

Preserve!

FRIENDS OF THE LAKESHORE NATURE PRESERVE

FALL 2021

They're Back! Prairie Partner Interns Find 'a Deeper Connection'

MJ Morgan, Seth McGee, Adam Gundlach

After the emptiness and isolation of summer, 2020, the Lakeshore Nature Preserve again welcomed five committed summer interns in 2021. Here one day a week, interns tackled demanding projects in restoration, conservation, ornithology and plant identification. According to Adam Gundlach, Preserve Field Project Coordinator, interns worked all over the Preserve: in Eagle Heights Woods assisting with vegetation surveys; at the east end of Temin Lakeshore Path, replanting the Limnology Garden there; in the old Picnic Point field, carrying out invasive species control on leafy spurge, thistle and reed canary grass; at the Second Oak site on Frautschi Point, where they controlled sumac, aspen and buckthorn resprouts; and finally, in the Biocore Prairie, where they worked with the purple martin colony and banded birds. Students competed for a spot in this innovative hands-on program which places motivated undergraduates in five different natural sites each week. Funded for the Preserve by the Friends, Prairie Partner Interns worked under the direction of Adam Gundlach. Interns Bill



Cara Farrow works on the purple martin house under the direction of Seth McGee.



Interns take a break in the Biocore Prairie. Left to right: Friends Vice President Seth McGee, Kyle Hubert, Cara Farrow, Luke DeBiasio, UW staff member Ben Kotte, Bill Davis, and Emma Raasch.

Davis (Biological Systems Engineering), Luke DeBiasio (Conservation Biology), Cara Farrow (Wildlife Ecology), Kyle Hubert (Environmental Studies and Geography) and Emma Raasch (Conservation Biology and English) devoted twelve summer weeks to the best kind of learning: in the field.

"I never knew how diverse prairies were before this summer," says Bill Davis. "From plants to birds, mammals and reptiles -- the process has taken me to a whole new understanding of ecology and nature." Emma Raasch was introduced to sedges for the first time: "Prior to this summer, I probably would have looked at a sedge and guessed that it was a type of grass, but I've learned just how wrong that guess would be!" Interns also commented on the process of discovery. Cara Farrow mentioned the small

details, "ones I wouldn't usually come across, like cool caterpillars and bird nests." Kyle Hubert learned "more birds than I probably knew existed. Our intern crew is very lucky to have some talented birders on the team."

The interns see their work this summer as their first true field experience. They have learned concepts important to their chosen careers in wildlife management, restoration and engineering. Luke DiBiasio believes "this internship has helped me understand that there is no one finite approach to ecological restoration." Sometimes lessons like these are best taught through extended experience, and, thanks to the Friends, the Prairie Partner Interns this past summer gained a lot of that. As Kyle Hubert says, "Seeing the life cycle of plants and the type of ecosystem stages provides a much deeper connection to the work."

AFTER THE EQUINOX

Red Oak in Autumn

MJ Morgan

"For beauty, give me trees with the fur on."

— HENRY DAVID THOREAU

Along Preserve trails in early October, mature trees begin to burn with color. The reds, red-oranges, magentapinks and hot scarlets visible across the bay suggest the fire of sugar maples. Yet it all depends on timing. Maple leaves turn and drop before red oak leaves; and northern red oak, Quercus rubra, typically has a dense leaf load, made all the more striking by its height and lovely form. Our Preserve has many red oaks; look for the grand one standing behind the rock wall at the entrance to Picnic Point Trail. Note the signature of a red oak, unique among all oaks: the long, often-shiny vertical 'trails' striping the trunk between flat bark ridges.

In some ways, we may think of this Picnic Point entrance oak as a guardian of the Preserve. Many of its family are thriving here. It is often found near water and loves slopes, coves and valley floors. Up on Eagle Heights, red oaks typically grow facing north or east, providing some of the tallest crowns for hunting eagles in winter. A red oak leaf has sharp lobes with deep indentations; the tip of each leaf section ends in a tiny bristle. The brilliant colors of these oaks in autumn, the way a single leaf can shade from dark green to cherry red, always draw our eyes. Yet what happens afterwards matters most.

"When we try to pick out anything by itself, we find it hitched to everything else in the universe."

— JOHN MUIR

Red oaks begin producing acorns when they are about 25, but bountiful crops occur when they are closer to fifty years. Their acorns are among the largest of the oaks, taking two years to develop a nut – round or oblong – inside a scaly cup. These big acorns can form singly, as twins or in clusters. They begin to drop just as the leaves are turning, so that when the main leaf load falls, the leaf piles hide many of the nuts from predators. But

predators find them anyway! Pick up a red oak acorn and notice a tiny, round hole. A snout beetle larva has dined well. Red oaks are slow-growing and long-lived; over their lifetime, which can be 300 years, they feed over 100 species of vertebrate animals, including voles and foxes. Birds love acorns, too; wild turkeys, quail, wood ducks, mallards, woodpeckers, crows and blue jays help to disperse acorns across distances, especially those carried by jays. Most mammals prefer white oak acorns to red, however, as red have more bitter tannin. Thus, the red oak acorns are left until there is little other food available. This provides much-needed nourishment at exactly the right time in deep winter. Late-falling red oak leaves also provide cover and warmth for small mammals, reptiles and amphibians who have not yet hibernated.

Ever notice a flutter of dry brown leaves on oaks in early spring, as if whole clusters of leaves have just forgotten to let go? Red oaks are especially prone to holding on to some of their dead leaves, typically in the lower branches. Naturalists term this trait 'marcescent.' The surface of these old leaves may catch and hold snow, providing a tree in winter with moisture. But it is more likely that marcescent oaks



A mature red oak welcomes visitors to the Preserve and Picnic Point.



Red oak leaves in mid-summer.



keep their bitter, dead leaves as a deterrent to browsers such as deer and moose, who seek low-growing twigs. All the ways a northern red oak times its autumn activities, from leaf turning to leaf falling, from acorn production to acorn dropping, mesh it into some of the most important natural cycles in the Preserve.

"Except during the nine months before he draws his first breath, no man manages his affairs as well as a tree does."

.....

- GEORGE BERNARD SHAW



A black oak, one of the red oak group, in shades of gold and rose above autumn sumac at Raymer's Cove.

UW-Madison Lakeshore Nature Preserve Master Plan to be Updated!

Rhonda James, Sr. Landscape Architect, Campus Planning & Landscape Architecture

With very special thanks to the Friends of the Preserve for their generous donation toward this project's expense, the 2006 Lakeshore Nature Preserve Master Plan will be updated beginning this fall.

This planning process will review the Preserve's infrastructure, land use and management strategies as well as protection of its distinctive natural, cultural, and educational features. The Preserve attracts more than eighty research and teaching projects annually. Situated on 300 acres of Ho-Chunk ancestral lands, the Preserve supports the University's mission of teaching, research and outreach in countless ways and remains a respite to many during the COVID-19 pandemic.

Please see the Lakeshore Nature Preserve's website, https://lakeshorepreserve.wisc.edu, for evolving information on public engagement opportunities during this planning process. At this time, as consultant contracts are in progress and COVID-19 is still changing conditions, the planned engagement schedule may shift. To develop a master plan that best serves the University and community, surveys and stakeholder input collected during the Preserve Strategic Plan will be reviewed and coupled with public engagement, currently planned as **three public sessions**. These sessions will all occur in a hybrid in-person/on-line arrangement and include the opportunity for online remarks:

PUBLIC SESSION #1, late fall, 2021: present and collect comments on draft goals and guiding principles, existing conditions, issues, needs and opportunities.

PUBLIC SESSION #2, early spring, 2022: present and collect comments on draft recommendations developed in response to public engagement session #1, site analysis, staff and committee input; also collect comments on prioritization criteria.

PUBLIC SESSION #3, late spring, 2022: present and collect comments on the draft plan recommendations. The Lakeshore Nature Preserve Committee will be involved in three working sessions, one prior to each public engagement session, and they will provide continual updates at their regular, on-campus monthly meetings.

The Friends of the Lakeshore Nature Preserve will have representation at the work sessions with the Preserve Committee. The Friends board will also be updated at their regular meetings throughout the process. Friends members are invited to all the public engagement sessions for the opportunity to share their thoughts, as well as on-line via the project website, as mentioned earlier.

The master plan update process will take staff and stakeholders through the steps leading to a list of prioritized recommendations: how to best meet the vast needs of the land, the university and its community within this 300-acre living laboratory treasure. We hope to hear from many Friends members!

FRIENDS OF THE LAKESHORE NATURE PRESERVE

Fall/winter field trips



NOTE: At this time, field trips are being scheduled as in-person. However, UW policy may change. The Lakeshore Nature Preserve follows UW mandates, and these may require registration to limit numbers, masking, or even rescheduling due to policy decisions. PLEASE CHECK the Friends website for up-to-date information about a field trip you may be interested in.

August

Walking Tour in the Biocore Prairie: Martins & Bluebirds

(Self-guided bird and nature adventure) Self-guided activity any day in August at the hilltop Biocore Prairie. See the online info by Richard Ness and Jeff Koziol. At University Bay Drive, Picnic Point entrance, follow the access road up the hill, go right and then left to the Biocore Prairie area. Take a healthy nature walk any day in August to learn about the Friends of Lakeshore Nature Preserve PUMA (purple martin) House and Biocore Prairie Bluebird Trail projects.

September

12 Fall Bird Migration (Sunday,

1:30–3:00 p.m.) Join Dane Gallagher, Friends board member and veterinary student, to discover the magic of migration! Meet at the Picnic Point entrance to welcome waterfowl and songbirds back to their winter homes. Free, family-friendly, no pets. Wear comfortable hiking

shoes and clothing appropriate for the weather. Bring binoculars and/ or cameras if you have them. Meet at the entrance to Picnic Point, 2002 University Bay Drive. Leader: Dane Gallagher (dgallagher2@wisc.edu).

26 Fungi in the Preserve (Sunday,

1:30–3:00 p.m.) Join UW botanist Marie Trest for a guided outing to learn about the amazing variety of colorful and fascinating fungi existing in the Preserve and some common species that you might see. September Bird and Nature Adventure at UW Lakeshore Nature Preserve. Meet at the entrance to Picnic Point, 2002 University Bay Drive. Leader: Marie Trest (marie.trest@wisc.edu).

October

1() Trees in the Lakeshore Nature Preserve (Sunday, 1:30–3:00 p.m.)

Learn about identification and ecological roles of many trees in the Preserve, just as they are putting on their fall colors. This

is one of the prettiest times of the year to look at trees! Meet near the kiosk at the start of Picnic Point Trail, 2002 University Bay Drive. Leader: Paul Quinlan (pquinlan@cityofmadison.com).

24 Student Gardens at Eagle Heights

(Sunday, 1:30–3:00 p.m.) Nelson Institute PhD Tom Bryan will guide a tour of the student-led gardens and their research into sustainable agriculture at the FH King Gardens and CALS lands within the Lakeshore Nature Preserve. Meet at the white shed at the entrance to the Eagle Heights Community Garden. The land on this tour will be directly adjacent to the FH King Students for Sustainable Agriculture and the Eagle Heights Community Garden. Leader: Tom Bryan (608-738-5733, tbryan@wisc.edu).

January

16 Urban Canid Project (Sunday,

1:30–3:00 p.m.) Have you seen foxes or coyotes in Madison? In the Preserve? Do you wonder where they travel in our area? Learn about the Urban Canid Project which is monitoring these critters; also learn how to track animals in winter. Join Dr. Drake for a tour at the entrance to Picnic Point, 2002 University Drive. Dress warmly! Leader: Dr. David Drake (ddrake2@wisc.edu).

What's the Buzz?

Once buzzing all over the northeast part of the country, the rusty-patched bumble bee is now found only in remaining habitat patches in Virginia, Illinois and southern Wisconsin. This beautiful pollinator was declared a rare species in 2017. The Preserve is one place where the rusty-patched has been spotted consistently since 2012 when Glenda Denniston first reported it in photos to the Xerces Society. According to Susan Carpenter,

it was then documented in Preserve surveys in 2013-2016. In 2020, when Glenda began volunteering for the Wisconsin Bumble Bee Brigade sponsored by the DNR, she observed two individuals on monarda (bee balm) near Second Oak. This year Glenda reported still more individuals in several locations at Frautschi Point and in Raymer's Cove prairie. They were nectaring on rattlesnake master, Joe-pye weed and obedient plant. With several sightings this year, could it just be that rusty-patched bumble bees are nesting in the Preserve?



A female rusty-patched bumble bee (Bombus affinis) on woodland Joe-pye weed. Glenda Denniston took this photo on July 13, 2021, in the savanna restoration area around Second Oak at Frautschi Point.



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*Indicates new members



A Heartfelt Thank You to Our Volunteers

Despite COVID-19 restrictions during the past year, Friends volunteers fully staffed two important events last spring: the Garlic Mustard Pull and Spring Wildflower Planting. For a thorough overview and great photos of our volunteers in action, please see the articles under People and Events on our website: www.friendslakeshorepreserve.com. Volunteers also generously gave their time to Citizen Science projects, as reported on page seven. The energetic dedication that Friends consistently provide is one of the Preserve's most valuable resources. A list of dates and details about volunteering will be made available on the Lakeshore Nature Preserve Volunteer page: https://lakeshorepreserve.wisc.edu/volunteer. Please check this site for special instructions, such as pre-registering or masking. Thank you!

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CITIZEN SCIENCE MATTERS

One Lake, Different Bays: Monitoring Changes in Lake Mendota

Matt Chotlos

How do seasonal changes affect Lake Mendota? A little more than three months of most years, the lake is blanketed in ice and snow. In early spring and fall, the lakes undergo a "turnover". Turnovers happen when water temperatures in the upper and lower portions of the lake are similar enough that the distinct layers in the lake can mix with each other, lifting nutrients up from the depths of the lake. As the lakes warm up in the spring sun, clouds of zooplankton emerge to graze on algae, improving water clarity and exposing the shoals and flats previously concealed in murky water. Then, as summer brings hot, sultry days, heavy rains wash nutrients and soils off the landscape and into the lakes. Lake water stews in long, still afternoons and forms toxic algae blooms. Some of these seasonal changes are subtle; however, blue or yellow-green algae blooms are dramatically obvious.

Changes are not always uniform across the whole lake, either. In one bay,

there might be an algae bloom while in another, it might be safe to swim. Water chemistry, temperature and other measurable criteria can differ; it is challenging to capture these differences across space and time. Aquatic scientists at the UW Madison Center For Limnology have mapped some of these variations across lakes by attaching sensors to a boat and motoring back and forth across the lake to collect continuous data.

Another way of collecting regular, widespread data is citizen science. This summer, some Friends again volunteered with the Clean Lakes Alliance as lake shore monitors: Doris Dubielzig, Olympia Mathiaparanam, Will Vuyk, Seth McGee, Thomas Morgan, MJ Morgan, and Matt Chotlos. Twice a week, we collected information on water temperature and clarity, monitored beach conditions, spotted waterfowl and identified potentially harmful cyanobacteria blooms. We then entered the data at lakeforecast.org. The Madison community can look up recent conditions

at the University Bay boat launch or the 78 other monitoring sites. Next year, we are hoping to set up an additional monitoring site on the northern shoreline of Picnic Point. If you are interested in being a part of lake stewardship next summer, please contact our board of directors. Beautiful Lake Mendota needs you!



Seth McGee inspects a turbidity tube full of *Daphnia*, small crustaceans in peak abundance in late spring and early summer in Lake Mendota. The emergence of these tiny zooplankton is responsible for the surprisingly clear waters during a brief window in spring each year.

Purple Martins Are Thriving in the Preserve

Gisela Kutzbach

Throughout colonial times and into the present, purple martins have thrived close to people. The largest of our native swallows, they are beloved for their acrobatic flying and endearing, daylong chattering and gurgles. Lacking natural multiple cavity nesting sites, martins are now dependent on housing their human "landlords" provide.

In 2017, to attract purple martins to the Preserve, the Friends installed a purple martin house as a Citizen Science project on top of the Biocore Prairie, perched on a 15 foot high pole with a view of the lake. Our 2021 breeding season was by far our most successful. The team readied the house in mid-March, adding more (artificial) gourds, just in time for adult martin scouts to check it all out. From late March, martins circled the house to indicate their intent. Nest building began in early May with two adult pairs, the males glistening with iridescent

deep purple backs and black underbellies. They lined their gourd nests with a pine needle foundation provided by the Friends, twigs, and a layer of green apple leaves. On May 20, females began laying eggs; incubating began the day before the last egg of a clutch of six was laid.

In the meantime, a large group of subadults arrived, one-year-old purple martins still lacking iridescent colors. They quickly started their nest building, occupying two gourds and three nest boxes. On June 12, the monitor team, by now checking the house twice weekly, was ecstatic to report seven nests with 25 eggs and six four-day-old babies. By June 16, there were 24 eggs and 11 nestlings!! The subadults' broods began hatching later in the month. Purple martins spend 26-32 days growing up in their nests, consuming large numbers of dragonflies, flies, butterflies, grasshoppers, bees and other insects collected by both parents.



The purple martin house with gourds, hosting fourteen nesting martins. One house sparrow occupies a nest box.

We are thrilled to report 26 fledglings from the initial 35 eggs! All this good information came to us thanks to careful monitoring by Citizen Science Purple Martin Team 2021: Anna Pidgeon, faculty advisor; Richard Ness, main monitor; Gisela Kutzbach, coordinator; Chuck Henrikson; David Liebl; Seth McGee and interns; Nicole Miller; Paul Noeldner; and Will Vuyk.

Friends of the Lakeshore Nature Preserve

P.O. Box 5534 Madison, WI 53705

deas 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

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Please visit our website: www.FriendsLakeshorePreserve.com

A SLITHERING SCARCITY

Where Are the Snakes of the Lakeshore Nature Preserve?

Will Vuyk

Encompassing woodland, wetland and grassland habitat along miles of protected shoreline, the Lakeshore Preserve serves as a refuge for countless species of animals, plants and fungi. The Biocore Prairie, specifically, is a beautiful example of modern restoration ecology. Yet this plenitude makes the absence of a single taxon both easy to miss and all-the-more peculiar.

DNR species range maps paint a clear picture of snake diversity in the Madison area, showing that eight common species should be present within the region. Snakes, despite their elusive nature and sinister reputation, are abundant, ecologically important predators. By preying upon a wide range of invertebrates, amphibians and rodents, they keep those populations in check while serving as a key link in the flow of energy up to higher order avian and mammalian predators.

Regional species range maps, however, overlook the fact that natural areas are becoming islands in an ever-intensifying urban sea. The roads, sidewalks, pets and pesticides of Madisonian suburbia can be deadly barriers to snake movement. The chances that a Dekay's brown snake, like the one pictured from Owen Conservation Park, could ever survive all the streets between it and the Biocore Prairie are slim. Because of this, snake populations are fragmented to the degree that a snake species found in one prairie may be absent from the prairie just down the road.

After spending my summer conducting a study of snake species occupancy, this could be one possible explanation for my results. Despite finding over fifty individuals representing five different species at other Madison area prairie sites, while using the same methods



with equal effort I have yet to encounter a single snake in the Biocore Prairie. Are these fascinating and valuable creatures truly as scarce as they seem? If you have seen any snakes in the Preserve, please send me an email (wvuyk@ wisc.edu) – your experiences may help untangle this serpentine mystery.