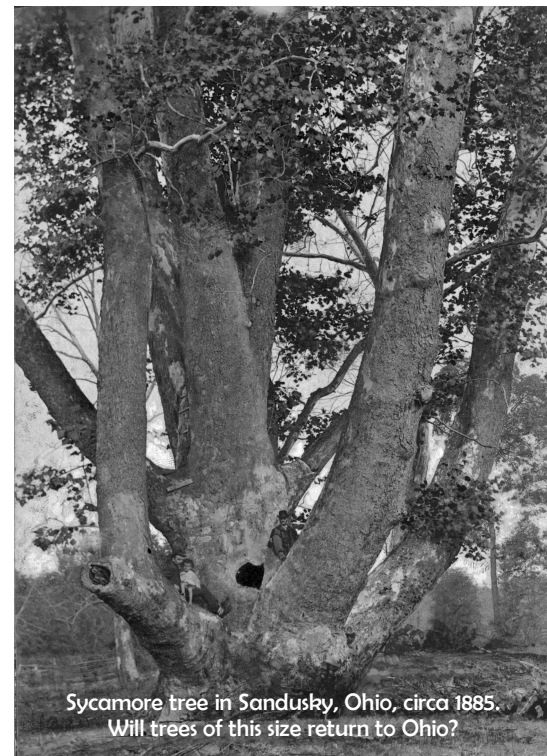




# Change is Constant

Imagine a time when there were *no deer* in Ohio. Deer and many other animals disappeared a century ago when nearly all of the state's forests were cut down. It's an example of the profound changes our community and landscape have experienced in just a few centuries. How will we shape the changes that lie ahead?

*This story will also appear on a new series of outdoor panels at the BFEC - read more on page 5.*



Sycamore tree in Sandusky, Ohio, circa 1885.  
Will trees of this size return to Ohio?

## Boom & Bust

Mention the word "forest," and what comes to mind may be a patch of woods that you often drive past, or maybe the view from your back porch or a favorite trail.

But to envision Ohio's forests as they were first seen through the eyes of pioneers, you must erase these images, because the forests they encountered were *very* different.

Forests didn't occur in 50, or 100, or even 500 acre plots. They covered the entire state, from border to border, minus patches of prairie and wetland.

These original forests also contained, as one might suspect, really big trees. Some, like sycamores, grew large enough to encompass a small

room, literally. These trees can live to be 400 years old and 50 feet around, and often become hollow at ground level. Pioneers took shelter within them for years at a time or used them to corral livestock. Though less perfect as a tree house, white oak trees lived to be 600 years old - over half a millennium.

In addition to being larger in every dimension, Ohio's forests supported wildlife that would be jaw-dropping to present-day Ohioans, like wolves, elk, mountain lions, bison, and rattlesnakes.

But as Ohio became a state in 1803, farms quickly proliferated while natural areas dwindled. In just 100 years, nearly 90% of Ohio's original forests were cleared. The wildlife described above, not to mention common present-day animals like bea-

ver, deer, and turkey also disappeared.

## Natural areas return - why care?

After the immense losses of the 19th century, Ohio's forests slowly and quietly crept back. They rebounded to cover 30% of Ohio by the mid-1990's, and many animal species returned with them (see page 2).

This is good news for wildlife, but it's also good news for our community. Green space is enjoyed for hunting, staying fit, reducing stress, and spending time with family.

Natural areas are also working for you in a way that is seldom recognized, as vital infrastructure. If you like to eat or maintain a dry home during heavy rains, then you've benefited from these "ecosystem ser-

*“With knowledge of these tremendous changes to our landscape, we can begin to understand that its fate is far from settled.”*

vices.” For instance, natural areas provide habitat for hundreds of bee species, which pollinate crops that account for up to 30% of our food supply.

They are also important when it comes to managing water. Most of us are familiar with the impacts of Hurricane Katrina, which were exacerbated by the loss of coastal wetlands. Had this natural barrier been left intact, it would have helped buffer the storm and prevented millions of dollars in damages.

Similarly, natural areas next to riv-

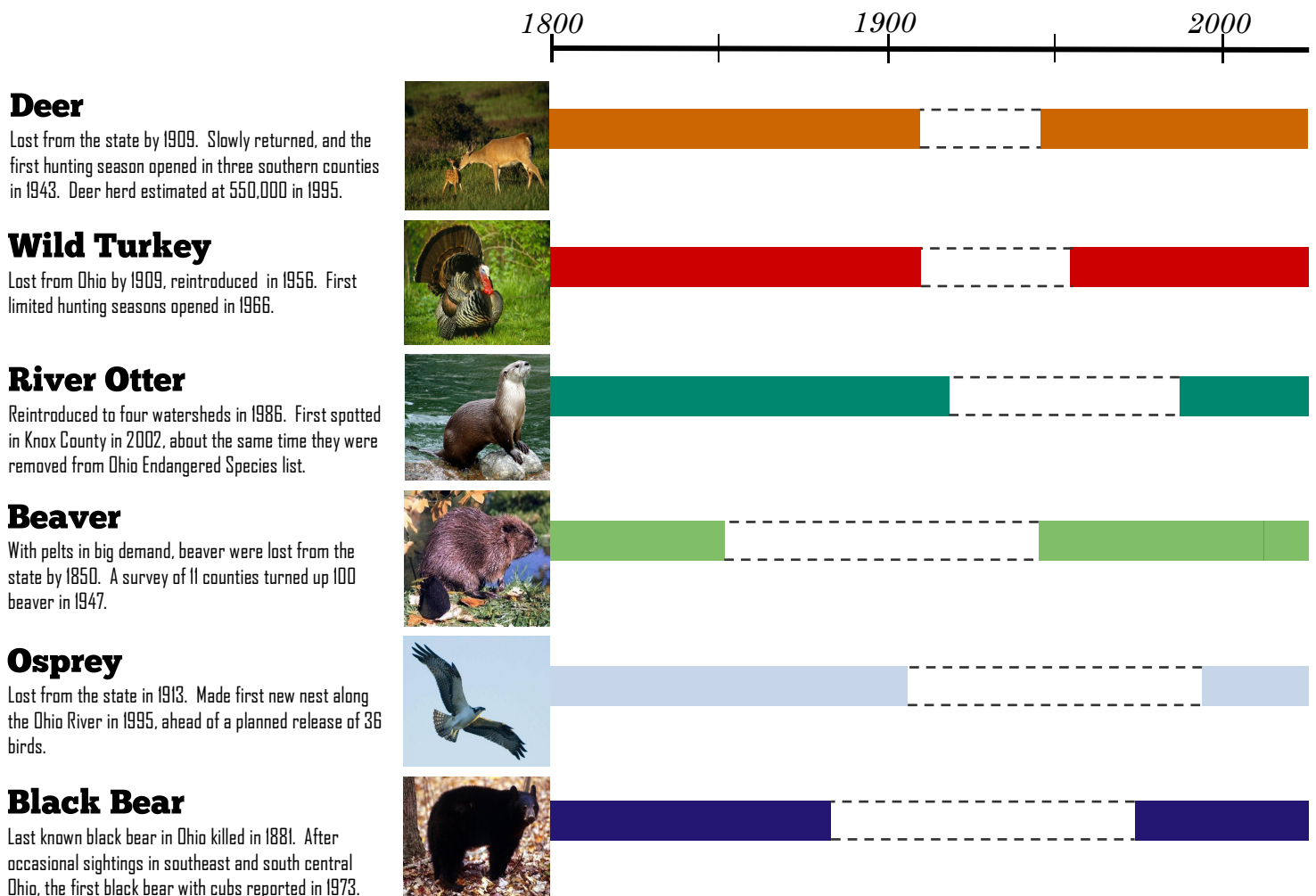
ers help mitigate flooding. During a 2010 flood event, 100 acres of the BFEC preserve along the Kokosing River were underwater. Because this land had been set aside, it was able to provide a safe place for water to spread out and slow down. When floodplains are filled or floodwalls erected, floodwater simply continues downstream where it has the potential to cause even greater damage.

The river itself benefits from being allowed the space to flood, which is a part of its natural cycle. Natural areas along rivers also help filter pollutants and protect drinking water.

*Continued on page 4*

## Ohio Wildlife Timeline

The animals below were once lost from Ohio (indicated by dashed lines), but later returned due to habitat recovery, sound management, or both.



### Deer

Lost from the state by 1909. Slowly returned, and the first hunting season opened in three southern counties in 1943. Deer herd estimated at 550,000 in 1995.



### Wild Turkey

Lost from Ohio by 1909, reintroduced in 1956. First limited hunting seasons opened in 1966.



### River Otter

Reintroduced to four watersheds in 1986. First spotted in Knox County in 2002, about the same time they were removed from Ohio Endangered Species list.



### Beaver

With pelts in big demand, beaver were lost from the state by 1850. A survey of 11 counties turned up 100 beaver in 1947.



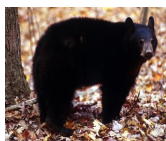
### Osprey

Lost from the state in 1913. Made first new nest along the Ohio River in 1995, ahead of a planned release of 36 birds.



### Black Bear

Last known black bear in Ohio killed in 1881. After occasional sightings in southeast and south central Ohio, the first black bear with cubs reported in 1973.



*Creature Feature:*

# History of Howling in Ohio

The story of large predators in Ohio is similar to the Star Wars saga. It starts off pretty well, gets better, tapers a bit and then goes straight off the cliff. Onto pointy rocks... and land mines...

Then an Acme safe falls on it. One can argue on both counts that things started to look up right at the end though: larger predators *are* slowly emerging as ecologically significant in the state and the third/sixth 'movie' did end... eventually.

Timber wolves were once the dominant predators across much of the state. Introduced into the area well before the end of the ice age, they ascended the food chain following the climate-induced demise of massive dire wolves around 10,000 years ago.

They roamed a vast wooded wilderness hunting deer, elk and bison. Remains have been identified at a number of archaeological sites and there are many indications that wolves were largely revered by Native Ohioans.

Letters and reports from early settlers tell a story of a wilderness where wolves were so plentiful it was hard to sleep at night for the ubiquitous howling. Along the Kokosing, the mixed sounds of owls and wolves were noted amongst the region's most memorable characteristics.

As Europeans spread from the east in higher numbers so did their agricultural practices. In a story that echoes headlines today, wolves and ranchers did not mix very well. Massive habitat loss conspired with fear for family and livestock to place wolves squarely in the crosshairs of progress.



## Role of an apex predator

An 'apex' predator is at the top of the food chain. In most systems the only thing an apex predator has to fear is fear itself. And man. Mostly man. Several avenues of scientific study have suggested that apex predators can also act as a 'keystone' species- a species whose removal from a system can have cascading and detrimental effects. The basic model suggests that without predators at the top, foragers will expand and deplete the bottom leaving everyone tumbling in disarray.

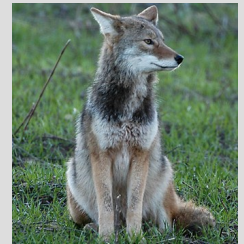
The loss of the timber wolf as an apex predator in the eastern U.S. has contributed to the proliferation of deer and expansion of coyote's range, changes that reverberate throughout the ecosystem.

### Coyote, *Canis latrans*

Diet: omnivorous- primarily small mammals, birds, insects, fruits, nuts, carrion, dog food

Habitat: grasslands, brush and farmland intermingled with wood lots. Can also adapt to urban/suburban.

Weight: 20-40 lbs



### Timber Wolf, *Canis lupus lycaon*

Diet: deer, bison, elk, rodents, fish

Habitat: wilderness and remote forested areas; once found throughout the U.S., now in very limited areas.

Weight: 40-175 lbs



Wolves quite reasonably (and like Europeans) concluded that eating doe-eyed meat-pets was a much easier and juicier occupation than chasing after deer and rabbits. Mass poisonings, trapping, hunting and bounties ensued and persisted until the last wolf was killed in 1842.

Despite a resurgence of wolves in controversy and the west, it is unlikely that Ohio, bereft of large tracts of wilderness, will ever see wolves again... Enter the wolf's smaller cousin...

One animal that complained neither of deforestation or the removal of wolves was the coyote. Traditionally found only west of the Mississippi,

coyotes are masters of adapting to new environments. When a void opened in Ohio, they didn't waste time filling it.

Around 1920, they began creeping in from the west; by 1960, they were an established presence filling an ecological niche that overlapped with both native foxes and the then-extirpated wolves.

Coyotes brought with them remarkable adaptability. Travelling from the open landscape of the plains, they quickly took to the diverse habitats of the eastern states. The food, shelter and available water allowed them to flourish both in numbers and individual size.

## What role will you play?

With knowledge of these tremendous changes to our landscape, we can begin to understand that its fate is far from settled. What will our surroundings look like in 2100?

While we must balance the various needs of our population, we also know that conservation of green space makes sense, for the benefit of our health and the infrastructure that supports our own survival.

The BFEC's goal is to help the land return to a healthy, self-sustaining

ecosystem through strategies ranging from reforestation to education. This goal helps maintain a future for Ohio's great natural diversity, as well as one offering clean air, clean drinking water, and a beautiful place for Knox County residents to call home.

Playing a positive role in shaping the future of our landscape may be easier than you'd think. Here are a few ideas to get you started:

### Plant a flower, create a home.

Invite bees, butterflies, and birds to your backyard by limiting pesticides

and planting native flowers and shrubs. Ask the BFEC for a plant list, or visit our wildlife garden for inspiration.

**Take kids outside.** Bringing children to natural areas benefits their health and helps them grow into adults who care.

**Become a member of the BFEC.** You can be a part of our conservation and education work; see page 7 for more information.



*Continued from page 3...* Today, coyotes are common throughout the state in rural, suburban and even urban settings. They are generally nocturnal but will move and hunt during the day in areas where humans are few and far between.

Their diet is omnivorous and opportunistic: small mammals like mice or rabbits, fruits, nuts, birds, insects, road-kill and McRibs from the alley dumpster are all on the menu (and in that order). Coyotes will often hunt in pairs or small groups and have even been spotted following badgers to pounce on scraps those notorious scappers leave or overlook.

Anecdotal evidence suggests that coyotes in Knox County have begun

to prey on newborn fawns as well as a sick or wounded adult deer. In rural areas, coyotes are known to go after livestock although not to the degree which wolves did. While many blame coyotes for harassing chickens or sheep, research suggests that less than 15% of the coyotes' diet consists of livestock. Generally the summer months see attacks on domesticated animals spike as mothers try to support themselves and their pups.

A coyote is similar in appearance to a slim, medium sized dog. Most have greyish coats but they can vary from whitish to brownish red. They have a black-tipped bushy tail that is carried down at a 45 degree angle when they move. Male coyotes tend to be

slightly larger than females but few ever top 50 pounds.

Coyotes are considered faithful critters and generally only have one mate for as long as they both shall survive. They breed early in the year and give birth to a litter of pups once things become more hospitable in April or May. The pups are born unable to fend for themselves and require care and nurturing for the first several weeks of their lives.

Coyotes are fans of stereotypes. While the female selects and arranges a den, the male of the pair fulfills his y-chromosomal duties by procuring most of the food. Borrowing from birds, coyote parents regurgitate food for their young until they are ready

*Continued on page 7*

## Apex Predator vs Star Wars Franchise

Time period	Cretaceous	Pleistocene	Holocene	European Arrival	European Expansion	Present
Trending	→	↑	↘	↓↓	↓↓↓	→
Long time ago: here	Geology conspires to keep it a secret but probably some awesome dinosaurs. Ohio maybe like swamp planet Degoba	Giant bears, giant cats, giant wolves eat giant meats of lesser toughness. Ohio like ice planet Hoth	Regular wolves and regular bears eat regular-sized animals. Ohio more like forest planet Endor	Regular wolves get soft on cushy new pet meats; Europeans increasingly annoyed with wolves for stealing plan, meat	Regular wolves poisoned, trapped, shot and stabbed into regional extinction. Lambs sleep better before slaughter	Coyotes adapt to every habitat other than the vacuum of space. Start eating more things, grow, eat bigger things
Long time ago: far far away	Concepts of Force, Jedi, Rebels, Empire and Harrison Ford's chin introduce exciting new universe.	Light sabers, Hoth, Degoba, carbonite, dismemberment and Billy Dee Williams give birth to 'gritty reboot'	Bigger and more explosions, Carrie Fisher's wardrobe and Darth Vader's redemption tempered by Ewoks, merchandise	Something is not right... vaguely racist cartoon characters prance and patois with children and laser guns	Something is definitely not right... So much talent on screen? Why is this happening? Why is this happening?	Movie ends after 140 minutes. Eye, ear plugs removed. Memories of youth scorched, buried



# NEWS of the BROWN



## Red-winged Blackbird

Looking for something to do at the BFEC? Go no further than the four small ponds located next to the Resource Center, where you're likely to find a bevy of busy red-winged blackbirds.

The bird's shoulder patches are bright red and yellow; combined with its otherwise black body, these birds easy to spot as they fly back and forth to our ponds. Females weave together cat-tail stalks to build basket-like nests above the water.

Red-winged blackbirds are one of the most abundant birds in North America, and also one of the earliest migrants to return from southern wintering grounds. Though they sometimes arrive with late February snow, their strident "conk-a-ree" call is a true harbinger of spring.

Redwings are polygamous; males may mate with five females and form a loose colony. This habit, which is visible at the BFEC, may reduce nest predation by increasing the number of alert parents. Building a well-concealed nest above water may also help.

## New trail signs on the horizon

What do you do if you operate a nature center with drop-in visitors but limited staff (2.5 full time employees, to be exact) that are often away from the office working outside? Install better signage.

In May, the BFEC will install outdoors panels next to our resource center that will be available to orient visitors at anytime. Along with a trail map, panels introduce visitors to the story of our landscape previewed in this issue of Field Notes.

Additional signage is slated to go up along our river trail, wildlife garden, and at major trailheads.

To further aid navigation, new trail decals matching those on trail maps will also be installed on posts at trail intersections. Look for the icons, such as this tree indicating the New Gambier Trail Loop, the next time you hit the trail.



## Spring Housing Rush

Spring may have taken its sweet time getting here but don't tell the bluebirds! For most of March they've been adding a lively touch of color to an otherwise bleak, grey landscape.



Males have already started staking out territories and puffing out their chests and their potential mates won't be able to resist for long. Especially those lucky few who manage to lay claim to one of the dozen new cedar boxes we installed over the winter to replace existing boxes in disrepair.

Honoring the "Bolt" box design refined over many years at the BFEC [and elsewhere], these new boxes add a touch of class to the BFEC bluebird trail. With 650 young bluebirds raised in our nesting boxes since 1996, we're hoping they'll keep us on track for our goal of 1000 chicks by 2020!

Join us on June 2nd (see calendar page 6) as we visit a few of our 38 nesting boxes and share what we've learned.

# Calendar of Events

*All events are free, open to the public, and start from the BFEC Resource Center unless stated otherwise.  
9781 Laymon Road | 740-427-5050 | dohertyh@kenyon.edu | http://bfec.kenyon.edu*

**Family Adventure Days - First Saturdays, 1-5pm.** Join us for a different adventure every month! Check out a display, chat with a naturalist, go on a scavenger hunt, or try a craft. Visitors are also free to explore the center, peruse our library, or borrow nets and binoculars.

April 6 Wild Food ~ Wild Flower - Take in spring's abundance for the eyes and the palate. Come for a **guided walk at 2pm** to discover wildflowers and wild edible plants, or drop in for a wildflower scavenger hunt and craft.

May 5 Amazing Amphibians - Use nets to explore ponds teeming with up to seven varieties of frogs and tadpoles. Discover other creatures with amphibious roots, like dragonflies that live in water as young nymphs.

June 2 Bluebird Walk- Who is nesting in our bluebird boxes? **At 2pm** hear a short bluebird presentation before heading out for a walk to nestling boxes. Learn about the different species that may become residents, see young in the nest, and learn how to attract bluebirds at home.

## One Day, Two Adventures

Before hitting the BFEC on April 6th, try a morning of art-infused learning at the **GUND GALLERY FAMILY DAY** from 9:30am - noon. Ignite a new family passion, create and take home a masterpiece. [thegundgallery.org](http://thegundgallery.org)



## Plants that Heal – Tuesday, June 25<sup>th</sup>, 7:00pm

Walk the BFEC's garden and trails to learn about the traditional healing power of wild and edible plants, and enjoy one of our tastiest wild food treats, sassafras tea.

## Summer Night Sky – Thursday, June 27<sup>th</sup>, 9:45pm

Bring a blanket or chair to admire the summer night sky with Kenyon Professor Tim Shutt. Learn about constellations and listen to mythological stories about the stars.

## Miller Observatory Open House – Last Fridays, 9pm

Experience planetary views with Kenyon Physics Professor Paula Turner. Open houses are canceled in cloudy weather; email questions to [turnerp@kenyon.edu](mailto:turnerp@kenyon.edu). *From downtown Mt. Vernon, follow S.R. 229/Gambier St. east 4 miles. Turn left at observatory sign onto an access road (prior to S.R. 308 intersection).*

## Celebrate EARTH DAY!

Sunday, April 21 @ Kenyon Athletic Center

### Earth Day Challenge Half Marathon & 4 Mile Run/Walk

Celebrate Earth Day with your feet! Participants of all abilities are invited to walk, run or a little of both for a four-mile race or half-marathon, both starting at 8am. Info at [hofferberthj@kenyon.edu](mailto:hofferberthj@kenyon.edu), registration at [www.premierraces.com](http://www.premierraces.com).

### Earth Day Festival: *Health People ~ Healthy World*

10am - 2pm. Keep yourself and the planet healthy - goals that go hand-in-hand! This unique event brings together the best in local resources with over 70 exhibitors and vendors, kids activities, live music, farm marketers, and more. Celebrate Earth Day by shopping green, enjoying entertainment, and connecting with groups that support healthy living for ourselves and our world.

# Thank You to...

## Our Members *January - March, 2013*

**PATRON**

Geoffrey & Lori Brown  
 Dick & Kay Hoppe  
 Bruce & Deborah Kinzer  
 Florence Short

Rebecca & John Lowther  
 Beverly Morse & Brian Miller  
 Frederick Neidhardt  
 John & Jill Paul  
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 Susan Walker

## Our Donors

After Kenyon Society  
 Royal Rhodes

## Our Volunteers

*In the office, classroom, gardens and on the trails:* Steph Harman, Orsolya Schreiner

*Continued from page 4 ...* to hunt. After a month or so, the pups begin to wander out of the den for field trips and by 2-3 months they begin employing hunting techniques of their own.

Most male pups will move on to find their own territories after about a year. Those that do not are inevitably compelled to by their fathers. Female pups may linger with the group for longer but generally move on after a couple of years. Female coyotes are noted for their maternal instinct and care. They are wary of any threats to their brood and are known to switch den locations in response to threat.

### Coyotes at the BFEC

Not surprising considering our available resources, coyotes inhabit the BFEC preserve. A family group has built its dens here for the past 3-4 years. While they are seldom seen during the daylight, keep your eyes peeled north of the river and you may get lucky.

While one must acknowledge coyotes as an established part of our ecosystem, it is important to consider their nature as a relative newcomer and be mindful of potential impacts they might have on other native wildlife. Foxes in particular may be susceptible to predation, competition for resources and displacement when coyotes are present. As we are home to both, we're doing our best to keep track of both foxes and coyotes on the preserve.



**Are YOU a member?**

## Now is the time to join!

There are many reasons to give, including the satisfaction of knowing you're a part of critical education and conservation programs. Receive preferred access to popular workshops, a hard copy of our newsletters, and 10% discount on bird seed. Thank you for your support!

- **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 \_\_\_\_\_

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

Name \_\_\_\_\_

Address \_\_\_\_\_

City \_\_\_\_\_

State, Zip Code \_\_\_\_\_

Telephone \_\_\_\_\_

Email \_\_\_\_\_

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



# 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.

### *Facility Manager*

David Heithaus

### *Program Manager*

Heather Doherty

### *Facility & Program Assistant*

Jill Kerkhoff



## **Earth Day Festival**

Sunday, April 21st, 10am - 2pm

Kenyon Athletic Center, 221 Duff Street, Gambier

- \* Over 70 Exhibitors \* Kids Art Contest Finalists \*
- \* Farmers Market & Live Animals \* Local Artisans \*
- \* Kids' Activity Zone \* Free Health Screenings \*
- \* Live Music by Clearfork Valley String Band \*
- \* Earth Day Challenge 1/2 Marathon & 4 Mile \*

*Details inside & at <http://bfec.kenyon.edu>*

DATE MAILED: April 2013  
CONTAINS DATED MATERIAL

**Brown Family Environmental Center**  
**at Kenyon College**  
P.O. Box 508, Gambier, Ohio 43022





