



PRESERVE!

Friends OF THE LAKESHORE NATURE PRESERVE

Winter 2015-16

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Preserve Breeding Bird Study

Final year of 2013-2015 study brings surprises

By Roma Lenahan

The final year of the Breeding Bird Study brought some surprises. A nest-building female Scarlet Tanager chased another female into one of the Eagle Heights Apartments. Many of the multiple Cliff Swallow nests just below the roofs of campus buildings were taken over by House Sparrows, who raised young in these odd nests. The Prothonotary Warbler pair began nesting, then disappeared from the Picnic Point Marsh.

In general, though, despite Preserve habitat restoration, the bird species composition in 2013-2015 remains similar to 2000-2002. The twelve most abundant birds have stayed relatively constant (see table), with ten of the top twelve species the same. Blue Jay dropped from 8th to 24th (West Nile Virus?) and Cedar Waxwing dropped from 9th to 22nd, while Red-bellied Woodpecker (formerly 18th) and Indigo Bunting (formerly 21st) replaced them.

A number of additional birds were confirmed or probable in 2015. Many people saw the confirming Great Horned Owl juveniles at Willow Creek. Other probable birds that were confirmed included the Belted Kingfisher (feeding young in bank hole on Picnic Point), Northern Flicker, Willow Flycatcher, Scarlet Tanager, and Brown Thrasher. A Wood Thrush pair (possible 2013) was confirmed at Picnic Point. Additional birds became probable: Pied-billed Grebe, Northern Shoveler, Black-billed Cuckoo, and Eastern Towhee. The study failed to confirm two species that likely nested, Mourning Dove and Marsh Wren. Additional possible birds in 2015 included Ruddy Duck, American Coot, Common Nighthawk, Red-headed

Woodpecker, Least Flycatcher, Veery, and Chestnut-sided and Black-and-white Warblers.

Most Abundant Breeding Birds (Singing Males) (Confirmed all 6 years)

Bird Species	No.	No.	Rank 2014	Rank 2002
Red-winged Blackbird	96	132	1	1
American Robin	78	36	2	12
Northern Cardinal		86	3	2
Song Sparrow	68	73	4	3
Baltimore Oriole	68	56	5	5
Gray Catbird	64	68	6	4
House Wren	56	39	7	10
American Goldfinch	45	36	8	11
Black-capped Chickadee	41	56	9	6
Red-eyed Vireo	39	54	10	7
Red-bellied Woodpecker	37	28	11	18
Indigo Bunting	36	25	12	25

In summary, in the final year of the Preserve Breeding Bird Study the results were similar to previous years. Over the six years common birds remained common while rare ones were present some years and absent others. In 2015, 60 bird species were confirmed, 12 were probable, and 12 were possible.

For the three years, 62 species were confirmed (42 species all years), 15 were probable, and 13 were possible. A few rarer

birds, including Mute Swan, Purple Martin, Pine Siskin, and Field and Savanna Sparrows, that likely nested 2000-2002 were not detected in 2013-2015. New likely breeding birds included two confirmed species, Cliff Swallow and Wild Turkey, and three rare probable species, Black-billed Cuckoo, Eastern Towhee, and Orchard Oriole.

Possible future breeding birds include Purple Martin (a house will be put up next year) and Osprey, a regular visitor. Other birds will probably increase or decrease with their statewide abundance.

If breeding birds interest you, please consider helping with the Wisconsin Breeding Bird Atlas (<http://wsobirds.org/what-we-do/atlas>). For further data on the Breeding Bird Study 2013-15, please visit the *Friends* website: <http://www.friendslakeshorepreserve.com/breedingstudy2014.html>



Female Red-winged blackbird with a moth in its mouth. Photo by Arlene Koziol

News Briefs

Friends support UW student activities in the Preserve- Encouraging more UW students to spend time in the Preserve invests in the future of the Preserve. For many students, much of this urban oasis seems a well-kept secret. To help change that, our first investment is in the fledgling group, *Students for the Preserve*. The group's goal is "to foster student appreciation for the Lakeshore Nature Preserve and build a community that is not only passionate about the environment, but recognizes the value of sustainable landscapes built at the interface of urban and natural settings."

Next, we're working with a group of students in the UW-Madison Civil and Environmental Engineering Dept. to evaluate an existing Preserve stormwater problem and propose a range of potential solutions as part of their Senior Capstone design project under the leadership of Professor Charlie Quagliana. The project will benefit both students and the Preserve. The details, progress, and results of the study will be published on our website and in upcoming issues of the newsletter.

Finally, we're supporting creative arts in the Preserve. We've awarded a modest stipend to a UW student majoring in Life Sciences Communications and Environmental Studies. This year's student contributor, AnnaKay Kruger, created a page for the *Preserve!* newsletter inspired by time spent in the Preserve. We're thrilled with the results (see page 3) and hope to make this award an annual feature.

Progress in Eagle Heights Woods- On November 9, the warm, dry fall weather provided the right conditions to bring back fire to the Indian Mounds area in Eagle Heights Woods. Fires in oak savannas were common in pre-settlement days. Today, prescribed fires are an important component of the plans for managing the long-term health and function of the oak woodland community in this area. Although the oak and hickory leaf litter had yet to fully cure, locations with greater sun exposure burned quite well, especially on the bedrock knoll to the south of mounds trail loop. Preserve staff project leader Adam Gundlach is pleased with the overall success of returning fire to the Eagle Heights landscape. Other prescribed burns this fall were especially successful in the Heritage Oak area, combating buckthorn regrowth and young maple tree sprouts, and in the Biocore Prairie, encouraging more vigorous growth, especially of grasses.

UW working on 2015 campus Master Plan- The plan would significantly impact the University Bay area. Its goal, as stated, is to provide for "orderly growth and development of the campus while protecting and enhancing important open spaces as well as historic and cultural landscapes". Two alternative plans that are proposed for the "west-campus" or University Bay area not only increase development but also affect the current shoreline and re-purpose natural spaces. We are asking you to carefully review the proposed designs and provide your constructive comments to the master planners. You can access the online form and review the two proposed design concepts at <http://engageuwmadisonmasterplan.com/west-campus>,

and you can send your comments to masterplan@fpm.wisc.edu throughout December.

Following its meeting on December 1, the Friends Board issued this position: **We do NOT support the proposed alteration of the current shoreline and wetlands, as shown in Concept 2 of the Master Plan. Specifically, our goals are:**

- *Maintain the health of the University Bay and the Lake. Digging out a new shoreline to accommodate a "mini-union west" on the lakeshore may have unexpected harmful consequences to the shallow University Bay.*
- *Retain the integrity of the current uninterrupted natural corridor of the Lakeshore Path toward Picnic Point. It successfully draws people seven days a week and is a model of environmentally conscious, sustainable recreation and transportation.*
- *Convert Lot 60 into a consolidated sports complex, with the intention of maintaining as much open natural space as possible. Along the west end, create a combined track and soccer facility that employs adaptable seating. Develop an additional bio-retention pond.*
- *Develop a fully accessible, landscaped corridor for pedestrians from the UW hospital and research facilities toward a social space near the shoreline. This facility should be separated from the shoreline and Lakeshore Path by the current wetland.*

This opportunity to voice your thoughts is critical to the planning for the development and use of this unique environment. **We are urging our membership to express its concerns today.**

At the next public meeting on February 24, a revised draft of the 2015 Campus Master Plan will be discussed. Provide your feedback now and plan to attend.

For further questions, please contact: Peter Fisher, fishergalloway@gmail.com, or Gisela Kutzbach, gisela.kutzbach@wisc.edu

Please consider the Friends of the Lakeshore Nature Preserve in your end-of-year giving. We've accomplished so much this year and are excited to do much more for the Preserve. The efforts of the *Friends* are vital to the restoration, preservation, and outreach activities in the 300 acres that constitute the Lakeshore Nature Preserve. Financial support of those efforts makes a difference. Please consider contributing to the work of our 100% volunteer-driven organization through your end-of-year giving. The *Friends of the Lakeshore Nature Preserve* is a 501(c)(3) non-profit organization. Your donation is tax deductible as permitted by law.

Save the Date: Friends of the Lakeshore Nature Preserve Annual Meeting- Tuesday, April 5, 7pm, (6:30 light hors d'oeuvres), Arboretum Visitor Center.

Volunteer in the Preserve

January: No volunteer workparties (winter break)

February: Sat. 2/13, Frautschi Point parking lot, 1-3pm
Sun. 2/21, Picnic Point lot 129, 1-3pm
(Dress warm!)

March: Sat. 3/12, Frautschi Point parking lot, 9am-Noon

For more info contact Bryn Scriver at 220-5560 or bryn.scriver@wisc.edu *note new email*.

The Red Road

By AnnaKay Kruger

A road caked with autumn leaves winds all the way down around the end of Picnic Point. Some parts of the road are a dark, mealy red, damp with organic matter bleeding nutrients into the thirsty soil below. Other parts, where leaves are baked dry by the sun, cast a rosy magenta or a russet hue. Under particularly thick canopies the leaves are soft and forgiving. Where the trees are sparse, so are their autumn feathers.

To my right, the lake reflects the sky. Through the trees, I see brightly colored coats of people who've wandered off the trail to tease the opal waves. I am looking for a place where people don't go. I listen for silence. But it is too lovely a day—the whole world descends upon the red road and follows it ceaselessly around to its end.

I consider that I am never to be alone, that human feet will tread wherever I go. Not only will they tread, but they will have tread before, by seconds, by months, and by a thousand years. Still, I seek to find myself alone, to stare into space and feel space staring back, for nature to absorb only my soul, without companion.

To this end, it appears I have picked the wrong day.

I resolve to look for a place where I am not alone, merely apart. Perhaps this will accomplish the objective removal I so avidly pursue.

I quickly find myself in the company of ducks. They have found a sanctuary just a few yards off the main path. It is a marshy little oasis, with crooked vines and decomposing grass and a fallen tree with roots jutting out in every direction. I skirt the narrow shoreline, attempting to be discreet, and crouch down near the water to beckon them: *tst-tst-tst*. There are three. They have ivory underbellies and the females wear muted colors, soft against the black waves and the shadows that undulate with them.

The ducks in their muddy oasis appear impervious. They do not seem to notice when a dog barks their way,



Illustration by AnnaKay Kruger

or when a biker with a loose chain rolls clanking past, or even when I get up and move close to them. They are at peace, nothing amiss. All in a day's work. I wonder if they ever experience anything extraordinary. Are they seized by epiphanies, consumed by loneliness, awed by the stars? As they perch peculiarly on one leg, do they pretend to sleep, only to ponder away the hours as do we?

A pair of young fishermen roll their bikes up to the tree behind me, disturbing the ducks' sanctuary. Quacking pointedly, they swim away. Does that moment qualify as extraordinary to them? I wonder.

As I make my way back to the road, it strikes me that the term *extraordinary*

is loosely-defined. To be able to know, with certainty, that a moment is valuable enough to remain in memory is rare. Perhaps we must first abstain from our persistence, look up and be surprised at what is there, regardless of whether it is the object we'd sought only seconds before.

We are pleased to support the Preserve-inspired musings of UW Madison junior, AnnaKay Kruger. Majoring in Life Sciences Communication and Environmental Studies, she served as the outreach intern at Trout Lake Research Station last summer. When she's not writing, studying, drawing, or singing, you might find her wandering the less-trodden paths in the Preserve.

Our Water, Our Resource

Understanding groundwater in Dane County and the Preserve

By Mike Parsen, hydrogeologist,
Wisconsin Geological and
Natural History Survey

Photo by Dominique Haller

Groundwater is life sustaining— feeding the lakes, streams, springs, and wetland areas we know and love in the Madison area. Groundwater also serves as a clean and plentiful, yet vulnerable, source of water for drinking, irrigation, industry, and day-to-day-use in the home. Within Dane County 100% of our drinking water is obtained from groundwater aquifers, with municipal and industrial wells withdrawing approximately 52 million gallons of water a day. That's about 75 cubic feet per second, roughly equivalent to the flow of the Yahara River at Hwy 113 – 24 hours a day, 365 days a year. While groundwater resources are abundant and typically of high quality, they remain susceptible to impacts from pumping (e.g., lower water levels, reduced stream and spring flows) as well as natural and human sources of contamination.

Despite our reliance on groundwater, this resource is often poorly understood, with some people even imagining it as a large underground lake or a river flowing south from Lake Superior. Part of the confusion comes from the fact that groundwater remains largely out of sight, buried beneath our feet and only visible when peering down a well or standing next to a gurgling spring. In reality, groundwater forms an important component of surface water, slowly seeping up through the beds of lakes and streams, and boiling up at springs. (Some of the best areas to view springs in the Madison area are at the Pheasant Branch Conservancy or around Lake Wingra within the UW-Madison Arboretum.)

In late summer, when it is hot and has not rained for several weeks, most of the water you see flowing in creeks and rivers owes its source to groundwater— water that occupies the small pore spaces, cracks, and crevices within the rocks and soils. In contrast to the flow of water in a stream, groundwater moves considerably slower. This movement is on the order of feet or tens of feet per year through more permeable rocks and sediments, while slowing to inches per year or less in finer grained (less permeable) sediments and rocks.

Groundwater resources are replenished nearby, within regional and local watersheds, as snow melts in the spring, or water slowly infiltrates after a rain shower. Water that percolates down to the water table (the top of the groundwater system) is termed *recharge*. In Dane County that amounts to about 10 inches per year on average (out of the total annual precipitation rate of roughly 35 inches per year). The remaining precipitation either runs off at the surface, evaporates directly into the atmosphere, or is taken up by the roots of trees and vegetation and transpired back into the atmosphere. Once recharge reaches the water table, it continues to move, horizontally and vertically from areas higher on the landscape to areas lower on the landscape (refer to the hydrologic cycle, p. 5).

In Dane County the groundwater system consists of three main aquifers; a shallow sand and gravel aquifer, an upper bedrock aquifer, and a deep bedrock aquifer system. The upper

-continued, p.5

continued from p.4-

sand and gravel aquifer consists of unconsolidated sediment, deposited principally by glaciers over the past tens of thousands of years. The bedrock units below the sand and gravel aquifer were deposited from 520 to 450 million years ago and contain some of the highest-quality groundwater reserves in the country. The upper bedrock aquifer is composed of sandstones and limestones that readily transmit water. This upper bedrock aquifer is separated from the deep sandstone aquifer by a layer of clay-rich sandstone.

Many of the newer water supply wells within Dane County withdraw water from the deep bedrock aquifer. These typically exhibit fewer of the water quality concerns commonly associated with shallower wells, including road salt, nitrates, human contaminants such as petroleum products and viruses from urban sewer systems. That said, deeper wells commonly encounter natural sources of contamination from enriched concentrations of iron, manganese, and radium, as well as calcium and magnesium, which cause scale to accumulate in our pipes and faucets.

In the Lakeshore Nature Preserve, groundwater resides within sandstone aquifers extending down 800 feet below land surface. Walking along the Lakeshore Trail from Muir Woods to University Bay Marsh, and out to Picnic Point, the groundwater level is at, or just above, the level of Lake Mendota- about 850 feet above mean sea level (ft-msl). The water-level in a hand-pump well installed along Picnic Point in 1951, and another well drilled in 1968 just west of the Picnic Point Marsh, confirm these water-table elevations.

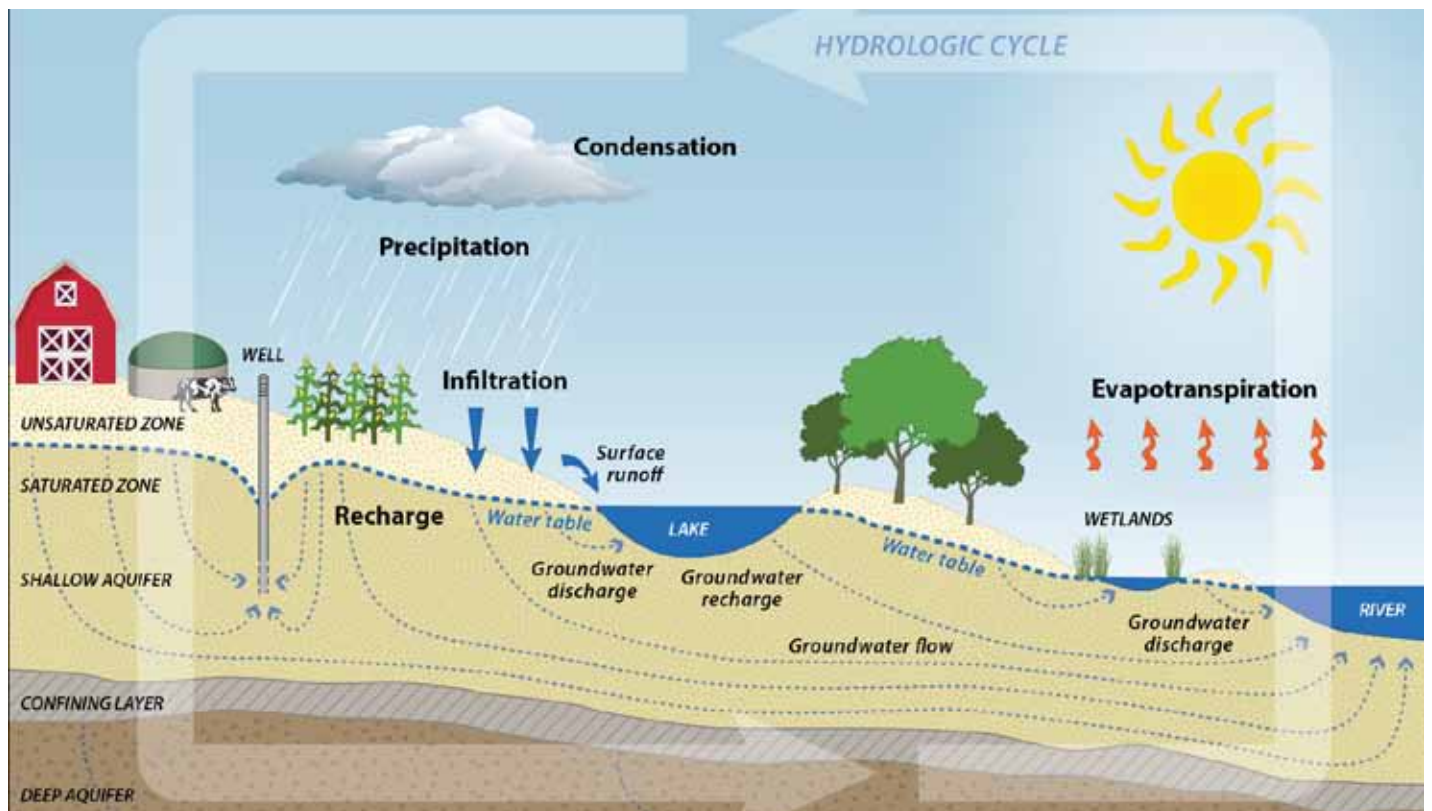
Heading up the hill to the Eagle Heights Community Gardens and Eagle Heights Woods, the water table rises about 5-10 feet above lake level to roughly 855-860 ft-msl. This difference in water levels creates a hydraulic gradient, where groundwater in the shallow aquifer systems slowly flows north and east towards Lake Mendota.

At greater depth, below the clay-rich confining layer, water levels are influenced by pumping in Madison Water Utility Well #19. This municipal well is located northwest of the Eagle Heights Community Gardens near the Frautschi Point Parking Lot. This well was installed

in 1970 and provides water to many residents and water-users in Eagle Heights and the University of Wisconsin Campus area. Because this well is cased below the clay-rich confining layer, the deeper water-levels are effectively lowered in this area as water is pumped by this well.

The Lakeshore Nature Preserve is not unique in this, as groundwater withdrawals from dozens of municipal wells in the greater Madison area have lowered water-levels and reduced stream and spring flows within Central Dane County. Ongoing water-quality monitoring by the Madison Water Utility (madisonwater.org) and groundwater-level monitoring and modeling studies by the Wisconsin Geological and Natural History Survey (wgnhs.org) and U.S. Geological Survey (wi.water.usgs.gov) help to ensure responsible use of these groundwater resources. More information about the effects of pumping on water resources of Dane county is available at: tinyurl.com/dane-water

Understanding groundwater mechanics in our area is key. The more each of us knows, the better we'll be able to manage this vital resource for future generations.



Hydrologic Cycle - Generalization of the hydrogeologic system within Dane County illustrating the movement of water through the groundwater system. Precipitation which infiltrates and reaches the water table, moves vertically and laterally through aquifers before discharging to lakes, wetlands, and streams. The return of water to the atmosphere in the form of evapotranspiration completes the water cycle (Bruce, 2015). Bruce, J. L., 2015, Hydrologic cycle, U.S. Geological Survey, unpublished illustration.

Thank You, Volunteers!

Together we care for the Preserve



Photo by Arlene Koziol



Photo by Gisela Kutzbach



Photo by Michelle Louis



Field Volunteers

Patricia Becker
Amanda Budyak
Diane Budyak
Ann Burgess
James Cooper
Susan Denholm
Glenda Denniston
Doris Dubielzig
Dick Dwelle
Kathi Dwelle
Peter Fisher
Martha Frey
Kennedy Gilchrist
Sarah Goldenberg
Galen Hasler
Noriko Jackson
Jeff Koziol
Gisela Kutzbach
John Kutzbach
Roma Lenehan
Michelle Louis
John Magnuson
John Mason
Jeremy Mittag
Karen Nakasone
Biss Nitschke
Matt Reetz
Marcia Schmidt
Susan Slapnick
Glen Teschendorf
Will Waller

Field Trip Leaders

Janet Batzli
Patricia Becker
Paul Borowsky
Carolyn Byers
Susan Carpenter
Susan Denholm
Glenda Denniston
Doris Dubielzig
Marty Evanson
Peter Fissel
Jessie Glaeser
Adam Gundlach
Greta Helmueller
Kay Kriewald
Gisela Kutzbach
Jim Lattis
Roma Lenehan
John Magnuson
David Mickelson
Mara McDonald
Paul Noeldner
Edgar Spalding
Will Waller
Laura Wyatt



Photo by Glenda Denniston

Many Friends volunteer. They spread enthusiasm, share expertise, give of themselves, make time, work as a team, inspire children, teach and guide, and have fun exhausting themselves in hands-on work. Backed by our supportive membership, volunteers care and advocate for the Preserve and help connect the community to this treasured place.

Veteran volunteers Roma Lenehan and Glenda Denniston continued their more than 15-year labor of love for the Preserve, together providing an astonishing 1000+ hours of expert service.

More than 30 members also volunteered their time in the field while many others worked countless hours to keep the *Friends* organized. They raised funds, reached out to the community, researched potential projects, and led field trips.

Each and every volunteer helps make the *Friends* a vibrant non-profit organization. Thank you.

Our thanks also go to the Preserve staff: Bryn Sriver coordinated field volunteer events in the Preserve and worked closely with the *Friends*, Adam Gundlach led field trips and supervised the summer interns, and Laura Wyatt supported the *Friends* at the University administrative level in many ways.

Organizational Volunteers

Patricia Becker
Paul Borowsky
Kathy Brock
Tom Brock
Ann Burgess
Amanda Budyak
Susan Carpenter
Yun-wen Chan
Diane Dempsey
Susan Denholm
Glenda Denniston
Margaret Dentine
Doris Dubielzig
Peter Fisher
Kennedy Gilchrist
Corey George
Galen Hasler
Evelyn Howell
Arlene Koziol
Jeff Koziol
Gisela Kutzbach
John Kutzbach
Dolly Ledin
Roma Lenehan
Michelle Louis
Dick McCoy
John Magnuson
David Mickelson
Katya Mullendore
Paul Noeldner
Eric Obschering
Mike Parsen
Olivia Sanderfoot
Marcia Schmidt
Mitchell Thomas
Will Waller
Paul Williams
Susan Will-Wolf

From the Director....

By Gary Brown, director,
Lakeshore Nature Preserve

The University of Wisconsin-Madison has embarked on their ten-year updating process for the Campus Master Plan. In addition to serving as director of the Preserve, I also am the director of Campus Planning & Landscape Architecture, which facilitates the comprehensive campus master planning process. The 2015 plan is about 45% complete, with much of the site analysis and data gathering complete. Draft alternatives for areas in/near the Preserve are being shared with stakeholders. Those areas include Observatory Hill, Willow Creek, and the Health Sciences area near the UW Hospital. Proposals for the Observatory Hill area include removal of the parking lot and relocating it central to campus off Linden Drive and N. Charter Street. The plan calls for turning the mowed lawn slope into a shortgrass meadow and/or oak savannah with a stormwater management facility for teaching and research at the bottom of the hill. This would capture stormwater and allow it to infiltrate before it reaches Lake Mendota.

The other focus area is Willow Creek and how to make it a resource for teaching and research as well as an amenity for students to enjoy. Paddle craft rentals at the former Willow Beach are being discussed as one way of enabling students



Detail, Campus Master Plan. To find further information and expanded versions of the plan drawings, please go to www.masterplan.wisc.edu

to get out on the water to enjoy our lake-side setting.

For the Health Sciences facilities, the long range question is- where do we locate additional teaching and research buildings when the area within Highland Avenue is full (after WIMR Tower 3 is completed)? The 2005 Campus Master Plan suggested that the large 1,300 car surface parking lot (#60) is not the highest and best use for land immediately

adjacent to the Lake. The current drafts suggest that the parking lot be the site for a new track & soccer complex. A parking ramp and new health science facilities would be built on the current McClimon track facility.

I encourage everyone to get involved in the Campus Master Plan Update process. Many public meetings are being held and you can review information on the website at: "masterplan.wisc.edu".

Friends of the Lakeshore Nature Preserve

Name _____
 Street _____
 City _____
 State _____ Zip _____
 Phone _____
 Email _____

- I'm interested in volunteering. Please send me information by email.
 I'd like to go paperless & receive my newsletter by email.

MEMBERSHIP

- Student _____ \$10
 Individual _____ \$20
 Household _____ \$35
 Steward _____ \$50
 Patron _____ \$100
 Other \$ _____

Please circle one:
 New Member Renewal

ADDITIONAL GIFT

Does not include membership.

- Woodland _____ \$500
 Savanna _____ \$250
 Wetland _____ \$100
 Prairie _____ \$50
 Other \$ _____

Please mail this completed form and your check payable to: **Friends of the Lakeshore Nature Preserve**

Friends of the Lakeshore Nature Preserve is a tax-exempt 501(c)(3) non-profit organization.

P.O. Box 5534
 Madison, WI 53705

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Madison, WI 53705

Ideas and *Friends* announcements for our newsletter and website are welcome.

If you'd prefer to go paperless and receive your newsletter electronically, please email us at:

preserveFriends@gmail.com

President: Will Waller 608-231-6260

Vice President: Galen Hasler

Secretary: Doris Dubielzig

Treasurer: Gretel Dentine

Friends Volunteer Coordinator:

Galen Hasler 608-206-5218

galenhasler@gmail.com

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Friends of the Lakeshore Nature Preserve is a 501(c)(3) non-profit organization.

Please visit our website- www.FriendsLakeshorePreserve.com

Winter Field Trips

Bird and Nature Walk in the Preserve, 4th Sunday of every month, January 24 and February 28, 1:30-3:00pm. Meet at Picnic Point parking lot on University Bay Drive. Leader: Paul Noeldner, (608-698-0104).

Save the Date

Friends of the Lakeshore Nature Preserve
Annual Meeting
Tuesday, April 5, 7pm
(hors d'oeuvres at 6:30)
Arboretum Visitor Center

Nature looks dead in winter because her life is gathered into her heart. She withers the plant down to the root that she may grow it up again fairer and stronger. She calls her family together within her inmost home to prepare them for being scattered abroad upon the face of the earth.

-Hugh Macmillan, 1871



Night Snowfall in the Prairie. Photo by Michelle Louis