

Litzsinger Road Ecology Center

Volunteer Newsletter

9711 Litzsinger Road ♦ Ladue, MO 63124 ♦ Phone (314)442-6717 ♦ www.litzsinger.org

PEEC-ing Into the Future

by Bob Coulter

Last month I referred to a National Academy of Sciences report on spatial thinking that affirms what we're doing and offers ideas for ways to extend our programs. This anchoring of our work in "best thinking" is important for the future of the Center. Fortunately, the Foundation's generous support of staff attending conferences helps us to be well-informed and to contribute to the greater good the ideas and experiences generated here.

Another element of our strategic planning is knowing how well we are actually achieving what we think are. Great ideas are important, but we also need to gauge how well our intended goals are actually being realized here at LREC. Hence, our involvement in the evaluation process first mentioned a few months ago in the newsletter and in community meetings. I'm pleased to report this month two significant advances on that project.

First, we are working with our evaluation consultants to develop a survey that will be given to all of our teachers. We are particularly focusing on how teachers see the work at LREC advancing their students' learning and environmental stewardship, and the extent to which they are able to connect what they do in the field with us to their classroom and the local community. A subset of teachers will also be asked to take part in a more in-depth interview with our evaluators. This data should be available by late summer.

Related to this, we have been invited to join the Place-based Education Evaluation Collaborative (PEEC). This is a group of projects with a common interest in engaging teachers and students with their local environment. Together, PEEC has a shared research agenda focusing on learning how best to support teachers and students in locally-focused environmental investigations. Since we are pursuing the same broad issues, evaluation data from one project can support another project. More specifically, by using the same or very similar questions in surveys and interviews, we can triangulate our experiences. Where several projects are experiencing success, the data from multiple sites lends support to the approach being a reliable way to promote learning. Where one project is successful and another isn't, comparing details about each project may help to identify important differences that affect outcomes.

We hope that moving forward, these tools, data, and ideas help us to fulfill our mission of promoting environmental literacy for teachers and youth.

Inside this issue:

Exploring the Burned Prairie ...	2
Citizen Projects Taking Root in the Deer Creek Watershed	3
Calling All Volunteers!	4
Leave It To Beaver?	5
Beaver at LREC	6

Upcoming LREC Events:

Herbarium Volunteer Group First Meeting

March 7, 9a.m.–12p.m. See page 4.

Bush Honeysuckle Removal

March 24, 9a.m.–3p.m. See page 4.

Community Meeting and Lunch

March 28, 12–1:30p.m. At Glass House. Lunch provided. Come with ideas of what is going well, and what we should be building toward. RSVP to Martha at (314)442-6717.

Volunteer Enrichment: Using the Greenhouse

March 28, 2–3p.m. Meet at Barn. RSVP to Martha at (314) 442-6717.

Upcoming Opportunities:

Deer Creek Clean-up

March 11, 9a.m.–2p.m.
Deer Creek Park in Maplewood. Snacks provided. RSVP to Darlene Haun at (636)225-3946 or at riverdesperes@thegreencenter.org

Exploring the Burned Prairie

By Heather Wells-Sweeney

For quite awhile we've been teaching about the ecological benefits of burning our prairie. We've talked to students about how fire keeps out trees and how it returns nutrients to the soil (more quickly than decomposers do). We've also shared with students that removing the light-blocking dead stalks will give the plants a jump start on greening up for the spring.

But we've been learning more these past weeks of the educational value of a burned prairie. By allowing the students to explore (with guidance) the newly burned prairie, we've given them the chance to discover all sorts of wonders. We've uncovered turkey eggs (*What kind of bird could lay an egg that big? Did the whole egg burn?*), deer tracks (*What kind of animal made those tracks? Can we follow those tracks?*), piles of maple seeds (*Where did these helicopters come from? Do you see trees in the prairie?*), and seeds from red berries (*What are those round*

things and that red stuff? How did they get here?). Fostering this sense of wonder is what inquiry-based learning is all about.

We've also employed inquiry as a tool when we adapted the Prairie Seeds and Woodland Wonders (PSWW) Field Lab to incorporate our prairie fire. Instead of telling students that we burned the prairie and why, we challenged students to find evidence of such. Instead of giving a lecture about how prairies came into existence, we challenged students to find out whether the plants were still alive—and *what part* was alive, which fit nicely with the PSWW goal of learning about plant structures and life cycles.

Another goal of ours is to help students develop their sense of place, including a connection to LREC as they return repeatedly. Students who have been here before are quick to ask, "Have you burned the prairie?" They're curious to see how their Ecology Center has changed since the

last time they were here. Folded in with a connection to this place is an ethic of care, which we also hope to foster. Teaching students to tread lightly above animals' burrows and plants' "stored sunlight" as they explore the prairie is a great way to build that ethic, and the lesson is delivered more readily when the students can see the burrows apparent in the bare soil of the burned prairie.

It's rewarding to see that through teaching about prairie ecology, we're helping students develop inquiry skills while we deliver place-based education.



Need to contact a staff member?
Here are their phone numbers:

Bob: (314)442-6737
Eddie: (314)256-9418
Heather: (314)255-2231
Jennifer: (314)961-4410
Malinda: (314)961-4410
Martha: (314)442-6717
Mary: (314)961-4410

Education Ctr. Fax: (314)255-2172
Glass House Fax: (314)962-2521

Citizen Projects Taking Root in the Deer Creek Watershed

by Jennifer Brown

With some assistance and guidance from folks at LREC, several recent citizen-led creek-side initiatives are springing up and taking root in the Deer Creek Watershed! A common thread linking all of these projects is the removal of invasive plant species, mainly bush honeysuckle, along with the replacement of native vegetation. The replacement of shallow-rooted bush honeysuckle with native plants species known to have extensive root systems, will help to decrease erosion along these waterways, improve the infiltration of water into the ground, and enhance plant diversity and wildlife habitat. These actions will not only open up these areas and make them more inviting to explore, but they will also enhance the opportunity to

learn about local ecology and serve to enrich the beauty of our communities!

The Ladue Ladies Garden Club has been tackling a landscape improvement project at Rhodes Park located near the intersections of Ladue and Warson Roads. This group of enthusiastic go-getters has selected this highly visible area as a demonstration site to show off how native plants can enhance the aesthetics of an area. Essentially, the topography and lay of Rhodes Park acts as a mini drainage basin near the headwaters of one of Deer Creek's unnamed tributaries. The park has an intermittent stream running through the center of it that collects water and flows during times of heavy rain. This variable has provided the group with a

great opportunity to practice good stormwater management through the use of deep-rooted vegetation that will help to slow runoff rates and increase the amount of water that is able to soak into the ground. Another main goal of this project is to showcase to others in the community appropriate methods and strategies for removing bush honeysuckle along waterways prone to erosion.

Another equally ambitious and exciting project that is happening in another intermittent tributary of Deer Creek is the creation of an outdoor classroom at Spoede Elementary School. One of LREC's new education volunteers, Sharon Buchanan, is responsible for spearheading this project and is laying the groundwork for exporting the education and restoration messages that we promote at LREC to another site within the community. Sharon and her enthusiastic crew of student helpers are doing an awesome job of converting an overgrown wooded area of their school grounds to native woodland and prairie gardens. They are also working with the intermittent stream on the site known as Windrush Creek, another tributary of Deer Creek, by exploring the development of water features that will serve to reduce erosion, increase wildlife habitat, and provide unique learning opportunities for students during their outdoor investigations.

See **Watershed**, page 4





Last, but not least, is a stream clean-up and revegetation project

happening as part of a joint effort between the River des Peres Watershed Coalition and local Stream Team groups along the main branch of Deer Creek at Deer Creek Park in Maplewood. This event will take place on March 11th and will involve the removal of trash and bush honeysuckle as well as the planting of over 300 native, woody plants paid for by the City of Maplewood. As part of the preparations for this big event, a handful of individuals from these groups have been working at the site to improve the creek access by constructing a trail with steps that serve to direct water off the trail and make it safer to climb up and down the steep, slippery slope of the streambank. This creek access trail is sure to be a big improvement to the current pathway that has arisen haphazardly from use and which has proven to be a safety and erosion problem. This

project is quickly gaining support amongst the local community, as students from Roahn Woods School are adopting the site and caring for the plants after the initial planting date, and local stream teams are actively monitoring water quality along this stream reach. This project will also tie into the Shady Grove Creek Greenway Project being carried out by the Greenway's District in the next few years.

These groups and individuals deserve kudos for their efforts in carrying out these restoration projects that help us promote the use of native vegetation, raise awareness about the detrimental affects of invasive species, and attempt to reconnect people with the waterways we have neglected for so long. Hats off to these passionate and committed individuals! We need more people like you in the world!

Calling All Volunteers!

Herbarium Volunteer Group

An herbarium is a comprehensive collection of dried, pressed plants which is used at LREC to aid in identification of plants and for teaching students about plant species that are not currently flowering or fruiting. We will be starting an herbarium volunteer group on the first and third Tuesdays of each month. We will meet at the Glass House from 9 a.m. to 12 p.m. starting March 7th. These volunteers will inventory our current herbarium, and collect, press, and mount new plant specimens. Please call 961-4410 for more information.

Honeysuckle Removal

We will be having a bush honeysuckle removal and replacement work day on Friday, March 24th starting at 9 a.m. and going until 3 p.m. We will meet at the barn. Lunch will be provided. We will be removing part of the bush honeysuckle along the Pasture Prairie and in front of Bob's house and replacing it with native shrubs. Please RSVP to 961-4410.



Leave it to Beaver?

By Martha Schermann

The beaver (*Castor canadensis*) is the largest North American rodent. They inhabit waterways throughout North America and the Canadian Provinces. A unique paddle-shaped tail distinguishes the species. Continually sharpening teeth allow beavers to mow down sizeable trees. Beaver often alter the landscape with the construction of dams, canals and lodges. They are territorial as long as the habitat will support families called "colonies." Beavers are powerful animals both on land and in the water. Although their ears are small they have excellent hearing. Beavers close their ears and nostrils while under water. Beaver teeth, including their bright orange incisors, grow continuously.

Beaver continue to grow in size throughout life, and weights in excess of 60 or 70 pounds do occur. The average weight is 45 to 60 pounds. The hind feet of beaver are fully webbed, and large. These feet often measure 6 inches in length. Claw marks show in the track. Beavers walk plantigrade, or flat-footed. The large tail sometimes leaves a drag mark in the trail. Beavers run at six to eight miles an hour. Beaver normally swim with their front feet held against their chest and the large webbed hind feet aid in the propulsion with the tail acting as a rudder. Beavers groom their fur with an oily substance called *castoreum*, which comes from glands. This gives the animal's fur its water-

proof qualities. The beaver also rubs this substance on the scent mounds near their ponds.

Beavers don't make much sound. The young can make sounds that resemble a duck quacking. Adults sometime grunt while working, but are generally silent. One sound that they are well known for is the tail slap. To warn other beavers of danger, the tail will be brought down flat against the water to make a loud slapping sound.

Beaver usually live in family units consisting of the older mated pairs, young from the previous year and those from the current season called kits. Breeding season takes place in late January or February in most cases. Young from the previous year are about 22 months of age at this time and they are evicted from the den and forced to relocate and seek mates of their

own. The gestation period of beaver is 107 days and the adult male usually take up a temporary residence in a bank den while the new litter is being born in April, May and June. The birthing process may take several days and 3 to 5 kits are a typical litter size. Beaver kits are furry when born, their eyes are open, and the incisor teeth are visible. Newborn kits take to the water and might be swimming before they are a day old. Most beavers are monogamous and stay with their mate throughout life.

Beaver normally submerge for 3 to 4 minutes at a time; they are quite capable of holding their breath for 12 to 15 minutes. They exhale in little spurts as they swim or work under water and a large beaver is capable of traveling nearly ½ mile under the surface before it must surface for more air.



Robert Potts © California Academy of Sciences

Beavers at LREC

By Malinda Slagle

The recent sightings of beaver chewings on trees and vines at LREC (LREC Weblog January 24 and February 10) piqued my interest in learning more about our new residents.



Eddie Jones

Beavers live in streams, rivers, wetlands, and small lakes. They live in a small colony with a female, a male, yearlings and kits (babies). Beavers are thought to mate for life. Along streams in Missouri, they often do not build the typical beaver lodge or dam due to frequent flooding and fluctuating water levels. Instead, beavers construct a bank den. The den is about 3 feet across and 2 feet high constructed in the side of a bank. The den itself is above normal water level, but the entrance is an underwater tunnel 12 to 18 inches wide and 12 to 50 feet long. The den entrance is underwater so that the beavers can enter their den without being exposed. Beavers build lodges and dams in small streams, lakes and ponds. They construct the

dams by placing foundation limbs parallel to the current, with the cut ends of the branches facing upstream, then plastering the limbs with mud, stones, and sod. Beaver dams create deep water for beavers to safely exit their lodge, create warmth, and increase aquatic habitat for the emergent aquatic plants and trees that beavers eat. As a byproduct, beaver dams reduce erosion and create habitat for other animals. A lodge is a beaver colony's dome-like home that can be built along with a dam or against a bank or on an island. It is made from limbs plastered with mud and may be up to 7 feet high and 40 feet wide.

In summer, beavers eat mainly non-woody vegetation, and in the winter they eat only woody vegetation. Favorite non-woody vegetation includes emergent aquatic plants such as water willow, bur reed, arrowhead and small land plants. Some of the beavers' favored trees include cottonwood, willow, hickory, flowering dogwood, oak, elm, sycamore, black gum, red maple, birch, grapevine, and witch hazel. They mainly eat the bark of twigs and the new growth or cambium between the bark and the wood of the trunk and branches of trees. They usually fell trees between 2 to 8 inches in diameter although some beavers have been known to take much larger trees (up to 5 feet 7 inches in one case). If we become concerned about protecting trees from the beavers on site, we can loosely wrap trees of concern in hardware cloth at a height of 3 feet.

Beavers can be seen foraging in the evening and nighttime within 15 feet of creek banks. They usually forage alone. Beavers do not hibernate so activity can be seen in the winter as well. Since they eat only wood in winter, it is a good time to look for gnawed trees and shrubs. Beavers may leave tracks with two wide splayed front foot tracks 3 inches long and fan-shaped tracks from webbed hind feet 5 inches wide and 6 inches long, but their tails dragging over their tracks may destroy the tracks.

Although also hunted by coyotes, bobcats, otters, and mink, people are the worst enemy of beavers. Overhunting for fur popular for coats and hats and draining of land for agriculture resulted in the near-extirpation of beavers from the southern and eastern United States in the late 19th century. Using a combination of relocation and protection people have helped beavers to repopulate their extensive range including most of the U.S. and Canada.

References

- Beavers, Wetlands and Wildlife.* <http://www.beaversww.org/beaver.html>
- Schwartz, C. W. and E. R. Schwartz. 1981. *The Wild Mammals of Missouri.* Columbia and London: University of Missouri Press and Missouri Department of Conservation. pp. 174-181.
- Whitaker, J. O. 1996. *National Audubon Society Field Guide to North American Mammals.* New York: Chanticleer Press. pp. 568-572.