

LAKEHORE NATURE PRESERVE E-NEWSLETTER

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New Picnic Point Kiosk a Welcome Introduction to the Preserve

By Bryn Scriver, Preserve Outreach Specialist

Picnic Point, the nearly mile-long peninsula that juts into Lake Mendota, is among Madison's most distinctive features and is one of the most popular destinations in the Preserve. Each year thousands of students and Madisonians visit the Point for outings. Now those visitors will be greeted by a new kiosk that will announce their arrival at the Lakeshore Nature Preserve.

Like the two existing kiosks at Frautschi Point and the east end of the Howard Temin Lakeshore Path, the new Picnic Point kiosk features a large map of the Preserve, Preserve regulations, a bulletin board for events and timely messages, and a space for a future interpretive panel.

The kiosk is complemented by a new entrance design. Preserve staff sends a shout out to Rhonda James, UW Senior Landscape Architect, who designed the entrance, and to UW Physical Plant Grounds, who prepared the kiosk pad and installed the new planting beds, a split rail fence, and seating rocks.

Our thanks also to the Patricia E. Dugan fund, which was created in 2011 to benefit the Preserve, for funding this project.

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A visitor walks past the new kiosk at Picnic Point after stopping to take a look. Photo by Bryn Scriver.



UW Physical Plant Grounds employees prepared the pad and planting beds for the new kiosk and entryway at Picnic Point. Photo above by Adam Gundlach; photo at right by Bryn Scriver.

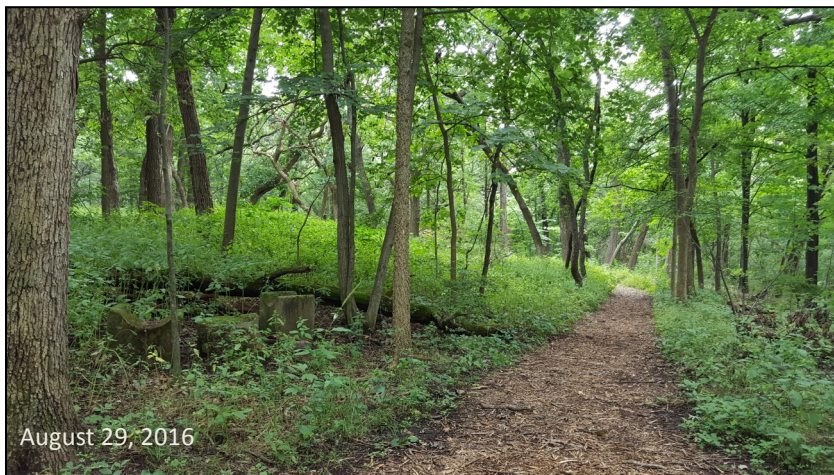




March 7, 2016



May 9, 2016



August 29, 2016



October 24, 2016

Eagle Heights Woods Update

This series of photos was taken between March and October 2016 from the south end of the mounds loop trail facing southwest. Staff have been regularly recording changes to Eagle Heights Woods with photographs.

Invasive woody plants were removed from this area during the winter in 2015 and 2016. Contractors will continue to remove woody invasive plants this winter in the southern portion of the woods, as well as remove hazard trees—trees that threaten to fall on trails or on Indian burial mounds.

MBAs ♥ the Preserve

In August, students in the Masters of Business Administration (MBA) Program at the UW School of Business applied wood chips to the trails in Eagle Heights Woods as part of the MBAs with a Heart service event. This is the 7th year future MBAs have provided service to the Lakeshore Nature Preserve. In exchange for their time and efforts, students got a chance to explore their new campus and get to know each other better before classes started.



Business School MBA student volunteers mulch Eagle Heights Woods trails. Photo by Bryn Sriver.

Eagle Heights Woods photos by Adam Gundlach.

Student Engagement Grant Proposals Due March 1

The Lakeshore Nature Preserve Committee is pleased to announce small grant opportunities (up to \$1000 each) *for undergraduates or faculty and staff working with undergraduates* to facilitate the use of the Preserve for educational purposes. The application deadline is March 1, 2017.

View the Request for Proposals on the Preserve website at lakeshorepreserve.wisc.edu.

The grants are made possible by the Preserve Academic Endowment Fund established by former faculty member Professor Robert M. Goodman and the late Professor Henry Hart.

Past funded projects include the study of cold tolerance of prairie forbs, an exploration of seasonal yeast biodiversity in the Preserve, urban canid use of the Preserve, the impact of road salt on the water chemistry of the Class of 1918 Marsh, and a study of the survival and habitat use of Eastern gray squirrels in an urban preserve.

New Volunteers Join Staff in Providing Ongoing Care for Preserve

Through a gift from a generous friend, the Preserve was able to initiate a new continuing volunteer program to complement our successful bi-monthly drop-in volunteer program.

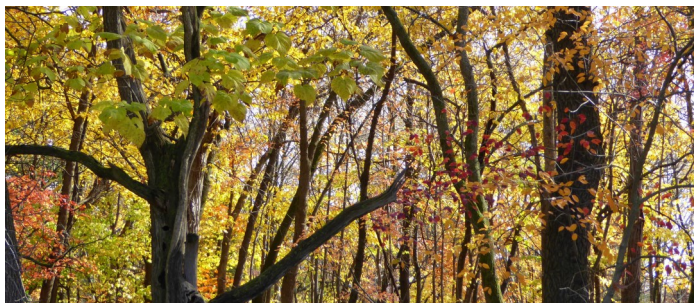
Five individuals answered our call for new volunteers to carry out ongoing duties in the Preserve. Volunteer positions include office support, bench site and kiosk upkeep, tool repair, entrance garden maintenance, trail monitoring, and invasive species mapping.

Volunteers were introduced to the Preserve at a half-day orientation that included a walk in the Preserve.

We are very excited to have the support of our new volunteers in the ongoing care and maintenance of the Lakeshore Nature Preserve!



Ongoing volunteers (L to R): Janis Cooper, Vince Jenkins, Catherine Steffel, Steve Sentoff, and Stephaney Olson.
Photo by Bryn Scriver.



Free Naturalist-led Walks Sponsored by the Friends of the Preserve

Sun Nov 13, 1:00-3:00 pm—Geologic History of the Preserve and Madison Lakes. Leader: David Mickelson (davem@geology.wisc.edu). Meet at the Chamberlain Rock, next to Washburn Observatory (1401 Observatory Drive).

Sun Nov 27, 1:30-3:00pm—Bird & Nature Walk. Leader: Paul Noeldner (698-0104). Meet at Picnic Point lot 129 (2004 University Bay Drive).

Sat Dec 10, 7:30-11:00am—Birding Madison's Lakes. Madison Audubon and the Friends of the Preserve co-sponsor this overview of birdlife on Madison's lakes. We will look for waterfowl, gulls, and winter birds. Leader: Al Shea (wishea@gmail.com). Participants will carpool from Lot 60 at the north end of Walnut Street.

Sun Dec 25, 1:30-3:00pm—Bird & Nature Walk. Leader: Paul Noeldner (698-0104). Meet at Picnic Point lot 129 (2004 University Bay Drive).

Sun Jan 15, 1:00-3:00pm—Animal Tracking in the Preserve. Join UW wildlife specialist and professor David Drake as he shows how to track foxes, coyotes, and other denizens of the Preserve. Leader: David Drake (ddrake2@wisc.edu). Meet at Picnic Point lot 129 (2004 University Bay Drive).

Sun Jan 22, 1:30-3:00pm—Bird & Nature Walk. Leader: Paul Noeldner (698-0104). Meet at Picnic Point lot 129 (2004 University Bay Drive).

Sun Feb 26, 1:30-3:00pm—Bird & Nature Walk. Leader: Paul Noeldner (698-0104). Meet at Picnic Point lot 129 (2004 University Bay Drive).

Sun Mar 26, 1:30-3:00pm—Bird & Nature Walk. Leader: Paul Noeldner (698-0104). Meet at Picnic Point lot 129 (2004 University Bay Drive).

For detailed descriptions go to the Friends website (friendslakeshorepreserve.com).

Preserve Feeds Leaf-Cutter Ant Colonies

By Caitlin Carlson, Associate Research Specialist, Currie Lab,
UW Department of Bacteriology

The Currie Lab is excited to announce a new partnership with the Lakeshore Nature Preserve. For the last few years the Currie Lab has been using the Preserve for student projects and as a fieldwork site for the Wisconsin Antimicrobial Research Project. Now we are happy to announce that the Preserve is allowing the lab to cut and collect leaves to maintain our display leaf-cutter ant colony and numerous research colonies.

Maintaining leaf-cutter ant colonies is a breeze in the summer with all the fresh and crisp leaves available, but around August and September we have to start collecting leaves for the winter. Our leaf-cutter ants come from the tropics in Central and South America where leaves are abundant year-round. Transplanting colonies into a northern climate takes strategic planning to make sure the colonies are well-fed and healthy during the cold winter months.

The Currie Lab works diligently to store enough leaves to sustain the colonies throughout the winter—just like the ants in Aesop's fable, The Ant and the Grasshopper. We don't want to be left out in the cold like the grasshopper with nothing to eat! Each year it is a challenge for the lab to find enough leaves to store

for the winter. So when the Lakeshore Nature Preserve extended our permit to include collecting leaves for our leaf-cutter ants, we were ecstatic.

The Preserve took our partnership one step further in suggesting we try to feed the ants invasive Norway maple leaves. According to the Wisconsin Department of Natural Resources, Norway maple is a terrestrial invasive species that is

native to Europe and Asia. This species is considered an ecological threat because it can invade native woodland and out-compete native plant species. To our delight the ants were happy to incorporate Norway maple leaves into their fungus garden.

With our freezer stocked, we now feel prepared for the cold winter months, and we hope to continue our partnership with the Preserve next summer to keep all our ant colonies healthy and strong for the winters to come!

We welcome you to visit the leaf-cutter ant colony on display on the first floor of the Microbial Sciences Building.



Above, members of the Currie Lab collect leaves in the Lakeshore Nature Preserve for campus leaf-cutter ant colonies. Photos by Caitlin Carlson.

Students for the Preserve

By Paul Metscher, UW-Madison Student and former Preserve Committee member

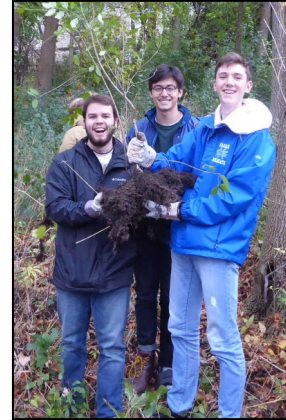
The Students for the Preserve kicked off the Fall semester by participating in the Office of Sustainability's 3rd annual **Sustain-a-Bash** at Gordon Commons. Students promoted the Lakeshore Nature Preserve and the Students for the Preserve club to other students while testing their knowledge of the natural world and the campus landscape with a fun trivia game. This was a great opportunity to meet new faces and interact with other sustainability-focused clubs.

On October 6th, the Students for the Preserve held their **Fall 2016 kick-off meeting**. The meeting was a chance for students to meet each other and share more information about the Lakeshore Nature Preserve. Students shared pizza generously donated by the Friends of the Lakeshore Nature Preserve while brainstorming club events.

In the works is a fire with s'mores on Picnic Point and a volunteer event to remove invasive plants in the Preserve. For announcements visit our Facebook page at www.facebook.com/studentsforthepreserve.

Looking for Ways to Get Involved and Give Back to Campus?

Join a drop-in volunteer work event or schedule a volunteer opportunity for your group. For more information visit the events calendar at lakeshorepreserve.wisc.edu or contact the Volunteer Coordinator at 220-5560 or bryn.scriver@wisc.edu.



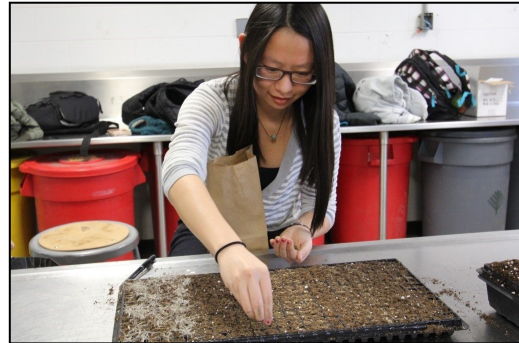
Biocore Prairie: the Last Two Acres

By Janet Batzli, Biocore Associate Director, and Seth McGee, Biocore Lab Manager, College of Letters and Sciences

Biocore students began the Biocore Prairie restoration project in 1997. Now entering the 20th year of the project, Biocore students continue the study and stewardship of converting what was once an agricultural station, and then old field, into a functioning prairie ecosystem. This December, the project reaches an exciting benchmark as the current cohort of Biocore students will sow native prairie seed on the last two acres of unplanted prairie.

The two acres to be planted are located in the south central portion of Biocore Prairie bordering the Eagle Heights Gardens, the UW Physical Plant storage area berm, and an old apple orchard. The soils are medium to moist, and although it appears no different from the rest of the Biocore Prairie, it has been much more problematic in terms of prairie restoration. Many years of compaction, dumping, and then the composting of a floating bog that broke off the north shore of Lake Mendota and came to rest along the Memorial Union Terrace have created a unique set of site characteristics that make restoration challenging. While spending countless hours pulling weeds in the area, Biocore students have removed pieces of a porcelain toilet, boiler slag, slabs of asphalt, and even a vintage wooden Ouija board from the soil. Yes...we asked, and the "Outlook is good."

While we have been preparing the soil, Biocore students have been collecting and cleaning seed from Biocore Prairie and other local prairies in preparation for planting. A seed mix, composed of 76 species, will be hand-broadcast by students this winter. In addition to the new seeding, Biocore students will be collaborating with the DC Smith Greenhouse staff to grow and plant 5,000 rare native plant seedlings. Let's hope for a fruitful 2017 growing season!



Photos top to bottom: Student Allie Hung plants seeds at DC Smith Greenhouse. Student Joe Weber lays spiderwort seed on a tarp to dry. The Biocore Crew is ready to participate in a prescribed fire to prepare the planting site. Photos provided by Seth McGee.

Naval ROTC Lends Many Hands to Care for the Preserve

For the second year the Naval Reserve Officers Training Corps (NROTC) provided an afternoon of service to the Lakeshore Nature Preserve. More than 60 midshipmen and officers pitched in to clear invasive shrubs from a quarter acre of woodlands and covered one-third mile of trails with wood chips to prevent erosion.

The efforts of this disciplined and motivated group went a long way in improving the Frautschi Point area for wildlife and human visitors alike!



Photos provided by University of Wisconsin NROTC.

UW Undergrads Learn Ecology Through Practice

By Tricia Fry, Ecology 460 Course Coordinator, Department of Botany

For those of us teaching Ecology 460 ecology is more than a vocation—it is an avocation. We love ecology! As the course coordinator for Ecology 460 for the last 3 years, my goal has been to teach our undergraduate students why they might love ecology too, and we do that by *practicing* ecology. Sure, we learn the theories and the definitions, but we also get our hands dirty, and there is no better place for us to do that than in the Lakeshore Nature Preserve.

Each semester Ecology 460 students develop their own research projects. They ask an ecologically meaningful question, design and carry out their study, analyze the data, and report their findings through reports, presentations, tweets, and videos. Many of these projects have taken place in the Lakeshore Nature Preserve. In 2016, thirteen research projects involving 55 students used the Preserve: in Muir Woods student's tried to prove Yoda's Law of Self-Thinning; in Eagle Heights Woods students learned the importance of slope aspect in determining plant community composition; and on Picnic Point students looked at impacts of invasive species—common buckthorn and jumping worms—on species diversity.

The Lakeshore Nature Preserve also serves as a focus for introducing our students to the idea of *sense of place* and the importance of their contribution to the land and community. Using the Preserve, we have challenged our students to look, listen, and sense their surroundings differently. Our teaching assistants have introduced students to new perspectives through reflections on race and environment, semi-guided meditation, and by removing buckthorn from the Preserve's Caretaker's Woods—another example of Ecology 460 students learning ecology through practice!



Ecology 460 students are introduced to Aldo Leopold's land ethic and remove buckthorn in Caretaker's Woods. Photo by Ali Paulson.

Monarch Butterfly Conservation Ecology Studies in the Preserve

By Professor David Hogg, Rachel Fish, Cameron Fullerton, and Zach Shreiner, UW Department of Entomology

David Hogg, a professor in the Department of Entomology, along with three undergraduate students (Rachel Fish, Cameron Fullerton, and Zach Shreiner) studied monarch butterfly (*Danaus plexippus*) populations the past two summers in and around the Biocore Prairie. The focus during 2015 was to get a sense of the phenology and dynamics of monarch egg and larval populations. The phenology/dynamics study was repeated in 2016, along with companion studies, one examining the effect of milkweed mowing on monarch egg laying and survival, and the other exploring the effects of various plant characteristics on the levels of cardenolides (the poisonous compounds that milkweeds produce for defense) and the response of monarchs to varying cardenolide levels.

Data collected during the two years of study provided different views of monarch phenology. In 2015 we documented two generations of monarch eggs and larvae, the first during June and the second extending from mid-July through late August. In 2016 the data suggested three monarch generations, the first from late May to mid-June, the second from early to late July, and the third from early to late August. There appeared to be a greater buildup of the monarch population during the late season (August) of 2015 than in 2016. However, during both years monarch populations experienced low survival rates. Disappearance of monarch eggs and small larvae, presumably the result of predation by insects and spiders, was significant, and very few large larvae were found in either year.

During 2015 we observed that monarch eggs and larvae were more abundant on younger (recent regrowth) milkweed leaves during August, and we tested this in 2016, establishing square meter plots in which milkweed stems were clipped at various times during the summer to promote new milkweed growth during August. Preliminary analysis of the data from this study indicates that monarchs prefer to lay their eggs on young milkweed foliage, and mowing milkweed at strategic times may be a way to enhance late season monarch populations.

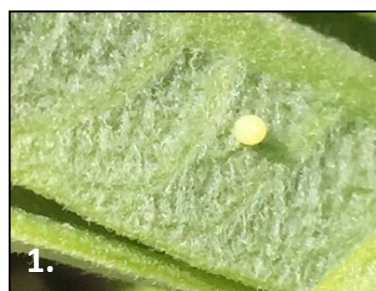
During 2016 we also measured cardenolide levels in milkweed leaves. Monarchs and a handful of other insects that specialize in feeding on milkweed have evolved counter defenses to overcome the poisonous properties of the cardenolides. Monarchs sequester the cardenolides and use the poison as protection against predators. We collected a lot of data on cardenolide levels in milkweed stems, and analysis is underway.



Students researchers clip milkweed stems in a square meter plot. Photo provided by David Hogg.



Student researchers used a non-invasive reflectance spectroscopy approach to measure cardenolide levels in milkweed leaves. Photo provided by David Hogg.



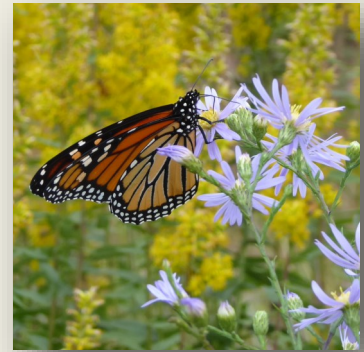
Photos at right:

1. May 29—Monarch egg
2. August 23—Monarch small caterpillar
3. August 23—Monarch large caterpillar

Photos provided by David Hogg.

**Connect with the Lakeshore Nature Preserve online
for photos, announcements, events, and more!**

- Visit our website www.lakeshorepreserve.wisc.edu
- Like us on Facebook facebook.com/Lakeshore.Nature.Preserve
- Follow us on Twitter twitter.com/UWPreserve



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**Support the
Lakeshore Nature Preserve**

**with a gift to the
Stewardship Fund
at the UW Foundation.**

supportuw.org

Search for "Lakeshore Nature Preserve."



The next Preserve stakeholder meeting is scheduled
for **Tuesday January 24 at 5:30 pm in room 132 WARF**
(610 Walnut St.). Parking is free in lot 64 after 4:30pm.

We hope you'll join us for a review of the
draft 2017 work plan and budget.



Facilities Planning & Management
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