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Facilities Planning and Management

Lakeshore Nature Preserve

E-Newsletter

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SER Volunteers Make a World of Difference

by Adam Gundlach and Bryn Scriver

The Society for Ecological Restoration (SER) recently held its 5th World Conference on Ecological Restoration October 6-11 at the Monona Terrace. To help kick off the festivities, groups of conference attendees volunteered in the Lakeshore Nature Preserve and UW Arboretum as part of *Make a Difference Day* on Sunday October 6.

The diverse group of volunteers at the Lakeshore Nature Preserve travelled from points far and wide (New Zealand, France, Spain, Brazil, British Columbia, and from across the U.S.A.). They came to learn about ecological restoration in the context of protected cultural resources, assist Preserve staff with invasive brush removal near the Picnic Point mounds group, and help replant areas previously cleared of brush with native oak savanna and woodland species.

Daniel Einstein, UW Historic and Cultural Resources Manager, offered his knowledge to the group regarding the native mound-building people that once inhabited the Madison area. Einstein showed off a few of the artifacts discovered along Picnic Point during past archeological surveys, and discussed the cultural significance and landscape context of the mounds.

Preserve staff learned from volunteers, all restoration professionals in their own parts of the world, about their research and restoration projects, particular invasive species of concern and methods for control.

At the day's end, new views of the lake were opened from the Picnic Point path helping to reconnect the mounds with some of their spiritual legacy. A variety of native wildflowers were planted, where they wait patiently to bolster the scenery and provide menu options for pollinators come next year.

Inside This Issue

Restoration specialists from around the world volunteered in the Preserve as part of the 5th World Conference on Ecological Restoration.

SPREAD ART NOT WEEDS!

Madison artist Brenda Baker created "Seed Pod" for the Society for Ecological Restoration World Conference. The piece is meant to convey both the challenge of invasive exotic pest plants and a counterpoint, the ecosystem-healing, participatory work for ecological restoration. The sculpture is made from invasive buckthorn, honeysuckle, and autumn olive stems collected from local natural areas including the Lakeshore Nature Preserve. Volunteers harvested the invasive brush from Picnic Point.

"Seed Pod", a temporary art installation at the Monona Terrace Convention Center, includes invasive woody plants harvested by Lakeshore Nature Preserve volunteers. Photo by Eric Baillies.

To learn more about ecological restoration and the SER 5th World Conference you can listen to a radio piece from WUWM. You'll hear from some participants who volunteered at the Arboretum, artist Brenda Baker, and UW-Madison Professor Evelyn Howell.

SER
SOCIETY FOR ECOLOGICAL RESTORATION

VOLUNTEERING HAS BENEFITS

According to World Volunteer Web, not only does volunteering have a meaningful, positive impact on your community, but it can also have many benefits for you too! Here are some reasons to volunteer:

- Learn or develop a new skill
- Be part of your community
- Motivation and sense of achievement
- New interests and hobbies
- New experiences
- Meet a diverse range of people

You can reap the benefits of volunteering by joining us to care for the Lakeshore Nature Preserve.

Sat. Nov. 9
– 9AM-Noon, Picnic Point parking lot 129
Sun. Nov. 24
– 9AM-Noon, Frautschi Point parking lot
Sat. Dec. 7
– 1-3PM, Picnic Point parking lot 129
Sat. Dec. 14
– 1-3PM, Frautschi Point parking lot

Tools and training provided. Canceled in case of rain/snow. Large groups and minors ok with advance notice.

For more info contact: Bryn Scriver at 220-5560 or bscriver@fpm.wisc.edu

Brownies from Girl Scout Troop 2161 take a break from their work on Picnic Point.

The Preserve as Outdoor Laboratory

By Cathie Bruner and Bryn Scriver

Students and instructors have been active in the Preserve over the summer and early fall, helping staff understand forest disease dynamics, gathering biological data that can help us track changes over time, and telling the story of the Preserve through soil.

Preserve staff and volunteers have been watching the stand of butternuts *Juglans cinerea* die at Frautschi Point from a fungal canker disease. It is so severe that the United States considers butternut to be a "species at risk". Trees that are affected but have not died may provide genetic material for resistance research. Professor Glen Stanosz and colleague Paul Berrang, a USFS geneticist, may collect scion wood from our butternuts to aid in genetic resistance studies.

Dr. Stanosz studies leaves from the Juglans genus on the edge of Frautschi Point.

Undergraduate student, Olivia Sanderfoot, spent the summer studying Willow Creek under the supervision of Limnology Professor Emily Stanley and Emeritus Professor Paul Williams. The study, funded by the Long Term Ecological Research Network, focused on water quality. However the long-term goal of the Willow Creek Community Project, a website developed by Sanderfoot, is to develop student and public interest in the welfare of Willow Creek.

Student researcher Olivia Sanderfoot worked with Emeritus Prof. Paul Williams to incorporate Bottle Biology experiments into outreach efforts on Willow Creek.

Students from Quentin Carpenter`s summer and fall Field Ecology Workshops collected vegetation data in the Preserve to assist with ongoing monitoring of the resource. Summer students gathered data on the vegetation of University Bay which can be compared to previously collected data from 1922 and 1966. Fall semester students recorded groundlayer vegetation for the initial stages of restoration near the tip of Picnic Point.

Field Ecology Workshop students used their newly honed field methods and plant identification skills to collect groundlayer data on Picnic Point.

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Forest and Wildlife Ecology student Sonia Petty is conducting a study of gray squirrels in Bill's Woods under the direction of Professor Jonathan Pauli. Students in Pauli's Wildlife Management Techniques course gathered habitat condition data around Petty's research points.

Sonia Petty, a student in Wildlife Management Techniques prepares to release a squirrel back into Bill's woods after a radio-collar has been affixed for tracking. Photo by Jonathan Pauli.

Soil Management students, under the direction of Professors Steve Ventura and Nick Balster and Preserve Committee member Matilde Urrutia, are creating soil monoliths with soils taken from four different locations to illustrate the cultural and natural history of the Preserve. In addition, the students intend to develop a webpage and an app for mobile devices to interpret the soil monoliths.

Soil Management students, Jenna and Kevin dig a pit in Biocore Prairie to characterize the soils. Photo by Lindsay Byrne.

Where do autumn leaves get their color?

Leaf color comes from pigments produced by leaf cells – **chlorophyll** (green), **carotenoid** (yellow, orange, and brown), and **anthocyanin** (red).

Chlorophyll and carotenoid are in leaf cells all the time during the growing season. During the summer the chlorophyll covers the carotenoid -- that's why summer leaves are green, not yellow or orange. However trees respond to decreasing amounts of sunlight in the autumn by making less and less chlorophyll, and eventually chlorophyll production stops. This is when the yellows and oranges are revealed. Most anthocyanins – the red pigments – are produced only in autumn when the leaves produce sugar during the day, but the cool night temperatures prevent the sugar sap from flowing through the leaf veins and down into the branches and trunk. Not all trees can make anthocyanin.

The best autumn colors appear when there's been a warm wet spring, the summer was not too hot or dry, and the fall has plenty of warm days and cool nights.

http://dnr.wi.gov/eek/veg/trees/treestruecolor.htm

Calvatia gigantea

by Adam Gundlach

Just a few short weeks ago, visitors strolling through the Preserve may have encountered a somewhat unusual scene – misshapen "volleyballs" littering the forest floor. Fortunately, the rather large, white, cratered globes were merely the reproductive efforts of the distinctive *Calvatia gigantea*, or giant puffball mushroom. The mushrooms develop quickly as cool fall weather sets in, making it seem as though they appear overnight.

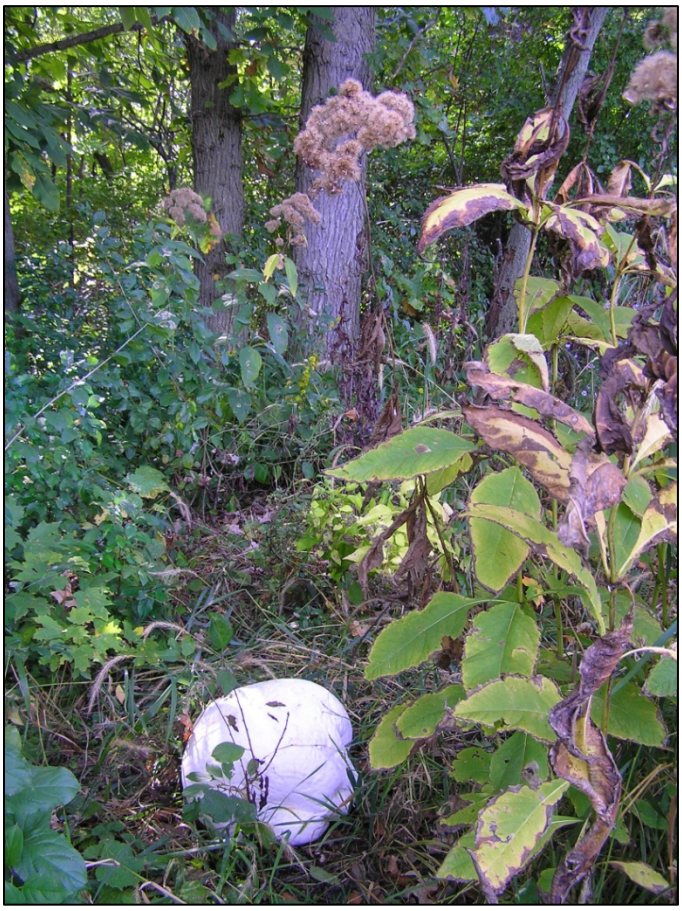
Giant puffballs are commonly found in grassy meadows, lawns, and open woodlands. It is a mycorrhizal species, which means the mycelia (threadlike fungal webs) form a symbiotic relationship with plant roots. It was formerly thought that giant puffballs were saprophytic, feeding on decaying organic matter. Many descriptions of the species still conflict on this topic. Anecdotally, in the Preserve this fall, groups of giant puffballs appeared most often under stands of maple, where buckthorn thickets had recently been removed. Perhaps, the decaying roots of the former buckthorn stand offered a nutritious boost to the mushroom's development.

The giant puffball is sought out by many as a culinary delight. Young specimens exhibiting a firm, pure white interior can be prepared in a variety ways, from pan fried to marinated and broiled. With a spongy texture akin to tofu, giant puffballs will absorb most any flavor you wish to impart, and combine well in all sorts of dishes.

As with any fungi, proper identification is crucial to safe consumption. There are several species of puffballs and false-puffballs, as well as certain gilled mushrooms that may appear to be puffballs when in early stages of growth. The giant puffball lacks a true stipe (stem), but does connect to the ground via a thin mycelial cord.

In the Preserve, the bright, cream-white fruiting bodies of the giant puffballs have now matured into mustard-brown, spore-producing shells of their former selves. These remnants will persist into the following year, as they continue to disseminate spores with the help of wind, rain, insects, and animals. Research has proven *Calvatia* species to be one of the most prolific fungi, with a single mushroom capable of producing trillions of spores.

Be sure to keep an eye out for one of the trillions of potential offspring next fall.



A giant puffball mushroom looks like a misshapen volleyball in the Preserve.

NOTE: Collecting from University of Wisconsin property is prohibited. Please take only pictures.

West Campus Stormwater Project Update

by Rhonda James

Phase two of the West Campus Stormwater project began this fall with the excavation of stormwater ponds at the north end of parking lot 60. Contractors will soon begin the creation of linear bio-retention areas in the swales on the north side of University Bay Drive, extending west from the Picnic Point entrance. The intent of these projects is to remove nutrient rich sediment from the stormwater that falls on university lands before it reaches the lake.

The pond at Lot 60 will have a continuous pool of water and be surrounded with native vegetation when complete. The ditches between University Bay Drive and the Lakeshore Path will be excavated, refilled with engineered fill, and planted with native vegetation to absorb, hold and slowly release stormwater to Lake Mendota.

The ponds and bio-retention areas will not only help improve the quality of Lake Mendota but also serve as habitat for birds, amphibians, reptiles, and pollinators while providing humans more opportunities to witness wildlife.

Some disruptions to bicycle and pedestrian traffic on the Temin Lakeshore Path will occur. Asphalt was removed to allow the replacement of a stormwater pipe at the entrance to Picnic Point, which will be replaced soon. Please use caution in and around the construction areas. Construction is expected to be completed during the summer of 2014.

Stormwater pond takes shape north of lot 60.

'Party on the Path' Introduces Students to the Preserve

Members of the University of Wisconsin-Madison "green scene," student organizations who focus on environmental and sustainability-related themes, gathered on the Howard Temin Lakeshore Path September 10th for the first ever "Party on the Path."

The event was sponsored by the Nelson Institute for Environmental Studies in partnership with the Office of Sustainability, Friends of the Lakeshore Nature Preserve, and Outdoor UW. The party was an opportunity for students to explore "green" student organizations stationed along the path, and meet with department advisors who strolled with participants. The event included door prizes, games, and a scavenger hunt, all culminating with a screening of a movie on the Memorial Union Terrace.

Volunteers from the Friends of the Lakeshore Nature Preserve developed and led participants on short guided tours of the Lakeshore Nature Preserve.

According to Olivia Sanderfoot, a student member of the Friends of Preserve Board and one of the event organizers, *Party on the Path* succeeded in accomplishing one of the primary goals: introducing UW students to the Lakeshore Nature Preserve. "This amazing campus resource often goes unappreciated, and [we] wanted to create an event that inspired students to return to the Lakeshore Path and explore the Preserve on their own in the future."

Just a few of the many student volunteers who promoted UW's "green scene" at the *Party on the Path*.

The next Preserve stakeholder meeting is scheduled for Tues. January 28 at 5pm in room 132 WARF (610 Walnut St.). Parking is free in lot 64 after 4:30pm. We hope you'll join us for a discussion of next year's work plan and budget.

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The Friends of the Lakeshore Nature Preserve staffed a table at the Eagle Heights Community Center Fall Festival to share information about the Preserve to residents. Photo submitted by Gisela Kutzbach.

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Join a community of Preserve fans on our Facebook page. View and share photos and wildlife sightings. Get news stories and notices. Let us know what you like about the Lakeshore Nature Preserve!

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