Preserve!

FRIENDS OF THE LAKESHORE NATURE PRESERVE

SPRING 2021

KEYNOTE TALK AT ANNUAL MEETING

Indirect Take: the Forward-Thinking Ornithological Art of Emily Arthur

Within the history of printmaking, lithography, etching and screen print have been used to publish botanical and ornithological illustrations. Colonial powers used these print methods in the service of naming, identifying, capturing and collecting new bird species. Arthur's contemporary work in printmaking seeks to change that perspective. Her studio practice shifts from subjugation of the land to a forward-thinking perspective: how plant and animal species carry the story of human impact on environment.

For the Friends Annual Meeting, the artist will present a series of work in response to an active controversy among scientists, environmentalists and government policymakers.

The protection of an endemic bird population, the California gnatcatcher, is threatened. A majority of this artwork evolved during a residency at the Moore Laboratory of Zoology, Occidental College, Los Angeles, inspired by the research of John E. McCormack and James M. Maley, who are challenging results of studies affecting conservation of a species. Zoologist McCormack explains that the push to remove the California gnatcatcher from the endangered species list did not use modern genetic scientific methods and was funded by developers. Arthur's series of artworks on paper is an observation of contemporary zoological research. It tells a story of scientific data collection and how this data could be manipulated to control the outcome.

ARTIST BIO

Emily Arthur (Eastern Band Cherokee descent) is an Associate Professor at the University of Wisconsin-Madison and chair of the printmaking area. She grew up in Georgia, North Carolina and Florida, receiving an MFA from the Pennsylvania Academy of Fine Arts. Passionate about printmaking for over twenty years, she also served as a Fellow at the Barnes Foundation for Advanced Theoretical and Critical Research. Her additional education includes Rhode Island School of Design, the University of Georgia and the Tamarind Institute. Emily Arthur is a Notable Woman in the Arts, a member of the National Museum of Women in the Arts and has been nominated for a Joan Mitchell Foundation, Painters and Sculptors Grant. Her work is included in the permanent collections of the Saint Louis Art Museum, Tweed Art Museum, Denver Art Museum, Museum of Contemporary Native Arts, Minneapolis Institute of Art and the Minnesota American Museum of Art. She has lived in Madison since 2014. Find her work here on permanent display at the Chazen Museum of Art and on the ceiling of the Hilton Hotel in downtown Madison.

"Art is not in the service of science. Art and science share the responsibility of observation and witness. It is through observation that science gives us proof of our material make up. It is through observation that art gives us material proof of our spiritual make up. Encountering a great work of art or a great leap in science changes our perception; it asks us to see and then to see once again, more deeply."

– E. Arthur

It Takes a Village: Maintaining Healthy Prairie Plant Communities

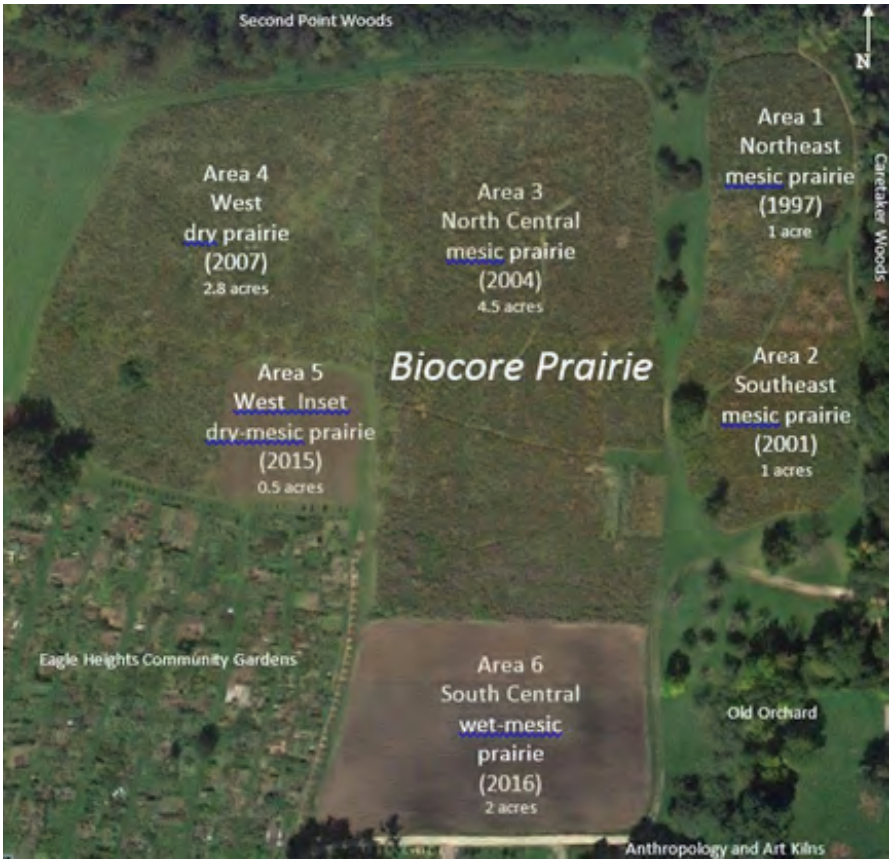
MJ Morgan

Our fight to control and minimize invasive species is so that diversity will flourish. A varied plant cover in many overlapping niche habitats leads to the prize of ecosystem stability. Because they can take years to establish, areas restored through re-seeding, such as the sun-loving Biocore Prairie, testify to the work of many hands.

Gardeners know that we can put a seed in the ground, but this is often the end of our say-so. Re-seeding even a small plot involves selecting plants that typically like to grow near each other, or in association. But plants are choosy. Preserve Field Projects Coordinator Adam Gundlach says, "We take into consideration the site history, site characteristics such as hydrology, slope aspect, and sunlight and our desired future community." Adam also mentions that places in the Preserve where invasive brush has been removed tend to be somewhat shady. Staff must select species that tolerate a fair amount of shade. "Generally, the more sun a site receives, the more diverse the seed mix." Luckily some plants, such as Indiangrass, can spread comfortably into a range of sites -- tallgrass prairie, oak savanna, and open woodlands.

The eleven-acre Biocore Prairie has plantings and seedings that reflect soil types, especially moisture levels. In our fall, 2019, newsletter, Prairie Partners Intern Rachel Mortensen wrote about the blazing colors there: pale purple coneflowers, wild white indigo, orange butterfly milkweed, bee balm, compass plant, golden false sunflower and brown-eyed Susan. She was describing a mature community of tallgrass prairie plants that also likely included big and little bluestem and switchgrass. Evolving slowly since 1997, the vigor of this prairie is glorious now.

The image below, provided by Friends Vice-President and Biocore Lab Manager Seth McGee, shows the kinds of soil and plantings in six defined areas. The latest, the 2016 two-acre wet-mesic prairie, will host plants liking both a moderate amount of soil moisture (mesic) and more saturated soils. The diversity in the Biocore Prairie bespeaks vision, planning, and hard, sustained physical effort. Prairie Partner interns have been a critical work force, together with Preserve staff who supervise burning, grading, and plant selection. Yet there are also natural world contributors.



Overview photo of the Biocore Prairie with soil types and plant communities labeled. Shared by Seth McGee.

A plant community contains species that interact with each other, with birds, insects, and animals and with the physical location. In a tallgrass prairie, birds such as finches and doves ravenously gorging on grass seeds have been shown to reduce overall plant densities by up to 23%; birds also impact the spread of grass this way and reduce grass biomass in places by as much as 34%. Seeds fatten the birds; and birds keep heavy grasses in check. There are also small animal disturbers of soil. These disturbers are so important that researchers believe whole "suites of species" have become adapted to different kinds of animal disturbance. Prairie voles distribute mycorrhizal fungal species to roots of trees that need them, such as the oaks. The Wisconsin hero, the badger, digs mounds and roughs up the soil. Where badgers dig, annual plants tend to establish first each season, as they spread through seed distribution

in freshly turned earth. Annuals such as some sunflower varieties or prairie gentian provide nearby rich seed sources for colonization, holding the earth in stability until slower-spreading perennials can move in. Badgers occur in association with 13-lined ground squirrels, their favorite prey; and it's a good thing, because ground squirrels cache immense amounts of weedy seed. Without predators, squirrel caches would drastically change diversity. Even ants are important, for anthills aerate topsoil without damaging roots and rhizomes. Little bluestem and switchgrass profit from anthills. And of course, the pollinators of the insect world are crucial for plant reproduction.

A thriving tallgrass prairie community is strikingly complex, maintained by soil nutrients, sun, shade, moisture, fire, grazing (or modern-day mowing) and many ecological interactions. The Biocore restoration also depends on human vigilance. This past year, Area 6 did not receive aggressive weeding due to COVID-19 restrictions. Adam Gundlach points out that coarse forbs such as stinging nettle, Canada thistle and Canada goldenrod secured a stronger foothold and impeded the fire spread in a prescribed burn, November of 2020. This section is still being established; it thus provides an excellent opportunity to note the variety in plant communities.

In high summer, walk the prairie perimeter to observe changes in species that flow over the landscape. As Seth McGee says, "There are distinct differences among the [Biocore] 'areas.' The diversity out there is something we're quite proud of."

Please Invite a Friend

20th Annual Meeting
Wednesday, April 7
7:00 p.m. CDT Virtual on Zoom
Free and Open to the Public

GUEST SPEAKER
Emily Arthur
Assistant Professor of Printmaking,
UW–Madison

PRESENTS
Indirect Take: The Forward-Thinking Ornithological Art of Emily Arthur

Please join us to meet our new board members, hear an informative brief report from Preserve Director Gary Brown and enjoy an unusual print artist sharing her work and philosophy.

President Steve Sentoff and Annual Meeting Chair Olympia Mathiaparanam will welcome attendees to this **free event at 7:00 p.m. CDT. Log on as early as 6:30 p.m.** to see a photo slideshow and exhibits. ***NO PRE-REGISTRATION IS NECESSARY***.

Join on Zoom:
https://go.wisc.edu/k7i39c

Dial by your location:

+1 301 715 8592 US (Washington DC)
+1 312 626 6799 US (Chicago)
+1 929 205 6099 US (New York)
+1 253 215 8782 US (Tacoma)
+1 346 248 7799 US (Houston)
+1 669 900 6833 US (San Jose)

Meeting ID: 972 0804 3588
No pre-registration necessary, no passcode needed.

Emily Arthur

A Biocore Prairie plant community in July sunshine.

Gisela Kutzbach

FRIENDS OF THE LAKESHORE NATURE PRESERVE

Spring/summer field trips 2021

April

9–11 **UW Science Expeditions Destination for Exploration at the Lakeshore Nature Preserve** *(Self-guided)*.
Explore the Rock Wall at the Entrance to Picnic Point https://www.friendslakeshorepreserve.com/rockwall.html (Please preserve the integrity of this historical and geological artifact and refrain from climbing on it)! Grow your birding skills with **Beyond Backyard Birding**; and discover the oh-so-cool **Lichens in the Preserve**. Begin at the Picnic Point kiosk, across from UW Lot 130 (2003 University Bay Drive).Coordinator: Doris Dubielzig (608-239-4196, dbdubielzig@gmail.com).

Beyond Backyard Birding *(Self-guided)*.
Grow your backyard birding skills with leaders who can bird by ear; and learn to identify those little streaky-brown birds and other early spring migrants. Take the even trails at a leisurely pace. Tour prepared by Ashley Olah and Kristin Brunk (kbrunk@wisc.edu).

Lichens in the Preserve *(Self-Guided Bird and Nature Adventure)*.
Learn about "small and inconspicuous, but oh so cool" lichens and find them on trees and rocks with this guide created by botanist Susan Will-Wolf. Tour prepared by Susan Will-Wolf (swwolf@wisc.edu).

May

Birds of Picnic Point and the Class of 1918 Marsh *(Self-guided)*.
The author of the Preserve's Breeding Bird Study will guide you in your search for resident and migrant birds in this Important Birding Area. Bring binoculars and a field guide. Begin next to the marsh at UW Parking Lot 130 (2003 University Bay Drive). Tour prepared by Roma Lenehan (rlenehan@charter.net).

Spring Wildflower Blooms & Research *(Self-Guided Bird and Nature Adventure)*.
The spring ephemerals, including wood phlox, violet, bloodroot, and Jacob's ladder are prized because of their beauty and their fleeting flowering cycle. Olympia Mathiaparanam, 2019 UW graduate, will lead you on a virtual tour through the wooded area of Frautschi Point to the Biocore Prairie, where her research on first flowering dates produced some surprising results, and into Bill's Woods. Begin at the Frautschi Point parking lot, 2662 Lake Mendota Drive. Tour prepared by Olympia Mathiaparanam (omathiaparan@wisc.edu).

June

Groundswell Conservancy: Annual Founder's Audio Walk *(Self-guided)*.
This walk commemorates Groundswell's origin story, how a group of citizens tapped community support to save the 3.4-acre Wally Bauman Woods from development. The self-guided audio hike will begin at the Raymer's Cove Parking Lot, 2900 Lake Mendota Drive, where short term parking is free (overflow parking is available in the guest spots outside the Eagle Heights Community Center, 611 Eagle Heights Drive). Tour prepared by Liz Pelton (liz@groundswellwisconsin.org).

Bee Busyness *(Self-Guided Bird and Nature Adventure)*.
Susan Carpenter, UW-Arboretum native plant gardener and bumble bee expert, will virtually guide us in searching for and identifying bees and other pollinators during their active foraging hours. She will explain their diversity, behaviors and importance. Tour prepared by Susan Carpenter (susan.carpenter@wisc.edu).

July

Interpreting Nature as Aldo Leopold Did *(Self-guided)*.
View the Preserve through the eyes of Aldo Leopold, virtually with Professor Emeritus Stan Temple. Consider connecting with nature in the ways that Leopold described in his writings and practice. Learn how the Preserve advances its restoration with a Leopold-inspired land ethic. Begin at the Picnic Point kiosk, across from UW Lot 130 (2003 University Bay Drive). Tour prepared by Stan Temple (satemple@wisc.edu).

Class of 1918 Marsh *(Self-Guided Bird and Nature Adventure)*.
Take a guided walk around the Class of 1918 Marsh, written by Professor and Director Emeritus of Limnology John Magnuson. This tour will reflect on the past, present and future of the marsh and discuss its nature, importance and challenges. Begin next to the Marsh at UW Parking Lot 130 (2003 University Bay Drive). Tour prepared by John Magnuson (john.magnuson@wisc.edu).

August

Bluebirds and Purple Martins *(Self-guided)*.
Take an easy walk to the Biocore Prairie and tour our Bluebird Trail with instructions from monitor Jeff Koziol. Learn about bluebirds and what monitoring the boxes entails while they rear their nestlings. From purple martin monitor Gisela Kutzbach, you will learn about the history of our largest swallow and the Friends' efforts to provide nesting opportunities for these social birds. Tour prepared by Jeff Koziol (jeff.Koziol@gmail.com) and Gisela Kutzbach (gisela.kutzbach@wisc.edu).

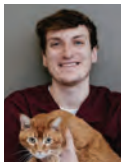
BOARD CANDIDATE BIOGRAPHIES

Nominees to the Friends of the Lakeshore Nature Preserve Board

The Friends nominating committee -- Lillian Tong (chair), Kelly Kearns and Deborah Hobbins -- recommends the following candidates. The Board has endorsed this recommendation. Other candidates may be nominated by the membership at the annual meeting. All current members of the Friends of the Preserve present at the annual meeting (April 7, 2021) are eligible to vote. Board members are elected for three-year terms; student board members are elected for one-year terms.

Matt Chotlos

A recent graduate from UW Madison in biology, Matt is working as a clinical lab scientist at Exact Sciences on the weekends; he can be found somewhere outside during the rest of the week. Once we can all be with each other again, he hopes to focus on fish ecology in graduate school. While on the board this previous year, Matt has volunteered to lead the Friends' summer water monitoring for the Clean Lakes Alliance. In 2019, he volunteered many hours for the Friends during Science Expeditions and has contributed to the newsletter.



Dane Gallagher

Dane Gallagher grew up in Sun Prairie and is a second-year veterinary medical student at University of Wisconsin-Madison. Following graduation, he hopes to work with shelter and wild animals. When he's not inundated with school work, you can find him napping alongside his two feline friends, Bear and Goose, or birding at the Lakeshore Nature Preserve. He is very excited to get involved in this wonderful community!

Thank You

We regretfully say goodbye to four hard-working and visionary board members: **Doris Dubielzig**, **Gisela Kutzbach**, **Steve Sentoff**, and **Lillian Tong**. They will be recognized at the Annual Meeting.

Signe Holtz

Signe was born in Columbus, Wisconsin, and brought up in a home surrounded by bur oaks on a drumlin there. While an undergraduate at UW-Madison, she spent many hours walking the paths of the Lakeshore Nature Preserve. She received the MS in Landscape Architecture's Native Plant Community Restoration and Management program and has held several positions in the DNR. She led a multi-disciplinary team that developed the Wisconsin Ecological Landscapes map. Signe finished her career at DNR as the Director of the Bureau of Endangered Resources, which protects Wisconsin's biological diversity. The first Wildlife Action Plan was developed under her leadership, and federal funding for implementation of the plan led to the hiring of conservation ecologists. Signe and her husband Ron live in Madison and have walked the trails around Frautschi and Picnic points for many years.

Anne Pearce

Originally from northern Minnesota, Anne has lived in Madison for ten years. During that time, she has crossed nearly every foot of the Lakeshore Nature Preserve while working on class projects, managing invasive plants as a Prairie Partners intern and then seasonal employee, birding and running. She has a BS in Soil Science and Biology and the MS in Water Resources Management from UW-Madison. She currently coordinates the Wisconsin First Detector Network, a statewide invasive species monitoring program.

Steve Sellwood

Steve Sellwood currently serves as treasurer on the Friends Board of Directors. After spending his formative years in northern Wisconsin and a brief stint in Kansas, Steve settled in Madison almost twenty years ago. He currently works for TRC, an environmental consulting firm, where he conducts environmental investigations at properties with soil and groundwater contamination. In his free time, Steve enjoys exploring new areas to hike and watching his two sons play sports.

Will Vuyk

Now a junior at UW Madison studying biology and history, Will is excited for another year with the Friends. After writing for the fall newsletter and the 2020 "Board Walk," working with the outreach committee and providing photos for the blog, Will is currently helping put together the second annual "It's In Our Nature" poetry slam on February 27th. His is also looking forward to being more involved with the field trip and citizen science committees. On cold days you may find him doing an odd sort of windmill dance out in the Preserve. Do not be alarmed! He is simply using centrifugal force to return the blood to his easily-frozen fingers.

New Bluebird Boxes for Biocore Trail

When bluebirds return to the area in March, they will be treated to eight brand new nesting boxes along the Biocore bluebird trail. Last fall, Jeff Koziol, trail coordinator, donated these nest boxes to replace the seven-year-old existing boxes, which had suffered from exposure and wear and tear. The new boxes are protected by predator cones attached to the posts. Jeff and Gisela Kutzbach, accompanied by photographer Arlene Koziol, completed the replacement last October.

Bluebirds may raise two or three broods in one season. About 30% of adult bluebirds return to previous nesting sites the following season. They will begin house hunting in March, checking out nesting sites. They construct neatly built grass nests and lay four to seven eggs, one a day. The female starts incubating once all eggs are laid but may wait up to a week if the weather is still cold. Once hatched, the nestlings are fed a diet of mainly insects and are ready to fledge in two-three weeks.

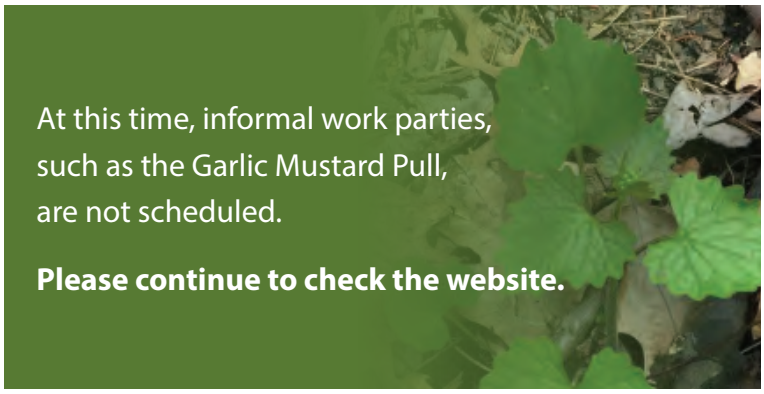
Patrick Ready, president of the Bluebird Restoration Association of Wisconsin, estimates that the bluebird population of Wisconsin had dropped to only 600 in the 1960s. The campaign to provide nest boxes for these cavity nesters has led to nearly 3,500 boxes used by bluebirds and 20,000 bluebirds fledged in 2020. To hear them warble and chortle, visit the Biocore Bluebird Trail this spring! Bluebirds may just bring you good fortune and happiness.

SPRING WILDFLOWER PLANTING

is scheduled for the morning of Saturday, May 22, with a rain date of the afternoon of Sunday, May 23.

Because of precautions during the pandemic, you must register to participate.

Please check our website in May for full information.



At this time, informal work parties, such as the Garlic Mustard Pull, are not scheduled.

Please continue to check the website.

2020 Annual Financial Report

Steve Sellwood, treasurer

BEGINNING BALANCE	**$111,538**
Income	**$24,053**
Memberships	$16,080
Sustaining Fund Donations	$1,300
Donations (non-members)	$1,750
Gifts in Honor or Memorial	$4,400
Dividends and interest	$523
Expenses	**–$26,555**
Gifts to Preserve Eagle Heights Woods	–$15,000
Gifts to Preserve Stewardship Fund	–$4,000
License Fees	–$3,000
Newsletter & Website	–$1,441
Postage & P.O. Box	–$1,115
Legal & Insurance Costs	–$1,050
Special Projects & Citizen Science	–$771
Annual meeting	–$101
Committee Expenses	–$77
ENDING BALANCE	**$109,036**

FINANCES AND ACTIVITIES

2020 Annual Report: A Year We Won't Forget

Steve Sentoff, Friends president

What a tumultuous year! The coronavirus has disrupted all our lives and, of course, has affected what the Friends have been doing. We could not hold many of our anticipated activities, which provide opportunities for you to connect with the Preserve. Our annual Garlic Mustard Pull and Spring Planting events had to be canceled, as well as all of our in-person field trips after March. Likewise, during the summer of 2020 we could not send students to the Prairie Partner Intern Program; typically, we finance five students to work once a week in the Preserve.

As a result, we have had to respond and adapt. We moved our Annual Meeting to a virtual format and were pleased to welcome about the same number of attendees despite some inevitable technical glitches. In January and February we saw nearly 100 participants at field trips, but then field trips became do-it-yourself guides published on our website, providing ways for members to visit the Preserve while still staying socially distanced. Our citizen science projects – bluebird trail, purple martin house and lake monitoring – continued with only minor modifications per the COVID-19 restrictions and even added a few team members. Of course, our online activities also continued. We were able to stay in touch with our newsletter, web site and blog. A new addition – the monthly phenology and history calendar – received a number of positive comments.

All of this work had to be coordinated with the Preserve staff, who obviously were responding themselves to the new conditions. None of the normal volunteer work days at the Preserve could go forward as planned. However, the staff worked out procedures and received approval from the University administration to allow volunteers to go individually to the Preserve. For example, 22 volunteers (mostly members of the Friends) donated more than 415 hours pulling garlic mustard. Work like this is vital to avoid losing ground against the spread of invasive species. The staff also planted a number of shrubs that we had purchased but could not plant ourselves due to the restrictions. Many thanks for all their work!

This year's chaos has meant that the respite people feel at the Preserve has never been more important. The predictable ebb and flow of the seasons, the migration of birds and the blooming of plants remind us of the resilience in nature and boost our spirits. We have made it through 2020 and soon will be able to gather at the Preserve again. Although I will be one of the directors leaving the board this year, I'll stay connected to the Friends and the Preserve. I look forward to seeing you (in person!) at an upcoming field trip or volunteer work day.

I WANT TO MAKE A DIFFERENCE by joining or making an additional gift

Friends of the Lakeshore Nature Preserve

Name _____

Street _____

City _____

State _____ Zip _____

Phone _____

Email _____

☐ *I'd like to VOLUNTEER—please send me information by email.*

☐ *I'd like to GO PAPERLESS and receive my newsletter by email.*

☐ *I'd like to give a GIFT MEMBERSHIP. Name and address:*

☐ Join ☐ Renew ☐ Addl. Gift

MEMBERSHIPS & GIFTS

☐ Student $10

☐ Individual $20

☐ Family $35

☐ Prairie Friends $50

☐ Wetland Friends . . . $100

☐ Woodland Friends . . $250

☐ Other . . . . . $_____

Please mail this completed form and your check payable to:

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

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

VOLUNTEERS

Thanks to our many volunteers—*together* we care for the Preserve

FIELD & PROJECT VOLUNTEERS

Laura Berger
Ann Burgess
Matt Chotlos
Maggi Christianson
Janis Cooper
Glenda Denniston
Doris Dubielzig
Eve Emshwiller
Pam Fornell
Galen Hasler
Grace Hasler
Chuck Henrikson
Arlene Koziol
Jeff Koziol
Gisela Kutzbach
Roma Lenehan
Julie Limp
Olympia Mathiaparanam
Seth McGee
Genevieve Murtaugh
Karen Nakasone
Richard Ness
Paul Noeldner
Anne Pearce
Anna Pidgeon
Paul Quinlan
Marcia Schmidt
Steve Sentoff
Monica Sentoff
Susan Slapnick
Glen Teschendorf
Lillian Tong
David Ulery
Suzy Will-Wolf

FIELD TRIP & OUTREACH LEADERS

Nancy Breden
Kristin Brunk
Tom Bryan
Robin Chapman
Matt Chotlos
Doris Dubielzig
Chuck Henrikson
Kelly Kearns
Gisela Kutzbach
Olympia Mathiaparanam
Paul Noeldner
MJ Morgan
Ashley Olah
Paul Quinlin
Marj Rhine
Steve Sentoff
Lillian Tong
Dan Vimont
Will Vuyk

ORGANIZATIONAL VOLUNTEERS

Nancy Breden
Tom Bryan
Matt Chotlos
Sarah Congdon
Doris Dubielzig
Eve Emshwiller
Deborah Hobbins
John Lyons
Kelly Kearns
Gisela Kutzbach
Roma Lenehan
Olympia Mathiaparanam
MJ Morgan
Seth McGee
Paul Noeldner
Paul Quinlan
Steve Sellwood
Steve Sentoff
Marcia Schmidt
Lillian Tong
Will Vuyk

Please consider these volunteer opportunities

- **Citizen Science**—the bluebird trail or purple martins, Lake Mendota water quality
- **Friends committee work** in education, communication, membership or outreach
- **Contributions to the newsletter and website**
- **Field work**, such as removal of invasive plants or planting wildflowers
- **Preserve Steward**, with a minimum of eighty hours/year and under supervision of Preserve staff

Email us at
preserveFriends@gmail.com

In Gratitude

During a year marked by the COVID-19 pandemic, still more than thirty of our members volunteered in the field and on Friends projects. Friends volunteers were invited to pull garlic mustard on their own schedule and in designated areas. They provided their own tools and communicated with staff via text. Preserve Stewards Glenda Denniston, Roma Lenehan and Steve Sentoff volunteered hundreds of hours in the Preserve to remove invasives throughout the season.

Citizen science projects also had permission to continue. Our teams of volunteers successfully completed weekly monitoring of the Biocore bluebird trail, the purple martin house and lake water quality at University Bay.

The Friends' impressive in-person field trip offerings had to be canceled beginning in April. Instead, members and the community enjoyed self-guided or virtual field trips developed for every month of the year. Members of the board and others contributed to self-guided segments of walks covering most areas of the Preserve. These field trips, richly illustrated with photographs, continue to be available on the website and can be enjoyed at any time.

In addition, twenty volunteers worked countless hours on organizational tasks, committees and board activities that continued during the pandemic. All in all, almost fifty individual members volunteered this past year, making the Friends the vibrant non-profit organization it is.

Our thanks also go to the Preserve staff: Bryn Scriver, coordinator of volunteer events in the Preserve; Adam Gundlach, supervisor of the summer interns; Laura Wyatt, Preserve program manager; and Gary Brown, Preserve director.

Glacial Change: Shaping Lake Mendota

Julia Buskirk

Travel ten meters down into the lake bed of Lake Mendota––roughly 33 feet ––and you have traveled nearly 15,000 years. When this sediment was collecting, mastodons and mammoths were wandering nearby; the first humans may have walked, camped and hunted in the area.

This lake bed sediment was also witnessing the end of a transformative drama, a story that starts about 31,500 years ago. This marks the moment when the Laurentide Ice Sheet first began to creep its way into Wisconsin. The glacier had formed in today's northern Canada, as a cool climate created snow which collected, compacted and turned to ice. Starting in the northwest corner of Wisconsin, this massive ice sheet slowly plowed across the state over the next several thousand years. Laurentide flattened the land, picking up and dropping off rocks, scraping off hilltops and depositing them in new locations.

It would be tens of thousands of years before the Laurentide reached the Yahara watershed, where Mendota sits in a chain of four lakes in today's south central Wisconsin. Before the ice came, the area the Ho-Chunk call Dejope looked noticeably different. Instead of the four familiar lakes, you would have come across a network of streams carving through hills twice as tall as we know them to be today.

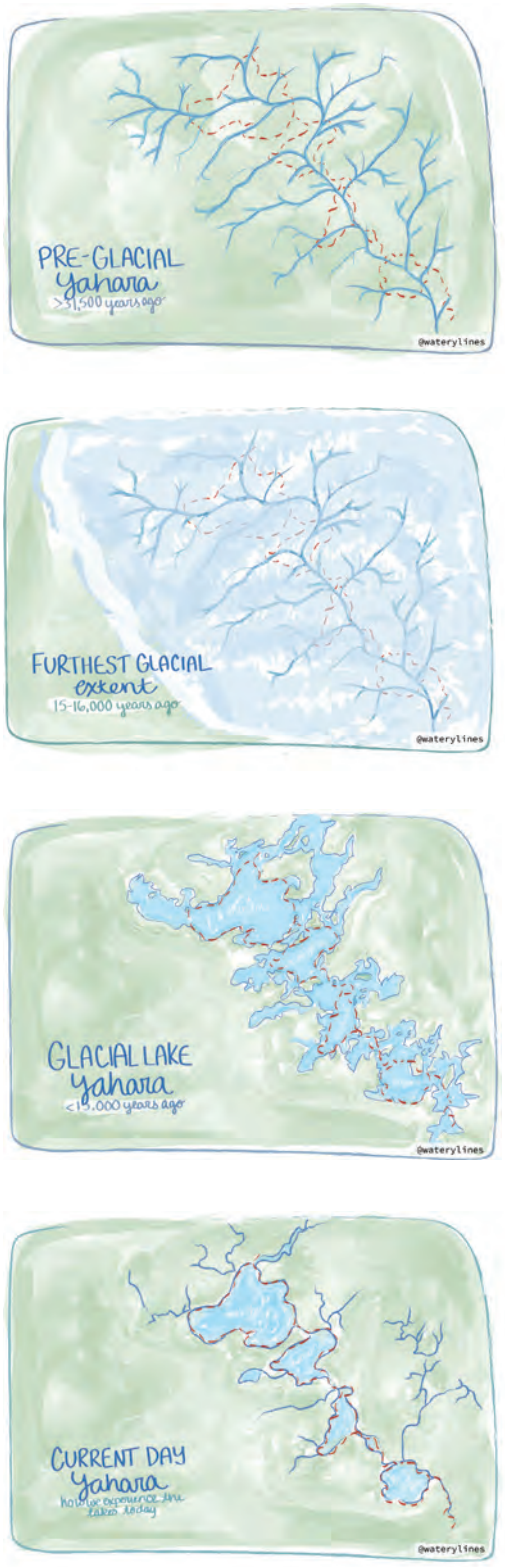
These hills were easily shaped by water. They are made up of sedimentary rock, remnants from when Wisconsin was still covered by a sea nearly 400 million years ago. Pieces from eroded shores and marine life settled out in these ancient waters, forming layers of sedimentary rock exposed when this sea finally receded. Sedimentary rock is no match for water; streams easily sculpted and carved out hills, creating a patched topographic quilt across the land. But when the Laurentide Ice Sheet finally reached the Yahara area, ice plowed into these hilltops, leveling their heights and altering the water's pathways.

About 15-16,000 years ago, the Laurentide pushed just ten miles past the Yahara watershed before the changing climate caused the ice sheet to melt and permanently recede. Glacial drift blocked the flowage of the original streams, and the area swelled with meltwater to form glacial Lake Yahara; then, the area was not filled with four lakes but only a single enormous one. Over the next several thousand years, the water wore away at the rocks the glacier left behind, eventually finding a way through. The single glacial Lake Yahara drained, settling into the familiar shapes of the four lakes we see today.

But the saga isn't over. Now, the sediment settling onto the bottom of Lake Mendota is witnessing another dramatic transformation. A new government and city aggressively displaced Ho-Chunk communities and grew along the shoreline of Mendota, connected by railway and powered by coal and oil. Indigenous farming practices have been erased in most areas, replaced with the plow, spurring soil loss and nutrient runoff into the waterways. With each passing decade there is less ice cover and more intense rainfall; flooding is becoming common, and in summers, areas of shoreline lake turn bright green with algae.

Every year the changes will continue. Yet not with the patience of the glacier.

Julia Buskirk will graduate in 2022 from UW–Madison with degrees in Conservation Biology and English. She is very interested in telling the stories of humans and water and is working on several initiatives to encourage science communication at UW.



Overview maps created by Julia Buskirk

Friends of the
Lakeshore Nature Preserve
P.O. Box 5534
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**

Preserve! Vol. 20, no. 1,
Spring 2021

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

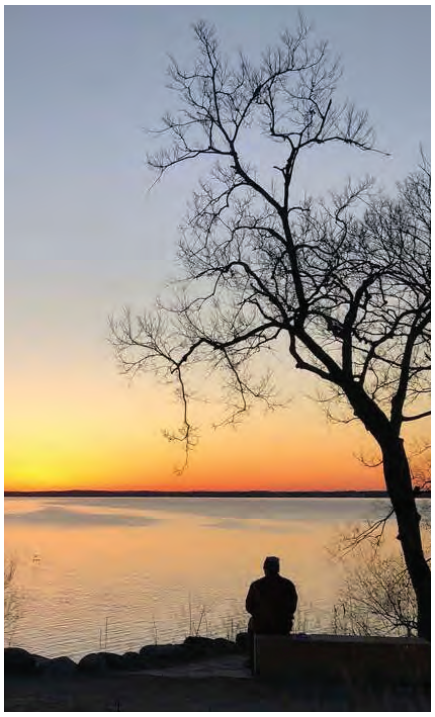
Please visit our website: **www.FriendsLakeshorePreserve.com**

Contributing to the Future: An Unusual and Important Gift

The Friends organization has long partnered with the Lakeshore Nature Preserve staff on special projects. These improve the quality and function of the Preserve for the broad spectrum of plants, wildlife, students, researchers and nature explorers that makes up the Preserve community. In alignment with these efforts, the Preserve staff has requested that the Friends organization support the development of a 2020-2030 Preserve Master Plan.

Paul Noeldner

The Friends Board voted to answer the call for the requested $30,000 donation recognizing that this year, amidst the many financial challenges brought on by the pandemic, we have a unique opportunity to step up and move this critical project forward. The new Master Plan will serve as a guide to facilitate increased protection, restoration and enhancement of the precious 300 acres of natural area that we value so much. The consulting team hired with help from the Friends' donation will invite Friends members to contribute input as the Master Plan is developed. We are excited to work with the Preserve staff, the Preserve Committee and Preserve stakeholders to craft a detailed plan. This will make the Preserve an even more wonderful place to cherish, protect and explore for many years to come.



Doris Dubielzig