

Litzsinger Road Ecology Center

COMMUNITY NEWSLETTER

www.litzsinger.org

October 2013

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Debbie Barham, 5th/6th grade teacher at Central Christian School, examines a five-lined skink with her students during a recent trip to LREC. Learn which other grades visit LREC on page 2. Photo by Eddie Jones.

What's Your Victory?

by Bob Coulter

A couple of weeks ago I was attending the Horace Mann dinner at Antioch New England University, where LREC colleagues Deanna English, Susan Baron, and I each earned our Masters' degrees. Mann was one of the founders of public schooling in the United States, as well as president of the original Antioch University campus in Ohio. One of his most famous quotes—repurposed as a charge to Antioch students—is to “be ashamed to die before winning a victory for humanity.” At the dinner, staff, alumni, and community members were recognized for their victories.

What's your victory? Surely it's more than what schools are all too good at recognizing; raising test scores and covering the curriculum at best are means to an end, and often less than that. Maybe your victory is the patch of land you helped some kids reclaim? The confidence you gave some kids

to go beyond the school script and create something really interesting? The mentoring you are giving to a colleague?

Whatever it is, celebrate it, share it, and use it as a springboard to the next victory.

While you're at it, maybe you can challenge the kids to find their own victory. The more each of us wins, the more we all win. 🌿



Who Are Litzsinger's Teacher Partners?

by Eddie Jones

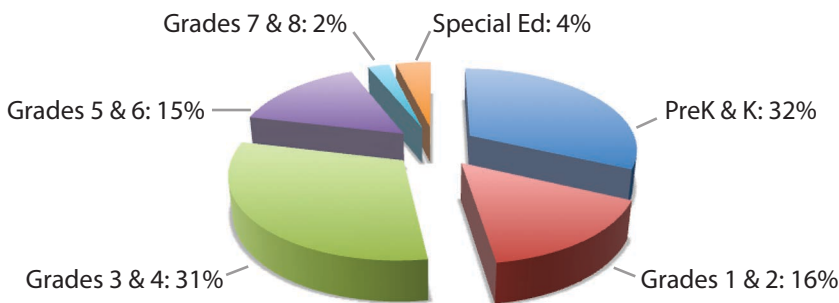
According to the Litzsinger Road Ecology Center website:

"Litzsinger Road Ecology Center (LREC) helps teachers engage their students in place-based education: using local ecology as a framework for studying a variety of subjects while interacting with the community. This is accomplished by helping teachers set and accomplish short-term goals relevant to effective outdoor learning. Both LREC and the teacher commit to a year-long professional growth partnership."

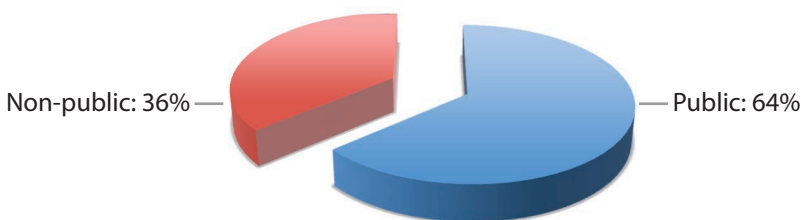
"In order to establish a LREC Teacher Partnership, teachers are required to attend one of our summer workshops during which the partnership proposal process will take place."

So what kind of teacher enters into this partnership? Where do they teach? What grade level?

Grade Level



Type of School



This school year Litzsinger Road Ecology Center is partnering with about 130 teachers in the St. Louis region. About 40 of these teachers are new to us this year. While we have two middle school teacher partners, most teach grades PreK to five. They serve in schools through out St. Louis City and County, both public and non-public.

All of these teachers communicate regularly with LREC staff, discussing their partnership goals and planning outdoor teaching activities for the schoolyard and for visits to LREC.

The charts to the left provide a breakdown of teacher partners by grade level and type of school.

While our teacher partners work in a variety of school settings, they all have a strong desire to extend their classroom into the community and to engage their students in local ecology and community partnerships while supporting their curriculum goals. ✎



Cliff Parmer, Volunteer Educator, reading to second graders from City Academy. Photo by Leslie Memula.

Check Out Our Library!

by Leslie Memula

A couple of weeks ago I was communicating with one of our teacher partners, Erik Taylor (Science Specialist at City Academy), about an upcoming visit to Litzsinger Road Ecology Center with his second grade students. His students were just beginning to study the differences between living and non-living things, and Erik was interested in using a piece of children’s literature to help reiterate what they had been discussing in class.

During their visit, before they left the deck, Volunteer Educator Cliff Parmer read the book *What’s Alive* by Kathleen Weidner Zoehfeld to help the students remember what they would be looking for as they explored the prairie, creek, and woods at LREC that afternoon.

Perhaps an underutilized resource, the LREC library contains many books that appeal both to children and adults. There are numerous field guides on everything from insects and birds to wildflowers, trees, and shrubs, along with an ever-growing collection of

children’s books and stories. Best of all, any of these books can be checked out by our teacher partners and volunteers!

If you are interested in connecting children’s literature with your visit to LREC, please consider checking out the books that we have available. A book list was compiled a few years back by Riley Dean, granddaughter of dedicated LREC Volunteer Educator Carole Dean. The list can be downloaded from the Education Resources section of our redesigned website (direct link: http://www.litzsinger.org/lrec_booklist.xls). If you have a favorite book, let us know about it. We are always looking for new books to add to our library. 🐌

“You are two inches long,
lying on the brown ground
all soft and grey.
Imagine you have no arms
and legs now.
Imagine you
cannot walk or run.



—from *The Snail’s Spell* by Joanne Ryder
(recommended to us by Volunteer Educator Sally Breck)



Getting Out in the Fall Garden: Sustainable Schoolyards Enrichment

by Deanna English

Each summer we get a group of teachers willing to spend part of their summer learning about building curriculum that supports meaningful learning while developing and maintaining native outdoor habitat. We know how precious summer months are to teachers, so we want to make sure that they continue to get support. This year, along with our winter meeting for *Sustainable Schoolyards* graduates, we are adding monthly enrichments.

In September the theme was collecting, cleaning, and storing seeds with students. We met at Covenant Christian School where teacher Katie Mohler was our gracious host. On a warm

Thursday afternoon with seven of our wonderful and dedicated teachers we spent time exploring the prairie garden, identifying and collecting seed, cleaning, stratifying, and socializing.

Like so often happens, the time flew, and before I knew it we were headed home. On my drive I was wishing that we had more of an opportunity to brainstorm and plan lessons related to seed collecting and cleaning. I want to hear everyone's ideas and what they are doing with their students in the schoolyard! My hope is that we create an effective way to share ideas and experiences of integrating outdoor spaces into curriculum.

Our next enrichment will be Wednesday, October 23 at Keysor Elementary from 4:00–5:30 p.m. Our topic will be “Managing the Fall Site.” We will be learning how to identify weeds, how to decide if you need to mow or trim, and how to prepare the space for planting and seeding.

If you have not already attended consider signing up for the *Sustainable Schoolyards* workshop during summer 2014.

For our current *Sustainable Schoolyards* graduates, RSVP for the October event by emailing Deanna at deanna@lrec.net. ✂

In the Calendar This Month...

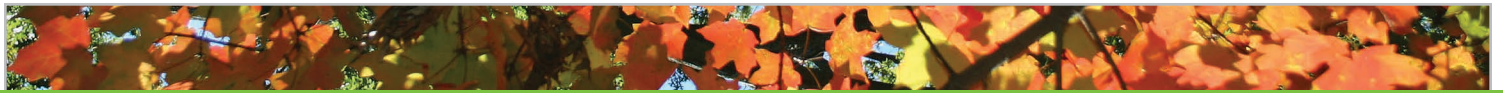
As we make our way into fall, we are spending more time collecting seeds and enjoying nature's last bursts of color before the winter. I hope you can take the time to enjoy some fall color this month!

October

1. Students measuring a large cottonwood (*Populus deltoides*)
2. Aromatic aster in bloom (*Symphyotrichum oblongifolium*)
3. Fiery skipper on grass seed head (*Hylephila phyleus*)
4. North woods landscape.

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





Glass House Quiz: On the Move—Missouri Migrations

by Deanna English and Danelle Haake

We've been thinking about migration in the Glass House lately; we are at the tail end of fall migration for most birds and for monarch butterflies. We've been watching the hummingbirds feeding on the cardinal flowers on our patio, wondering when they would be off to warmer climates for the winter. But what is 'migration'?

Our working definition of migration is...a periodic (e.g., daily, seasonal) movement of a group of animals of the same species from one area to another (and back again). Looking at Wikipedia, the answer was a little more complicated than we expected. There are some aquatic invertebrates and fish that migrate vertically each day, often spending the night near the surface and the day in deeper waters. There are species that migrate completely, which means all of the members of the species migrate. Other species are partial migrants, meaning that some of them migrate, and others do not. There are also differential migration, generational migration, facultative migration, and probably several other kinds of migration.

Migration is different from just 'moving' because the return journey is already planned. We hope you will be a quiz migrant: enjoy this quiz and then go on about your daily lives, but be sure to come back next month!

- 1. Birds tend to follow specific routes as they migrate. One of these routes brings large numbers of birds through the St. Louis region every spring and fall. What is the name of this route?**
 - a) The Midwest Flyway
 - b) The Mississippi Flyway
 - c) The Gateway Route
 - d) The Great Rivers Nexus
- 2. Most folks are aware that monarch butterflies (*Danaus plexippus*) migrate, but there are other insects found in Missouri that migrate as well. Which of these migrate?**
 - a) Dragonflies
 - b) Praying mantises
 - c) Paper wasps
 - d) All of the above
- 3. Animals besides birds and insects migrate, including mammals like the gray bat (*Myotis grisescens*). How far can the gray bat migrate?**
 - a) 45 miles
 - b) 260 miles
 - c) 480 miles
 - d) 730 miles
- 4. One favorite migrant to winter in Missouri is the bald eagle (*Haliaeetus leucocephalus*). When is the best time to observe bald eagles in the St. Louis area?**
 - a) October–December
 - b) November–January
 - c) December–February
 - d) Any time of year along the Mississippi
- 5. You won't observe this particular animal migrating through Missouri, but we were curious: which kind of animal migrates the longest distance?**
 - a) bird
 - b) insect
 - c) mammal
 - d) fish

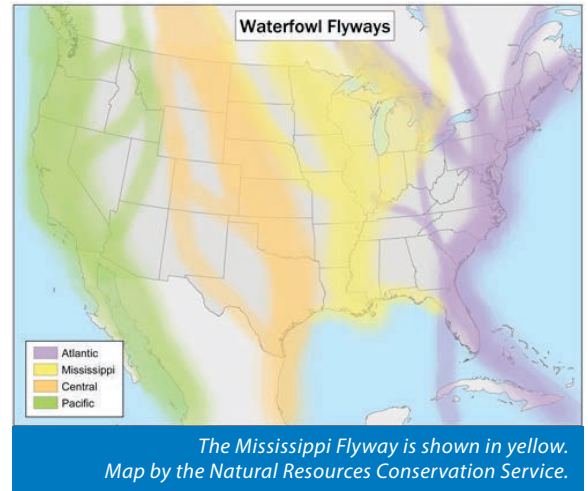
See **Quiz**, page 6



From **Quiz**, page 5

Answers:

- 1. b) The Mississippi Flyway.** According to the Audubon Society, “Nearly half of North America’s bird species, and about 40 percent of its waterfowl, spend at least part of their lives in the Mississippi Flyway. Extending north to Canada’s tundra and boreal forest, this much-traveled flyway includes the vast Mackenzie River watershed and then follows the mighty Mississippi through America’s heartland to the Gulf Coast and continues south as far as Patagonia.” (See <http://conservation.audubon.org/mississippi-flyway>.)
- 2. a) Dragonflies.** Of the 326 species of dragonflies, 16 species migrate regularly. There is even a group of citizen scientists tracking the migration—to learn more or sign up to participate, visit <http://www.migratorydragonflypartnership.org/index/about/>.
- 3. c) 480 miles.** Gray bats—a federally listed endangered species—typically migrate 263 miles or less (so give yourself half credit if you picked ‘b’). However, some individual bats have been recorded traveling as far as 481 miles. (Download information at <http://www.warnell.uga.edu/outreach/pubs/pdf/wildlife/NHS-12-14%20-%20Gray%20Bat.pdf>.)



See **Quiz**, page 8



Ruby-throated hummingbird (*Archilochus colubris*) feeding on cardinal flower (*Lobelia cardinalis*) on the Glass House patio. Photo by Danelle Haake.



LREC Research: Anna Chott

by Danelle Haake

Last month, I shared some information on the tree seedling and sapling research conducted by Hannah Carpenter over the summer. This month, I would like to introduce you to Anna Chott, a native of St. Louis who is pursuing a degree in Environmental Science and Policy at Drake University.

Anna was originally planning to do a study that tracked the changes in nutrient concentrations before, during, and after rain storms. About two days before Anna finalized her proposal, we had the last decent rainfall of the summer, throwing a big monkey wrench into her plans! After a couple of dry weeks with no rain in the forecast, she developed an alternative plan and set out to collect her data.

In her paper “Water Quality of Streams in the Deer Creek Watershed,” Anna compares temperature and pH, as well as nitrogen, phosphorus, and ammonia concentrations in Deer Creek at LREC and nearby Two-

Mile Creek with concentrations found at two sites in Hamilton Creek (which flows through Rockwoods Reservation). She provides an excellent background on where these chemicals come from, how they impact the plants and animals in the stream and rivers beyond, and how they interact with each other to change the waterways.

Anna found that nitrate was low at all four sites, but that there was significantly more phosphate in Two-Mile Creek than the other streams. She also found that both Two-Mile Creek and Deer Creek have higher water temperatures than Hamilton Creek. In addition to using the data she

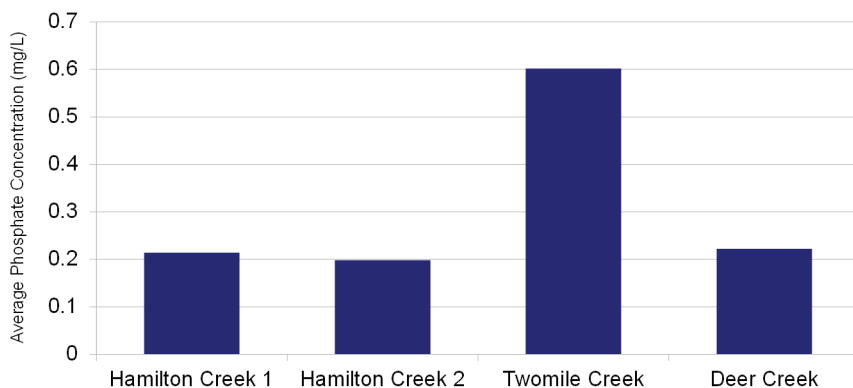
collected herself, Anna was able to incorporate data collected by Stream Team volunteers to help support her findings. To read her paper and learn more about her conclusions, you may download it from <http://www.litzsinger.org/research/chott.pdf>. (Additional LREC research studies can also be found on the LREC website.)

We are very pleased with the work Anna did this summer, both in her research and in the other horticultural work she was assigned. Thank you, Anna, for your ability to adapt to whatever we and nature threw at you! 🍂

PUMPKIN

by Martha M. Schermann

Picking
Up
Millipedes
Piques
Kids'
Interest
Naturally





Horticulture & Restoration Offerings for School Groups

by Deanna English



Photo by Eddie Jones.

Fall is here and we are busy preparing for the winter months ahead. At the top of the list is seed collecting and cleaning. We want to make sure we have plenty of seed for school and onsite seed mixes, and also for starting all those plants that

we like to donate to our schools. We always welcome the opportunity to have students help us as they learn about ways they can manage their own school garden space.

If you are a teacher planning to visit LREC in October, here's a list of experiences that might be available at the time of your visit. If any of these activities 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.

Plant monitoring—Students can learn how the plant monitoring grid is set up at LREC and practice their own monitoring skills.

Tree monitoring (HS/MS)—High school and middle school students can develop tree identification skills and learn techniques used to inventory a large area of trees.

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 dispersment strategies. Clean some seed to prepare it for planting in the green-house or for sowing outside. ✂

From **Quiz**, page 6

4. c) December–February.

Late December through early February is the best time to spot eagles. They like to perch in large trees along the edge of water in order to better see their prey. Early morning is the best time to observe them flying and feeding. If you answered d, there *is* a summer population of about 600 in Missouri. During nesting season the eagles are more solitary so it is harder to spot one, but in winter they are very social and often congregate around open water in large groups. (Learn more at <http://mdc.mo.gov/sites/default/files/resources/2010/03/baldeaglemo2012.pdf>.)

5. a) Bird.

The longest recorded migration is that of the arctic tern (*Sterna paradisaea*). It migrates nearly 44,000 miles from the Arctic to Antarctica and back again! (Details at <http://www.pnas.org/content/107/5/2078.full?sid=0803a247-09ba-4496-bcb0-17008c92c13f>.) ✂



Arctic tern. Photo by Claudius Tesch.

LREC READING CORNER

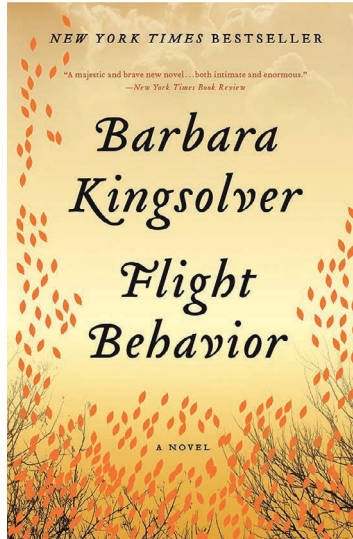
by Deanna English

Flight Behavior

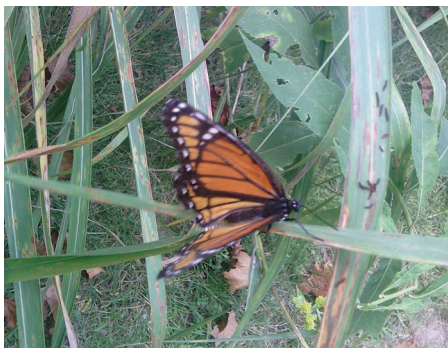
BY BARBARA KINGSOLVER

AUDIENCE: MIDDLE SCHOOL-ADULT

It's that time of year when many of us are paying attention to the migration of birds and insects. I'm fortunate to work where I am surrounded by like-minded people who are just as excited about these seasonal visitors as I am. Sightings of monarch butterflies and on-site fall mist netting (which allows a close up view of some of the bird migrants) makes it easier to be aware of the changes that are happening around us. It's also apparent that Barbara Kingsolver is thinking about our changing world and the impact of those changes.



Kingsolver's new book, *Flight Behavior*, is a fictional account of a community impacted by climate change and their exposure to the plight of the monarch butterfly through an unexpected event. In the book the protagonist, Dellarobia, discovers a valley blazing "with its own internal flame" which she soon discovers is actually trees covered with monarchs. The encounter with the large colony of butterflies arrives at a crucial moment in Dellarobia's life. Like the butterflies, Dellarobia's life has been driven off course. The encounter with the butterflies acts as an opportunity for Dellarobia to begin to reclaim some of who she is while researchers, the citizens of a nearby town, and Dellarobia's own family become deeply entrenched in the future of the butterflies.



Monarch butterfly (*Danaus plexippus*) at LREC.
Photo by Deanna English.

The book does a nice job of dealing with the complexity of climate change, weaving in the social and economic issues along with the environmental impact. I'll admit the book left me a little depressed and more hyperaware of the falling monarch numbers, but I love Kingsolver's writing, and while I had the book in hand I could hardly put it down. ✨

LREC Announcements

October 9

Macroinvertebrate Sampling

10am, meet between barn and cabin (or come to Glass House at 9:30 if you need to borrow boots!). Questions? Contact Danelle Haake at danelle@litzsinger.org or 314-961-4410.

Local Events

October 3

Earth: The Operator's Manual Documentary & Discussion

7 to 9pm at Maryville University (Buder Commons). Screening of film on climate change and sustainable energy solutions, followed by Q&A with experts. Free. More information at <http://mad.ly/8102f3>.

October 9

Resource Fair

4 to 6pm at the Saint Louis Zoo. Learn about programs, resources, and free materials for your class from more than 20 area cultural institutions. Free. Learn more at <http://www.stlzoo.org/education/resourcefair/>.

October 19

River des Peres Trash Bash

8:30am to 1pm at various sites, rain or shine. Join the annual litter pickup! Lunch provided. Free. Learn more and pre-register at <http://www.riverdesperes.org/>.

October 22

Missouri Wilderness: The Citizen Campaign that Protected More than 71,000 Acres of Missouri Wildlands

7 to 8:30pm at the Missouri History Museum. Former Missouri State Parks director, John Karel, gives a first-hand account of the 1970s Missouri wilderness movement. Free. Learn more at <http://www.academyofsciencestl.org/events/>.