

Brown Family Environmental Center at Kenyon College *Newsletter*



FALL 2009

VOLUME 13/NO. 4

PRAIRIE: *A Natural History of Pyromania*



It is early August and you have passed through the arches of silver maple by the BFEC Farmhouse. The trail in front of you takes you into a scene very different from the woods and farmland of Knox County. You are entering our seven-acre restored prairie.

Grasses reaching eight feet or more and the taller stalks of prairie dock and compass plant (see page 5) with their large, yellow flowers captivate your attention. Shorter grasses with feathery flowers cover most of the area. Scattered islands of purple, pink, and yellow flowers are scattered among the grasses. Notable is the absence of trees and woody shrubs. This is a special community of plants with few species in common with the second-growth colonizers of abandoned cropland.

You might ask (as many people do), "Is this really a natural feature of Ohio or Knox County?" The answer is

more complicated, and more interesting, than you might have guessed. The short version is that prairies once covered nearly two-thirds of what is now Ohio. For the last 4,000 years however, management by humans allowed for patches of prairie in a primarily forested landscape. When immigrants came to Ohio in the 18th century, about 4% of Ohio still supported prairies. Let's fill in some details to better understand this short answer.

Life Underground

The species of plants in an area and their form of growth define "prairie." In the tall-grass prairies that grow in Ohio and further west to Iowa, grasses, especially big bluestem, little bluestem, indiagrass, and prairie cord grass cover most of the ground. Non-grass flowering plants ("forbs") fill out the prairie community, but are short in stature and not woody.

One common feature of prairie plants is that most of their structure is underground. For example, the spectacular flowers of blazing star barely reach your knees but its roots can reach fourteen feet deep! These deep roots allow prairie plants to reach water in periods of drought. Also, prairie plants survive winter by storing energy in underground stems. Placing most of their resources underground, however, creates a limit to prairie plants above ground growth – the woody structure needed for height is sacrificed to subterranean stockpiling. As a result, if trees enter prairies, the shade they cast will cause typical prairie plants to disappear.

Ohio, the Prairie State?

About 8,000 years ago and after the retreat of the last great glacier of the Midwest, the climate of Ohio became much hotter and dryer than we now experience. Conditions were perfect for prairies to dominate, and they did just that through much the area from the Rocky Mountains through Ohio and into Pennsylvania. The prairie period lasted 4,000 years, so prairies were indeed locally "natural" for quite a long time! The people who lived in this area learned how to thrive in the prairie landscape.

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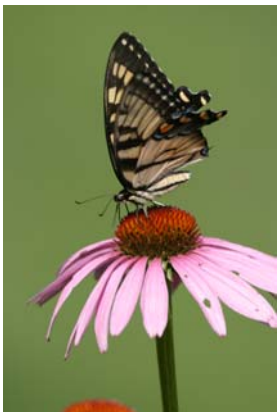
Fire Power

The climate became cooler and wetter starting about 4,000 years ago, and this change favored the growth of trees. As trees shaded more land the prairies retreated. People began to burn some areas to maintain the prairie habitat. Burning is effective as a tool for management because fire kills the woody tissue of trees but leaves intact the vital root systems and underground stems of prairie grasses and forbs. The hottest prairie fire barely warms the soil just an inch under the surface.

In Ohio, some of the largest areas of prairie that were maintained by Native Americans were Darby Plains (near Columbus), Sandusky Plains (just northwest of Knox County), and two areas in northwest Ohio. Early settlers throughout Ohio, including in Knox County, observed many smaller patches of prairie as well.

In modern times, “prairie management” still means regularly burning (or mowing, a modern invention) to suppress the growth of the woody plants. Without man-

... let's be honest, watching a big burn once a year is as exciting now as it must have been 4,000 years ago.



Pictured clockwise from top left: zebra swallowtail visiting purple cone-flower, a prairie flower; Indiangrass, which grows seven feet tall and fourteen feet deep; a certified volunteer monitoring the annual spring prairie burn.

agement a prairie would undergo succession to forest in a couple of decades or less. At the BFEC, we try to conduct controlled burns once a year, in late March or early April. These burns are done with the planning and supervision of trained people (don't attempt this at home!). We have to wait for just the right combination of dryness of plants, air temperature, moderate wind and correct wind direction. We also obtain permits from the OEPA and the Ohio Division of Forestry, notify local police and fire departments, file a detailed plan for the burn, and organize a crew of volunteers to monitor and manage the fire. Once the main fire is set, though, only running out of fuel will stop the burn (which is why we make sure the edges do not have fuel).

The burn creates excellent conditions for the prairie plants to get started in the spring. Nutrients previously stored in stems are returned quickly to the soil – no waiting for those pesky slow fungi and bacteria to break down dinner! The blackened surface of the soil absorbs heat from the sun, promoting sprouting of the new growth from underground stems. Green plants push above the soil within a week or so of the controlled burn, and the new growth cycle is started.

Prairie Renaissance

Most of Ohio's prairies were converted to farmland and housing projects, but prairies are coming back to our area. Farmers and other landowners, park commissions, and nature centers increasingly are reestablishing prairie habitats. In addition to the BFEC prairie, you also can experience this habitat at the Wolf Run Regional Park just east of Mount Vernon.

Why are people making this effort? Prairies, with their diverse plants and animals are beautiful and fascinating, and this diversity would fade away without some help. Prairies are an integral part of both our natural and human history, and we would be culturally diminished by their loss. More functionally, prairies protect soil and watersheds by limiting erosion and by building organic matter back into depleted, old farmland soils. And, let's be honest, watching a big, safe burn once a year is as exciting now as it must have been 4,000 years ago.

If you would like to learn more about prairies, visit the BFEC and observe nature directly. Or, information is available through our web site - <http://bfec.kenyon.edu>. Another great resource is the Ohio Prairie Association web site - www.ohioprairie.org.

Confessions of a Summer Gardener: Part II

Every summer, two Kenyon College students join the BFEC team as summer gardeners. We are indebted to Laura Yakas and James Flaherty for their hard work this summer, and are pleased to share their closing thoughts on life in the garden.

Laura: As the last days approached, I became aware that time had passed incredibly quickly, and that I hadn't noticed it because of the age old saying that flying time is wont to happen when one is having fun. Several people told us that the garden was the most beautiful it had ever been. Although the seriousness of that is difficult to comprehend, a moment that really brought it home was when a woman in awed tears told us that the garden was stunning, and that it meant a great deal to her. We made people's days, like the two high school boys who had ridden down the bike path and stopped to take a look (and how many high school boys really care about gardens?).

I saw sunflowers go from seeds to 8 foot giants in a matter of a couple of months, and Melissa's Memorial Garden transformed with a new rock border that we hand-selected from the quarry nearby. I guess that was my "swan song" - Jill's term for the place that impacts us and which we impact the most. Seeing it all dying back now is bittersweet, to know that our hard work was phenomenal but impermanent. But that is the nature of nature.



James: It's late September. Over a month ago I said my goodbyes to the BFEC wildlife garden and a season of cool, early mornings. And as much as I might have laughed at the notion at the time--during weeks of applying calamine to chigger bites, sifting through muck-caked cattails, and contending with indomitable goldenrod--those gardens became my home away from home. And more, a refuge in which to consider clearly the school that was now sending me out into the world.

The biggest discovery of the summer, in fact, was that the gardens provided a similar service to so many. There were many times when Laura and I were approached by someone who wanted to thank us. The garden meant so much to them, they'd say. There was nowhere around quite like it.

Now, having set out and said my goodbyes, I find it's a frequent thing that I eyeball a patch in the backyard and ponder how it might house Culver's root and red milkweed. I realize that in many ways I am carrying the garden with me. I miss my home away from home.

Support the BFEC ~ Become a Member

Become a part of our conservation and education mission by becoming a member! Membership entitles you to receive a hard copy of our newsletters, a 10% discount on high quality bird seed, and preferential access to our popular workshops. Please use the form below to send in your membership contribution today, and thanks!

Membership level: Student ___ \$20 Individual ___ \$35
 Family ___ \$50 Friend ___ \$100 Patron ___ \$250
 Benefactor ___ \$1000 +

Amount enclosed: _____

- My check, payable to Kenyon College, is enclosed
- Please bill my ___ Visa or ___ MasterCard
 Card number _____ Exp. date _____
- Yes! I've enclosed a special gift of \$250 to have a bench placed along a BFEC trail of my choice, along with a plaque recognizing my contribution.

Name _____

Address _____

City _____

State, zip code _____

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Your donation is tax deductible as allowed by law. The Brown Family Environmental Center is part of Kenyon College, a 501C(3) nonprofit organization.

Mail to: BFEC, P.O. Box 508, Gambier, Ohio 43022



On the Ground

by Facility Manager David Heithaus

Oh, fall, you rascal. Always creeping back when we least expect or welcome you. This time you sort of hung around all summer though, didn't you? Blocking the rays on those rare days bright and warm enough to attempt getting some color. Yammering on about "leaves" and "cider" while all we wanted was to establish a nice base. So thanks fall, and welcome; you did find a way to ease the transition from summer this year... mostly by eliminating it.

For those of you who look forward to fall: I checked our weather data. It hit 90 once in 2009. On the 16th of August for one hour. That was it. I blame you.

Here's what's been happening... On The Ground.

As what passed for summer winds down, we're getting ready to put things to bed and start making plans for spring. That being said, I'd rather focus right now on something other than the same old song and on-the-ground-report dance. Allow me to devolve into bullet points before, hopefully, bringing something different to the table.

- ◆ With the help of many volunteers (see p. 7) we collected our first full season of data for Honey-BeeNet, the NASA project using bees to track climate change. Check out their new video at : <http://svs.gsfc.nasa.gov/goto?10481>
- ◆ The invasive species control and reforestation project north of the corridor trail continuing apace thanks to our second partnership with the US Fish & Wildlife Service.
- ◆ We've established two new sections of trail. The first, along



The August 2009 Dog Days Trail Running Festival

Wolf Run, expands on the Bishop's Backbone Loop. The second, parallel to the bike path, allows for a riverside loop hike... and the Kokosing Odyssey (see page 5).

- ◆ We are working to improve safe access to the river trail from the Kokosing Gap trail via a set of steps west of the trestle bridge.
- ◆ The Wildlife Garden, everyone's favorite, is better than ever, again. Expect the same next year.
- ◆ The community garden is a wonderful success. We're looking forward to working with these gardeners again in the future.

Now for something different: an explanation.

Why is the BFEC so involved in Outdoor Recreation?

Over the last few years, the BFEC has become both an organizer and destination for a variety of outdoor fitness events and programs. Some have doubtless noticed that the term 'Mudman' does not appear anywhere in our mission statement. Touché. That being said, following our recent strategic planning retreat, 'engage

with nature' now does. Pas de touché. Ha!

While part of our recent interest in outdoor fitness programming undeniably lies in current staff obsession and another portion falls under the heading of 'because it's there (almost 8 miles of trail)', we believe in providing as many avenues as possible when it comes to experiencing the natural world.

To borrow from Yoda, involvement leads to experience, which leads to appreciation, which leads to an ethic of conservation. Maybe that wasn't Yoda... he was darker I think...fear, anger, hate, suffering or something... Anyway. From guided nature walks to field trips to festivals, all the way to 6-hour ultra trail runs, we try to cover the bases when it comes to getting folks out there.

While not for everybody, a brisk jog through the forest or a challenging race up an improbable slope can tie feelings of exhilaration and accomplishment to the visceral beauty of the great outdoors. By linking those experiences, we hope to provide the opportunity to further appreciate both. And, yes, maybe, that endorphin junky will notice something else on our calendar and broaden their experience to more in-depth explorations. Maybe bring the family? Or not.

The point is that everyone experiences nature in their own way and on their own level. Our view is that *any* experience is moving in the right direction- how fast it moves- or where- is up to the runner. We will continue to provide as many opportunities as possible for people of all ages to engage their minds, bodies and imaginations at the BFEC.

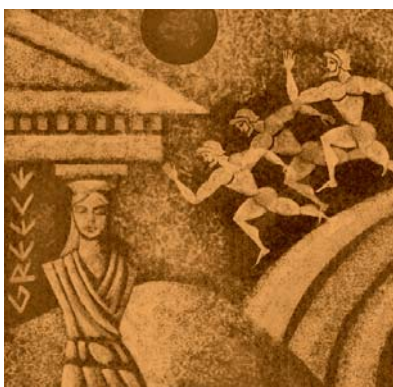
NEWS from the BROWN

RECORD-SETTING YEAR FOR BLUEBIRDS

Every now and again something clicks in space-time, pieces of cosmic goo fall into improbable alignment and a season comes together in such a way that its story will be trumpeted throughout histories yet to be written. The 1985 Chicago Bears. And now: the BFEC's summer 2009 Bluebird Trail. Two forces in blue, white and orange struggling against improbable odds (okay, the Patriots didn't exactly constitute *improbable* odds) and a race against the clock. Just like the Bears but with fewer men named after appliances and a significantly more tolerable song and dance, the BFEC bluebirds smashed the competition (figuratively) and bred their way into the history books. So in some ways that's pretty different... Anyway. Over the longest nesting season in our records, almost 100 bluebirds were fledged from our 34 nest boxes, and were joined by over 50 tree swallows. While it has been *ahem* some time since the cosmos has smiled so on the Bears, we are confident that with the aid of our intrepid bluebird monitors, the meteoric rise of the Ohio bluebird has only just begun.



KOKOSING ODYSSEY RAISES LIBRARY FUNDS



The first annual Kokosing Odyssey took place at the BFEC on September 13th and got the fall trail series off to an epic start. The six-hour ultra running/walking event, sponsored by Kenyonfit and the BFEC, saw 47 individuals and teams complete a combined total of 166 laps for over 514 trail miles. The race and accompanying book swap raised almost \$1000 to help support the Public libraries of Mount Vernon and Knox County. With at least 51,400 calories burned and the 3.1-mile course pounded to perfection, the post-race chili and pepperoni rolls were well deserved. If for no other reason than the latter, we look forward to cooperating with Kenyon Fit and the public libraries again!

PRAIRIE PROFILE: COMPASS PLANT

The cover story of this newsletter describes prairies as ecosystems of statu-esque grasses and flowering plants. Compass plant, which grows in the BFEC prairie and Wildlife Garden, is definitively towering with yellow flowers on stalks up to seven feet tall. Even more impressive are its 15 feet deep roots, which help it find water in the relatively hot, dry prairie climate.

The flat, deeply lobed leaves of compass plant display another intriguing tactic to limit water loss, for which it bears its unique name. Anyone who has noticed a field of sunflowers facing the same direction will recognize this trick: compass plant leaves rotate through the day according to the position of the sun. But rather than trying to maximize sun exposure, this rotation minimizes exposure by pointing the flat surface of the leaf away from the sun. As the sun sets in the west, the leaves (generally) face north and south, limiting heat gain and evaporation. Likely a very handy trick in the absence of abundant rainfall! Is compass plant accurate enough to guide you home should you be lost in a prairie? Let's hope you'll never have to find out.



Calendar of Events

All events start from the BFEC Resource Center at 9781 Laymon Road unless stated otherwise.
Please contact 740-427-5050 or dohertyh@kenyon.edu for additional information.
<http://bfec.kenyon.edu>

33 Provocations on Climate Change: October 7th, 7:30pm, Higley Hall Auditorium
Edward Morris and Susannah Sayler of The Canary Project will present their work photographing landscapes around the world that are acutely affected by global warming. The Canary Project produces visual media, events and artwork that build public understanding of human-induced climate change and energize commitment to solutions. For a Kenyon College campus map visit www1.kenyon.edu/tour/area_south

11th Annual Photography Contest - "Our Environment: People and Nature"

Submission Deadline: October 13th. All community members are invited to take part in the BFEC's annual photography contest. When we take the time to look, photographs of the natural world can remind us of both the beauty to be found and the challenges we face. Participants are encouraged to submit photographs of nature and/or human interactions with the natural world, positive or negative. Prizes will be awarded in Children's and Adult Divisions. A reception will be held at the BFEC Harvest Festival on Saturday, October 17th at 2:30pm. Please contact the BFEC for contest rules or see our online calendar at <http://bfec.kenyon.edu>

Fall Harvest Festival & Pumpkins on Parade - Oct. 17th, 3-6pm

This free event features a host of activities for the whole family, including pumpkin decorating, horse-drawn wagon rides, live music, kid's nature crafts, cider press, concessions, bonfire, and the BFEC's annual community photo contest show. The OSU Extension Master Gardener's one-of-a-kind Pumpkins on Parade will feature unique pumpkin art, and the Kenyon Athletic Center will co-host kids three-legged races, sack races, pumpkin roll, and prairie age group races.



The Mudman Triple - October 24th, 7:00-9:00pm; October 25th, 9:30 – 1:00pm

Ohio's most unusual trail race series will challenge you with a nighttime time trial, a 5k super steeplechase featuring "The Gauntlet", and a 10k cross-country run. And if the mud doesn't get you, the hills will! Do one, two, or all three races to earn the coveted "Mudman Triple Crown". Cost: \$15 for first race, \$5 for each additional race. Full information and pdf entry forms are available at http://bfec.kenyon.edu/outdoor_rec/09registration.htm

Full Moon Hike – Monday, November 2nd, 5:00pm

Take a brisk 1.5 mile hike on steep terrain, and be rewarded (should the skies cooperate) with a fantastic view of the full moon rising over the Kokosing River Valley. Please wear sturdy hiking shoes.

Winter "Weeds" Walk – Sunday November 29th, 2pm

After summer blooms, the dry and delicate stalks of many flowers remain standing in gardens and fields. Hike BFEC trails to explore their subtle beauty and learn to identify wild flowering plants in winter.



Christmas Bird Count - Sunday, December 20th

Join one of the country's largest citizen science projects ever! For over 100 years the Audubon Society has been organizing the Christmas Bird Count, which now boasts 50,000 volunteers and nearly 2,000 counts every year. The BFEC hosts a count that encompasses areas within a 15 mile radius of Gambier. Count data have been instrumental in showing long term trends such as changes in range (due perhaps to global warming) and declining or recovering bird populations. Participants may either watch a feeder from the comfort of their own home, or drive and walk a section of our area. Don't know the birds but want to learn? Stop in the center between 8am and noon and help us count birds at our feeder. All participants will be invited to gather at the center for a soup lunch. Call 427-5050 to register.

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In the office, classroom, gardens and on the trails: Mike Dailey, Jana Stewart, Brian Zimmerman, Joyce Klein, Laurie Thompson, Meg Galliput, Linda Michaels, Jane Cosby

Bluebird monitors: Keith Kitchen, Jan Ellis, Sarah Goslee-Reed, Susie Fish

Nature's Keepers Camp counselors: Levi Clark, Rowan Crowell, Liz Doernhoefer, Kate Kless-

ner, Joey Montoya, Cole Parker, Brittany Shelhorn, Megan Sohn, Weston Uram

Kokosing Odyessy volunteers: Ellen Biscotti, Will Bowman, Siobhan Fennessy, Kathy Gillen, Alexis Gonzalez, James Gyenes, Ray Hiethaus, Pat Heithaus, Meg Murphy, Rachel Oscar, Libby Watts

Bee monitors: Jason Bennett (organizing volunteer), Claire Buss, Ellen Biscotti, Sarah Embick, Cari

Ficken, Jennifer Garbett, Robert Hallinan, Amanda Henderson, Hannah Kramer, Elizabeth Lowry, Rebecca Metcalf, Linda Michaels, Kara Pellegrino

Kenyon pre-orientation service volunteers

Elementary field trip volunteers

THE BROWN FAMILY ENVIRONMENTAL CENTER *at Kenyon College*

9781 Laymon Road, Gambier, Ohio 43022 ~ (740) 427-5050 ~ <http://bfec.kenyon.edu>



Our Mission

The BFEC at Kenyon College exists to engage Central Ohioans of all ages with nature, and to support the goals of Kenyon College by conserving the natural diversity of the Kokosing River valley and providing opportunities for education and research.

Co - Executive Directors

E. Raymond Heithaus, *Jordan Professor of Environmental Studies & Biology*

Siobhan Fennessy, *Associate Professor of Biology*

Facility Manager

David Heithaus

Program Manager

Heather Doherty

Facility & Program Assistant

Jill Kerkhoff

Upcoming Events

- October 7: Environmental Photography: 33 Provocations on Climate Change
October 13: Annual Community Photo Contest Deadline
October 17: Fall Harvest Festival
October 24 & 25: Mudman Triple Trail Races

Details Inside on page 6!

DATE MAILED: October, 2009
CONTAINS DATED MATERIAL

The Brown Family
Environmental Center
at Kenyon College
P.O. Box 508
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