Friends of Lake Wingra

Promoting a healthy Lake Wingra
through an active watershed community

Wingra Watershed News

Fall/Winter 2010 volume 7, number 2

Think Big

- Paul Dearlove

OPPORTUNITY. That's what $125,000 over the next three years will give to Lake Wingra. It is this opportunity for which the Friends lobbied hard to get included in the City budget. And now, that advocacy work appears to be paying off.

By articulating the promise of our neighborhood's unique natural water resource, a grassroots movement began with the simple first step of looking to what might be possible.

The path to recovery for Lake Wingra started with a community vision that is both compelling and practical. This vision was translated into an achievable (and measurable) set of "health goals" for the lake, and was unveiled as a bold call to action through our publication titled *Lake Wingra: A Practical Vision for the Future.*

It marked the start of an ambitious blueprint, or road map, to lead us to a cleaner and healthier lake.

Today we are one big step closer to realizing those possibilities. This budget allocation, if approved, will fund a comprehensive condition assessment and detailed implementation plan that will help us answer questions such as:

- Which activities have the greatest impact on the lake?
- What specific actions are needed to reach our goals?
- What policies will be most effective at engaging watershed residents in protecting the lake?
- And if we do all we can, when might we expect to see meaningful improvements?

- continued on page 5

The Friends strongly support the inclusion of $125,000 for Lake Wingra Watershed Management Planning in the City Stormwater Utility's 2011-2013 budgets.

Thunderheads over Lake Wingra. Photo by Matt Diebel

Friends of Lake Wingra, Inc.

Mission

We promote a healthy Lake Wingra through an active watershed community.

FOLW Board

Jim Lorman, Chair
Steve Arnold, Vice-chair
Paul Dearlove, Treasurer
Matt Diebel, Secretary
Bob Armstrong
Judi Dilks
Eric Jacobsen
Rex Merrill
Jamie Saul
David Thompson

Advisors to the Board

Roger Bannerman
Denny Caneff
Anne Forbes
David Liebl
Kevin Little
John Magnuson
John Nicol
Katy Wallace

Special Thanks to: Tyler Leeper and Wingra Boats; Kristin Branch; Rob Phillips, Public Works Director

Become a Friend

To become a Friend of Lake Wingra, send your tax-deductible contribution to Friends of Lake Wingra Inc. c/o Office of Advancement, Edgewood College, 1000 Edgewood College Drive, Madison, WI 53711-1977. Please make checks to: Edgewood College - FOLW.

Friends of Lake Wingra, Inc.

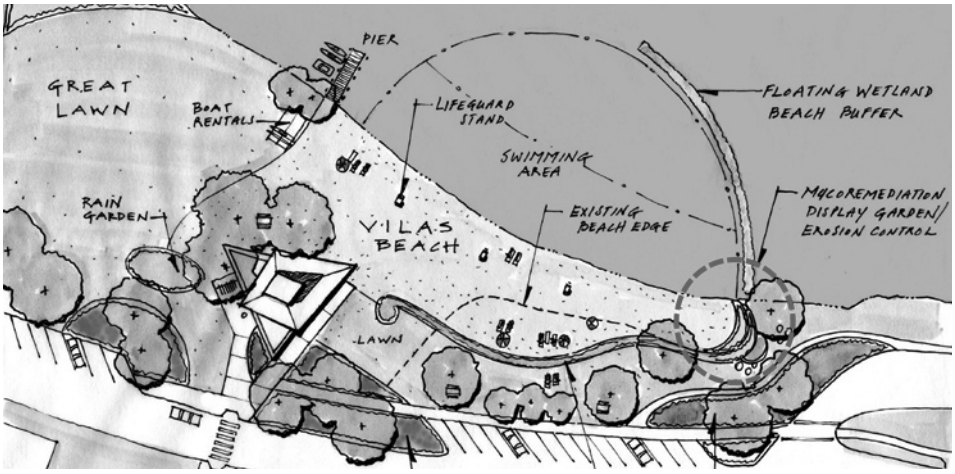
1000 Edgewood College Dr.
Madison, WI 53711

608-663-2838
info@lakewingra.org
www.lakewingra.org

Wingra Watershed News

Fall/Winter 2010, Vol. 7, No. 2

Wingra Watershed News is published twice each year by Friends of Lake Wingra, Inc.



A preliminary design for Vilas Beach created by the Clean Vilas Beach Coalition

Clean Vilas Beach Coalition

- Lauren Brown

On Saturday morning August 21st, about 20 people gathered at Vilas Beach to carve in the sand.

They participated in the Clean Vilas Beach Coalition's (CVBC) first community workshop to design a biofiltration-sculpture garden; one of three strategies proposed by the CVBC to improve the water at Vilas Beach.

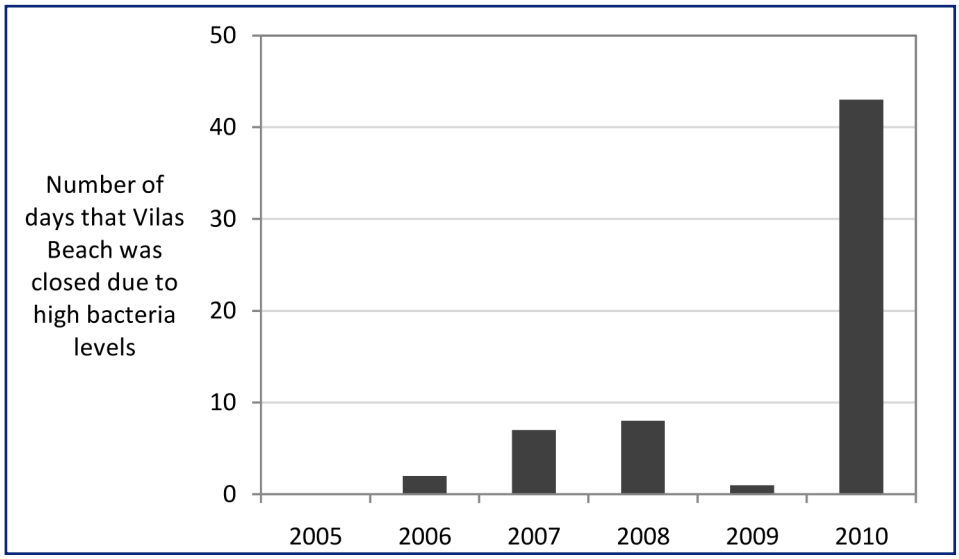
In 2008 Vilas beach was one of six Madison beaches added to the U.S. Environmental Protection Agency's 303(d) list of waters impaired for swimming.

This impairment is due to excessive bacteria (E. coli) levels, which have caused Vilas Beach to be closed for over a month this summer alone (see graph below).

Three strategies using mycofiltration and bio-filtration (water filtering using mushrooms and plants) including the bio-filtration sculpture garden were presented to the Yahara CLEAN Coordinating Committee in June and added to its list of recommended management strategies for the Yahara Lakes.

CVBC is proposing the garden be located at the western corner of Vilas Beach, near the recently installed prairie sod project.

- continued on page 7



Watershed Patrol

- David Thompson

A hundred years ago, Madisonians were more in touch with their environment. After school, children caught frogs or explored along streams that ran through neighborhoods. I imagine people knew where the streams went, and what lake they emptied into.

Today, little watershed awareness remains. Rainwater flows into a gutter grating, and it's "out of sight, out of mind."

Only the raccoons that climb out of the drains at night know where the pipes go. And that's a problem, because it contributes to the pollution of our lakes.

Since the Clean Water Act of the 1970s, citizens have been struggling to reduce the substantial water pollution that comes from construction site erosion—but solutions have been elusive.

Studies show that 19% of the phosphorus in our lakes—an important nutrient that causes the growth of toxic algae—today still comes from construction site erosion. Contractors remain neglectful, and the City almost never fines them.

This situation would improve if citizens became more aware of where the rainwater goes—and whether it's clear or muddy. It's fun to find out where your runoff goes, and how it gets to the lake.

Take your children to "inspect" a construction site during or right after rain. The laws about construction site erosion are complex--but if you see muddy water leaving a construction site (or the tracks of muddy sediment afterwards), then it's likely that something's amiss--that laws are being ignored. Take photos!

Here are some of the most common measures—ones that are often omitted or failing:

- Fabric filters on stormwater inlets—to filter sediment from runoff.
- Gravel tracking pads at construction entrances—to prevent muddy tracks from leaving the site. The required length is 50'.
- Silt fences—to prevent muddy runoff from entering a lake or stream.
- Gravel "check dams"—to filter sediment and tame the erosive power of runoff.

Find out more about being a volunteer inspector at www.contractorreport.blogspot.com

A junior stormwater engineer inspects puddles in Sunset Village. Photo by David Thompson.

Carnivorous Plants in Lake Wingra!

-Rex Merrill

You don't know what lurks below the surface unless you look.

One of the joys of living near Lake Wingra is being able to get out on the water for a paddle on a sunny summer day. I often make a quick circuit in a canoe or kayak just inside the zone of submerged aquatic vegetation.

Sometimes I'm frustrated by having to paddle through thick beds of invasive European water-milfoil *(Myriophyllum spicatum),* but other times I slow down to take a look at the variety of life just beneath my boat.

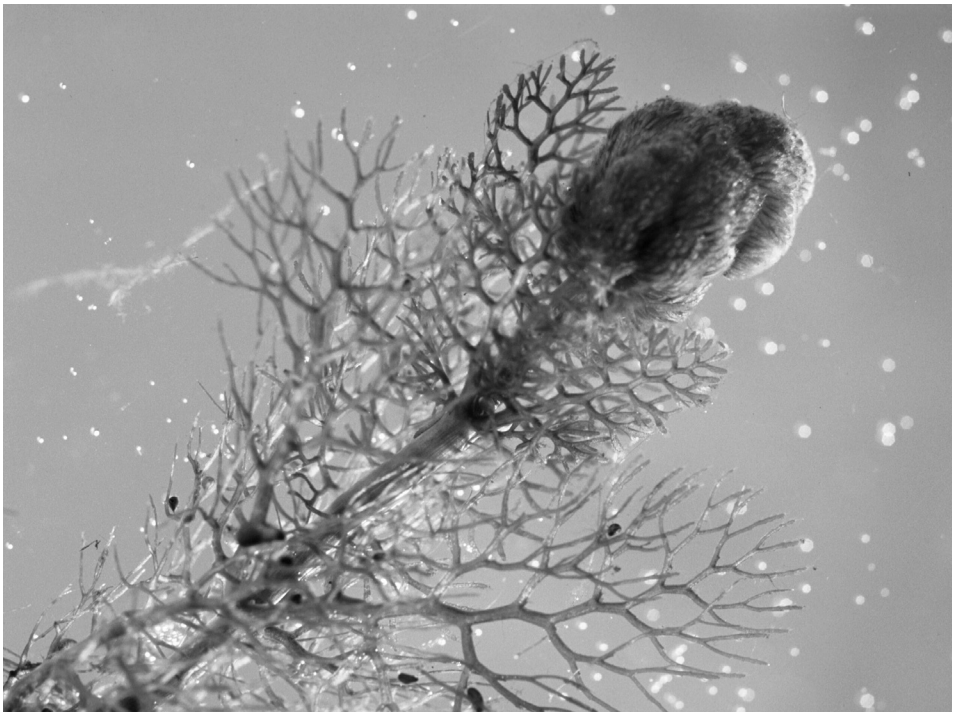


image source: www.vilaslandandwater.org/

Bbladderwort (Utricularia vulgaris)

On such a paddle I ran across the common bladderwort *(Utricularia vulgaris),* a fascinating plant that eats aquatic invertebrates.

The bladderwort is easy to miss. Its highly branched shoots float just beneath the water surface and may be mistaken for the finely divided leaves of the water-milfoil that often grow nearby.

I haven't been lucky enough to see the bladderwort flowering in Lake Wingra, but when it does bloom it sends a stalk 10-30 cm (4-12 inches) above the water with several yellow flowers which are over 1 cm (about 1/2 inch) wide and reminiscent of snapdragons.

Once you find the plant and pull it above the water's surface, you should see the small bladders (each about 2 mm or 1/16 inch in diameter) that give the bladderwort its name.

The bladders are hair-triggered traps that catch aquatic invertebrates such as mosquito larvae and water fleas. The trap is set by pumping water out of a bladder and closing a trap door. The trap is sprung when an unwitting invertebrate trips the trigger hairs that surround the door.

When the trigger hairs are tripped, the door snaps open so that water and invertebrate are sucked into the bladder. I've actually heard the traps snap open.

Once the prey is caught, it suffers a prolonged death as it is dissolved by digestive enzymes produced by glands inside the traps.

Next summer, look for the bladderwort in the beds of water-milfoil near the marsh in the southeast corner of the lake.

◄ *This large bryozoan (a colonial animal, commonly called "moss animals") was found in Lake Wingra recently. See http://www.wright.edu/~tim.wood/bryozoans.html for more information. (Photo by Terri Bleck)*

West end of Lake Wingra where a coyote nest was found Photo by David Thompson.

Coyotes — Ghosts of Madison

- David Thompson

Coyotes used to be a symbol of the American West — the stuff of folklore and cowboy song.

But they have been spreading east and now are common throughout the country, often living right under the nose of urban residents.

Wildlife experts estimate there are more than 2,000 living in Chicago, where one walked into a downtown Quiznos store a few years ago.

If you walk on Lake Wingra in winter, after fresh snow has fallen, you will see a myriad of coyote tracks, along with those of other mammals like fox, beaver, mink, deer, raccoon, rabbit, and squirrel. Beaver like to run a short distance on the ice along the shore, and then slide on their bellies.

Coyote tracks look like those of a medium-sized dog, except that they trend straight as an arrow. In contrast, dog tracks nearly always loop out and back to human tracks. Fox tracks also head in a beeline, but are much smaller than coyote tracks.

Last winter, I found many coyote tracks on Lake Wingra, including a place where one had slept among the cattails.

Coyotes travel 10 to 15 miles a day, so our waterways provide safe corridors in winter. I tracked two coyotes heading straight across Lake Mendota.

According to a recent study of Coyotes near Boston by Jonathan Way and others, coyotes eat anything from deer to rabbits to small rodents — not to mention pets, pet food left outside, and garbage.

"Offspring typically remain with their parents anywhere from 6 months to about 2 years of age before dispersing to new areas...."

Usually 3-5 adults live together in a territorial pack — the advantages being better success in hunting large prey (like deer), better defense of the territory, improved survivability of pups, and preventing theft of prey already killed. The packs typically consist of a breeding pair, plus a few related animals.

Coyotes are the ghosts of Madison, because they are so wary of humans.

But two winters ago, late in the afternoon, I did hear one or more howling along the west end of Lake Wingra. It was a wild song, and an invitation to explore the lake in winter.

Think Big - from page 1

Cleaning up Madison's lakes can and should begin with Lake Wingra. The reasons are clear.

First, it is the only lake whose condition is directly tied to a watershed that is completely contained within City of Madison boundaries.

If we as residents and taxpayers have a chance of improving our lakes, it should begin here where the community is already mobilized, where our understanding of the problems and potential is perhaps greatest, and where we have the best opportunity of creating an action plan that will produce real and measurable change.

Second, producing this type of implementation plan will serve as a model and demonstrate the City's commitment to carrying out the recommendations of the Yahara CLEAN report.

One of these recommendations is to: "Implement a large number of practices to reduce urban nutrient and sediment runoff in a small area as a pilot to demonstrate success."

And third, Vilas Beach on Lake Wingra is one of six Madison beaches to be listed as "impaired" under the Clean Water Act.

Vilas is the most heavily used beach in Madison, and regretfully, was closed for over a month this summer due to elevated bacteria levels.

We remain committed to working in partnership with the City and other stakeholders throughout the planning effort, and have allocated $8,000 of our own funds as a match for the City's contribution.

Madison residents clearly value the quality of our lakes, and this effort has great potential to improve the quality of Lake Wingra.

Wingra Creek Restoration Update

- Eric Jacobsen

The final two stages of the Wingra Creek restoration, located between Baird St and Lake Monona, are tentatively scheduled for installation during the winters of 2011-2012 and 2013-2014.

The restoration process, coordinated by City of Madison Engineering, included two previous phases between Baird St. and Fish Hatchery Rd. completed between 2006 and 2009. The City's major goal for the project is correcting and preventing severe erosion along the creek's banks but also includes other enhancements.

FOLW has played an active role in identifying additional community and environmental goals for the project. In 2003 - prior to the initial phase - Friends of Lake Wingra helped coordinate a community workshop to gather citizen input and requests for the creek restoration. Environmental quality, recreation, and community building/education were the major topics and participants identified specific goals such as creating a meandering edge to the creek and enhancing wildlife habitat.

FOLW is currently in the process of reviewing the initial two phases to identify potential improvements in design and implementation that will benefit the final phases of the creek restoration. We plan to stay involved in the project's final phases and we promise to advocate for community involvement in the design for the final phases. We hope that City Engineering will find ways to incorporate the public's advice and suggestions in designing and installing upcoming phases of the project. We'll keep you informed of upcoming project meetings via our list-serve.(Subscribe at http://lists.danenet.org/listinfo.cgi/friends_wingra-danenet.org)

How Does Road Salt Affect Lakes and Streams?

- Bob Armstrong

Application of salt to roads in winter is a ubiquitous practice in the "ice belt" of our country. While salting roads helps make driving safer, it eventually runs off into lakes, streams, and wetlands where it is toxic to aquatic life.

A recent study by the Middleton, WI office of the U.S. Geological Survey published in Environmental Science and Technology (Vol. 44, pages 7376-7382) documents the effects of road salt on aquatic life and water quality in Wisconsin.

In this study, twelve streams in the Milwaukee metro area were sampled in February and March 2007 for water chemistry and aquatic toxicity. The twelve streams were in areas of heavy urban land use.

Tests showed that stream water from 7 of the 12 sites was toxic to Daphnia (a microscopic crustacean) and fathead minnows during the road salt application time.

Chloride concentrations were above the EPA acute water quality concentration of 860 mg/L in eight of these samples and above the EPA chronic water quality criteria concentration of 230 mg/L in 11 of these samples.

A sample from a rural reference site had a chloride concentration of 20 mg/L and was not toxic to the test organisms.

The study also found that high concentrations of salt are not limited to winter months; elevated concentrations have been detected for months after salt application. In streams where chronic salt levels are toxic to sensitive species, only a few salt-tolerant species remain.

While this study focused on streams, road salt can also affect lakes, particularly at locations where stormwater pipes discharge runoff water.

Other studies have shown that road salt use is beginning to impact groundwater quality.

Road salt use in the US has increased over 50-fold since 1940, and it appears that greater aquatic toxicity and water quality impacts will continue if use continues to increase.

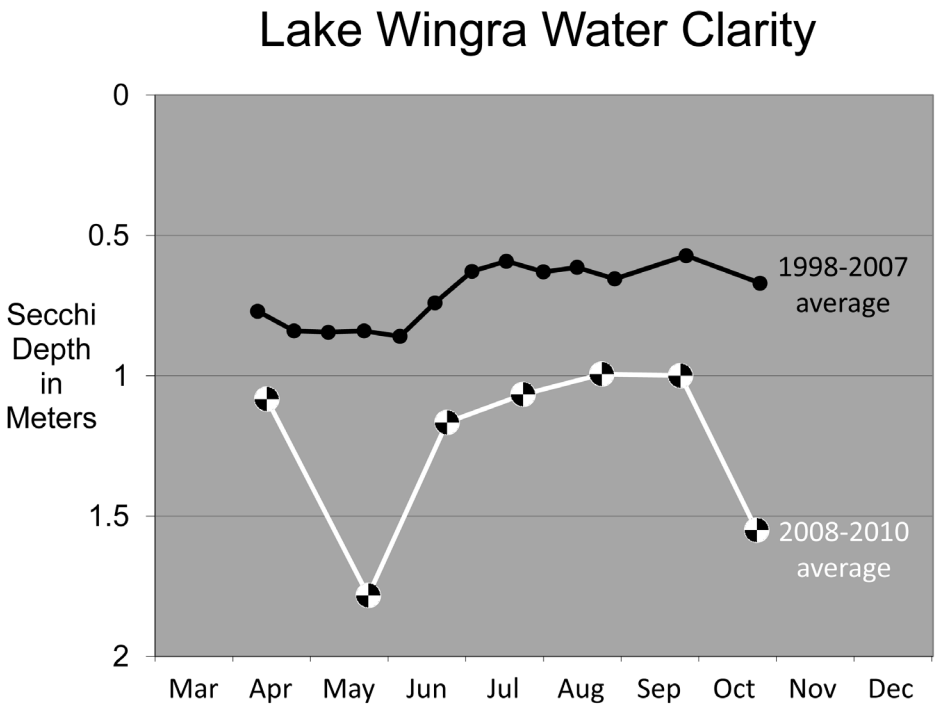
The City of Madison has policies in place to reduce salt application rates, but public demand for bare pavement throughout the winter has resulted in repeat applications that have largely negated the benefits of these policies.

Roads can remain safe and passable with reduced salt use; drivers just need to move slower than in the snow-free season.

You can help reduce the environmental impacts of salt by minimizing its application on your own property and by asking your city council representative to advocate policies that maintain safety and protect the environment with the understanding that some roads may not remain bare of snow and ice all winter long.

Photo by Steve Corsi

Father Pietro Secchi, creator of the Secchi disk.



Wingra Water Clarity Update

Water clarity in Lake Wingra over the last three years has been substantially better than over the previous decade (see graph).

The improvement is probably due to the removal of a large part of the carp population in 2007 and 2008. The Long Term Ecological Research Program at UW-Madison tracks water clarity in Lake Wingra with a Secchi disk.

The Secchi disk, created by and named for Father Pietro Angelo Secchi, 19th Century astrophysicist and scientific advisor to the Pope, is a circular disk used to measure water transparency in oceans and lakes.

The disc is lowered slowly down into the water, and the depth at which the pattern on the disk is no longer visible is recorded as a measure of water transparency.

At the request of Commander Cialdi, head of the Papal Navy, the first secchi disk was lowered from the papal yacht, l'immacolata Concezion (Immaculate Conception), on April 20, 1865 in order to measure water transparency in the Mediterranean Sea.

Clean Vilas Beach Coalition - from page 2

Components of the garden are fairly simple: water from the swimming area is pumped by a solar pump to a high point in the landscape and then cascades through a series of terraces composed of different substrates, mushrooms and wetland plants before returning, polished, to the swimming area.

The shape, form and arrangement of those parts, however, are open to creativity. Beyond a functioning filter, the CVBC envisions the garden as an educational, interactive, usable and aesthetically pleasing space.

The workshop was the CVBC's first step in gaining the community's support for the bio-filtration project and engaging them in the design process.

Community members worked together in teams to brainstorm ideas first with markers on butcher paper, and then moved to the 'sand box' to carve and sculpt their designs at a larger, more tangible scale.

The CVBC's next steps are to take the wonderful ideas that came out of this design workshop and to develop conceptual plan options and preliminary engineering with the Engineers Without Borders (EWB-UW) Domestic Chapter this Fall.

The CVBC plans to continue to work with Friends of Lake Wingra and other partners in engaging the community in the design process, with the hope of beginning implementation in 2011.

For more information see https://sites.google.com/site/cleanvilasbc, or email CleanVilasBeachCoalition@gmail.com.

Friends of Lake Wingra, Inc.
c/o Office of Advancement
Edgewood College
1000 Edgewood College Dr.
Madison, WI 53711-1977

Raingardens in Street Terraces

Many homeowners have the opportunity to have a raingarden built in the terrace area in front of their homes when their street is being reconstructed.

During street reconstruction, the city will notify those residents whose terrace area is suitable for the construction of a raingarden. Homeowners who agree to have a raingarden built in their terrace area will pay one quarter the cost.

Reconstruction last year on Keyes Avenue resulted in the addition of several raingardens. Work on Edgewood Avenue this summer produced two additional raingardens.

If your street is being reconstructed, be sure to support the city's effort to build raingardens.

Upcoming Events

See our online calendar at www.lakewingra.org for more details on these and other upcoming events.

FOLW Board Meetings are held on the first Thursday of each month and are open to the public. Check the calendar at www.lakewingra.org to confirm the time, location, and meeting agenda.

Holiday Party: December 5, 7-9 p.m.
The home of Steve and Peg Arnold, 2201 Commonwealth Ave, Madison. The Friends of Lake Wingra extend an invitation to our annual holiday party to friends of local watersheds. Whatever watershed(s) you belong to, please join us for an evening of cheer. Kids welcome. Please bring a snack or beverage to share.

Ice on Lake Wingra. Photo by Matt Diebel