

# Litzsinger Road Ecology Center

## COMMUNITY NEWSLETTER

www.litzsinger.org

December 2012

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*Can you have a beautiful prairie in your schoolyard? See page 2. Photo by Eddie Jones.*

## If You're Happy and You Know It...

*by Bob Coulter*

On my annual escape to London, I found happiness...literally. More than some new-age pop psychology, there is an interesting strand of research being done at places like the Brookings Institute and the London School of Economics. The effort involves social science and brain research on "what conditions generate happiness and how to cultivate them."

While the research that I'm aware of doesn't specifically measure children, it struck me that there is quite a bit of overlap between what you do with your kids and known factors that produce happiness. By engaging the kids in significant projects they pursue in collaboration with you, their peers, and other members of the community, you give meaning to their efforts and interactions that—let's face it—just isn't there in a worksheet

or a quiz. By getting outside and active, you are promoting their health, another key dimension. As you share ownership for the project design and give them a chance to put a personal stamp on the world, you're supporting their personal freedom and values, two of the other factors identified as most essential for happiness.

While many schools in the U.S. today have an inordinate focus on narrow "learning objectives," you're doing a great service to your kids in keeping the space open for other important aspects of growing up as healthy contributors to the world we live in. That's something we can all be happy about. ✨



# To Be or Not to Be a Prairie?

by Eddie Jones

“We want a prairie in our schoolyard.” I’ve heard that a number of times from several of our teacher partners (maybe you?). And I have begun to squirm a bit at that seemingly simple request. A prairie—that panoramic landscape dominated by tall native grasses and flowering plants, home to animals that get along just fine without many woody plants—all in a corner of the schoolyard. The intention of creating a schoolyard prairie raises the question: What do you really want? Most likely, you want a space that is pleasant to look at, presents enough interest to repeatedly capture students’ attention, provides habitat for inoffensive animals, and has the potential of supporting the curriculum. That’s a tall order!

Aesthetically, a prairie is beautiful... if it is expansive enough. From a distance, the patterns of colors and textures that emerge from large numbers of prairie plants, and the motion of the plants in a breeze, are pleasing to the eye. Get up close and examine a few individual prairie plants, and they present very differently. While there are moments of brightly colored blooms, most of the time these plants appear long, leggy

and floppy, fading in color to that range of beiges and browns that dominate the winter and spring months. Scale matters. A small prairie garden will not a prairie be! So, let’s ditch the term “prairie” and replace it with “schoolyard habitat.” The type of habitat it is, and will become, is determined by the ecology of the site: light, soil, and moisture conditions in addition to present and future vegetation.

Student interest in the schoolyard habitat will be enhanced by plant diversity, the animals that make use of the garden, and the changes that occur as the plants move through their seasonal life cycle changes.

Plant species selection, along with plants that are adjacent to the schoolyard habitat, will determine

which insects, birds, and other animals are attracted to and make use of it. As to whether the inhabitants are offensive or not... well, there may not be community consensus. Are lots of bees good or bad? How about moles?

The simplest part of the formula involves the curriculum. The schoolyard habitat can serve as an alternative setting for a typical classroom lesson or it can be the basis for re-writing an entire unit of study. The opportunities for observation, documentation, and interpretation abound.

And don’t forget that axiom of place-based education: *people* are part of the local ecology. A

See **Prairie**, page 3



A prairie needs a lot of space. Photo by Eddie Jones.



*Recommended course offering:*

## **OUTDOOR EDUCATION LEADERSHIP**

Would you like to add an outdoor or environmental element to your teaching?

This UMSL class will meet Thursday evenings in the Visitor Center at Forest Park and consider the philosophy and practice of outdoor education. Read and discuss some classic outdoor writing, and try some activities that can apply to your teaching, from classroom games to Dutch oven cooking.

Working on the concept of “place”, learn about the history, culture, people and natural resources of the Ozark bioregion, then take a three-day field trip complete with campfires and a short float trip to experience it first-hand.

Complete training in the **Project WET**, **Project Wild**, and **Project Learning Tree** activities is built into the class at no extra charge. These manuals are available only with training, and include hundreds of proven lesson plans for immediate use or adaptation.

There is a distance learning fee attached to the class, but it is offset by

the fact that parking and some other fees don’t apply at Forest Park. AND, the University covers most of the cost of the field trip.

Class meets Thursdays from 5:30 pm–8:10 pm beginning January 24, 2013.

Register at <https://myview.umsl.edu>.

**Teacher Education 6442—  
Outdoor Education Leadership  
Section X01-LEC(12851)**

**Location: Continuing Ed Off Campus—  
Dennis & Judith Jones Visitor Center  
in Forest Park**

**Units: 3**

**University of Missouri–St. Louis  
College of Education–Graduate Level**

If you have questions about the class, please contact:

James H. Wilson, Ph.D.  
E. Desmond Lee Endowed Professor  
Experiential and Family Education  
314-516-5973 (UMSL)  
314-367-7275 x20 (Forest Park Forever)  
[wilsonjh@umsl.edu](mailto:wilsonjh@umsl.edu) ✉

## **Glass House Quiz: It’s Alive! Or Is It?**

*by Danelle Haake and  
Deanna English*

**W**e have seen hand-outs provided by teachers who brought their classes to Litzsinger that ask students to categorize the different components of an ecosystem as either biotic or abiotic. For this month’s quiz, we would like you to do the same. But do not be fooled by the simple nature of this quiz—for with nature, nothing is simple!

**Which of the following are biotic (living) and which are abiotic (nonliving)?**

1. Maple tree
2. Chipmunk
3. Boulder
4. Snowflake
5. Soil
6. Cabin roof
7. Turkey feather
8. Centipede
9. Air
10. Fallen branch

**See Quiz, page 4**

From **Prairie**, page 2

schoolyard habitat should be designed to include students and other members of the school community as occasional inhabitants. There must, therefore, be spaces for people and an appeal that draws them in. While it won’t be a prairie, it may evoke mental images or feelings of natural landscapes. As a result, you and your students will be drawn to it—not exclusively as a place to learn, but also as a place that brings a bit of wildness and adventure to the schoolyard. ✉

From **Quiz**, page 3

Answers:

1. Maple tree – biotic
2. Chipmunk – biotic
3. Boulder – abiotic
4. Snowflake – abiotic
5. Soil – ummm, we'll delve into this below...
6. Cabin roof – have you seen that roof?
7. Turkey feather – biotic? see discussion below
8. Centipede – biotic
9. Air – abiotic
10. Fallen branch – this is another worth discussing

Okay, now for the real fun of this quiz... Did you notice how we were reluctant to answer either way for "Soil," "Cabin roof," and "Fallen branch?" For "Soil" and "Cabin roof," I think the majority of people would answer abiotic. The fallen branch might be a bit more 50-50. Since that is the easiest to discuss, we'll go there first:

The fallen branch was most certainly alive when attached to the tree. However, once it has fallen, it is no longer alive. Based on the definitions we provided of abiotic (nonliving) and biotic (living) at the start of this quiz, the best answer is probably abiotic. If we were to use a more expansive definition of biotic, the answer may change.

According to *The American Heritage Science Dictionary*, the definitions of "biotic" are:

- a. *Consisting of living organisms. An ecosystem is made up of a biotic community (all of the naturally occurring organisms within the system) together with the physical environment.*
- b. *Associated with or derived from living organisms. The biotic factors in an environment include the organisms themselves as well as such items as predation, competition for food resources, and symbiotic relationships. Compare abiotic.*

So, to be fair (and follow their instructions), here is the definition they give for abiotic:

*Not associated with or derived from living organisms. Abiotic factors in an environment include such items as sunlight, temperature, wind patterns, and precipitation. Compare biotic.*



Top: fallen tree trunk. Photo by Colleen Crank.  
Middle and bottom: cabin roof and closeup of growth on cabin roof. Photos by Eddie Jones.

See **Quiz**, page 5



From **Quiz**, page 4

The fallen branch (10) is certainly derived from a living organism. It is also associated with living organisms (i.e., decomposers) who live on and in the branch. So the more detailed definition puts the fallen branch firmly into the biotic category.

A turkey feather (7) is definitely not alive. Once a feather grows to its full size, it is sort of like a fingernail—it has no blood supply, so it is composed of dead cells. But if we use the above definitions, it too meets the criteria of having been derived from a living organism. Looks like another biotic.

The cabin roof (6) is made of wood, so it is also derived from a living organism. If we follow the chain of products linked back to living organisms, then the tar roofs of factories and shopping complexes could be considered biotic as well. In the specific case of the cabin, not only is the wood biotic, but the roof is largely covered by moss and other very alive plant material.

That leaves us with the unruly mass that is soil (5). Most resources directed at elementary and middle school-aged students and their teachers call soil abiotic; however, many scientists would strongly disagree. Within this solid soup of non-living minerals lives somewhat-biotic decaying plant and animal

materials, as well as very alive bacteria, fungi, invertebrates, and plant roots—it is truly an ecosystem in and of itself! Soil has both biotic *and* abiotic components, so you can be right either way.

So, even the relatively simple ecological question of what is biotic and what is abiotic is full of middle ground and question marks. Don't you just love the world of wonder in which we live?

We became curious about petroleum products (plastic, gas, coal, and even lip balm) during our research for this quiz. They seem abiotic, but are they? A quick online search reveals that most consider oil to be biotic. We just need to ask ourselves how much processing is required to strip enough “biotic-ness” from the oil before we reach abiotic. Perhaps we are being introduced to the gray world of ecology—a land where there is little black or white.

*Source:*

*The American Heritage Science Dictionary*. 2005. Houghton Mifflin Company.

*Interesting link (although we disagree with him on soil!):* *Abiotic Biotic* song by Mr. Parr (a sixth grade teacher), available at <http://www.youtube.com/watch?v=nQQ05x8Q3e8g>. 🐦

## 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 opportunities for school groups. We welcome students helping us while they learn about what it takes to manage an urban natural area.

If you are a teacher planning to visit LREC in December, 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**—Available when the stream is at a safe level.

**Stream monitoring**—Use a kit to test dissolved oxygen, conductivity, pH, temperature (air and water), nitrates, turbidity, and chloride.

**Invasive plant removal**—Learn about invasive species and help us remove invasive plants from the site.

**Roots and plant structure demonstration**—Students are introduced to the purpose and function of roots and plant structures.

**Clean seed**—Learn about seed sizes and dispersement strategies; clean seed to prepare it for planting in the greenhouse or sowing outside.

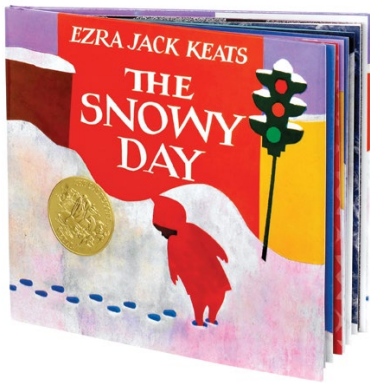
**Create seed mixes** (middle and high school)—Learn about selecting site-specific species, and use a formula to determine the amount of seed needed for an area. Then help us weigh each type of plant seed and create a custom seed mix. 🐦

## LREC READING CORNER

by Deanna English

I'm a reader. So whenever I think about taking children outside, my mind will at some point drift to books. Books that I remember reading in the summer on my grandmother's front porch like *Little Women*; books that made me want to live outdoors like *My Side of the Mountain*; and books that brought an early awareness of the natural world such as the Golden Guides.

Teachers have so many opportunities to enrich their student's outdoor experiences with books that I thought maybe I should develop an LREC reading corner and invite others to share books that they connect to children and the outdoors. I'm starting by contributing one of my favorite winter children's books.



**The Snowy Day** by Ezra Jack Keats  
*The Snowy Day* celebrated its 50th anniversary this year. It is a timeless classic that allows us to spend a day with Peter, a little boy who lives in a city and wakes up to a snowy day. The illustrations are beautiful, and the simple joys that Peter discovers during his exploration will take you back to your own childhood wonder. For me, *The Snowy Day* is a perfect book to read to preschoolers and early elementary children before heading out to make your

own snowy day discoveries or when you return and are cozy on the classroom rug warming up and comparing your adventures with Peter's. I'd recommend having this lovely book ready and waiting for our first snow so you can enjoy it as you and your class go out to discover the magic of your own snowy day.

Happy reading! 🌿



## LREC Announcements

December 13

### Volunteer Enrichment: Burning Questions

1 to 2:30 pm, meet at the barn.  
Learn more about prescribed burns and when, why, and how we burn at LREC. If you'd like to bring a sack lunch, you may join us at the barn beginning at noon; the program will begin at 1 pm. Questions? Contact Danelle Haake at [danelle@litzsinger.org](mailto:danelle@litzsinger.org) or 314-961-4410.

January 2

### Monthly Water Quality Sampling

1 to 4 pm, meet at the Glass House.  
Questions? Contact Danelle Haake at [danelle@litzsinger.org](mailto:danelle@litzsinger.org) or 314-961-4410.

## Local Events

November 17–January 13

### Holiday Light Recycling Drive

Protect the environment by donating your broken or unwanted holiday lights. Local collection sites and dates (including participating Walmart stores) can be found at <http://stlouisgreen.com>.

December 7

### Star Party & Telescope Viewing

Dusk to 10 pm at the St. Louis Science Center McDonnell Planetarium. Outdoor telescope viewing weather permitting. Regardless of the weather enjoy a program indoors: *The Sky Tonight* star program begins promptly at 7 pm; *Seeking New Earths* shows at 9 pm. No late admissions. Free and open to the public. Learn more at <http://www.slsc.org/WhatToDo/Planetarium/NightSkyUpdate.aspx>.