

Litzsinger Road Ecology Center

Volunteer Newsletter

Propagating New Program Species

by Bob Coulter

As we move through the winter months, it's time to begin propagating seeds that will become the new growth in the spring. The greenhouse addition to the barn will make this year easier and more productive than ever before, and I'm looking forward to seeing the results on the grounds this spring.



At the same time, we are busy propagating new “program species” that will enhance the diversity and richness of our offerings to the community. Malinda is developing a student researcher program that will support undergraduate and graduate researchers who are conducting research on site. This will help us to better understand the ecological dynamics of the site while it provides a valuable field experience for future ecologists. Jennifer Brown has been actively developing a watershed research and conservation program that will help us to better understand and manage our part of Deer Creek and make it an increasingly vital part of our education efforts. If you haven't done so already, join in on the new LREC Stream Team that will be monitoring the site and sharing data using state-wide protocols.

We have also begun an increased outreach effort to work in economically challenged parts of the community where environmental programs are few and far between. Jennifer Krause and I are working with a small group of kids at the Youth and Family Center in north St. Louis, helping them to explore their community with the help of maps and GPS receivers. We look forward to that work continuing in the spring, and we are also beginning discussions about starting a second project this summer with 4-H groups in the city.

Even on the coldest days, there is always something emerging at Litzsinger. Thanks for being part of the team that makes it happen.

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Upcoming LREC Events:

Education Volunteers— lots of opportunities to volunteer!

If you haven't done so yet, please call Martha at 314-577-0233 to sign up for January dates!

Volunteer Enrichment Birding at LREC with Nancy and John Solodar

January 19, 1:30 –3p.m. Meet at the cabin.

Upcoming Opportunities:

Eagle Fest

January 8, 1–4p.m. Powder Valley Conservation Nature Center. Celebrate the return of the Bald Eagle to Missouri. This day of discovery, suitable for all ages, will consist of a rich variety of crafts, stories, music and songs, videos and more. (No reservations necessary.)

Backyard Birding Festival

February 5. Missouri Botanical Garden. Register for a day of classes, presentations, stories, and guided bird walks. Registration form coming soon at www.mobot.org/education/birding.pdf or call 314-577-9506 for more information..

Honeysuckle Summit

March 4, 2006.
Details to follow.

Digging Deeper into Gopher Burrows

by Heather Wells-Sweeney

What do you know about gophers? Malinda's blog entry inspired me to learn more, so I decided to dig deeper. Here's the story of the Plains pocket gopher (*Geomys bursarius*).

A plains pocket gopher is born in the spring in a litter of 2–4. The mother cares for the young in her burrow for about a year, then the young venture from the burrow to make their own new burrows. Each burrow is home to one gopher.

To dig, gophers use their long front claws and teeth (you can say they're *fossorial*). If we tried to dig with our teeth, we'd get a mouth full of dirt. Gophers have adapted a way around this: their incisors are outside of their mouths.

Once the gopher has loosened a good bit of soil, it turns around in its burrow and pushes the soil out with chin and chest, leaving the fan-shaped mound that we see. The burrows are about 2½ inches diameter and link a whole system of lateral tunnels and chambers, including chambers dedicated to nests, food, and even waste. The tunnels are typically 4–18 inches below the ground surface, but they can be as deep as 5 feet. Some of the chambers must be deep enough to be below the frost line. (Gophers don't hibernate in the winter; they're active year-round.) Gophers continue to dig new tunnels throughout their lives.

All of that digging requires much energy. Gophers get their fuel from plant material, eating roots encountered while digging, by pulling shoots underground, or by foraging above ground. A special pouch outside the mouth allows the gopher to carry food to the nest or to the cache chambers within the nest. (Hey! That's why they're called pocket gophers!) The pocket is lined with fur and can be turned inside out.

This subterranean movement of plant nutrients—both fresh and excreted material—is one way that gophers are important to ecosystems. In addition, their burrowing aerates and mixes soil. Gopher burrows can detain storm runoff or serve as homes for other animals.

Gophers provide food, too. Animals that dig or slither into gopher burrows in pursuit of a gopher meal include badgers, spotted skunks, weasels, and snakes. Raptors, dogs, cats, foxes, striped skunks, and badgers prey on pocket gophers when they're above ground. Gophers deal with predators by assuming an aggressive posture or by plugging their tunnels with dirt. The most common means of protection is to remain underground.

As mentioned, young pocket gophers venture from their natal burrows to disperse. Although pocket gophers are found throughout the Central Plains, individual gophers do not disperse far. This low dispersal rate means low gene flow, which may explain the differentiation in color and the relatively small range of some species. Pocket gophers range from light brown to black, but often the color is similar within a region. The colors may be an adaptation to local conditions. In Illinois, pocket gophers are black and the Mississippi River probably acts as a barrier to dispersal.

References:

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