

PRESERVE!

Friends of the Lakeshore Nature Preserve



Mendota's Ice Cover

Recording Change at the Lakeshore Preserve

By John Magnuson



Photo John Magnuson

The longest record of our changing seasons or seasonality at the Lakeshore Nature Preserve is provided by the annual comings and goings of winter ice cover. This rare record is 160 years long with no missing years (graph). The average date on which the lake freezes over is now two weeks later than it was 160 years ago. The breakup of ice in spring is also about two weeks earlier. Other seasonal events, such as the first bloom of bloodroot on the forest floor or the arrival of hummingbirds that had left us for the winter, would be expected to have changed by a similar amount. But such long-term biological records of changing seasonality (phenology) are

nonexistent for the Preserve.

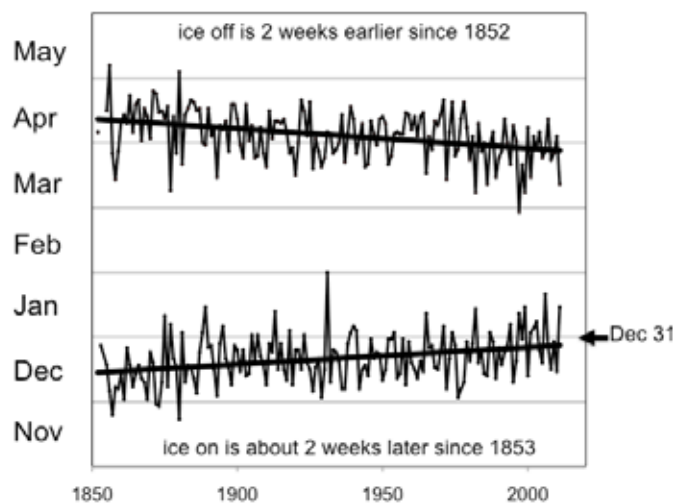
These long-term trends in ice formation and breakup provide clear evidence of climate change. Similar trends occur for lake ice around the Northern Hemisphere. The year-to-year variation around the trend lines also reveals shorter-term patterns of weather. Some of these are responses to large-scale climatic drivers like the quasi-biennial oscillation and the El Niño Southern Oscillation that give the record an irregular sawtooth appearance. Some of the variability simply results from short-term, local weather events such as

a snowstorm or the passing of a weather front.

Extreme ice dates are also apparent. The latest breakup occurred on May 6, 1856, the earliest breakup on Feb 27, 1997. The earliest freeze date occurred on Nov 23, 1880, the latest freeze date on Jan 30, 1930. A careful look at the graphs indicates that the early breakup extremes are becoming more common and the late freeze extremes are becoming more common.

Predicting the future is always uncertain. But the long-term trends and the patterns of saw-tooth variability are expected to

Ice-on and ice-off dates for Lake Mendota from the winters of 1852-3 to 2011-2.



Winter 2012-13

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continue. Greenhouse gases are increasing and the large-scale climatic drivers should continue to produce a noisy signal of change. And as a consequence, plant flowering is expected to occur earlier and migrant birds are expected to arrive earlier in spring and depart later in fall. New early and late extremes should occur. Risks to the functioning of the ecosystem also are expected in regard to mismatches between the timing, for example, of bird arrivals and nesting and the seasonality resources they need.

Given the high variability that produces the sawtooth pattern, we could learn much about biological seasonality from records as short as 10 to 20 years in length. The Preserve can serve as an ideal place to follow key phenologies into the future.



Member Profile: Henry Hart
By Tom Sinclair

Flanked by Dick McCoy (left) and Brent Haglund, Henry Hart enjoys a Friends potluck at Picnic Point.

Inspiration comes from many places. As a doctoral student at UW-Madison more than half a century ago, Henry Hart found it high above Muir Knoll, atop a towering ski jump perched on the spot for decades. “When I came to a point in my dissertation when I just couldn’t figure out how to approach writing up this particular problem, I would climb the ladder and sit on top of that ski jump and ponder,” he recalls. “It was the most complete isolation within steps from North Hall, where I was working. It was marvelous.”

The ski jump is long gone, but Hart, now an emeritus UW-Madison Professor of Political Science, South Asian Studies, and Environmental Studies, says the Lakeshore Nature Preserve still offers countless vantage points – and much more – to those who explore it. “I used to rove around the western part of campus just for my own enjoyment and often went out to the end of Picnic Point,” he says. “I used to take exercise trips out there, part running, part walking, and then later, when bicycles were still allowed, I went by bicycle many times.”

While helping early work parties clear invasive plants from Eagle Heights Woods, he found new in-

spiration in chainsawed buckthorn trunks. “I thought the insides of those most hated [invasives] were quite pretty,” says Hart, a talented woodworker, “and I made mosaic structures out of those things, maybe 30 or 40 of them, into hot pads. I called them tree pads. They were popular [as gifts], though a lot of people didn’t use them as hot pads; they put them up on the wall.”

Hart has repaid the Preserve and the *Friends* many times over for those precious moments of renewal. He and his late wife Virginia supported an endowment to aid the Preserve and to fund restoration projects at Raymer’s Cove and Parking Lot 34, near the Temin Lakeshore Path. In the late 1990s, he played a key role on a task force that recommended splitting the Preserve away from the Arboretum, creating an independent governance structure to guide it. He later became one of the founding members of the *Friends of the Lakeshore Nature Preserve*. All of which might never have happened had he not been inspired atop that ski tower on Muir Knoll and climbed back down to complete his dissertation. “I was never in the least tempted to jump,” he says with a laugh.

**Volunteer
in the Preserve:**

Grab a ‘Friend’ and come out to the Preserve for fresh air and exercise while caring for this special place. Winter is a great time to tackle woody invasive brush with loppers and handsaws, and whenever spring comes this year we’ll be ready to pull garlic mustard.

February

- Feb. 9, Saturday, 1-3pm,**
meet at Frautschi Point parking lot
- Feb. 17, Sunday, 1-3pm,**
meet at Picnic Point parking lot

March

- March 2, Saturday, 9am-noon,**
meet at Frautschi Point parking lot
 - March 10, Sunday, 9am-noon,**
meet at Picnic Point parking lot
- Note: Daylight Savings begins today. Spring forward!*

NOTE: Volunteers from all backgrounds and experience levels are welcome. Tools, training and refreshments are provided. Parking for volunteer events is free, and it is always free on weekends. Volunteers 17 and younger must be accompanied by a parent or legal guardian or bring a signed liability waiver. Large groups are welcome with advance notice. Please contact Preserve Volunteer Coordinator Bryn Sriver at 220-5560 or bsrivcr@fpm.wisc.edu for more information.

Work parties are cancelled in case of severe weather (snowstorms, thunderstorms, temperatures lower than 10 degrees F or above 100 degrees F) or if the ground is too muddy or too snow-covered for work.

Save the Date:

*Friends
Annual Meeting
Apr. 2, 2013
7:00pm
Arboretum Visitor Center*

Despite the Heat, Summer Interns Get Job Done

By Kristina Bartowitz

During the past hot and dry summer the Prairie Partners interns waged war on invasive plants, collected piles of prized prairie species seeds, and had some wonderful learning experiences in the Lakeshore Nature Preserve. This summer's interns- Kristina Bartowitz, Nick Schlitz, Allison Schmidt, Dan Stein, and Christopher Warneke- were students and graduates selected for their backgrounds and experience in biology and environmental science.

Clearing invasives took up a good portion of the summer. Massive removal of shrubby plants, mostly buckthorn, took place along the pedestrian path at Picnic Point. The interns had fun using a combination of brush cutters and chainsaws to tackle this jungle, after, of course, thorough safety training by Adam Gundlach of the Preserve staff. Porcelain Berry removal was another immense task. Porcelain berry, a relative newcomer to the Preserve, is a vigorous invader. It smothers shrubs and vegetation, shading out native plants. The interns helped rid the Preserve of this invader, cutting and treating both huge vines and small seedlings.

Other rewarding labors carried out by the interns included seed collec-

tion and inventories in the Biocore Prairie, and mowing and seed sowing near the Willow Creek woods.

The learning opportunities offered us were some of the favorite experiences of the summer. A boat ride on the Limnos along the shore of the Preserve was educational and a welcome respite from the staggering temperatures. Other guests shared their knowledge of the glacial history and geology of the Preserve, as well as the animals within it. During the work days Adam imparted his vast knowledge of the flora of the Preserve- information that was always appreciated. We also had great wildlife viewing opportunities, including a Barred Owl, several Sandhill Cranes, and a buck.

Although this summer came with a historic drought and a never ending heat wave, the Prairie Partner Interns proved indefatigable. Thanks to the wonderful Preserve staff and the *Friends of the Lakeshore Nature Preserve*, it was an all around great experience.

The Friends has been financially sponsoring interns in the Preserve for 5 years. With your continued support, we'll back another group of enthusiastic interns next summer.

“Each season
in the Preserve is special,
but winter brings silence and
solitude that are unique.
I treasure the memory of the day
I saw a red fox running along the
eastern edge
of Wally Bauman Woods,
onto the lake ice,
and into the rays
of the setting sun.
Its beautiful coat shimmered
with unforgettable
color and texture.”

-Harriet Riley, 1938-2012, whose
commitment to the *Friends*
is remembered.

Contact Us

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www.friendslakeshorepreserve.uwalumni.com

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We Appreciate Your Input

Ideas and announcements for our newsletter and website are welcome. To request space in our next newsletter, please tell us about your material by Jan.18. Article submission deadline is Feb. 5.

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



Plenty to do in the Preserve- Preserve Volunteer Coordinator Bryn Scriver (right), carefully explains invasives removal during a volunteer work party in November.



Photo Glenda Denniston

Turkeys Repopulate the Preserve

By Roma Lenehan

If you have a garden in either Eagle Heights Community Gardens or University Houses Gardens, you are probably familiar with the local Wild Turkey flock.

Turkeys are relatively new in the Preserve, arriving to regularly reside in the Preserve in 2007, and first nesting in the spring of 2008. This early spring and early summer, the tom (male) Turkey displayed in the grassy area above Eagle Heights Apartments and below (East) Big Woods on the east side of the sidewalk. The female Turkeys nested in several areas - one in Big Woods, a second in the Eagle Heights Woods area, and possibly a third near or in the Biocore Prairie and/or old field.

By mid-July, the two females and their eight surviving young had joined together to feed in the University Houses Gardens, jumping to eat raspberries and grapes,

collecting other fruit, and feeding on insects and other vegetables. They scratched through leaves in the woods and wandered through the Village of Shorewood Hills, digging in yards, roosting on houses, and loitering on Wood Lane.

In mid-September ten Turkeys were joined by the single tom and another Turkey. The flock's fall territory extends from Shorewood Hills and the University Houses Gardens to the Eagle Heights Community Gardens and adjacent woods and fields.

Due to the drought, food is limited in the Preserve, so watch to see what the Turkeys eat now that the bounty of the gardens is ending - they may remain in the Preserve or spend more time in yards and at bird feeders in the Village of Shorewood Hills.

Spotted in the Preserve

•Visitors to the *Biocore Bird Banding Observatory's* Fall Open House were treated to a sighting of a lone *Black-billed Cuckoo* along the woods' edge near Biocore. Infrequently spotted in the Preserve, *Coccyzus erythrophthalmus* is named for its single-pitched, "cu-cu-cu-cu" call and feeds mostly on a variety of caterpillars and other large insects.

•A rare bird for the Preserve: Jesse Ellis, David LaPuma, and Chris Warneke reported seeing the Nelson's Sharp-tailed Sparrow (*Ammodramus nelsoni*) in the grasses and cattails on the east side of the 1918 Marsh this fall. The Nelson's Sharp-tailed Sparrow generally migrates from Canada to the Gulf Coast in a trajectory just west of Wisconsin. Due to decreases in open grasslands, the bird is on the WatchList (maintained by Partners in Flight and National Audubon) of species likely to become endangered unless habitat is protected.

Have you spotted a noteworthy species in or near the Preserve recently? We'd love to hear about it. See "Contact Us" on page 3.

From the Director...

By Gary Brown

On a cold snow-filled day, it is good to reflect on all our accomplishments this past rather hot summer. Thanks to all the *Friends* for their continued support. Your commitment has made another year a success. From the many field trips and educational sessions to the hundreds of volunteer hours, your work alongside the Preserve staff has provided numerous results. Buckthorn and honeysuckle are being kept at bay and native species are being planted in their place. Stormwater is being managed and erosion minimized. Students are doing incredible research, learning, and outreach. Our goals are being met and we couldn't have done it without you!

The Picnic Point improvements have also been completed, providing a wonderful gathering place for generations to come. The site was dedicated by the Ebling family on October 5, a windy and brisk fall day. The new fire circle makes an inviting place for gathering around a warm fire to share in life's experiences in the Lakeshore Nature Preserve. We look forward to the many decades ahead of such sharing.

Photo Gary Brown



Ebling Family at the dedication on Picnic Point.

Figs in the Preserve?

By David Mickelson

Not figs, but FIG. That's short for a **First-year Interest Group**, a learning community of 20-25 freshmen who, in addition to taking other classes, are enrolled in three classes that are linked by a common theme. One of these, Anthropology 120, is a seminar that focuses on the biological, physical, and cultural dimensions of the UW Lakeshore Nature Preserve. The students are also enrolled in Chemistry and Ecology, classes that contribute to the FIG experience. Taking three classes together has allowed the first year students to get to know other students with similar interests soon after starting the Fall semester.

Professor Sissel Schroeder, the course organizer, and several other faculty are sharing their knowledge of geology, soils, trees, and other plant life, Native American history, and human impacts on the landscape. Students have also been learning about astronomy and how celestial bodies can help people locate themselves on the landscape. Many of the 3-hour Tuesday afternoon classes are taught outdoors in the Preserve.

The students are also being introduced to authors Aldo Leopold and John Muir. In addition to assigned readings, they will write two term papers that explore the ways in which people impact forest composition and natural and cultural landscapes. For this assignment they have the advantage of interaction with two students from the UW Writing Fellows Program. These advanced undergrads, who were chosen in a campus-wide selection program as excellent writers, will critique drafts of their papers and work with the students to improve their writing skills. The Lakeshore Nature Preserve is indeed a laboratory for learning.



♦If you or a student you know has a *research project in the Preserve* that you think ought to be highlighted in a future issue of *PRESERVE!*, please let us know.

♦*Be curious!* Do you have a question about the Preserve's flora, fauna, history, planning, plantings, or other topic? If you want to know, chances are others do, too. For the next issue, we'll choose a question and find an expert to explain. See "Contact Us" on page 3.

Tick Surveillance in the Preserve to Assess Lyme Risk

By Elizabeth Hemming

Photo Michelle Louis



UW senior Elizabeth Hemming takes notes as her research assistant Ben Korte examines the underbrush at Frautschi Point. She was also assisted by undergraduate Nicholas Kirchner and veterinarian Darby Murphy.

Ixodes scapularis, known as the Blacklegged tick or the deer tick, is the organism responsible for transmitting *Borrelia burgdorferi*, the bacterium which causes Lyme Disease (LD). Blacklegged ticks are usually found in densely wooded areas or near trails within a forest. Ticks become infected with the LD bacterium by taking a blood meal from an infected host. *I. scapularis* has 4 life stages: egg, larva, nymph, and adult. Nymphs and adults are the only life stages capable of transmitting the LD bacterium because eggs and larvae have not taken a blood meal, and thus they have not had an opportunity to acquire the bacterium (*B. burgdorferi* is not transmitted from mother to offspring). However, LD risk is typically estimated using exclusively nymphal ticks largely for two reasons: 1) Nymphs are about the size of a poppy seed, whereas adults are about the size of a sesame seed, so nymphs are much less likely to be perceived by their human host before they transmit the bacterium (typically takes 24 to 48 hours); and 2) Nymphs peak in activity during late spring/early summer, when humans are most likely to come into contact with them. Conversely, adult tick activity peaks in early spring and late fall.

Although Wisconsin has among the highest LD incidence in the nation, 4th in 2010 and 6th in 2011

(Centers for Disease Control), until approximately two years ago, established populations of *I. scapularis* had never been detected in Madison. In 2012, a volunteer noticed a deer tick that had been acquired in Bill's Woods in the Lakeshore Nature Preserve. As a result, this summer, we took two approaches to deer tick surveillance in the Preserve. During May and June, when nymphs are most active, we dragged for questing ticks. Ticks cannot fly or jump, they wait on vegetation for a prospective host in a position known as "questing." To find these ticks, we drag a 1-m² cloth across vegetation, and ticks attach to the cloth as it brushes past them. We chose to drag at four sites in the Preserve: Bill's Woods, Big Woods, Frautschi Point, and Eagle Heights Woods, and in parts of the Shorewood neighborhood. We chose these sites because the habitats coincided most closely with the usual habitat of *I. scapularis*. During July and August, we utilized small mammal trapping to collect attached, blood-feeding ticks from the small mammals. We used this method because it can be a more sensitive measure than dragging.

From 90 sampling minutes of dragging at each of the sites, we found 1 adult tick in Bill's Woods, 1 adult in Big Woods, 1 larva in Eagle Heights Woods, and no

Continued, page 7

Photo Michelle Louis



Ixodes scapularis, known as the Blacklegged tick or the deer tick.

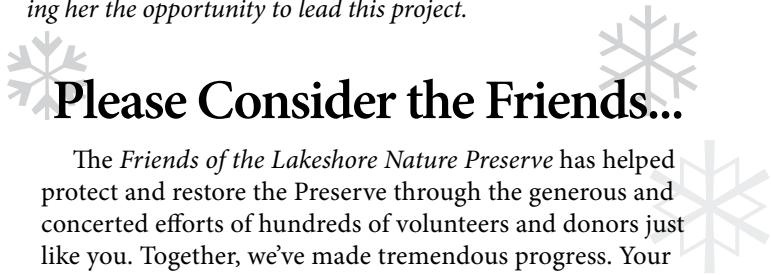
Continued from page 6

ticks at Frautschi Point. We also found 2 nymphs in the Shorewood neighborhood within 15 sampling minutes. By small mammal trapping, we collected 2 larval ticks from 33 small mammals trapped at Big Woods. From 23 small mammals in Bill's Woods and from 14 small mammals in Frautschi Point we did not collect any ticks. These numbers suggest that the LD risk in the Lakeshore Nature Preserve is still quite low, as we did not find any nymphal ticks in the Preserve. However, detection of all stages suggests that establishment of an active breeding population has occurred.

Although risk is still relatively low, we recommend dressing appropriately to avoid tick bites. Tuck pants into socks and/or wear rubber boots while in risk areas. Once home, do a thorough check for ticks and carefully remove them with a tweezer. Be cognizant of how you are feeling if you have recently been in an area that may have ticks. LD has many symptoms that can occur within 3-30 days of transmission. These symptoms may include an erythema migrans (the classic bulls-eye) rash, headache, fatigue, stiff neck, and muscle or joint pain. If left untreated, LD complications can result in meningitis, facial palsy, heart abnormalities, and/or arthritis. Although LD risk in the Lakeshore Nature Preserve is low, *I. scapularis* is

still in an early stage of infestation. Ongoing surveillance in the Preserve is imperative to assessing LD risk. We are interested in hearing about tick sightings in the Lakeshore Nature Preserve. We would also like to receive any Blacklegged (deer) ticks collected. Please contact Susan Paskewitz, paskewit@entomology.wisc.edu.

Author Elizabeth Hemming is a senior at UW Madison majoring in Biology. She has an internship this semester with the Wisconsin Department of Health Services in vectorborne disease epidemiology and is applying to graduate school. She wishes to thank Dr. Susan Paskewitz for her ongoing support and for giving her the opportunity to lead this project.



Please Consider the Friends...

The Friends of the Lakeshore Nature Preserve has helped protect and restore the Preserve through the generous and concerted efforts of hundreds of volunteers and donors just like you. Together, we've made tremendous progress. Your additional financial support continues vital restoration efforts and outreach. Please consider including the Friends in your end of the year giving.

The Friends of the Lakeshore Nature Preserve is a 501(c)(3) non-profit organization. Your donation is deductible to the extent allowable by law.

I want to make a difference by joining or making an additional gift to the
Friends of the Lakeshore Nature Preserve.

Name _____
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I'm interested in volunteering. Please send me information by email.

ANNUAL MEMBERSHIP

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Household _____ \$35
Steward _____ \$50
Patron _____ \$100
Other \$ _____

ADDITIONAL GIFT

(If you're already a member does not include membership.)

Woodland _____ \$500
Savannah _____ \$250
Wetland _____ \$100
Prairie _____ \$50
Other \$ _____

Please mail this completed form and your check payable to:

**Friends of the Lakeshore Nature Preserve
P.O. Box 55056
Madison, WI 53705**

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

Friends of the Lakeshore Nature Preserve

P.O. Box 55056

Madison, WI 53705

"Dedicated to the preservation and stewardship of our woodlands, wetlands, prairies and shorelines."

Photo John Magnuson



**How has
Climate Impacted
Seasonal Ice
on Lake Mendota ?**

See page one...

Volunteer Opportunities in the Preserve

See page 2 for details.

February

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*Note: Daylight Savings begins today.
Spring forward!*

Annual Meeting

April 2, 7:00pm, Arboretum Visitor Center

Ice breakup on Lake Mendota looking west along the Preserve's shoreline from the Hasler Limnological Laboratory. March 2010.