

Litzsinger Road Ecology Center

COMMUNITY NEWSLETTER

www.litzsinger.org

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November 2013

Making the “Upsell” to Your Kids

by Bob Coulter

Last month we switched providers for the Litzsinger Road Ecology Center staff cell phones. As you can imagine, it’s a process fraught with sales pitches designed to “upsell,” getting us to take on a bigger and better package filled with accessories. While this was simply an annoyance to be worked through, the process aligned in an interesting way with some work I’ve been doing with my rather place-based fifth and sixth-grade church youth group. Yes, there is a connection here:

Each year we jointly pick projects where we can make a difference. After considering a few options, the kids identified nature as a theme they wanted to pursue. Having been lulled into typical kid-level projects over the decade of their time on Earth, they defaulted a rather dull litter pick-up...zzzz. Time for an intervention. The other group leaders and I challenged the kids to think bigger, and after a few iterations we are well into developing a native plant garden on the church grounds. Plants are in the ground, mulching and edging are next week, and then we’ll create

a pathway with tree slices that have been painted by the kids with symbols they have chosen.

All too often, kids don’t sense how powerful they can be in the world. Can you “upsell” them on the work they can undertake? It might be the most important work we do. 🌱

A rain garden under construction. Test your knowledge of rain gardens in this month’s Glass House Quiz on page 5. Photo by Danelle Haake.



Students and Seeds

by Betsy Guthrey,

Third Grade Teacher at Edgar Road Elementary School

Four years ago on a freezing cold morning in December, twenty-one students and I stomped prairie seeds—donated by the Litzsinger Road Ecology Center—into the snow. A spot in our courtyard had already been cleared by my students so that we could grow a native plant garden. Little did I know that it would grow so well and abundantly that we could actually harvest and collect seeds from it to help start a second prairie!

That day came in October of this year. While attending the first Litzsinger Road Ecology Center after-school enrichment class (held at Covenant Christian School on September 19), I got hands-on experience with collecting and cleaning seed. After this experience, I was inspired to try this activity with my students for the first time. What an amazing experience it turned out to be!

The best preparation I did for this activity was to invite Deanna English and Leslie Memula from LREC out to my school to walk my prairie and help me identify the plants that had seeds ready for collection. I collected pieces of these plants (the fruit) and located the seeds, and made sure both were placed in small ziploc bags labelled with the plant name.

This gave me a lot of confidence to help my students locate and analyze the seeds. I paired my students up a few days after Deanna and Leslie came out. Each group of students chose one of the ziploc bags. I told them to go and find that plant in the prairie. Immediately they found their plant and, using scissors, cut off and collected the seed heads, which they then put into a paper bag. The students were so engaged and careful as they studied their plant and so curious as to where the seeds were hidden.

We went back to the classroom and used magnifying glasses, tweezers, and paper plates to separate the seeds from the chaff. My students got really creative in how they chose to separate out the seed to keep it as clean as possible; I was amazed at their ideas! When the seed was cleaned, we collected it into clean ziploc bags and labelled it with the seed's name and date of collection.



Edgar Road third-graders collect, clean, and examine seed from their school prairie. Photos by Betsy Guthrey.

See **Seeds**, page 3



From **Seeds**, page 2

Next I assigned each student a research paper where they researched their plant online. The students worked for an hour and a half, staying engaged the entire time. They continued to talk about the experience for days after.

Our next step is to put all the seed into one large ziploc bag with clean, white, moist sand. Then we'll put it in our refrigerator until January. From there we hope to grow the seed in flats in the greenhouse on our schoolyard and then transplant the seedlings into our new prairie to help get it jump started.

Thanks so much to all of the LREC staff who always inspire and challenge me to find ways to help my students experience all of what the natural world holds!

Editor's note: Betsy participated in our 2011 summer Sustainable Schoolyards workshop. 🌿



Students use the internet to research the plant they collected. Photo by Betsy Guthrey.

Edgar Road Elementary School

Location: 1131 Edgar Road, Webster Groves, MO 63119

Web site: <http://edgar-road.webster.k12.mo.us/pages/edgarroad>

Grades: K-5

Number of Students: about 390

Classes partnering with LREC: 1

Horticulture & Restoration Offerings for School Groups

by Deanna English

Maintaining the property at LREC is a full time job, and many of the things that happen here throughout the year can be an opportunity for school groups. We welcome the opportunity to have students help us while they learn about what it takes to manage an urban natural area.

If you are a teacher planning to visit LREC in November, here's a list of experiences that might be available at the time of your visit. If any of these fit into your lesson plan, please contact us and we can arrange for you and your students to get involved.

Stream cleanup—Cleanups available when the stream is at a safe level.

Stream monitoring—Stream monitoring kits are available and include dissolved oxygen, conductivity, pH, temperature (air and water), nitrates, turbidity, and chloride.

Macroinvertebrate monitoring—This is an opportunity to count the numbers and types of macro invertebrates found in the Deer Creek to help determine stream health.

Invasive plant removal—We welcome opportunities to educate as students help us remove invasive plant species from the site.

Roots and plant structure demonstration—This activity introduces students to the purpose and function of roots and plant structures.

Collect seed—Learn to identify one or two plants and go out and help us collect some seed.

Clean seed—Learn about different seed sizes and dispersement strategies. Clean some seed to prepare it for planting in the green-house or for sowing outside.

Create Seed Mixes—(Middle School and High School students can learn about selecting site-specific species, use a formula to determine the amount of seed needed for an area and help us weigh each species of plant seed and create a custom seed mix. 🌿

The Oak

by Martha M. Schermann

I was sad to see that the tall oak outside of the barn had fallen Wednesday evening (October 16). Hopefully we can keep a good-sized chunk and watch it decompose. This had been a great tree for finding various mushrooms and toads and frogs, and was a great buffet spot for woodpeckers and other birds.

Will something sprout in its place? What will happen to the critters inside? What about the mushrooms? There are many questions to be answered and pondered. What do you think will happen?

Email me at martha@lrec.net and I will keep track of your predictions and see what comes about! 🍂



The fallen oak. Photos by Martha M. Schermann.

In the Calendar This Month...

As the final leaves fall from the trees, we spend a bit of time looking back on the past year and planning for next year.

November

- Milkweed seed pod opening (*Asclepias syriaca*)
- Three Tuesday horticulture volunteers (Mo, Maureen, and Susan) cleaning seed
- Ironweed seed heads (*Vernonia baldwinii*)
- Pileated woodpecker (*Dryocopus pileatus*) on a tree spar

See full-size images and more details on our blog: <http://www.litzsinger.org/blog/>.





Glass House Quiz: Rain Gardens

by *Danelle Haake and Deanna English*

In a couple of weeks, the Deer Creek Watershed Alliance will begin the third and final application period for their RainScape Rebates cost-share program. This program allows landowners in the Deer Creek watershed to install landscape features that solve drainage problems, improve property value, attract birds and butterflies, and increase aesthetic appeal. The program will then reimburse up to 75 percent of the cost to a maximum of \$2000. For more details or to apply, visit <http://deercreekalliance.org/rainscaperebates.aspx>. The applications will not be available until November 15, 2013 and they are due by February 12, 2014.

There are several LREC volunteers who have applied and been awarded in earlier rounds of this program, and it has been great to be a part of the process with them.

While there are many different ways to hold water on your property that are covered by the grant, this month we thought it would be fun to focus on what makes a great **rain garden**. So let's find out how much you already know about rain gardening:

- 1. Like all gardens, rain gardens can serve several purposes. But what is the main purpose of a rain garden (as opposed to any other kind of garden)?**
 - a) To attract butterflies and bees
 - b) To decrease the amount of water in streams during storms
 - c) To improve soil quality
 - d) To make it rain more often
- 2. Where in the landscape is the best place to locate a rain garden?**
 - a) In a stream channel
 - b) Near the top of a hill
 - c) Near the bottom of a hill in a place that tends to pond during storms
 - d) Between b and c
- 3. When preparing to install a rain garden (or most types of gardens), sometimes the soil is compacted or has a lot of clay. Which of the following should you NOT add to your soil to improve texture?**
 - a) Sand
 - b) Leaf mulch
 - c) Manure
 - d) Expanded shale (haydite)
- 4. If you have a house with a 1,000 square foot roof on a lot with 3,000 square feet of open space, how big should your rain garden be?**
 - a) 500 square feet—half the size of the roof
 - b) 1,000 square feet—the same size as the roof
 - c) 2,000 square feet—twice the size of the roof
 - d) It depends...
- 5. How many different species of plants should you put in a rain garden?**
 - a) 1 or 2
 - b) 3–5
 - c) 8 or more
 - d) b or c

See **Quiz**, page 6

From **Quiz**, page 5

Answers:

- 1. b) To decrease the amount of water in streams during storms.** The thing that makes a rain garden different from other types of gardens is its ability to hold water, to give it time to soak into the soil.
- 2. d) Between b and c.** You don't want a rain garden on top of a hill because it won't collect much runoff. You don't want a rain garden in a stream or in a place that already ponds, because you are trying to get the water into the ground before it reaches a ponding area or stream.
- 3. a) Sand. DO NOT ADD SAND!** This might seem counter-intuitive, especially since water just flows right through sand at the beach or in the sandbox. But have you ever seen this recipe?

Clay + Water + Sand = Concrete

Adding sand will actually *decrease* the amount of water your soil can hold and transport. Adding organic materials is the best remedy as it will provide nutrients and also help the soil be more spongelike.

- 4. d) It depends...** It depends on many things! Do you have kids who need part of that space to play? Do you want to turn the whole yard into a native landscape regardless of how much water falls on it? Do you want a large, shallow garden that is dry within two hours of a storm? Do you want a deep, small garden that may stay wet for up to 36 hours? Do you have a specific goal? (For example, your goal might be to capture the first inch of rainfall that hits your roof—624 gallons.) If your rain garden is about 6 inches deep and about 300 square feet, it will capture the first inch of rain off a 1,000 square foot roof.
- 5. d) B or c.** We recommend at least three species—if the conditions at your site turn out to be poor for one of the species you plant, you don't want to lose half or all of your vegetation! If this is your first experience with native plants, or with the species you are using, you may want to limit your plant palette to 3–5 species so that they are easier to remember and identify when the time comes to pull weeds. If you are more familiar with your plants, add as many species as you like! A landscape with diverse plants will attract diverse wildlife and provide a better functioning rain garden system. 🌿



Danelle's rain garden in a weekend:
Top: yard before rain garden.
Bottom: rain garden ready to plant.
Photos by Danelle Haake.

RAINSCAPING

Would you like to lessen the impact of flooding, reduce storm-water runoff, and improve local water quality? Rainscaping (landscaping for stormwater management) your yard or site can help you do just that!

Check out the Garden's online RainScaping Guide at <http://www.robot.org/rainscaping> to learn what rainscaping is, which options are best for your site, and how you can implement them.

While you're on the website, be sure to complete a brief online rainscaping survey for the chance to win a \$500 gift certificate for Shaw Nature Reserve's Spring Wildflower Sale in May and other great prizes! 🌿

LREC Research: Maisie Rinne

by Danelle Haake

In the last two newsletters, I shared information on the research done by interns Hannah Carpenter and Anna Chott. This month, I'll be highlighting the research of intern Maisie Rinne.

Last spring, Maisie Rinne came to LREC as a part of her Masters in Environmental Studies/ Environmental Education program at Antioch University in New England—the alma mater of LREC staff Bob Coulter, Deanna English, and Susan Baron. Maisie was very experienced in outdoor education, but wanted to gain hands-on field experience in restoration and research.

When discussing possible projects, Maisie was very interested in looking at stream bank erosion. Previous work by former LREC staff and volunteers had established stream cross-sections at six locations in the channel of Deer Creek. These had been measured two times in the past and provided a baseline for Maisie's work. In addition, she researched other methods that are currently used

by researchers and incorporated some improvements to our cross-section methods. These included more frequent measurements and more detailed bank descriptions. She then implemented her methods and compared the new cross-section measurements to the previous ones.

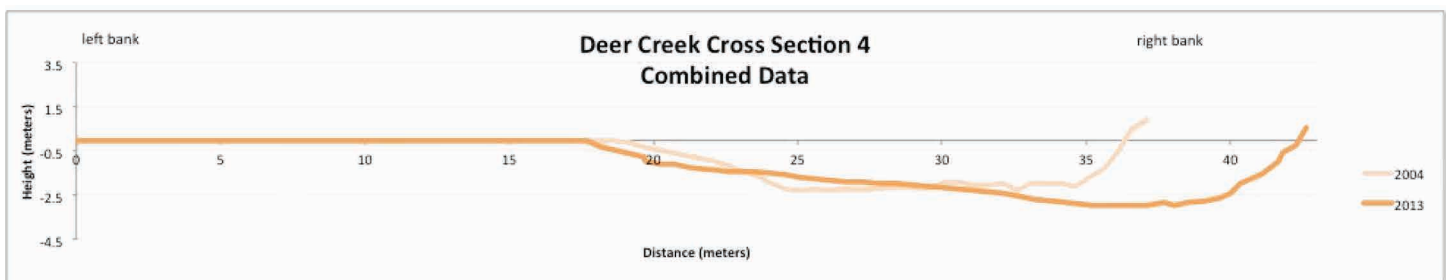
While these cross-sections provide wonderful, detailed information about what is happening in parts of the stream, they do not give us an idea of how the stream channel as a whole is moving and meandering. Maisie and I developed a bank erosion protocol using the plant monitoring pin grid that is already established in the woodlands, and then we measured all along Deer Creek. After completing our initial measurements, we re-measured at a few locations to see if the



Maisie and Danelle measure a cross-section.
Photo by Ben Greer.

method was repeatable and it turned out fairly well. For more details on the project and Maisie's results, download her report at <http://www.litzsinger.org/research/rinne.pdf>.

Maisie did an excellent job. Her synthesis of the previous work, both here at LREC and by researchers in other watersheds, has set a solid foundation for tracking changes in the channel of Deer Creek. It was a pleasure to work with Maisie and we wish her great success as she takes on new challenges! 🙌



LREC READING CORNER

by Danelle Haake

The Sign of the Beaver

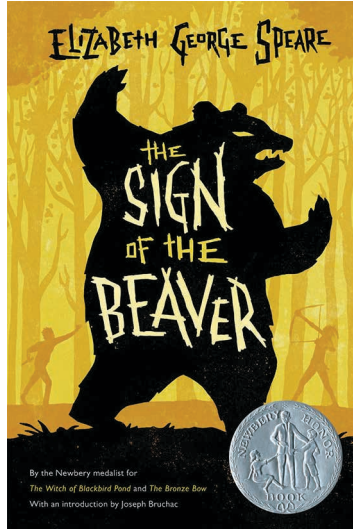
BY ELIZABETH GEORGE SPEARE

AUDIENCE: GRADE 3 AND UP

One aspect of restoration work is often overlooked; we are trying to return our landscape to what it once was. To do that, we need to look into the future to plan our path, but also we need to reach back into the past to decide where that path should start. In our part of the country, the landscape was once a mix of prairie, savannah, and woodlands. Long before European settlement, the St. Louis region was influenced by the indigenous peoples who lived here. But the interactions of the Native Americans with the landscape were far more subtle than those of the Europeans who followed.

Speare's book, *The Sign of the Beaver*, is the story of Matt, a 13-year-old boy who is left alone in the log cabin he and his father built; his father has gone on a seven-week journey to bring the rest of the family from Massachusetts to their new home in the woods of Maine. In his father's absence, Matt works the land and prepares for the coming winter as his father taught him, but he does not understand the land around him until he meets a family of Native Americans from the Beaver clan. Together, they begin a journey toward understanding.

This book has much to offer in the context of social studies. In addition to the historical aspects of the story, there are many themes in this story appropriate to young audiences, including friendship and survival. I enjoyed reading about Matt's preconceptions and how his assumptions about his new friends were often incorrect. But I must admit that one of my favorite paragraphs in the book was the one that talked about the plants: which were safe to eat, which were poisonous, and which were medicinal. I even recognized one of the plants from the description: "...a weed with a small orange flower and a milky juice in its stem that took away the sting of insect bites or poison ivy..." This plant, jewelweed, can be found here at LREC, and we often use it to take away the sting of stinging nettle. As a fan of historical fiction and of natural resources, I give this book a 'thumbs up!' 🙌



LREC Announcements

November 19

Volunteer Enrichment: Prescribed Burn Training

Meet at the barn. Program starts at 12:30pm or come at noon with your lunch. RSVP to Martha at martha@lrec.net or 314-540-4068.

November 20

Water Quality Monitoring

12:30pm, meet at the Glass House. We will finish around 3:30pm. Questions? Contact Danelle Haake at danelle@litzsinger.org or 314-961-4410.

December 11

Volunteer Holiday Party

11am to 2pm, at the Glass House. RSVP to Martha at martha@lrec.net or 314-540-4068 to let her know how many will be coming so we can know how much food to order.

Local Events

November 14

Wild Ideas Worth Sharing

4:30pm to 7pm, Monsanto Center at Missouri Botanical Garden. Local experts present on a biodiverse St. Louis: *Plants of St. Louis: A Historical Prospective*; *Plants, Pollinators & People: A Love Story*; and *Why Urban Biodiversity Matters*. Free but registration required by November 11. More information at <http://www.academyofsciencestl.org/events/> or call 314-533-8586.

November 16

Free Electronics Recycling Drive

9am to noon at Habitat ReStore (3763 Forest Park Ave, St. Louis 63108). Bring computers, phones, cables, TVs, rechargeable batteries, and more. All recycling done with secure data destruction. Call 314-428-0777 for more information.