



# Preserve!

FRIENDS OF THE LAKESHORE NATURE PRESERVE

FALL 2018



Arlene Koziol

## About those massive cyanobacteria blooms on Lake Mendota

Arlene Koziol

Cyanobacteria, commonly known as blue-green algae, are single cell bacteria that get their energy from photosynthesis. These bacteria have been around for over two billion years and are a natural part of algal communities. Cyanobacteria require nitrogen and phosphorous that occur naturally in lakes, but usually not in quantities that support a massive bloom.

According to Steve Carpenter, professor emeritus at the UW–Madison Center for Limnology, blooms are becoming more common because of nutrient pollution that is mostly due to manure runoff from farms. In the Yahara watershed, for example, the amount of phosphorus in the lakes has increased by a factor of 10 since rural agriculture, as well as urban settlement, transformed the region in the 1840s and 1850s.

*Friends member Arlene Koziol is a volunteer monitor for the Clean Lakes Alliance.*

In addition, thanks to climate change, the rain that we are getting is coming in bigger storms. Bigger storms, in turn, erode more material. A heavy rainstorm can push a lot of phosphorus into our lakes and streams.

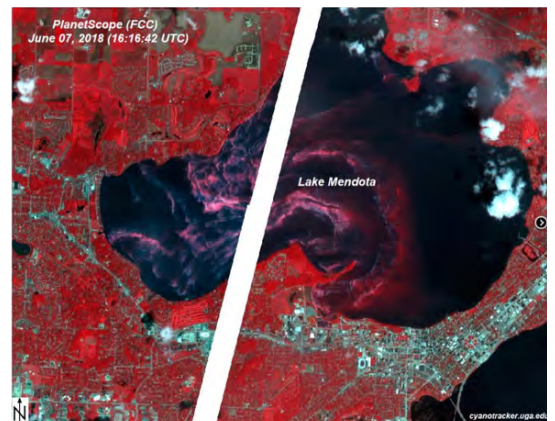
Cyanobacteria blooms present a public health problem because they produce toxins that can cause adverse health effects in both humans and pets. The most commonly produced toxin is microcystin. According to the California Environmental Protection Agency, microcystin primarily affects the liver, causing minor to widespread damage, depending on the amount of toxin absorbed. The UW Center for Limnology warns that people swimming, boating, or waterskiing in contaminated water may experience upset stomach, rashes, and respiratory problems. Microcystins may also accumulate in game fish, and can persist after cooking. Pets and livestock have died after drinking water contaminated with microcystins.

While the majority of lake pollution may come from surrounding farm land, urban sources are significant. In particular, leaves left in street gutters are a significant source of phosphorous.

Here are a few things that we as individuals can do to “help our lakes from our homes”:

- Rake leaves away from street drains, and rake before it rains.
- Do not use fertilizer that contains phosphorous.
- Use leaves as garden mulch.
- Compost leaves and garden waste to use as fertilizer.
- Create a rain garden using those native plants that are especially effective in absorbing rainwater.

To learn more, visit [friendslakeshore-preserve.com/cyanobacteria](http://friendslakeshore-preserve.com/cyanobacteria).



*On June 7, satellites captured the massive blue-green algae bloom on Lake Mendota (reddish swirls). Image courtesy Cyanotracker—Computer Science Department at University of Georgia.*



# Fall & winter field trips

## September

- 1 Fall Birding in the Lakeshore Nature Preserve** (Saturday, 8:00–9:30 a.m.). Enjoy an early fall hike through the Lakeshore Nature Preserve observing flycatchers, warblers, sparrows and other birds as they fuel up before migrating for the year. Meet at the Frautschi Point parking lot. Leader: Roma Lenehan (238-5406, rlenehan@charter.net).
- 15 Bird Banding at Biocore Prairie Bird Observatory** (Saturday, 7:00 a.m.–noon). Join Jackie Sandberg, Wildlife Rehabilitation Training Coordinator for the Dane County Humane Society, to learn about bird banding and our efforts towards conservation. Drop in any time and stay as long as you wish. Park at UW parking lot 129 or Frautschi Point and walk up to Biocore Prairie above Eagle Heights Gardens. Leader: Jackie Sandberg (838-0413, jsandberg@giveshelter.org).
- 23 4th Sunday Bird and Nature Outing** (Sunday, 1:30–3:00 p.m.). See box.



Linda Deith

**4<sup>th</sup> SUNDAYS—**  
**Bird and nature outings**  
 (1:30–3:00 p.m.) The Friends sponsor birding and nature outings in the Preserve with the Friends of Urban Nature (see the website for details). Expert, interesting, and informative leaders alternate monthly. Meet at UW parking lot 129 at Picnic Point entrance. Contact: Paul Noeldner (698-0104, paul\_noeldner@hotmail.com).

## October

- 7 Restoration Ecology in the Eagle Heights Woods** (Sunday, 1:00–3:00 p.m.). Get a behind-the-scenes perspective on the latest phase of the efforts to restore the biological health of this oak forest and woodlands. The Eagle Heights Woods restoration project has been funded by the Friends. Park along Wood Lane and meet at the Shady Lane trailhead. Leader: Adam Gundlach (220-3482, adam.gundlach@wisc.edu).
- 14 Geologic History of the Preserve and Madison Lakes** (Sunday, 1:00–3:00 p.m.). As winter approaches, consider the glaciers that were here 25,000 years ago. Learn about geology on a walk from Raymer's Cove through Eagle Heights Woods. Meet at Raymer's Cove parking lot. Leader: David Mickelson (262-7863, davem@geology.wisc.edu).
- 28 4th Sunday Bird and Nature Outing** (Sunday, 1:30–3:00 p.m.). See box.

## November

- 10 Effigy Mounds in the Preserve** (Saturday, 1:00–3:00 p.m.). Take a hike to learn about effigy mounds and the native people who created them on Picnic Point and nearby areas. We will learn about the rich cultural and natural history of the area, including the Native American presence. Meet at UW parking lot 129 at the Picnic Point entrance. Leader: Amy Rosebrough, (264-6494, amy.rosebrough@wisconsinhistory.org).
- 25 4th Sunday Bird and Nature Outing** (Sunday, 1:30–3:00 p.m.). See box.

## December

- 1 Birding Madison Lakes** (Saturday, 7:30–11:00 a.m.) As winter sets in, smaller ponds and lakes in south-central Wisconsin freeze, causing migrating birds to become concentrated on Madison's large lakes,

which remain open longer. We will look for waterfowl, gulls, and winter birds. This trip has produced some unusual sightings in the past, including red-throated loons—so don't miss it! Meet at the middle of UW parking lot 60. Dress warmly and bring a scope if you have one. Leader: Quentin Yoerger (255-2473, info@madisonaudubon.org).

- 23 4th Sunday Bird and Nature Outing** (Sunday, 1:30–3:00 p.m.). See box.

## January

- 12 Animal Tracking in the Preserve** (Saturday, 1:00–3:00 p.m.) Join UW wildlife specialist and professor David Drake as he shows how to track foxes, coyotes, and other denizens of the Lakeshore Nature Preserve. Meet at UW parking lot 129 at the Picnic Point entrance. Leader: David Drake (890-0445, ddrake2@wisc.edu).
- 27 4th Sunday Bird and Nature Outing** (Sunday, 1:30–3:00 p.m.). See box.

## February

- 17 Blue-Green Algae Blooms in Madison Lakes** (Sunday, 1:30–3:00 p.m.). UW Civil and Environmental Engineering Professor Trina McMahon presents a special "indoor field trip" to discuss the effects of algal blooms on the shores of the Lakeshore Nature Preserve. Meet at the UW Eagle Heights Community Center, 611 Eagle Heights Drive. Leader: Trina McMahon (890-2836, trina.mcmahon@wisc.edu).

- 24 4th Sunday Bird and Nature Outing** (Sunday, 1:30–3:00 p.m.). See box.

## March

- 24 4th Sunday Bird and Nature Outing** (Sunday, 1:30–3:00 p.m.). See box.

A diverse and talented group of people are members of the Friends of the Lakeshore Nature Preserve. We are pleased to showcase a sampling of their art, poetry, photography, and volunteerism here.



©Carolyn Byers

Study of a northern flicker feather, from above (left) and below. This colored-pencil drawing was done by Friends member Carolyn Byers. To see more, visit [carolynbyers.com](http://carolynbyers.com).

**July 25  
Lakeshore Path, Madison**  
Robin Chapman

*Dear Ones—almost fifty years I’ve walked this path, heading today for our community garden after early morning fitness class, enjoying the pleasure of lifting a hand to the runners pounding past—and still it surprises me to come across an early robin tugging a worm, a dozen gulls lined up along the crew boat anchored to a buoy in the bay, the red-backed water lily pads lifted into the eight a.m. light, sunshine streaming through the lilies’ cream and yellow petals repeating the sun’s mandala shape; and all along the walk, ditches of Queen Anne’s lace and chicory, black-eyed Susan, Joe Pye weed. Cattails fill in more each year of marsh and bay, the willows thicken, spread, branch and break, start new trunks, age and die; the crew rows by now, circled by the roosting gulls who return to their personal perch beside the buoy. I wish I had a voice as raucous to celebrate the day!*



Olympia Mathiaparanam



Pat Becker

Bryn Scriver

Some volunteers go well above and beyond expectations. Patricia Becker, a retired UW professor of nursing, is firmly rooted in that group. She’s moving east to be near her daughters, so we’re taking this opportunity to appreciate the many facets of the Friends in which she’s been involved. She’s been the co-editor of the newsletter since 2012, a board member (2011–17), a bird bander, an active monitor of the bluebird and purple martin houses, and coordinator of the educational program for the Prairie Partner interns. She’s also been willing to get her hands dirty pulling weeds and planting flowers. We offer our heartfelt thanks for all of her help and wish her well in her new home.

◀ Friends member Robin Chapman is a poet, artist, gardener, and professor emerita of communication sciences and disorders at the UW–Madison.

## Volunteer work parties

Volunteering is a great way to enjoy the Preserve. Long pants (not leggings) and closed-toe shoes required; tools and gloves provided. Groups and youth are welcome with advance notice. For more details, contact Bryn Scriver, [bryn.scriver@wisc.edu](mailto:bryn.scriver@wisc.edu), 220-5560.

**TIME:** 9:00 a.m.–noon

Date	Meeting place
Sept 22 Sat	Picnic Point, Lot 129
Oct 7 Sun	Picnic Point, Lot 129
Oct 21 Sun	Picnic Point, Lot 129
Nov 3 Sat	Frautschi Point lot
Nov 18 Sun	Frautschi Point lot
Dec 2 Sun	Frautschi Point lot

STUDENT RESEARCH PROJECT

# Tracking bloom times of individual prairie plants— looking for effects of climate change

Olympia Mathiapararam



Michigan lily

Olympia Mathiapararam

Despite living in Wisconsin for my entire life, I had never laid eyes on a prairie until 2 years ago when I came to study biology and psychology at UW–Madison and ventured into the Biocore Prairie for my biology lab. During that initial walk through the prairie, I felt shivers from an accidental run-in with a spiderweb, an embrace of the biomass that that spider represented, and exhilaration from the perfectly harmonious ecosystem that unfolded around me. Nature awed me that day and filled me with an unwavering desire to engage my passion for the prairie by learning and interacting with this historical landscape. Recent climate changes presented an opportunity for me to explore how these events could transform the prairies that have defined Wisconsin for thousands of years.

This summer I've been collecting data in the Biocore Prairie for a cumulative Biocore phenology project overseen by my mentor, Seth Mcgee. Phenology is defined as the timing of biological events. The delicate intertwined systems of flora and fauna life cycles may face desynchronization from climate change, with unknown ecological consequences. My part of this phenology research is examining

how climate change may be affecting the flowering times of individual prairie plants. By tracking the same plants over time, we can control for factors such as genetic diversity and the effects of microclimates that may clutter our measures of interest.

This project is just 3 years old, so definite conclusions can't be drawn. Nevertheless, I've made interesting observations. Due to blizzards this spring, the fate of several early flowering prairie plants seemed uncertain. I found that several plants that flowered within the first week of May last year (prairie smoke, lupine), flowered in late May this year. Other early flowering plants (spiderwort, cream wild indigo) bloomed in late May, consistent with previous data, seemingly unfazed by the snow that blanketed the prairie just a month before. Another surprise was the early mid-July blossoming of yellow coneflower, rattlesnake master, and rosinweed, contrasting with previous documentation of late July flowering. As this research continues, eventually we may illuminate larger patterns of phenological transformation tied to changing climates.



Rosinweed

Olympia Mathiapararam



Rattlesnake master

Olympia Mathiapararam



Blazing star

Olympia Mathiapararam

*Flowering times have fluctuated wildly compared to last year. Some plants bloomed 2–3 weeks earlier, others opened 3 weeks later.*

*A UW–Madison senior juggling a double major, Olympia is also on the board for the Friends and for the Biocore Outreach Ambassadors. In her "spare" time, she works with the Bradley Learning Community helping freshmen acclimate to college.*

**TRACKING BATS IN THE PRESERVE**

# UW Bat Brigade takes flight

Seth McGee

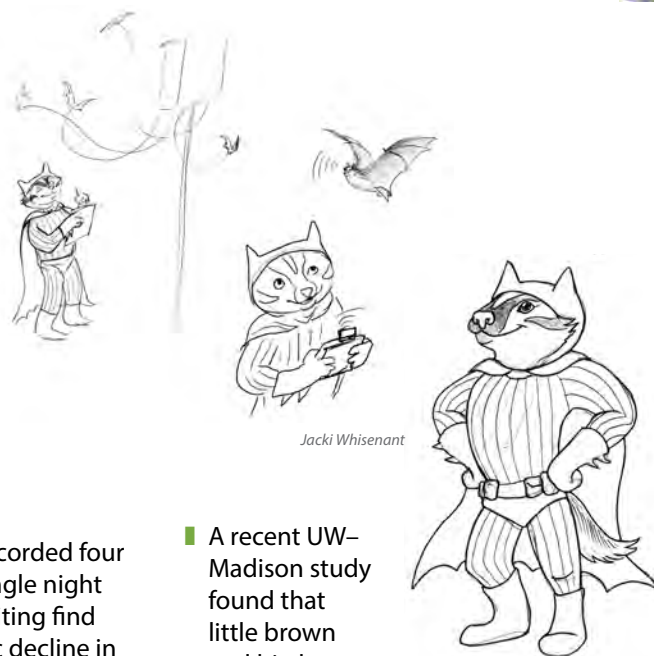
A stroll through the Lakeshore Nature Preserve after sunset offers a new perspective on a familiar friend. Among the meteors, owls, coyotes, raccoons, possums and flying squirrels that you might encounter on a night hike is a group of dedicated students who trek softly through the Preserve in search of bats. Those students are part of the newly formed UW Bat Brigade.

**Sponsored by the Friends of the Lakeshore Nature Preserve**, the Bat Brigade is a collective of students, volunteers, and professionals who are interested in monitoring bat populations on campus. The idea for the project was catalyzed by longtime Friend and Preserve volunteer Kennedy Gilchrist, who began surveying bats through the Wisconsin Bat Program, a citizen science initiative developed by the Department of Natural Resources. Building on Kennedy's efforts, Bat Brigade club founders Thomas Guerin, Cecilia Shortreed, and Macy Peterson (undergraduates in the UW Biocore Program) hope to establish a long-term campus data set that will inform questions about the size of the bat population, habitat use, and migration patterns.

The data collected during each Bat Brigade survey is sent to the DNR to be included in statewide and national bat monitoring efforts. Wisconsin bats are in dire peril due to a devastating disease called white-nose syndrome, destruction of their habitat, and deaths from wind turbines. While bat populations continue to plummet each year, promising research on the disease and vaccination techniques are being developed on the UW campus to help prevent bat extinction.

The Bat Brigade will help biologists monitor bat populations in the Preserve, adding to the recovery effort while engaging students in the scientific process. The Brigade is looking for enthusiastic volunteers

to join in the "batting," and all are welcome on our echolocation hikes. Please visit the Friends website to learn how you can get involved in the recovery effort to help save our imperiled nocturnal friends.

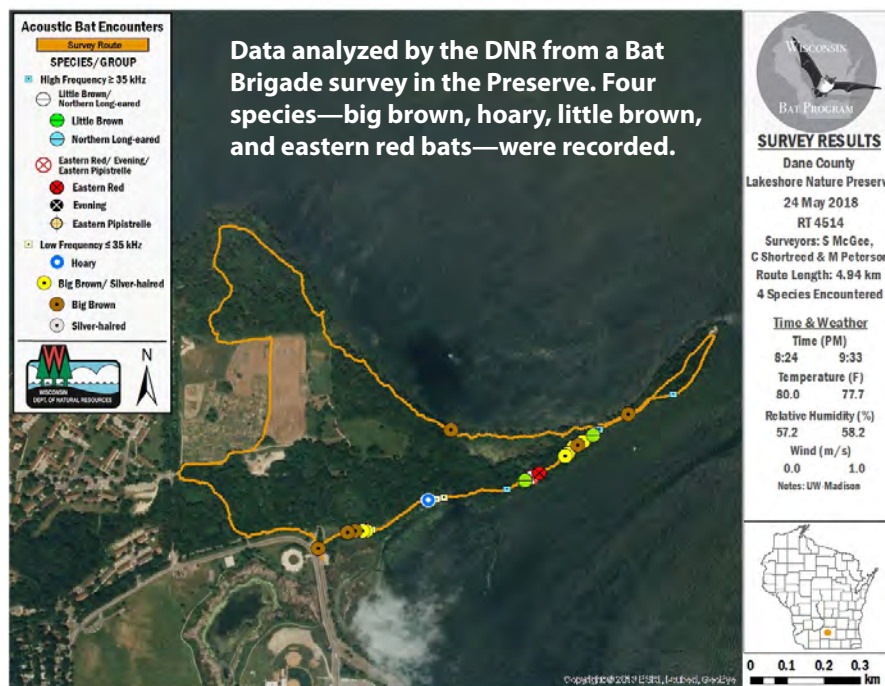


Jacki Whisenant

### Bat facts

- The Bat Brigade has recorded four species of bats on a single night in the Preserve; an exciting find considering the drastic decline in populations over the last decade.
- According to Fish and Wildlife Service estimates, well over 7 million bats have died from white-nose syndrome since it was first found in a New York cave in 2006.
- A 2011 study estimated that bats save Wisconsin's agriculture industry between \$658 million to \$1.5 billion annually in pest control costs.

- A recent UW-Madison study found that little brown and big brown bats consumed 17 different types of mosquitoes, including nine known to carry West Nile virus.
- Agave, mango, banana, dates, coconut, cloves, vanilla, Brazil nuts, and avocados all depend on bats for pollination.
- Sharing just one interesting bat fact with a friend can spark an admiration and enthusiasm for bat conservation.





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\*Indicates new members

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- I'd like to **VOLUNTEER**—please send me information by email.
- I'd like to **GO PAPERLESS** and receive my newsletter by email.

Please mail this completed form and your check payable to:

**Friends of the Lakeshore Nature Preserve**  
P.O. Box 5534  
Madison, WI 53705



- Join    Renew    Gift

### ANNUAL MEMBERSHIP

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

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*(For members—does not include membership)*

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

Friends of the  
Lakeshore Nature Preserve  
P.O. Box 5534  
Madison, WI 53705

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Please visit our website: [www.FriendsLakeshorePreserve.com](http://www.FriendsLakeshorePreserve.com)

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Seth McGee

Each summer, the Friends are proud to co-sponsor the Prairie Partners interns, a group of students interested in exploring restoration ecology and natural resources management. This year's interns, from left: Henry Wiedmeyer, Siena Muehlfeld, Tanner Pettit, Daniel Joannes, and Jackson Pertzborn.