



# Secrets of the Pine Grove

by Jia He, '17, BFEC Student Manager

## First Encounter

Walking into the sprawling expanse of the BFEC pine grove for the first time, one feels nothing short of humility. I remember when I first came upon the pines during my freshman year at Kenyon. I was leading my first field trip for a group of second graders from Wiggin Street Elementary. As we trekked our way up the Fern Trail the children were bubbling with an energy particular to the thrill of outdoor exploration. But upon arrival at the top of the hill, we all met the opening to the grove in silenced awe. The pines, lined up in stark rows extending as far as the eye could see, form a fortress that exudes a certain solemn contemplativeness. Sage and tranquil, but altogether humming with life, one cannot help but to imagine that the grove is pocketed with all sorts of secret wisdom.

## Tree Wisdom

Indeed, trees do chronicle their memories - hidden and protected within their bark. In fact there exists a cadre of impassioned scientists who dedicate their lives to decoding tree rings in order to reveal the mysteries of the Earth from thousands of years ago. In recent years, these dendrochronologists have exerted much of their effort in preserving and studying the bristlecone pine. The oldest tree on record is a Great Basin bristlecone pine (*Pinus longaeva*) with 5,066

rings, found in the White Mountains of California. Scientists believe that by studying tree rings of the oldest of these bristlecone trees, they are able to extrapolate information dating to when the first pyramids were raised! Although not nearly as old, the Kenyon pines in our pine grove serve as our very own repository of information - dating back to around 25 years ago.

## Beginnings

In 1990, Professor Ray Heithaus fronted the pine woods project shortly after Kenyon purchased the property now known as the Brown Family Environmental Center. He saw it as the perfect opportunity to conduct an experiment: there was a lot of literature at the time that suggested that same-age trees will develop into a bimodal distribution of sizes. In other words, due to competition of resources, some trees that can reach the upper canopy of the forest will grow to be significantly larger or taller than the trees that cannot. Professor Heithaus wanted to put this theory to the test.

A total of 1,000 Eastern White Pines (*Pinus strobus*) were donated by the Newark Audubon Society for this project.

Volunteers from the student body and the maintenance department aided in the grove development process, planting saplings in two spatial patterns of either 10 or 15 feet apart. As part of a larger initiative to design an ecological space for biology experiments, Ray Heithaus, along with Kenyon biology faculty members Pat Heithaus and Kathy Van Alstyne, used the pine woods as a sort of



Botanical illustration of *Pinus strobus*. Hand-colored stipple engraving from *A Description of the Genus Pinus* by Aylmer Bourke Lambert (1761-1842).



*In 1997, the trees were 15 feet tall.*

live “land lab” for their classes. According to Heithaus, half of the saplings were fertilized annually for ten years. During that time, students would measure tree height and diameter, along with deer browsing and the cover of the invasive multiflora rose in the area.

Follow-up studies conducted by Kenyon students found that initially, unfertilized trees grew taller when they were planted closely around other unfertilized trees. However, the unfertilized trees lost this advantage after about 15 years, when some of them grew tall enough to shade their neighbors. Ecology studies in the pine grove are ongoing, and perhaps in the future Kenyon students will be able to date some of the tree rings for a look into the forest’s ecological history.

### **An Evergreen Conifer**

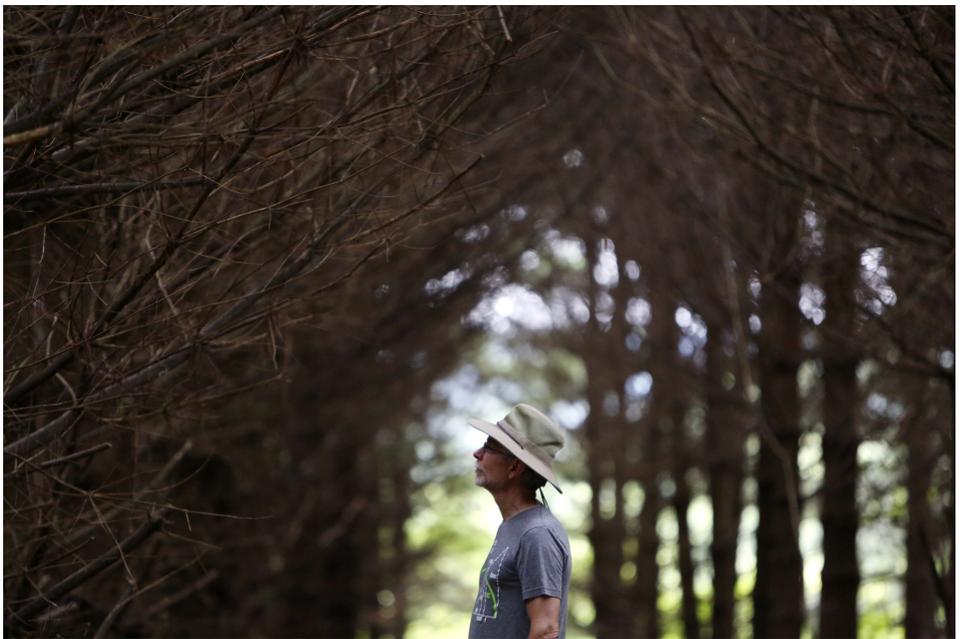
Anyone -- whether you’re a college student or a second grader, a seasoned scientist or a casual nature lover -- can appreciate the beauty of the grove.



*In 1999, students measuring white pines.*

What’s amazing about pine trees is that they sustain their leaves throughout winter. As a member of a family of trees called evergreen conifers, pines are characterized by needle-like leaves and bear pine cones that contain the reproductive components of the tree. The “needles,” in contrast to broad leaves, have less surface area and better barriers to prevent water loss. Pine leaves also photosynthesize year-round and have structures that allow them to withstand below-freezing temperatures. Because of this, pine needles can be retained throughout all seasons for around two to three years. Every autumn, the yellowed older needles are shed but the younger needles remain, giving pines their “evergreen” nature.

The Eastern White Pine, is characterized by soft, thin, bluish-green needles and long curvy cones. As one of the tallest species in the pine family, white pines can grow as tall as 80 feet. They are also easily transplanted and grow quickly, making them a popular species for Christmas trees. Although none of our own pines are used for this purpose, I find the grove in the wintertime to be an especially magical encapsulation of the holiday spirit. If you have the time, I encourage you to make the hike up to the pine grove during these frosty months. You’ll be greeted by a winter wonderland of blue-green and white, silent but teeming with hibernating critters that quietly await the coming of spring.



*The pine grove today.*

*Some visitors describe the pine grove as quiet and serene; feeling like a sanctuary.*

Jill, Shane, Dave, and Noelle are dreaming and planning for the future.

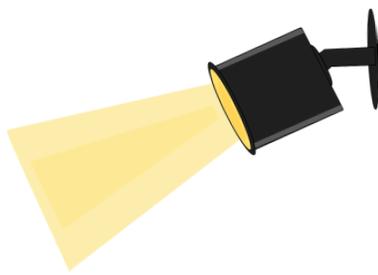
**And we need your help!**

If you have ideas or thoughts about programs, events, lectures, presentations, how we might use or change our facility, the land, and more — please let us know. I want to hear from you!

Send ideas to [jordan2@kenyon.edu](mailto:jordan2@kenyon.edu).

# VOLUNTEER SPOTLIGHT

By Noelle Jordan



ed to live out in the country and have land with trees on it. About 11 years ago, my husband and I moved to Knox County, bought some property, and we've been creating my dream by planting trees and native gardens.

**Q: Are you reading anything right now? If so, what?**

I'm indulging a guilty pleasure right now and I'm re-reading the *Outlander* series by Diana Gabaldon. I love the way she writes and the way she depicts nature.

**Q: What else would you like to share with everyone?**

One of the things that I experienced as a nurse in a very stressful job was how healing it is to be out in nature. Growing up, I realized that being outside can be energizing, focusing, and nurturing. I would love to see more people experience this, whether they have access to a community garden, go camping, or whether they find some other way to experience nature. Nature has a lot to teach us.



*©*

**If you would like to  
BECOME A VOLUNTEER  
call Noelle at 740-427-5052.  
We have many different ways  
for you to get involved.**



Since 2014, Terri Heironimus has been a dedicated volunteer at the BFEC. She spends her time working in the Wildlife Garden with Jill Kerkhoff. In the past 2 years, Terri has served approximately 120 hours making our garden a beautiful, serene place for reflection and learning.

I had the honor of a recent interview with Terri. Here's what she had to say....

**Q: What do you do as a volunteer at the BFEC?**

I work with Jill in the Native Plant/Wildlife Garden once a week. Our tasks change from season to season but include things like deadheading, planting, transplanting, re-working overgrown beds, invasive plant removal, maintaining walkways, labeling plants, and so much more.

**Q: How long have you been volunteering for BFEC?**

I celebrated 2 years here in October 2016.

**Q: Why do you volunteer at BFEC?**

When I realized that this garden was part of a Kenyon organization (and not a private garden), I approached the manager of the BFEC and asked if I could volunteer. One of the benefits of working in the wildlife garden has been learning so much more about the variety of perennials one can use to have blooming plants throughout the season to feed pollinators.

**Q: Have you learned any new skills volunteering at the BFEC?**

Yes! I have learned about grouping plants in one area for visual impact and which plants to include to have a

beautiful blooming garden from early spring through late fall. I've learned that a garden is both an artistic venture and a functional venture, and a successful gardener layers the elements of art with the functional aspects. I have been able to apply this in my own garden, which now feeds wildlife year round.

**Q: Do you have a favorite BFEC story?**

My favorite memory is working with Jill during the early planning phase of a garden bed improvement project – she wanted to divide one large bed into 2 smaller beds for easier access. As Jill started thinking about this design change, I realized that the garden was a canvas and we were re-painting or recreating a work of art. I learned not to be afraid to de-construct in order to get to artistic construction.

**Q: What do you like to do when you're not at the BFEC?**

I am an Ohio Certified Volunteer Naturalist (OCVN), so I also spend time volunteering for the Knox County Parks, ODNR doing stream monitoring, and Ramser Arboretum where I'm currently helping with a tree survey project. Just this week, for Knox County Parks, I worked on a butterfly transect at Honey Run Park and invasive species removal at Wolf Run Park. And today, I'm here at BFEC working in the garden. It's been a busy week!

**Q: Tell us a bit about your background.**

I grew up as a city girl in Milwaukee, Wisconsin, one of seven. My dad loved to hike and he would take us all hiking on weekends. I received a B.S. in Nursing from Marquette University and spent 34 years as a hospice nurse and oncology nurse. My entire life, I had always want-

# The Green Corner

*News from the  
Office of Green Initiatives*

## Kokosing Nature Preserve: Central Ohio's First Green Cemetery

by Amy Henricksen

Steward, Kokosing Nature Preserve

In October 2015, Kokosing Nature Preserve was dedicated as Central Ohio's first conservation burial ground. Established by the Philander Chase Conservancy, the preserve offers a natural (or green) burial setting on 23 acres of native prairie and woodlands.

Natural burials emphasize simplicity and a return to nature. The body is placed in a biodegradable coffin or shroud and is interred without the use of embalming fluid or a concrete burial vault. Over time, the gravesite returns to its undisturbed state, covered in prairie grasses and wildflowers, surrounded by trees and rolling farmland. Graves can be marked by natural, unpolished engraved stones placed flat at the gravesite.

There are approximately 2,300 burial plots located throughout the preserve. Many of the plots are designated as woodland plots, but the majority of the 10'x15' plots are located throughout the restored prairie. In just its second year of growth, the prairie at Kokosing Nature Preserve is thriving, and an increase in the diversity of wildlife on the property has already been observed. Most notably, we were thrilled to see (and hear) a bobwhite quail take up residence in our prairie this past summer!

Kokosing Nature Preserve, located at 10620 Quarry Chapel Road, Gambier, Ohio, is open from dawn to dusk, and all are invited to walk the paths and enjoy the beauty of this space. For more information, contact Amy Henricksen, Steward, at 740-427-5040 or at [info@kokosingnaturepreserve.com](mailto:info@kokosingnaturepreserve.com).



Southern Flying Squirrel  
(*Glaucomys volans*).

Photo by MimiMia Photography.



Range map of Southern Flying Squirrel

## In Celebration of Squirrels

By Noelle Jordan

January 21<sup>st</sup> is National Squirrel Appreciation Day. That's right – squirrels! If you're not familiar with this "holiday," it was founded in 2001 by Christy Hargrove, a wildlife rehabilitator in Asheville, NC. You can celebrate this very important day by learning something new about our furry friends, or hiking some of the BFEC trails to spot and/or photograph squirrels.

Squirrels are members of the family *Sciuridae* which consists of small to medium sized rodents, like tree squirrels, ground squirrels, flying squirrels, and chipmunks to name a few. The most common squirrels in Ohio include the Eastern Gray Squirrel, the Fox Squirrel, and Southern Flying Squirrel. In fact, many sources say that the Southern Flying Squirrel is the most common squirrel species in Ohio.

Southern Flying Squirrels (*Glaucomys volans*) are nocturnal and generally live in forests of deciduous or mixed deciduous-coniferous trees. They are cavity nesters and opportunistic omnivores eating whatever they can find including nuts, seeds, fruits, bark, mice, eggs, spiders, moths and other insects. Because of their small size, southern flying squirrels are prey to snakes, raccoons, owls, coyotes, bobcats, and other nocturnal predators.

These unique critters can be distinguished by their patagia which are parachute-like flaps of skin that extend from their wrist to their ankle on each side. When outstretched, this skin allows the squirrel to glide. They use their limbs and tail as rudders for changing direction, and their tail is used as an air break to help them land. Adults can regularly glide up to 160 feet.

Autumn nights are best for observing flying squirrels because they are active gathering food for winter. The easiest way to "find" them is to listen for them during the first several hours after sunset. Their most common call is a high-pitched, excited-sounding "cheep."

During the winter, they do not hibernate, but they can temporarily reduce their metabolic rate and body temperature to conserve energy. They nest together in groups to benefit from one another's radiant heat.

### Fun Facts:

- ◆ A squirrel nest is called a drey or dray.
- ◆ A group of squirrels is called a scurry.
- ◆ The longest recorded "flight" of any flying squirrel is 450 meters by the giant flying squirrel found in southeast Asia.

# BFEC

## by the numbers

71

Volunteers made our programs & events successful!



700

Guests at Autumn Fair



over 444

Hours served by volunteers from Sept 1 - Dec 1

62

Current members

479

Elementary school children enjoyed programs at the BFEC Sept & Oct 2016

3

Full-time staff

2300

Patrons enjoyed the fire ring, trails, and Resource Center last fall



## Diary of a Newbie

(and someone who possibly spent a little too much time in Texas)

By Noelle Jordan

**August 27** — Moving to Mount Vernon. Driving along Rt. 229. Hills! Wheeeeeeeee! I love hills! Texas was way too flat.

**September 1** — Chipmunks! They are sooo cute! Texas doesn't have chipmunks.

**September 3** — Third day on the job; climbed an old Sycamore tree next to the Kokosing River. It felt wise, kind, gentle.

**September 7** — Hiked the fern loop trail at the BFEC and went up a never-ending hill. Whew! I'm out of shape. Do I really love hills?

**September 16** — So....I haven't yet seen any snakes during my outdoor treks. Strange. In Texas, snakes were everywhere! I have to say, I miss seeing them. Snakes are cool! Not "I'll jump into the bush and come out holding one" cool, but I like them, nonetheless.

**September 20** — Loving the low humidity (compared to Texas, that is)

**September 29** — Hiked fern loop trail again. Still out of shape. Ugh! Hm.... hills.

**October 8** — Have been enjoying the Mt. Vernon Farmer's Market. Organic, locally grown produce. What a great place to live!

**October 19** — Trees glowing orange, gold, maroon! So gorgeous! Autumn in Texas was boring - brown leaves that seemed to turn and drop overnight. Blah. But Autumn in central Ohio - how do people not wreck while driving?

**November 2** — Eagles! Mr. Jon Minard called and said "Get over here to Killduff Road! There are 8 eagles flying around!" Beautiful, majestic. And here because of our clean, clear rivers. Way to go, Knox County!

**November 14** — Super moon! Wow! The skies here are so clear! I also saw Orion, Cassiopeia, and the Big Dipper.

**November 19** — Snow?! Snow!!! Snow.

**November 29** — 59° F today. Lovely. Feels like late fall in Texas.

**December 1** — At the BFEC bird feeders today: cardinals, northern flicker (they throw more seed on the ground than they actually eat!), downy woodpecker, nuthatches, chickadees, tufted titmice, blue jays, and more! We've got great bird seed! I love that we offer discounts to members for this bird seed!

# Calendar of Events

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

## **Winter Tree ID - Saturday, January 14, 10:00am**

Become a tree detective and learn to identify trees in the winter. Our naturalist, Shane McGuire, will show you how to use leaf scars, bundle traces, and bud scales, along with more obvious features like bark color and texture, to identify some familiar trees. Dress for the weather — we will be outside!

## **Fly Fishing - Tuesdays, Jan 31 through Feb 28, 7:30 pm (see exact dates below)**

Learn the basics of fly fishing and where to use your new skills in central Ohio. Graham Stokes will lead this exciting program. The dates listed below are a series of connected classes; the program begins on January 31 and ends on February 28, so be sure to mark your calendar for all of these dates!

**January 31, February 7, February 14, February 21, and February 28 at 7:30 pm each evening**

## **Lunar Eclipse Night Hike - Friday, February 10, 7:30pm**

This invigorating hike will be led by BFEC's naturalist, Shane McGuire. In the eerie light of the eclipsed full moon (full eclipse at 7:43 pm!), we will search for nocturnal animals including flying squirrels and owls. Dress for the weather, and be prepared for an uphill climb. Program may be cancelled in the event of inclement weather. Call 740-427-5052 for program status.

## **Wildflowers, Part I: Spring Ephemerals - March 18 & April 1 at 10:00 am**

Join us on two different dates at two different locations to learn about the brave and beautiful wildflowers that kickoff the spring season. These species have a small window of sunshine between snowmelt and tree leaf-out in which to grow, flower, be pollinated, and produce seeds.

March 18, 10:00 am — at the BFEC with Noelle Jordan, meet at the Resource Center

April 1, 10:00 am — **at Honey Run Waterfall** with Lori Totman & Noelle Jordan, meet in the Honey Run parking lot at 10855 Hazel Dell Road in Howard, OH

## **Surviving the Wild, Part 1: Backpacking 101 - March 25, 1:00 pm - 4:00 pm**

Venturing into the backcountry can be amazing...or miserable if you're not prepared. During this workshop you will learn what to pack for trips of various lengths, how to assemble a proper first aid kit, how to load your pack for comfort and efficiency, and how to keep critters out of your food. We will also review water sanitation techniques, boot selection, and physical training for your trip. You will get a chance to carry a fully loaded pack to see how it feels. Bring along your own gear so you can customize your kit, or borrow our equipment for the afternoon.

## **Climate Change: What Is It and Can We Stop It? - March 30, 7:00 pm**

Global Climate change is widely acknowledged to be the defining challenge of our time. Its impacts ripple through the environmental, social, and economic fabric of societies across the planet. What is it, where is it headed and how can we act to limit its progress? Join us for a sobering primer and some hints at a silver lining on what is, arguably, a very dark cloud.

## **Keep It Wild: Earth Day at the BFEC - Saturday, April 22, 2:00 pm — 5:00 pm**

You won't want to miss this **FREE** event! We'll have live raptors, mammals, and reptiles for you to "meet" up-close. Learn how to take care of our local wildlife by building bluebird boxes, bat boxes, and more! Everything you build, you can take home. Live music and food trucks will round out this festival style event.

# Thank You

## Our Members *October-December*

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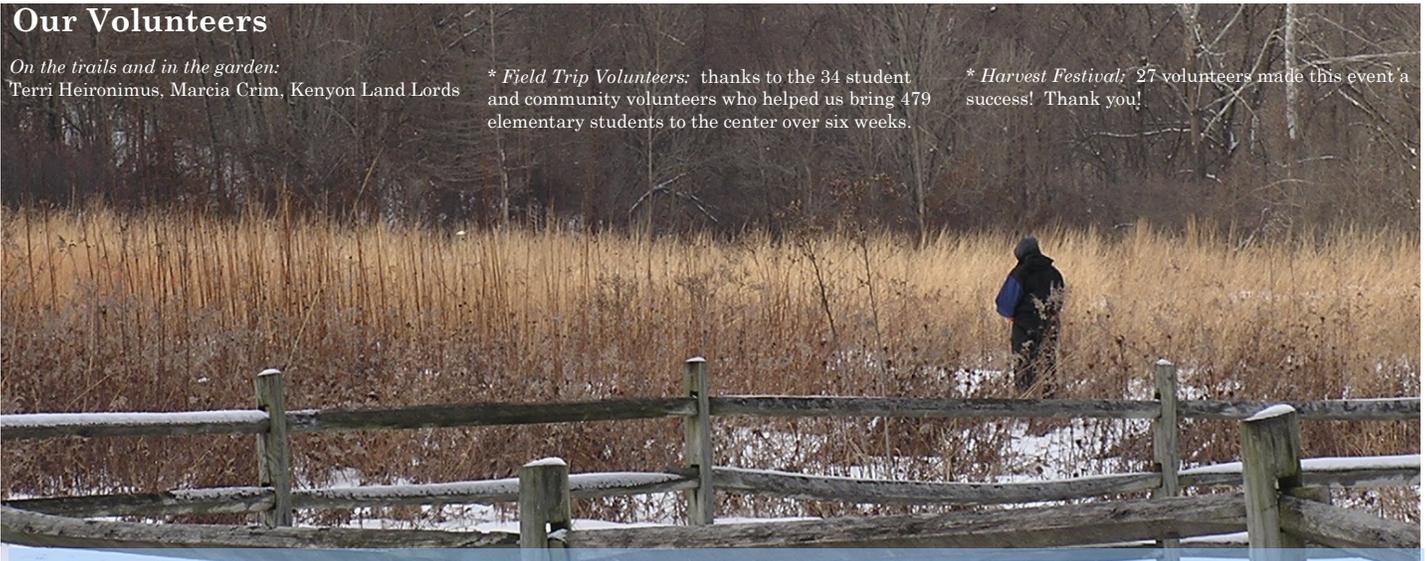
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## Our Volunteers

*On the trails and in the garden:*  
Terri Heironimus, Marcia Crim, Kenyon Land Lords

*\* Field Trip Volunteers:* thanks to the 34 student and community volunteers who helped us bring 479 elementary students to the center over six weeks.

*\* Harvest Festival:* 27 volunteers made this event a success! Thank you!



## Is it time to renew your membership?

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**Use the enclosed envelope or donate online at [support-bfec.kenyon.edu](http://support-bfec.kenyon.edu).**

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

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



**Brown Family  
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*at Kenyon College*

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

*Our Staff*

Jill Kerkhoff, Facilities & Volunteer Coord.  
Shane McGuire, Land Manager Naturalist  
Noelle Jordan, Manager

To conserve natural diversity and connect people to nature.

## *Upcoming Programs & Events*

Fly Fishing Classes	<b>Jan 31 - Feb 28</b>   Resource Center   7:30 p.m.
Lunar Eclipse Night Hike	<b>Feb 10</b>   Resource Center   7:30 p.m.
Wildflowers: Spring Ephemerals	<b>Mar 18</b>   Resource Center   10:00 a.m.
Keep It Wild: Earth Day	<b>Apr 22</b>   Resource Center   2:00 p.m.

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



