

Litzsinger Road Ecology Center

Community Newsletter

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Navigating a Crowded Calendar

By Bob Coulter

As you no doubt know by now, the LREC calendar for this year is very crowded, leaving almost no dates open for classes to be added. While we're glad to see that the re-designed model for the Center that we initiated a couple of years ago is being well received, we also know that the schedule clog is causing some challenges. I'd like to briefly summarize the constraints we have to operate under, describe how we plan to improve next year's scheduling, and ask for your help. All of this is probably better addressed now rather than waiting until the spring when our memories are a bit less clear.

First and foremost, LREC operates under a special use permit from Ladue that caps the number of participants we can have on site at a given time (30) and in a day (60). As a result, we almost always have to limit the calendar to one group on site at a time, except for independent schools that have very small classes. In a few instances we have been able to "double book" those and stay under the permit caps.

Looking to next year, we will again have an application process, guidelines, and a deadline for priority consideration. These will be announced well in advance. We will also provide a clearer statement of when you will hear from us about scheduling, and how to contact us if you don't hear from us by that date.

What we will need from you on that application is a "live" summer contact who is able to select dates for the coming school year *during the summer*. In many cases, we lost contact with teachers and schools over the summer, which left scheduling until mid-August or later. In other cases, schools weren't ready to pick dates if their calendar hadn't been firmed up. Given the schedule constraints, the best selection of dates starts to disappear quickly as we approach the start of a new school year.

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Upcoming LREC Events:

New Education Volunteer Training

Continues Mondays through November 12, 9am–3pm. Meet at the barn. Veteran volunteers welcome—RSVP to Martha at (314) 442-6717.

Volunteer Enrichment:

Knowing the Grasses

October 9, 1–4pm. Meet at barn.

LREC Stream Team:

Macroinvertebrate Sampling

October 11, 9am–12pm. Please contact Jennifer Brown at (314)961-4410 if you plan to participate.

Volunteer Enrichment:

Inquiry-based Teaching

October 17, 9–11am. At Glass House.

Upcoming Opportunities:

Native Plant School—

Native Trees for Sidewalks, Backyards, and Power Lines

October 11, 1–4pm. Whitmire Wildflower Garden at Shaw Nature Reserve. \$12 (\$8 for Garden Members). Reserve your place by calling (636)451-3512.

Harvest Festival at Shaw Nature Reserve

October 14, 11am–5pm. Bluegrass and folk music, food, drink, farmer's market, local arts/crafts, petting zoo, games, hayride, self-guided tours. For more information: (636)451-3512 or www.harvestfeststl.com.

The New Prairie

By Malinda Slagle

As you enter the gate to the education side of LREC, you may notice some bare earth between the driveway and the Pasture Prairie. A contractor sprayed the Bermuda grass growing in this area with Round-up® three times this summer. Bermuda grass is really hard to kill! In September the contractor disked the area to prepare it for prairie seed.

Last winter, I designed a seed mix for this area of 61 different kinds of prairie plants collected from LREC by students and from the Shaw Nature Reserve by LREC staff. To do that, I had to decide what type of plants would grow best in the area based on the conditions of the area (wet or dry? shade or sun? soil type?). Then I figured out how much seed we needed based on an estimate of the area we would cover (10,000 ft²) and the number of seeds per area we wanted (40 seeds/ft²). That was 400,000 seeds. I multiplied this by two to correct for the seed in our mix that would not germinate and by two again to correct for the error generated by hand sowing. That was 1.6 million seeds! Wow, that's a lot of seed!

Each species of plant was weighed after cleaning, and then I figured out how many seeds of each species I had by making interns count them one by one!

Actually, I based the numbers of seeds on estimates of seeds/oz for each species available from a native plant nursery website. After I knew how much seed I had of a species, I figured out the percentage of the mix that I would like it to be. Often, all of the available seed must be used of a given species to reach the desired percentage. The mix I created included 30% grass seeds and 70% forbs. To ensure the seed is spread well, after weighing and mixing all the species together, I mixed the seed mix with sawdust at a ratio of five parts sawdust to one part seed.

Some of the most abundant species in the mix included big bluestem, culver's root, black-eyed susan, foxglove, beard-tongue, gray-headed coneflower, monkeyflower, bush's sedge, Indian paintbrush, cowbane, and rigid goldenrod. Hopefully, next summer this area will be awash with the yellows of black-eyed susans, which is a short-lived species that grows quickly. Other plants take longer to get growing, but in the future, the prairie will be a mosaic of many colors.

So, why are we planting more prairie? Missouri has very little



Black-eyed susan
Photo by Jenna Tune

prairie left, so planting more provides more habitat for prairie animals and helps conserve the ecosystem. Maintaining the prairie will be more cost-effective than continuing mowing in this area. The long root systems of prairie plants help water soak into this area and prevent it from running off, helping to reduce erosion and increase groundwater recharge. The flowers and waving grasses will be more beautiful than mowed Bermuda grass. Most importantly, restoring more prairie provides learning opportunities for students!

Both in the process of restoration and following restoration, each prairie parcel that we restore is a great opportunity for students to learn about all the pieces of

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Students measure area using their cardboard square feet.
Photo by Malinda Slagle

prairie ecosystems and all the parts of carrying out a restoration.

In late September, students from Maplewood-Richmond Heights (MRH) seventh grade classes helped plant some of the seeds in the new prairie area. They first had to figure out how big the area was that they would be planting. They did this in a unique way. The students strapped one foot by one foot pieces of cardboard on their feet. They formed a line with no spaces between the squares and walked carefully in lock-step. The students then drew the number of squares that they had walked onto graph paper. If part of a student's foot was outside

of the disked area then only part of the square would be filled in on the graph paper. Then, to figure the area, all they had to do was count up the filled-in squares. As you might imagine, walking with cardboard strapped to their feet was a fun adventure for seventh graders. This activity was from the Earth Partnership curriculum that Eddie and Jennifer discovered at the RESTORE institute they attended this summer.

After the MRH students figured the area, the instructor told them that $\frac{1}{2}$ volumetric oz. of seed should be in each square foot. Then, students figured out how much seed total they would

need for the area measured. For instance, if they measured 150 ft^2 , they multiplied by $\frac{1}{2} \text{ oz./ft}^2$, so they needed 75 oz. of seed. If there were five students in the group, each student used the measuring cup to measure out 15 oz. of seed, or $1\frac{7}{8}$ cups of seed. Students then sang while they scattered seed. Then students sang a new song to dance, stomp, or jump the seeds into the soil. This step was important so that the seeds would have good contact with the ground and would be buried a little so the birds wouldn't eat them. These kids had a raucous good time dancing and singing their seeds into the ground and really made a difference for the prairie too! 



Students calculate the area of the seeding space.
Photo by Heather Wells-Sweeney

What Is That Noisy Bird?

By Jennifer Brown

When you're walking along Deer Creek this fall and winter you may be lucky enough to catch a glimpse or hear the chatter of my favorite riparian-dwelling avian life, the Belted Kingfisher (*Ceryle alcyon*). While active along Deer Creek in the summer during its breeding season, the kingfisher also makes its presence known in the colder months as it over winters throughout parts of Missouri. The kingfisher's range is fairly extensive, breeding as far north as Alaska, eastward across southern Canada, and south throughout most of the United States. In winter, they range as far south as Panama and the northern coast of South America. However, some remain in their summer range, as far north as they can find open water.

Apparently the mild winters we have had of late allow the kingfishers in our area to hang around. It is during this time when many things in nature seem to be winding down that I most appreciate the kingfisher's loud and cheerful chatter racing along the riparian flyways. The bold and raspy rattle of the kingfisher's call can be likened to that of a heavy fishing reel that has just landed a big fish and is being excitedly wound as in as fast as humanly possible.



Belted kingfisher
Photo by C. Schlawe

As its name might suggest, the kingfisher's diet consists mainly of small fish. However, occasionally they also eat crawfish and other aquatic invertebrates, frogs, insects, lizards, small birds, and even berries when other preferred sources are scarce. Perhaps you may spot this mighty hunter in action, diving head-first into the water in pursuit of a tasty fish meal or perched on high, beating its catch against a branch and flipping it into the

air headfirst before swallowing it in one gulp.

Kingfishers have been reported to plunge vertically into the water from heights of up to 50 feet. One of the reasons they are well suited to the often shallow waters of an urbanized stream such as Deer Creek is that they catch most fish within two feet of the surface, stopping the dive by spreading their wings under

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water. They also appear to be less susceptible to environmental contaminants than other fish-eating birds, possibly because their diet is restricted to smaller fish.

One of the most fascinating facts about the belted kingfisher is that unlike most other bird species which nest in trees, they nest in holes that they excavate near the tops of stream banks in a slightly uphill sloping direction. These cutbanks where kingfishes make their homes are a natural part of a healthy, meandering stream system where floodwaters gradually rise and erode away the soil. However, as streams have become impacted by humans, the availability of suitable banks for nesting has become a limiting factor in the kingfisher's distribution and abundance.

In urbanized watersheds, flash floods and accelerated rates of erosion often destroy nesting sites. Attempts to stabilize stream banks with concrete or rip-wrap make banks unsuitable for nesting and often end up causing more flooding and erosion problems. Kingfishers seem to prefer sandy soil at the nest site, but they may use gravel pits and even the soil caught in the roots of fallen trees if necessary. Unchannelized sections of streams and rivers are needed for the successful

reproduction of this species.

Kingfishers are also extremely territorial and because their nests may be several miles from their fishing grounds, they may have to defend two territories. This may help to explain some of the noisy behaviors we see exhibited by them. So keep a look out and be sure to share your sightings! 🐦



Female belted kingfisher
National Fish and Wildlife Service
Belted Kingfishers are one of a few species of North American birds whose females are more colorful than males. The chestnut band across the belly is absent in the males.

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We hope that these changes help to improve the application and scheduling process. If you have ideas or concerns about this, or any other aspect of the Center, please let me know directly by e-mail at bob.coulter@mobot.org, or my office phone number is (314) 442-6737. 🐦

Other Happenings

World Water Monitoring Day

Saturday, October 6



Join other stream team participants spread out across the watersheds in the St. Louis region in a world-wide monitoring effort happening across the globe. Participants will meet at Forest Park on the morning of October 6. New participants will be paired-up with experienced monitors to sample water chemistry and macroinvertebrates. A gathering over food will occur around noon after the monitoring is complete. Please contact Jennifer Brown for more information at (314)961-4410.

Native Plants For Your Home

Sunday, October 21

LREC's own Mary Voges will be presenting on native plants for your home. This is an excellent chance to ask your questions about what plants are best suited for our local environment and make the most ecological sense for your garden. Join us Sunday evening, October 21, from 7-9pm at Eliot Unitarian Chapel, 100 S. Taylor in Kirkwood – across the street from the Kirkwood Farmer's Market.

Enter from the parking area in the back of the building. Entrance to the parking area is from East Madison on the south side of Eliot, or you can park on East Argonne and walk along the driveway. For directions see <http://www.eliotchapel.org/directions.htm>.



Purple coneflower
Photo by Eddie Jones

Fall 2007

Volunteer Events

Enrichment: Knowing the grasses (flower structure and common LREC grasses)
October 9, 1-4pm. Meet at barn.

Enrichment: Inquiry-based teaching
October 17, 9-11am. Glass House.

Walk-about
November 8, after the afternoon school group.
Meet at barn.

Holiday Party
December 14, 11am – 2pm.
Glass House.