

UNIVERSITY OF WISCONSIN-MADISON LAKESHORE NATURE PRESERVE 2017 ANNUAL REPORT



lakeshorepreserve.wisc.edu • lakeshorepreserve@fpm.wisc.edu • 608-265-9275

Preserve Supports Mission of Ecology Class to Provide Experiential Education

Kyle Webert, General Ecology Course Coordinator

The Lakeshore Nature Preserve serves a crucial role in our ability to teach ecology in an experiential way on the UW campus. We conduct multiple instructor-guided labs each semester in the Preserve where students collect real data to investigate ecological concepts, like tree community gradients and niche partitioning between similar species.

We also try to instill a sense of environmental stewardship in our students by performing a service learning activity in the spring and summer, which the Preserve staff happily coordinates. As part of their service, students have cut buckthorn, pulled garlic mustard and Queen Anne's lace, and collected prairie seed. Students also regularly choose to carry out their independent research projects in the Preserve where there are numerous habitat types in which to conduct experiments. In fact, students in Ecology 460 held 31 research permits in the Preserve last year.

The Preserve is easily accessible to students who would otherwise be unable to travel to natural areas further afield. Without support from the Preserve, many students would be constrained to learning ecology in an indoor laboratory.

The hands-on research and service opportunities that the Preserve supports make ecological concepts come alive for the students, and instills a deeper understanding of the natural world around them. We are incredibly grateful to the Preserve and its wonderful staff for supporting our educational mission to provide students with experiential education opportunities in ecology founded on student-led research.



Ecology 460 students look for evidence of niche partitioning among birds on Picnic Point.
Photo by Kyle Webert

"Without support from the Preserve many students would be constrained to learning ecology in an indoor laboratory."

-Kyle Webert, Ecology 460

In 2017, 79 teaching/research permits were issued to 20 departments & programs.

Student Engagement Grants

Laura Wyatt, Program Manager

In 2017, the Lakeshore Nature Preserve Committee awarded four Student Engagement Grants totaling \$3,500 through a competitive process. These grants provide financial support to undergraduates and faculty/staff working with undergraduates to use the Preserve as a resource for research and education. The funds are made possible through the Academic Endowment Fund of the Preserve at the UW Foundation, established by former faculty members Robert M. Goodman and Henry Hart.

2017 Awardees

Soil as the Missing Link in Prairie Restoration and Ecological Education

Krista Marshall (Undergraduate, Department of Soil Science)

Advisors: Nick Balster (Assistant Professor, Department of Soil Science) and Janet Batzli (Associate Director, Biocore)

Measuring Patterns of Seasonal Diversity of Yeasts in the Lakeshore Nature Preserve

Rachel Schneider (Undergraduate, UW-Madison)

Advisors: Quinn Langdon (PhD Candidate), Dana Opulente (Postdoctoral Research Fellow), Chris Todd Hittinger (Assistant Professor, Department of Genetics)

Urban Canid Use of the Lakeshore Nature Preserve and Beyond

David Drake (UW Extension Wildlife Specialist & Professor, Department of Forest and Wildlife Ecology)

Wild and Domestic Carnivores in our Midst; First-year Undergraduate Service-learning and Interdisciplinary Research in the Lakeshore Nature Preserve

Adrian Treves (Associate Professor, Nelson Institute for Environmental Studies)

Friends of the Lakeshore Nature Preserve Support

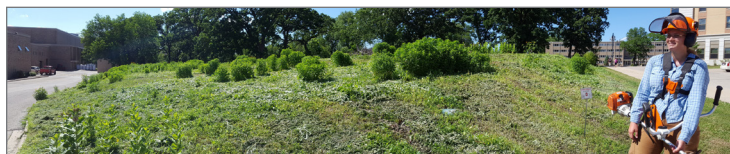
The Friends of the Lakeshore Nature Preserve contribute time, energy, and financial gifts that improve the Preserve as a resource for the UW-Madison campus and greater community. In 2017, they built upon successful programs that facilitate interpretation of the site for people and improve habitat for all the organisms that call it home.

Management of Eagle Heights Woods continued thanks to the Friends fundraising efforts. A prescribed burn in April covered nearly 10 acres of the site, effectively controlling seedlings and resprouts of invasive brush and stimulating flowering of native forbs. Our contractor, Good Oak Ecological Services, extended invasive brush removal into the western portion of the woods this past winter, bringing the total area cleared of invasive brush to 19 acres.

Friends volunteers also conducted an intensive vegetation survey on Frautschi Point during spring and summer 2017 that sought to document success of native species from previous years' planting events. The survey shed light on which species fared best in the given site conditions. The information will help guide future species selection as management expands to surrounding areas in years to come.

Once again, in 2017, the Friends funded the Prairie Partners interns program at the Preserve. This internship opportunity, administered through the Madison Audubon Society, continued to attract high-caliber applicants seeking experience in ecological restoration. Each Thursday during the summer, the hard work of the intern crew helps the Preserve reach its management goals. In return, a series of educational talks provides the crew with a well-rounded view of the cultural history and ecological interactions writ across the landscape.

Friends-sponsored field trips attracted 500 visitors in 2017. As part of the campus-wide UW Science Expeditions event in April, Picnic Point Exporation Stations attracted more than 100 adults and children. The 4th Sunday Bird and Nature Outings added walks on new topics, including exploring habitat diversity, animal tracking, and cultural history.



Willow Creek Woods

Adam Gundlach, Field Projects Coordinator

After nearly ten years of restoration efforts this site, located just north of the UW Natatorium, would be more aptly named Willow Creek Savanna. Some of the Preserve's nicest examples of open-grown oaks remain here.

To restore the character and native diversity of an oak savanna, non-oak trees and invasive brush were removed in phases. Then Preserve staff and volunteers worked to restore the groundlayer by sowing native seed and planting wildflowers across the site. Restoration continued in 2017 when our contractor applied herbicide to an area of lawn (actually a former putting green used by Recreational Sports) in the southeast corner of the site. The area was burned in the fall and, in December, staff seeded the area with a diverse mix of savanna species. Continued restoration work is possible due to donor gifts.

At just three acres in size, Willow Creek Woods offers many cultural and natural history lessons. A main feature of the site is the Willow Drive Indian burial mound group. In 2016, the site was listed on the National Register of Historic Places. This summer, Willow Creek Woods will serve as a field site for a one-credit course on the science and practice of prescribed fire offered through the Nelson Institute for Environmental Studies. Students will be able to observe effects of last year's prescribed fire on the establishment of a savanna.



Biocore Birthday

Janet Batzli, Associate Director, Biocore

Fifty years ago, the Biology Core Curriculum (Biocore) was founded as an integrated, four-semester honors biology program providing a collaborative and enriched learning experience for budding scientists. From the beginning, the focus of the curriculum was to investigate how we know what we know in science, fostering student curiosity and engagement in research and the natural world.

Following this focus and a mission of education, research, outreach, and stewardship, students in the Biocore program sowed their first prairie seeds in 1997. Over the last 20 years, students have had a hand in almost every aspect of the restoration of Biocore Prairie including weeding, planting, mowing, and burning. And students have studied almost every aspect of Biocore Prairie including weed control, seed predation, simulated grazing, bird foraging behavior, antimicrobial properties of prairie plant species, small mammal habitat differentiation, and impacts of climate change on plant community.

Biocore Prairie is small, just 12 acres in size, and still undergoing restoration, but it is also diverse with over 110 native plant species including two endangered species. While still an infant in prairie years, at 20 years old the Biocore Prairie sets a benchmark for learning and many future discoveries.

Volunteers

Bryn Scriver, Volunteer and Outreach Coordinator

Campus and community volunteers play an important role in the stewardship of the Preserve. Working with Preserve staff, volunteers remove invasive species, plant native plants, collect native plant seed, monitor and maintain trails, and conduct vegetation surveys. The impacts of volunteers' actions are many and include reduced sediment and nutrients in our lakes, improved wildlife habitat, and enhanced teaching and research opportunities.

Volunteering at the weekend drop-in work parties is a great way to get involved if you have limited time availability. The Preserve also has opportunities for an ongoing corps of volunteers. In 2017, nine Preserve Stewards carried out longer-term volunteer tasks such as trail monitoring, tool maintenance, and caring for our entrance landscapes.

Engaging volunteers not only benefits the Preserve, but can also foster a feeling of connectedness to nature while increasing the ecological literacy of the people involved. We work hard to make sure that volunteers are engaged in caring for the Preserve in ways that are meaningful to them, while accomplishing needed work. If you would like to get involved, contact Bryn Scriver, Preserve Volunteer Coordinator, at bryn.scriver@wisc.edu.

Badger Volunteers

Leo Roth, Field Technician

Badger Volunteers is a semester or summer-long program through the Morgridge Center for Public Service that connects teams of students with local organizations to provide service once a week. The program is designed to foster meaningful and consistent connections between partner organizations and students. For the second year in a row, the Preserve engaged two Badger Volunteer teams who worked throughout the summer to assist the seasonal invasive species specialist with targeted pest plants. Their combined 150+ hours of service played a large part in ensuring the Preserve remains a biodiverse natural area.

Many of the volunteers arrived at the Preserve with educational backgrounds outside of biological sciences and ecology, resulting in their exposure to new concepts that they otherwise may not have encountered in their coursework.

As a result, the Badger Volunteers program at the Lakeshore Nature Preserve truly represents an intersection between the values of service with the Preserve's mission to provide a "living classroom" wherein students can engage with the natural environment and the iconic landscapes that make UW-Madison unique.



Badger Volunteers worked with seasonal staff to target pest plants. Photo by Eric Hamilton

In 2017...

**608
volunteers**

**2,973
service
hours**

**Estimated
value:
\$71,768**



49 Groups Volunteered in the Preserve in 2017

4-H Youth Conference	Clean Lakes Alliance	Pi Lambda Phi
ACUI IPDS/Wisconsin Union	Conservation Biology	Powers Knapp Scholars
Alliant Energy	Ecology 460	Pre-dental Society
Alpha Omega Epsilon	Finance and Investment Society	Rotary Club of Madison After Hours
Alpha Phi	Friends of the Lakeshore Nature Preserve	Sierra Student Coalition
Alpha Phi Omega	GreenHouse	Sigma Alpha Omega
Alternative Breaks	Hmong American Student Association	Sigma Lambda Beta
American Society of Mechanical Engineers	Horticulture 120	Society for Management and Performance Excellence
AmeriCorps Achievement Connections	Institute of Management Accountants	Spartan Youth Service
Army ROTC	Kahler Slater	Student Leadership Program
Asian Business and Economics Student Association	LaFollette School of Public Affairs	UW Cheer
Badger Volunteers	LDS Madison YSA	UW Master of Public Health Program
Badgers for Conservation	MBAs with a Heart	WARF
Business Badgers and Beyond	Medlife	WI Union Marketing Team
Badger Volunteer Association	Morgridge Center Day of Public Service	WISCENCE STEM Immersion
Center for Limnology	Mu Kappa Tau	
Chancellor's Scholars	Naval ROTC	

"I love how Preserve staff mixes learning in with volunteering as well as offering a new view of these beautiful parts of campus and what it takes to care for them."

-Preserve volunteer

2017 Donors

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Nature Preserve
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Jewish Community Foundation
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Support the Preserve

To support the Preserve's ongoing mission of land stewardship, make a donation today!

Visit supportuw.org/giveto/lakeshore/.



In 2017 the Preserve received gifts totalling \$131,625 from 75 donors.

Lakeshore Nature Preserve Committee

Established by the UW provost in 2000, the Lakeshore Nature Preserve Committee is charged to *ensure the integrity of these cherished campus resources through the provision of necessary and appropriate oversight, policies, guidelines, stewardship and management*. Operating under principals of shared governance, the committee is comprised of three faculty, three academic staff, three students, and other interested stakeholders. We thank the current members for their time and service.

2017-18 Preserve Committee

Voting members

- David Drake—Faculty, Forest & Wildlife Ecology
- Sara Hotchkiss—Faculty, Botany (Committee Chair)
- Glen Stanosz—Faculty, Forest & Wildlife Ecology
- Janet Batzli—Academic Staff, Biology Core Curriculum
- Alan Turnquist—Academic Staff, Undergraduate Programs & Services
- Matilde Urrutia—Academic Staff, Soil Science
- Jacqueline Beaulieu—Student
- Gabriella Bianchi—Student
- Abigail Kotecki—Student
- Jeremy Sanford—Student

Non-voting ex-officio or consultants

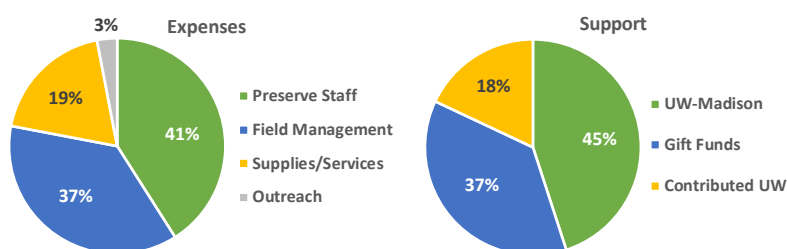
- Gary Brown—Director, Lakeshore Nature Preserve
- Gisela Kutzbach—Board President, Friends of the Lakeshore Nature Preserve
- Rhonda James—Senior Landscape Architect, Campus Planning & Landscape Architecture
- Karen Oberhauser—Director, UW Arboretum
- Donna Paulnock—Interim Director, UW Arboretum
- Kelly Ignatoski—Director, University Apartments

From the Director...

Gary Brown, PLA, FASLA, Director

Another year has brought an impressive array of achievements in the Lakeshore Nature Preserve. From hundreds of volunteers and engaging academic/research projects, to our continuing efforts to remove invasive species and enhance the natural resources of the Preserve, we have continued to reach high and wide. Our operating budget remains tight but the Preserve has survived the recent budget reductions at the university while expanding our donor base to keep our endowment growing. With the help of a generous long-time donor, we are also growing our student staff. These opportunities can jump start student careers with the hands-on learning that comes with working in the Preserve. Thank you to our many donors and volunteers, as well as the faculty, staff, and students who utilize the Preserve, for making it an amazing resource for all.

2017 Financials—Budget \$382,575



Lakeshore Nature Preserve Staff

- Gary Brown, Director, gary.brown@wisc.edu
- Laura Wyatt, Program Manager, laura.wyatt@wisc.edu
- Bryn Scriver, Volunteer & Outreach Coordinator, bryn.scriver@wisc.edu
- Adam Gundlach, Field Projects Coordinator, adam.gundlach@wisc.edu
- Allison Ban-Herr & Leo Roth, Field Technicians
- Monica Despies, Michal Michiels, & Hannah Strellrecht, student hourlies



**Facilities Planning
& Management**

UNIVERSITY OF WISCONSIN-MADISON