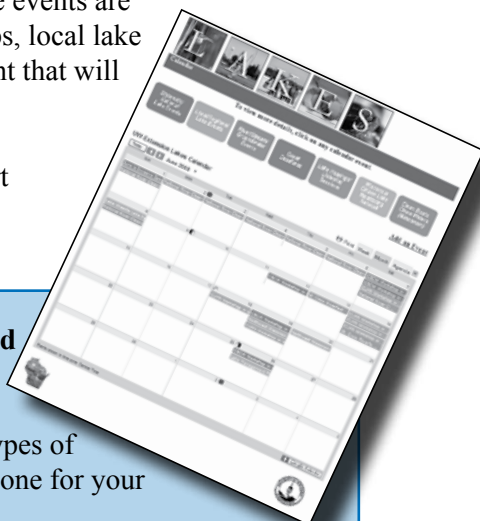


What, When and Where

UW-Extension Lakes Online Event Calendar

Don't forget to visit the UW-Extension Lakes online calendar to see what lake events are happening around the state. From national lake events to state-wide workshops, local lake fairs, hearings and grant deadlines, this online calendar is sure to have an event that will pique your interest. Check it out at www.uwsp.edu/cnr/uwexlakes/Calendar.

Are we missing something? Use the "Add an Event" link and fill out the short form with the details, or just email us at uwexlakes@uwsp.edu.



CALENDAR

June 3: Establishing a Lake Association Workshop - Northland Elementary School in Manitowish Waters, 7:00-9:00pm

Carolyn Scholl, Vilas County Conservationist, along with the Lac du Flambeau Town Lakes Committee, will explain the different types of lakes associations, their advantages, and how to go about starting one for your lake. Call Donna White to register at 715-543-2159.

June 3: Purple Loosestrife Workshop - North Lakeland Discovery Center, 215 County Road W in Manitowish Waters, 10:00am

Learn how to identify purple loosestrife and how it affects our shorelines and wildlife. Learn the process of raising the Galeracella beetles that are specific predators of the loosestrife plant. After an hour presentation, participants will go out to a site and collect Galeracella beetles. Transportation can be provided, if needed. Plan to bring along a sack lunch to enjoy outside. To register or for more information, call the Lac du Flambeau Town Hall at 715-588-3358.

June 18: Northwest Wisconsin Lakes Conference at the Telemark Resort and Conference Center in Cable, 7:30am – 3:00pm

For registration information, go to www.uwex.edu/ces/cty/bayfield

June 19: Your Lake Talks: Are You Listening? - Northwoods Lakes Workshop at Nicolet College's Lake Julia Campus, Rhinelander, 8:00am – 3:00pm

Join us at this workshop to learn more about caring for our shorelands and shallows. Plus, meet with representatives of the Northwoods area county lakes and rivers associations in afternoon networking sessions. Program agenda and registration information is coming soon to the Wisconsin Association of Lakes web site at www.wisconsinlakes.org.

June 26: 14th Annual Lakesfest in downtown Lac du Flambeau, 10:00am – 3:00pm

Enjoy displays, live entertainment, canoe races open to the public with cash prizes, Blue Ribbon Carnival, and raffles every hour plus a Grand Prize raffle. For more info, call the Lac du Flambeau Chamber of Commerce at 877-588-3346 or email at info@lacduflambeauchamber.com.

August 1: Lake Planning & AIS Control Grants Application Deadline

For more information about these grants contact your WDNR Lake Coordinator or go to <http://www.dnr.state.wi.us/org/caer/cfa/Grants/Lakes/invasivespecies.html> Go directly to the current online fillable application form at <http://dnr.wi.gov/org/caer/cfa/Grants/Forms/8700307fill.pdf>



Lake Tides -- 905032

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800 Reserve Street
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STEVENS POINT, WI

Volume 35, No. 2
Spring 2010

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Extension

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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
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Printed on recycled paper with vegetable-based ink.

Reflections

Advice from a
LAKE

Be clear ~ Make positive
ripples ~ Look beneath the
surface ~ Stay calm ~ Shore
up friendships ~ Take time
to reflect ~ Be full of life!

~ Your True Nature® (2008)
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