



Sending thoughts of health and peace this holiday season



Student Engagement Grants Provide Funding for Undergraduate Student Teaching and Research

By Bryn Scriver, Preserve Volunteer and Outreach Coordinator

Each year the Lakeshore Nature Preserve Committee awards several Student Engagement Grants of up to \$1,000 each to facilitate the use of the Preserve as a resource for education among UW-Madison undergraduates. Any student, faculty, or staff member may apply. **Requests for proposals are due March 1, 2021.**

This small grant opportunity provides funding for undergraduates to get hands-on research experience. Funding can be used to purchase equipment or to provide student stipends. In addition, students are expected to present their project to the Preserve Committee and are highly encouraged to present their findings at an appropriate venue such as a conference or the undergraduate research symposium.

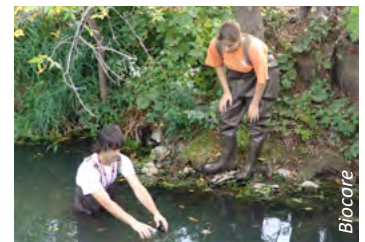
Since 2014 the Preserve Committee has awarded a total of \$19,912 to 21 projects, impacting 517 students. **Learn more and view the request for proposals on the [Preserve website](#).**

The grants are made possible by the Academic Endowment Fund of the Preserve, established by former UW faculty member Robert M. Goodman and the late Professor Henry Hart. To contribute to the Academic Fund to create more

opportunities for undergraduates to engage in learning in the Preserve, please contact the Preserve Program Manager at laura.wyatt@wisc.edu or 608-265-9275.



Mark Kenney



Blocate



Emily Greinwald



Krista Marshall

Student Engagement Grants fund hands-on experiences for undergraduate students in the Lakeshore Nature Preserve.

From the Director...

By Gary Brown, PLA, FASLA



Another season has passed as we all continue to manage during these unprecedented times. I want to thank the Preserve staff and all of our many supporters for all that you have done to help keep the Preserve open and actively used by our many stakeholders. The Preserve has become a well-used haven for many people looking for

respite and wellness in these difficult times. It continues to support the notion that natural areas and outdoor spaces are extremely important not only on campus but in our overall community.

As I've noted previously, we continue to work on the Preserve Master Plan Update process to solicit for a consultant team on this important project. We hope to get them on board in early 2021 and work over the spring semester to get going on the project with some data gathering and public input sessions. We are thankful for the support from the Friends that will help fund this project along with our Stewardship Account gift funds. It's great to see everyone rally around the Preserve and support its long-term care and management.

I continue to hear great things about our Strategic Plan on campus and how important the Preserve is to our students, faculty and staff who were present on campus this past fall. We know field research was able to continue under the current pandemic restrictions and that land management never stops, even during a pandemic. Thank you, thank you, thank you... for all that you do for the Preserve!



Oaks stand out against the blue sky at Willow Creek Woods.



From the left: F.H. King Farm has a 2x2 foot 10-frame bee hive. Former Farm Director Paul Lema inspects a frame. F.H. King beekeepers introduce a new queen to the colony on July 22.

F.H. King Bee Hive a Learning Tool Despite Setbacks

By Bryn Scriver, Preserve Volunteer and Outreach Coordinator and Jenny Zinniker, F.H. King Farm Director

During a normal year the F.H. King beehive offers apiculture workshops as well as honey tastings at their hive in the Lakeshore Nature Preserve. Due to COVID-19 there were no workshops this year, but garden directors were still at work tending to the colony. We recently checked in with Farm Director Jenny Zinniker to get an update on the hive.

According to Jenny, the F.H. King hives have not successfully overwintered in some time. This is not uncommon since honeybees face many threats. To restart the hive in 2020, they purchased new bees and a queen from an apiary in Milwaukee. The bees were introduced to the hive on June 16, but one-week later beekeepers couldn't locate

the queen. They believe there was a swarm. Not to be discouraged, they purchased and introduced a second queen to the colony on July 22. However, the second queen seems to have been rejected by the colony, as she also could not be located at a later date. The hive was active for the rest of the summer, but it will die out again over winter without a queen to keep laying eggs to replenish the hive. Jenny said they will buy more bees and start over again in the spring with the addition of a new hive built by student members of Engineers for a Sustainable World. Despite the setbacks, the F.H. King hive has been a valuable learning tool.

Land Management Project Updates

By Adam Gundlach, Preserve Field Projects Coordinator

Frautschi Point–Second Oak

Following the removal of select trees around the white oaks at the south end of Frautschi Point in February of 2020, wildflowers rose up to capture the increased light to the ground layer, while the young oaks found themselves with room to breathe and stretch out. Over the summer, undesirable woody regrowth also scrambled to capture the increased light and was promptly cut back by the tireless efforts of volunteer steward Glenda Denniston. In the course of her near-daily toil, Denniston was able to document the continued presence of rusty-patched bumble bees in the area. Prescribed burn units are in the works for the project area, as fire will be critical to stimulating and maintaining the diverse assemblage of savanna and open woodland species desired in the area.



Top: The view of Biocore Prairie from the Second Oak project area.



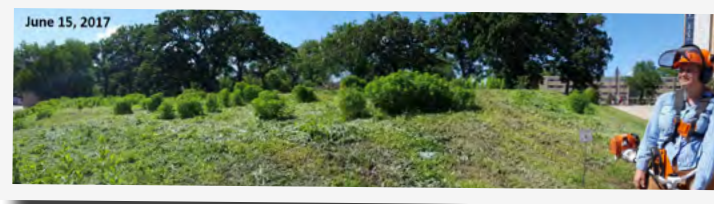
Left: A federally endangered rusty patched bumble bee nectars on a bee balm near the Second Oak.



Willow Creek Savanna

The Willow Creek Woods site has undergone a dramatic change over the past 12+ years. Prior to recent management efforts, the site was a hidden piece of former oak savanna cloaked in early-successional afforestation and invasive brush, wedged between University Bay and the surrounding UW-Madison campus.

As years of management transformed the vegetation, the burial mounds and habitation site located here gained recognition and further protection through the efforts of the Wisconsin Historical Society and UW-Madison Historic and Cultural Resources Manager Daniel Einstein. In 2016 the site was listed on the State and National Registers of Historic Places. The ongoing history of the place is one of increasing floristic diversity, as new species emerge each season. The site benefitted again in early 2020 with a generous donation of native seed by Ron Endres. The site was last burned in fall 2017 in preparation for the initial seeding of the prairie section in the southeast corner. An intentional fire drought (lack of fire) has been maintained the past couple years to allow for seedling establishment. The next prescribed burn will likely spur the establishment and vigorous growth of new species from seed sown repeatedly over the past few years during the dormant season.



A Swallowtail butterfly visits a native pasture thistle.

Photo series of the Willow Creek Woods site by Adam Gundlach.

Continued on the next page

Land Management Project Updates—continued

Eagle Heights Woods

Invasive woody brush removal (mostly common buckthorn and Asian bush honeysuckle) started in earnest in Eagle Heights Woods in 2014. The first area to be cleared was at the top of the hill surrounding the Indian burial mounds. Each fall and winter another zone was tackled by vegetation contractors paid for with gift funds donated by the Friends of the Lakeshore Nature Preserve. Invasive woody brush removal was completed in the East Zone in 2019 and 2020. Now the entire Eagle Heights Woods has undergone an initial round of brush removal.

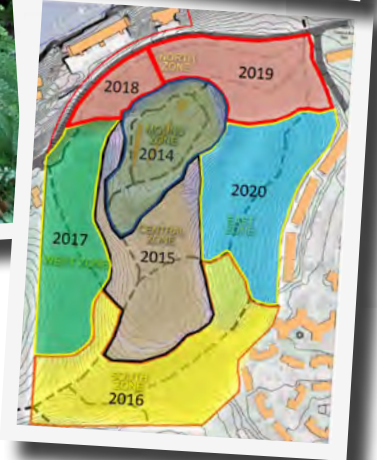
The buckthorn thicket that once boxed in trails throughout much of the site has been replaced by open views of the surrounding oak woodland. Follow-up work has continued across the north slope to control regrowth of buckthorn. The open understory has allowed a variety of native plants to begin to recolonize the slope, including maidenhair fern (*Adiantum pedatum*), early meadow rue (*Thalictrum dioicum*), and the shrub-like American spikenard (*Aralia racemosa*). Ongoing work will continue to prevent unwanted brush from returning to dominance, address erosion issues on trails, and identify management treatments to encourage oak regeneration and a diverse understory community.



Above: Native plants thrive on the north slope of Eagle Heights Woods.



Top right: Contractors chipped the cut brush. Chips were spread on trails.



Right: A map shows the progression of invasive brush removal in Eagle Heights Woods.

Adam Gundlach

Stormwater Bioswales

A state-funded stormwater project completed in 2014 resulted in the installation of a series of bioswales along University Bay Drive and a larger stormwater basin at the north end of Lot 60. The sites were seeded and plugged with a diverse mix of mesic and wet-mesic prairie vegetation, which remained under a maintenance contract for several seasons following completion. Management of the swales was turned over to the Preserve in fall of 2017.

The engineered swales offer various ecosystem services in the form of stormwater filtration and infiltration, as well as increasing vital pollinator habitat in the urban matrix. While the establishment of native vegetation along these bioswales is beneficial for a variety of organisms, without consistent maintenance the initial diversity quickly gives way to aggressive species. In the uplands, neighboring trees drop a heavy seed load each year and herbaceous invasive species move in quickly. In the margins of the basin, cattails have established and spread quickly to assume dominance over the planted native emergent vegetation. Each year time must be spent controlling the persistent woody sprouts and clonal herbs that threaten to crowd out the native prairie planted along the upland margins of the swales. The summer of 2020 was no exception.

Top right, then clockwise: White sweet clover fills the bucket of the Preserve toolcat—ready for disposal; Mountain mint (*Pycnanthemum virginianum*); Halloween pennant dragonfly (*Cleithemis eponia*); Purple prairie clover (*Dalea purpurea*) and False sunflower (*Heliopsis helianthoides*).



Adam Gundlach



Bryn Scriver



Studying Impatiens Leaf Shape in the Preserve

By Heather Whitfield and Rachel Toczydlowski

If you have walked from parking lot 130 up the service road into Bill's Woods in late summer, chances are good that you popped some of the exploding seed capsules on the jewelweed plants there. Both species of *Impatiens* that are native to Wisconsin, *I. capensis* and *I. pallida*, grow in the Lakeshore Nature Preserve. These two species are easy to identify when their brightly colored orange and yellow flowers, respectively, are in bloom from August until the first frost. In the absence of flowers, however, they are incredibly difficult to tell apart, even for experienced botanists. Distinguishing these two species is complicated by the fact that they have highly overlapping ranges and sometimes grow in intermixed stands, including places in the Preserve. Heather Whitfield ('18 Botany) spent a summer in the Preserve investigating new ways to distinguish these species.

Heather writes—

"Zoology 410, Evolutionary Biology, was one of the most fascinating and memorable classes that I took as an undergraduate. It inspired me to seek out opportunities to become involved in research on campus. Soon after, I was offered a position to work alongside graduate student Rachel Toczydlowski (PhD '19 Botany). Rachel was studying the genus *Impatiens* and told me about the difficulties that botanists had trying to tell these two species apart when they weren't in flower. I decided to take on the case. We hypothesized that subtle differences may exist in the shape, size, and color of the leaves that could be quantified and used to distinguish one species from the other. The Preserve provided the perfect outdoor laboratory for us to test these predictions.

We came up with a systematic method to collect leaves from numerous plants of each species throughout the Preserve. After gathering and pressing over 300 leaves, I scanned them individually into a computer. I processed these scans using code to quantify various shape, size, and color characteristics. I then used statistical models to test which traits differed between



Both *Impatiens capensis* and *Impatiens pallida* grow in the Lakeshore Nature Preserve. They are easy to identify when in bloom based on flower color—*Impatiens capensis* is orange and *I. pallida* is yellow.

the two species while controlling for differences in environment and leaf position. To our excitement, we found significant morphometric differences between the species that could be used to reliably assign up to 100% of the leaves in our dataset to the correct species. We learned that it was easiest to distinguish the two species by comparing the uppermost fully expanded leaf on plants (as opposed to leaves collected from other positions). On average, *I. pallida* leaves (image at right) were larger, narrower, and more deeply serrated than those of *I. capensis*. *Impatiens pallida* leaves were also lighter green near the veins and margins, whereas *I. capensis* leaves were a uniform shade of green throughout.

This experience helped me develop proficiency in both independent and collaborative work, which continues to play a central role in my current academic and professional life. Throughout the entire process of data collection, analysis, and writing, Rachel helped me seek feedback from researchers from different disciplines and backgrounds. I also gained a



deeper appreciation for how scientific results are shared by publishing this study in a peer-reviewed scientific journal (*Botany*, 2020). I recently started my second year of graduate nursing school at Rush University and simultaneously work part time as a nursing assistant in Rush's hematology-oncology unit. There, I experience first-hand how interdisciplinary collaboration is an increasingly important aspect of healthcare."

Rachel is now a postdoctoral researcher at Michigan State University studying patterns and drivers of genetic diversity across the tree of life. She is also working to lead a citizen science project that replicates this *Impatiens* leaf trait work across the entire range of these species.



As an undergraduate student Heather Whitfield gained valuable experience conducting research in the Lakeshore Nature Preserve.



Bryn Sriver

New Bench Honors Pioneering Ancestors

By Ed Washburn

A new bench awaits visitors on the north shore of Picnic Point. With lake views to the north and on the edge of the Picnic Point Marsh, it's a great place to catch sights and sounds of water-loving wildlife. The bench is a gift of Mr. Ed Washburn. Its plaque reads, *In memory of Washburn, Cadman, Fenska Wisconsin Pioneers*. We asked Mr. Washburn about his gift; you can read his response below.

What the Lakeshore Nature Preserve means to me

The UW Lakeshore Nature Preserve is Madison's premier environmental touchstone; it inspires reverence for nature. In June 1978, I was 'just passing through' Madison and ended up staying eight years. The Lakeshore Nature Preserve was a serendipitous find; I was wandering around Memorial Union Terrace and followed a footpath along Lake Mendota's shoreline, which led to Picnic Point. Picnic Point

became my peaceful retreat from noisy distractions. I revisit Madison periodically, catch up with lifelong friends, and wander out to Picnic Point. In July 2019, the spirits of Picnic Point got to me.

Why I made this donation

I'm very fortunate to be able to do something to—paraphrasing Jacques Cousteau—'protect what I love.' This donation—a sort of homage to my pioneering ancestors who immigrated from England and Germany—gives Picnic Point hikers a bench to sit a spell, locate your North Star, find your footing, then go forward—steadfast.

Who does it honor

My father's distant cousin, Cadwallader C. Washburn, was Wisconsin's 11th governor and UW's Washburn Observatory bears his name. Both my mother's parents

came from Wisconsin-homesteader families. My grandmother, Edna A. Cadman, lived in Beloit, where her father invented the Cadman stove, and she met a charming young man named Richard (Dick) R. Fenska, who delivered their bread. The Fenskas of Rhinelander immigrated from Germany in 1892, and my grandfather, UW faculty 1913-15, became a renowned forester and tree expert, complete with tall tales of the North Woods.

Ed Washburn has over 30 years experience as an environmental health scientist. He retired from the Environmental Protection Agency in 2018. You can read an essay, [Local-Wise](#), by Mr. Washburn in "The Environmental Forum" on the importance of local and indigenous knowledge in dealing with today's environmental crises.

Scenes from the Lakeshore Nature Preserve

Student learning in the Preserve continued this semester with face coverings, physical distancing, and lots of fresh air.



Adam Gundlach

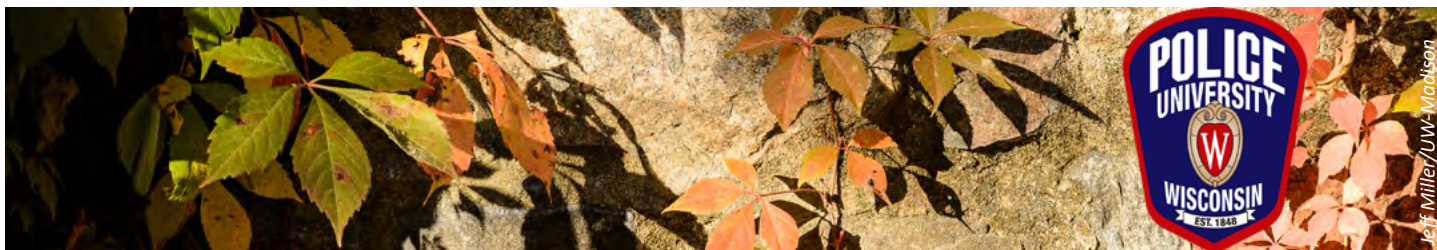


Jeff Miller/UW-Madison



Seth McGee

From the left: Prof. Jonathan Pauli discusses wildlife techniques to a student research team, students harvest vegetable crops in the F.H. King farm, Biocore students start off the semester in the experimental prairie.



To Call, or Not to Call, That is the Question

By Jeff Kirchman, UWPD Natural Areas Liaison Police Officer

Years ago, someone tried to break into my home. Luckily, I was there and scared the burglar away before they entered. With the situation resolved, I decided it wasn't worth 'bothering' my local police department.

I'd been a police officer many years when this occurred. I had counseled and, admittedly, lectured members of my community for similarly failing to notify police. Yet I didn't follow my own advice. So I completely understand why someone chooses not to report something.

My goal with this column is to hopefully convince everyone to become more comfortable with contacting UWPD any time they witness something that appears 'off'.

As I detailed in my last column in the [summer newsletter](#) my fellow officers and I regularly visit areas of the Lakeshore Nature Preserve. But our footprint is small and, with over

300 acres of ground to cover, we can't be everywhere all the time. We rely heavily on the hundreds of eyes and ears that visit the Preserve daily to alert us about suspicious activity and other problems.

Why don't people call the police? Common reasons I hear include:

- They're unsure if someone's behavior is an actual violation.
- A sense that something isn't right, but a desire not to waste an officer's time for a minor issue.
- Awareness of our own implicit biases, and a concern of coming across as overly suspicious.

There are many others. But I'm giving everyone permission to have suspicion. In my experience, most of us have a pretty good intuition of what's right and wrong; "Trust your gut", as one of my old training officers used to say.

The more our officers know about activities in the Preserve, the better-informed our actions can be. Maybe we respond and find someone's actions are minor and don't warrant significant action...that's OK, it happens all the time and we accept it as part of the job. But if we've had a string of recent reports for similar actions—especially about the same person or parties—it could change what action we take and how we decide to deter future occurrences.

In short: When In Doubt, Call it Out.

For emergencies, call 911. For non-emergencies, call UWPD directly at 608-264-2677 (264-COPS). We're happy to check out the situation and, if necessary, take appropriate action.

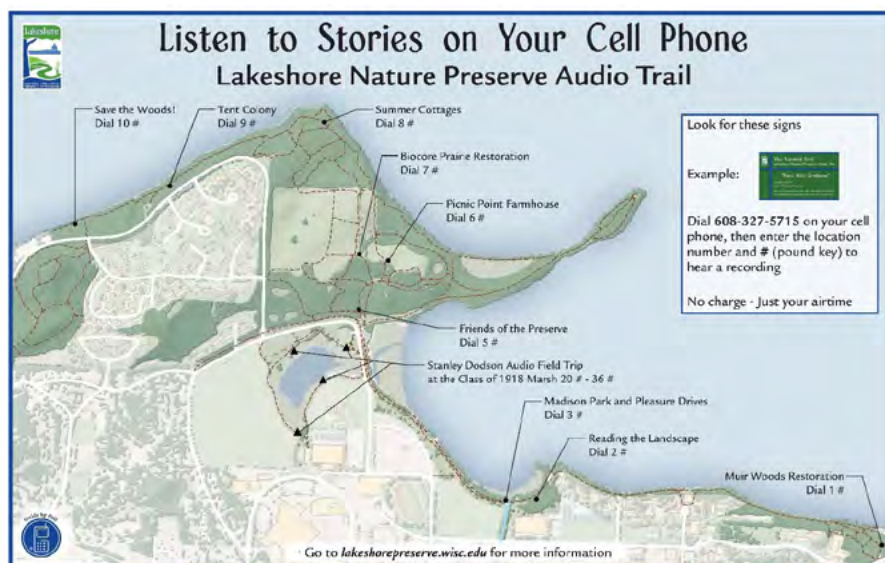
Officer Kirchman can be reached at jkirchman@wisc.edu or reach him through the non-emergency dispatch at 608-264-2677.

Get Outdoors and Explore with the Lakeshore Nature Preserve Audio Trail

By Bryn Scriver, Preserve Volunteer and Outreach Coordinator

Got cabin fever? Looking for something fun to do outdoors? The Lakeshore Nature Preserve Audio Trail offers a chance to explore the Preserve while learning about its cultural and natural history.

[Print an Audio Trail map](#) to search for "story spots." When you find one call the number on the sign to hear a narrated story. Just follow the recorded prompts. You'll hear a two-minute (or shorter) recording on a variety of topics. There are tales about what happened a thousand years ago, stories about on-going projects, and information about plants and animals that live in the Preserve. A special set of topics was developed for the Class of 1918 Marsh in memory of Professor Stanley Dodson who spent many hours mentoring students, using the marsh as a teaching tool. **Happy exploring!**



Stakeholders Receive Information and Provide Input

By Laura Wyatt, Preserve Program Manager

Each year Preserve stakeholders and partners have opportunities to meet with staff to learn more about Preserve operations and provide input. In October, Preserve staff provided a six-month status report on the 2020 work plan, which had been approved by the Preserve Committee in March 2020. Participants were also invited to ask questions, share suggestions and ideas, and learn more about the recently completed Strategic Plan and upcoming Facility Master Plan update. This conversation is important as staff begins development of the 2021 work plan and budget.

On January 26, 2021 at 5:00 pm, stakeholders and partners are invited to meet, remotely, with Preserve staff to review a draft the 2021 work plan and budget. In mid-January look to the Preserve website for details regarding how to connect to the meeting and to view the draft work plan and budget.



Sunrise from the tip of Picnic Point.



Fill the Hill Expands Preserve Reach

By Laura Wyatt, Preserve Program Manager

Pink flamingos filled Bascom Hill in October as part of the popular UW fundraising tradition, Fill the Hill. For the first time the Preserve participated in this fun event sponsored by the Wisconsin Foundation & Alumni Association. We are thankful for the 28 individuals and families who choose to give to the Preserve. What is especially exciting is 16 of these donors are new, first time donors to the Preserve and 7 are out-of-state; possibly Badger alumni.

Private gifts are necessary for facilitation of our volunteer programs, critical maintenance projects, ongoing land management, and special projects. . .the Preserve relies on the generosity of many caring individuals. Thank you, thank you!

TO SUPPORT THE LAKESHORE NATURE PRESERVE'S ONGOING MISSION OF TEACHING, RESEARCH, AND LAND STEWARDSHIP, MAKE A DONATION TODAY.

Visit supportuw.org/giveto/lakeshore

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