

Litzsinger Road Ecology Center

COMMUNITY NEWSLETTER

www.litzsinger.org

October 2010

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Early autumn is a great time to notice plant-animal interactions on leaves. See more examples on page 2. Photo by Eddie Jones.

Becoming an Agent of Care

by Bob Coulter

Recently I had the privilege of attending a keynote address by environmental psychologist Louise Chawla. One of the more intriguing concepts she shared was the idea of helping kids to become “agents of care” for our world. While it’s hard to argue that kids shouldn’t care, she added depth to her presentation with research findings you might find useful as you craft your students’ outdoor experiences:

- Kids need to start with play and exploration in the early years, and gradually become more focused on specific projects in the later elementary years and beyond.
- Over this time, kids need to move from simple tasks like recycling to more complex, sustained projects that build their sense of competence and capacity.

- Kids need the adults in their life (teachers, parents, and others) to model the care we hope they will show.

Even more fundamentally, we need to be sure they have experiences that are meaningful to them. As Chawla remarked, “It is not enough for children to learn values and beliefs about what they should do; they also need opportunities to learn about what they can do.” Research supports this claim, as students who have experiences actually doing meaningful projects (not just learning what they could or should do) end up with greater understanding, enjoyment, and commitment to the natural world.

It is a privilege to partner with you in building your kids’ agency. Please continue letting us know how we can help you. 🌿

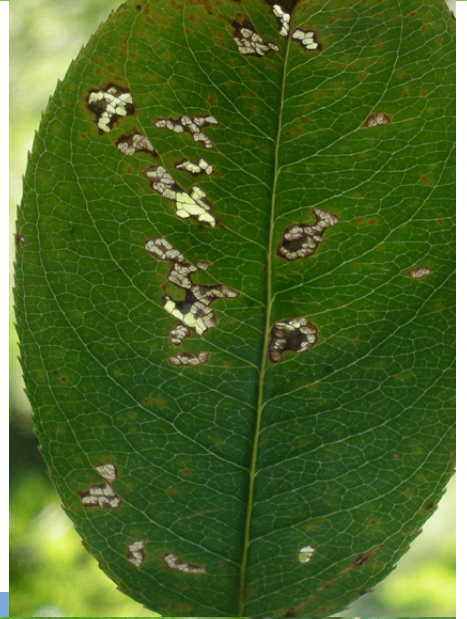




Look at the Leaves

by Eddie Jones

Over the next few weeks, the leaves will be changing color and falling to the ground. In the meantime, early fall leaves provide opportunities to investigate plant-animal relationships by examining the interesting patterns produced by fungi, insects, and foraging animals. What's happening on the leaves in your neighborhood? 🐛



Photos by Eddie Jones.





Glass House Quiz: Urban Stream Water Quality

by Danelle Haake and Deanna Lawlor

Last month, people across the globe participated in World Water Monitoring Day (www.wwmnd.org). On September 18, thousands of people (including some in the River des Peres/Deer Creek watershed) gathered to measure water quality in their local streams. In honor of this event, we'd like to think about what each of us can do to improve water quality in our own urban streams!

Many people are unaware that storm drains—those holes cut in the curb every few hundred feet—empty directly into streams. The water that passes through these storm drains does NOT go through any type of water treatment plant. Unfortunately, some use storm drains to dispose of car oil, paints, and other hazardous waste. But, even those of us who don't dump waste directly into our streams or storm drains are still contributing to water pollution every time a storm passes through.

One of the most important pollutants in our local streams is sediment. Call it what you will—dirt, soil, sediment—it chokes the streams and the animals who live there. There are many sources for the sediment, but regardless of where it comes from, there is one

primary cause—too much water moving too quickly. All of our impervious surfaces (hard surfaces which prevent or retard the entry of water into the soil) such as rooftops, roads, and driveways, push water into streams very

quickly. This fast-moving water picks up and carries tons of soil along the way.

We hope this month's quiz will be a reminder of some ways we can help prevent water pollution!

1. Pollutants regularly enter our streams. Can you identify any of the ways this might happen from the list below?
 - A. Dumping
 - B. Lawns and gardens
 - C. Driving
 - D. A and C
 - E. All of the above
2. One of the most important things any landowner can do is keep rainwater on their property until the storm has passed. Which of the following will help with this?
 - A. Build a rain garden at home, work, or school
 - B. Install rain barrels on downspouts
 - C. Replace standard driveway or parking areas with a permeable surface (permeable pavement, bricks, gravel, or special "tiles" for driveways...)
 - D. All of the above
3. We have several rain barrels at LREC. For what can water from a rain barrel be used?
 - A. Watering garden or lawn
 - B. Rinsing dirt from freshly-picked garden produce
 - C. Drinking water
 - D. A and B
 - E. All of the above
4. True or False? Water-capturing devices like rain barrels can be used anywhere in the USA.

See **Quiz**, page 6



Bee condo at LREC. Photo by Anne Wamser.

Promoting Native Pollinators

by Anne Wamser

up a large group of pollinators. There are over 4000 species of bees in North America; about 427 species are found in Missouri.

In the past several years, bee populations have declined due to habitat destruction, urbanization, pollution, invasive species, diseases, and parasites. To guarantee that animal-pollinated plants continue to thrive, we must conserve pollinator species and prevent further destruction to their habitats. There are several inexpensive and easy ways to encourage native pollinators to visit your garden.

One way to attract native bees to your property is to plant a pollinator garden. This can provide bees with a plentiful source of nectar and pollen. When choosing plants it is important to select flowering native plants that have a variety of bloom time, color, and shape. Besides incorporating a diversity of plants in the garden, remember to include access to clean water and nesting resources.

Another way to draw native bees to your schoolyard or home is to build “bee condos” or nesting blocks. This summer, our Friday horticulture volunteers built several bee condos. They used salvaged lumber from the

site and drilled holes into one side creating an ideal nesting site. The nesting blocks were then mounted in various locations around the property. We are happy to report that two of the condos are already in use by native bees.

Imagine a world without our pollinator friends. It would be difficult to enjoy many of our favorite foods and beautiful flower gardens. We can promote the success of our pollinators by implementing conservation practices at home or school. The prairies at LREC make an excellent nesting habitat for bees as well as provide an abundant food source for them. The next time you are at LREC, “bee” on the lookout for our diverse pollinators and the newly installed bee condos. ♻️

References:

Shepard, Matthew. “Nests for Native Bees.” www.xerces.org/wp-content/uploads/2008/11/nests_for_native_bees_fact_sheet_xerces_society.pdf (accessed August 20, 2010).

Spevak, Ed. “Plight of the Humble Bees.” *Stlzoo* 26, no. 3 (Summer 2010): 7–11.

This summer Mary Voges and I attended a Pollinator Ecology workshop at the Saint Louis Zoo. We learned many interesting facts about native pollinators with a particular emphasis on bees. I want to share some of the information I learned at this workshop and some tips on how you can attract pollinators to your garden at home or school.

Pollinators are a diverse group of species that play a critical role in the ecosystem. As their name indicates, they pollinate plants and ensure the growth of seeds and fruits. In America, about one in every three bites of food depends on pollination by an animal pollinator. Bees make

New Tool: Seed Box

by Danelle Haake

Over the summer, we had the pleasure of hosting a high school intern, Madeline Brandt, for one month. While she was here, she helped with site maintenance, plant monitoring, seed collecting, invasive species removal, and several of our other ecology activities. In addition, she started putting together a resource we hope will be of use to education staff and volunteers, as well as our education partners: a seed box.

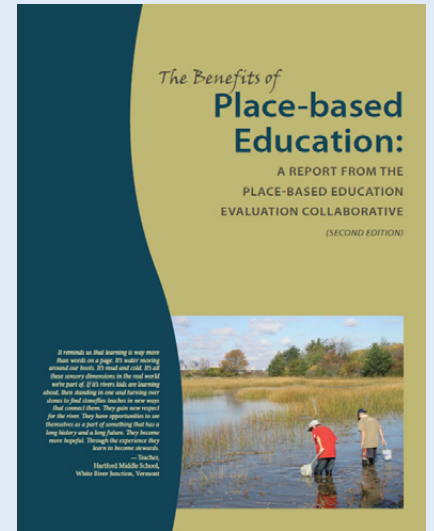
This seed box (not to be confused with *Ludwigia alternifolia*, a plant by the same name) is made up of over 100 small containers that hold seeds from a wide variety of plants that can be found on-site. We currently have samples of seeds from 40 different species, including tiny seeds like Common Rush (*Juncus effuses*) and large seeds like Buckeye (*Aesculus glabra*). An information sheet inside the seed box provides both the common and scientific names of the plant each seed came from as well as page numbers where the plant is described in some of the more common native plant guides.

If any of our education partners would like to incorporate an exploration of seeds into their classroom, we would be glad to



The seed box contains 40 seed samples.

work with you! Please contact Martha (martha@litzsinger.org) or 314-540-4068). 🌱



Benefits of Place-based Education Report Updated

Litzsinger Road Ecology Center is pleased to announce the release of the second edition of *The Benefits of Place-based Education*, a brief report outlining the benefits of engaging kids in the community.

Developed along with our seven partner organizations across the country who collectively make up the Place-based Education Evaluation Collaborative (PEEC), the report aims to provide administrators and curriculum supervisors a quick overview of why the work you are doing to build community stewardship is so important. Thoughtful feedback you and others have provided through our evaluators has helped to craft this new and improved version

Download a copy today from www.litzsinger.org and share it widely.

From **Quiz**, page 4

Answers:

1. E (All of the above): A. Due to a lack of information, some people dispose of car oil, paint, and other hazardous waste by dumping it into roadside storm drains. They do not realize that these drains lead directly to streams with NO treatment. B. Installation and maintenance of lawns and gardens often involve the over-use of fertilizers and pesticides, which can be washed into the local streams. Read the instructions for fertilizers and pesticides carefully or use organic methods when possible. C. Some drivers do not perform regular maintenance on their vehicles. They may have leaks of a variety of fluids, most of which end up on the roads and driveways and are eventually washed into the storm drains.
2. D (All of the above): There are many ways landowners can prevent stormwater from running off of their property. These are among the most common.
3. D (A and B): While the water from a rain barrel is perfectly safe for hand washing and watering plants, we don't recommend drinking water from rain barrels as it may contain dirt and particulates from rooftops and gutters.
4. False: In Colorado, it is illegal to capture rain water for your own use (this was also true in Utah until May of 2010). Water-rights laws in many western states are written so that certain individuals pay to have first rights to the water in the rivers and streams, a water-rights system called "Prior Appropriation." This includes water that would naturally run off the land and enter those waterways!

For further information on Prior Appropriation, visit: www.waterencyclopedia.com/Po-Re/Prior-Appropriation.html.

For information on Riparian water rights (like we have in Missouri) and other rights systems, visit: www.blm.gov/nstc/WaterLaws/appsystems.html. 🍂

DUMP NO WASTE



DRAINS TO STREAM

LREC Announcements

October 14, 2010

Aquatic Macroinvertebrate Sampling

No experience required! Meet outside the barn at 1 pm. Contact Danelle Haake (314-961-4410 or danelle@litzsinger.org) if you need boots/waders or if you have questions.

October 21, 2010

Volunteer Enrichment: Walkabout

Noon–2 pm; meet at barn. Bring a brown bag lunch and join us for a stroll around the site without students. RSVP to Martha (314-540-4068 or martha@litzsinger.org).

October 28, 2010

Water Monitoring

Meet at 9 am at Glass House. Contact Danelle Haake (314-961-4410 or danelle@litzsinger.org) with questions.

Local Events

October 14, 2010

Teach Green! Bringing the Environment into Your Classroom

At Ritenour Early Childhood Center; 5–7:30 pm. Explore ways to bring the environment into the classroom. See www.mohistory.org/node/4834 for more info and schedule.

October 19, 2010

Homestead Earth: An Evening with Women Environmentalists

At Missouri History Museum; 7 pm. Local panelists discuss the environment. More information at www.mohistory.org/node/4614.

October 20, 2010

Dig N Dine

Streamside habitat restoration at Deer Creek Park (on Laclede Station Rd.) from 4–6 pm. Contact Danelle Haake (314-961-4410 or danelle@litzsinger.org) for further details.