Brown Family Environmental Center
at Kenyon College

Field Notes

October 2016 Vol. 20 / No.4

October, November, December

Eyes on the Skies

Following the Fall Bird Migration

by Sarah McPeek '19, BFEC Student Manager

Red-winged Blackbirds. Jerry Segraves

Feeding Frenzy!

As I was walking home along the roadside meadows on a clear September evening, I glanced up to find the skies swarming with life. Hundreds of chirping Tree Swallows wheeled overhead, swooping and soaring over the treetops. They chased flashing Green Darner Dragonflies in crazy twists and loops, somehow without crashing into each other.

I watched another flock of swallows stream past over the fields, as if caught in a sudden gust of wind. And then, the birds were joined by more swallows three times their size with a long white stripe under their wings. Not swallows at all, but nighthawks: the elusive ground-dwellers of our forests and fields. I rarely see these secretive birds during the year, but now they are active, darting silently among the swallows, scooping up insect after insect in midair with their large froglike mouths.

This feeding frenzy has an important purpose: these birds are entering a stage in their yearly cycle called *hyperphagia*, fattening up for their fall migration. In the coming weeks, they must consume enough food to nearly double their body fat, storing energy they will need as they make the long journey south. Soon, populations that made their breeding grounds here this summer will begin heading for warmer climates: to Texas, Mexico and Central America for the swallows, and continuing on to South America for the nighthawks, theirs being one of the longest migrations of any North American bird.

Headin' South

Why must our feathered friends leave us? Right now, our meadows and skies are bursting with activity, providing ample food for these insectivorous birds. However, as the weather cools and insect populations taper off, the birds must trail the warmth, and the abundant food, south. Some travel over 4,000 miles in the span of several months.

Fall is an exciting time for birds, and an exciting time for bird lovers. We bid farewell to our summer breeders while new arrivals take their places in our fields and forests. Swooping swallows, bubbly warblers, and vireos follow the warmth into Central and South America, but don't despair! As they depart, we welcome back the northern-breeding Tree and White-crowned Sparrows, hordes of Dark-eyed Juncos, and the tiny Golden-crowned Kinglets. Some, like the sprightly Yellow-rumped Warblers, are only visitors for October and November, but while they are with us, their massive flocks resting in trees are an impressive sight.

Yellow-rumped Warbler. Ingrid Taylar, San Francisco Bay Area, California, USA

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INSIDE...

New Horizons ~ Noelle Jordan Joins the BFEC

by Noelle Jordan, new Manager at the BFEC

Noelle Jordan started at the BFEC on September 1st.

Howdy, y'all! Allow me to introduce myself....

My name is Noelle, and although originally from Cincinnati, I've been in Texas for the past 9 years. So I'm afraid it might take awhile for my "Texas-isms" to turn into "Ohio-isms," but I'm pleased as punch to be here.

In September, I relocated from the small town of Orange, Texas to join the team at the BFEC. I left behind the steamy swamps of southeast Texas, "upland" forests that are only 5 feet above sea level, and slow-moving, muddy bayous. In exchange, I'm thrilled to be experiencing cool mornings, what I consider to be very low humidity, gorgeous hardwood forests, and clear streams with rocky substrates.

Unlike most people in my line of work, I became interested in nature in my 20's. Oh, sure — I played outside as a kid— splashing in streams and climbing trees in the suburbs of Cincinnati. But I didn't really care about nature until I decided to learn what plants I could eat while backpacking along the Appalachian Trail in northern Virginia. I was working a very different job in those days, but started learning about nature in my free time. Eventually, I became so smitten with being outside that I decided to get serious about it. I moved across the country to attend grad school at Southern Oregon University. In 2002, I received a Master of Science degree in Environmental Education, and I've been having a great time outside ever since.

For several years after grad school, I worked seasonal jobs gaining experience in the breadth and depth of the many different facets of environmental education. I spent time on Lake Erie just outside of Cleveland, doing live animal programs for thousands of school children. Then I sailed on a tall ship teaching students about horseshoe crabs, oysters, and the wonders of the Delaware Bay. From there, I headed north to Maine where I splashed in tide pools and taught dune ecology (and so much more) at a resident outdoor school. I spent my last summer of "freedom" on Grand Manan Island, spotting whales and teaching tidal ecology in the Bay of Fundy.

Then I decided it was time for a "real" job. So, I headed south— to Texas — Oil Country — to the swampy backwaters and lowlands of the U.S. — a place where people say "sir" and "ma'am" all the time, and where laundromats are called "washaterias" - the land of alligators, armadillos, and fire ants.

I was selected to be part of the team that opened a brand new facility in Orange, Texas — Shangri La Botanical Gardens and Nature Center. At Shangri La, I was able to build the education department and programming from the ground up. After 5 very busy years, we were serving up to 25,000 people per year with our education programs, and we had won several awards in the state of Texas and regionally. Our programs included on-site and off-site curriculum-based programs for pre-K through 8th grade students, family programs, adult programs, summer camps, special events, and more. After a total of 9 years, I was ready for another change.

I've traded in the "Lost Horizon" of Shangri La Botanical Gardens and Nature Center (you really should read the book "Lost Horizon" by James Hilton) for the new horizons of the Brown Family Environmental Center.

On my 3rd day at work for the BFEC, I used a fancy harness, ropes and some cool knots to climb an old, beautiful sycamore tree — something I've never done before. I've been learning about tall grass prairies — habitats that I've never worked in before. And I've been spending time with many of our capable and ambitious Kenyon student volunteers — an age group that I've never worked with before.

I'm excited about these new adventures and new experiences! I'm looking forward to the possibilities that lie in store for all of us at the BFEC.

I'm hoping to meet each of you in the next few months. Please stop by soon to introduce yourself! In the meantime, take a deep breath and enjoy the crisp air of autumn, look up at the night sky and admire the stars, and find some small way to "be kind to your world."

Noelle (below, in the black robe) will do just about anything to teach kids about nature.

The First to Drop: Ohio Buckeyes

by Shane McGuire, BFEC Land Manager & Naturalist

*Ohio Buckeye (*Aesculus glabra*)*
Photo: Stanley M. Rowe Arboretum, Indian Hill, Ohio

Almost everyone who is native to Ohio has an appreciation for the buckeye. Some might enjoy cheering the scarlet and grey to victory on a Saturday afternoon, while others no doubt enjoy observing our state tree, the Ohio buckeye, in our forests and yards. Personally, I love to watch the buckeye trees flower in the early part of spring and to watch the leaves finally emerge from their buds at the end of a cold winter. I love the excitement of making buckeye necklaces in early fall. But every year as I watch the buckeyes drop their leaves, I find myself wondering why... Why do Ohio buckeyes drop their leaves before most other trees?

It seems that summer isn't yet finished when I notice the leaves are already changing color, and some buckeyes have already begun to lose their leaves. The first year I noticed this, I wondered if the buckeye trees were dying. But I soon discovered that our tough buckeyes were not dying, but they were battling a few environmental elements.

The first element that affects leaf drop is shading. You might notice that the inner leaves of the tree - those closest to the trunk - are the first leaves to fall. This could be due to the outside leaves shading the inner leaves causing them to change color and drop. This same concept can be applied to the entire buckeye tree if it is surrounded by taller trees. The taller trees will shade the leaves of the Ohio buckeye causing our state tree to drop its leaves early.

The second element is the result of sun exposure and drought conditions during the summer. Ohio buckeyes, like every other tree species, use energy to get water to each leaf. When planted in a full sun location, buckeye trees can experience leaf scorch during hot, dry summers. Leaf scorch is caused when the tree shuts-off the water supply to some of its leaves making those leaves turn brown and drop from the tree. This adaptation helps the tree conserve energy and water.

The final element, and the factor that probably plays the largest role in early leaf drop, is a fungal disease called leaf blotch. The fungus, *Guignardia aesuli*, attacks the leaves of our Ohio buckeye as well as other tree species in the Horse Chestnut family. If you look closely at buckeye leaves in mid-summer you might notice reddish-brown spots surrounded by yellow tissue. By late summer the leaves become brown and twisted as the disease spreads. In severe cases, the leaves will fall prematurely in late summer. Fortunately, leaf blotch does not seem to seriously hurt the tree. Since the foliage is usually not badly damaged until after the tree has completed much of its annual growth, the disease is primarily aesthetic.

If you have a beautiful buckeye planted in your yard and you suspect that it is battling leaf blotch, there are several things you can do to help. After all the leaves have dropped, simply rake them up and dispose of them. If the leaves are left on the ground over the winter, your tree may be infected again the next year. The *Guignardia* fungus overwinters on fallen leaves. In early spring, the spores will be released into the air. If these spores land on newly developing leaves that remain wet for several hours, the leaves will become infected. You could also lightly prune the tree in the fall to thin the tree canopy. This will improve air circulation and allow the leaves to dry more quickly after a rain.

The practices mentioned above will prevent the spread of leaf blotch; however, the only measure that will cure it is to apply a fungicide. Several applications must be applied after the leaves emerge.

©Jim Chatfield

Guignardia fungal leaf blotch disease. Note it is not confined to leaf margins and note the yellow halos around the lesions.

Kenyon's Road to Carbon Neutrality

by David Heithaus, Director of Green Initiatives for Kenyon College

Last February, Kenyon College joined many other colleges and universities across the nation in a commitment to action in the face of global climate change. Understanding our responsibility as an institution of higher learning, President Sean Decatur signed Second Nature's Climate Commitment, setting Kenyon on the road to carbon neutrality.

When embarking towards such a lofty goal, one should not expect a journey without challenges. Our first hurdle was establishing exactly how much carbon we currently contribute to the global milieu. Motivated by love of planet and $10.41 per hour, a group of intrepid students tackled the challenge with reckless abandon. In so far as a colossal data mining venture can be tackled with reckless abandon.

Pouring over thousands of pages of bills, travel receipts and mileage logs, Dani Huffman '19, Matt Meyers '17, and Laura Langner '16 began piecing together a picture of Kenyon's Greenhouse Gas emissions over the last decade or so. They focused on three emission sources or scopes: scope 1 emissions from sources controlled or owned by Kenyon College, like vehicles and portable heaters; scope 2 emissions from purchased energy, considered indirect emissions that are essential for operations, like lights and A/C; and scope 3 emissions which are optional but financed by the college and includes funded travel, commuting, etc.

Being a bit overzealous and perhaps even masochistic, Dani, Matt, and Laura went well beyond what many other institutions have claimed in their inventories. These three hard workers were painfully honest about scope 3 emissions, including student vacation and summer travel to/from the hill, away games for athletics, travel for study abroad, and more. They included pretty much everything except FedEx deliveries, which are technically on FedEx.

Going into this exercise, the Office of Green Initiatives assumed that the purchased energy from scope 2 emissions would represent the bulk of Kenyon's Greenhouse Gas contributions; however, these scope 3 emissions – and the thorough nature of our students' analysis - represented a nerve-wracking unknown, especially considering our rural location.

With the callused fingers of seasoned data entry gurus, the students plugged in the last of the numbers to the "office paper; glossy/other" column. The carbon calculator whirred and buzzed (in my imagination) and out popped the number: the equivalent of around 17 metric tons of CO_2 per student, per year. Not bad, not great. Between one-fifth and one-sixth of that was associated with some form of travel to our beloved hill – those scope 3 emissions.

It was a sobering moment, but short-lived. You see, knowing that the bitter shot of revelation was coming, we had prepared a "lemon slice" in the form of that final field labelled "other data." It was in that last field, tucked behind all of the fancy 'scopes,' that one of Kenyon's finest features was about to dial back that 17 tons per student. Our remote location may have added a few extra miles but it also added green spaces, and those green spaces added one of the best mechanisms on earth to offset emissions: trees. Using data collected by Dr. Andrew Kerkhoff's Ecology lab, we were able to estimate the amount of carbon dioxide absorbed by the forests managed by Kenyon, the BFEC, and the Philander Chase Conservancy. When all was said and done, those wonderful trees removed about one-fifth to one-sixth of our annual emissions.

The road to carbon neutrality is a long, steep hill and we are not yet at the top. We will face many more challenges along the way. But from this hill - working together - we will manage that charted course. Just keep hugging those trees.

'Eyes on the Skies' continued from page 1...

Flock Together

Birds make these harrowing journeys every year, and for this year's fledglings, this will be their first long trip. How do they know where to go? Many birds, like sparrows, swallows, and robins, migrate in huge flocks of thousands of individuals, and the flocks work together to make it safely to their wintering grounds in the tropics. While migration is still something of a mystery to scientists, we think they follow the stars, the sun, even the magnetic fields of the Earth itself. Keen eyesight allows them to track landmarks like the wide Mississippi River. Many birds travel the same routes every year and wind up in the same wintering grounds, often in dense, tropical environments. Imagine a little Red-breasted Grosbeak from your feeder snacking on seeds with Scarlet Macaws in the heart of the Amazon Rainforest!

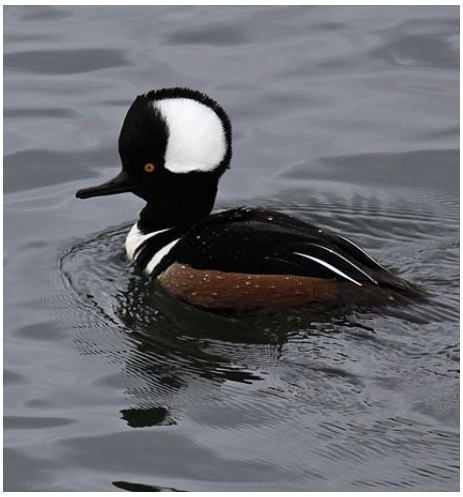
Birding Hotspot

Fall is one of the best times to see large numbers of birds because species congregate in large groups to feed and fly. Consequently, it's also a great time to see hawks and owls. These raptors follow the huge crowds looking for tired or weak individuals to pick out of the flock.

The diverse habitats of the Brown Family Environmental Center make us an attractive spot for migrating birds. Our spacious prairie grasses and wildflowers provide excellent food for seedeaters like White-crowned and White-throated Sparrows, and our favorite House Finches, which should be coming through in vast numbers in October and November.

White-crowned Sparrow. Ingrid Taylar, San Francisco Bay Area, California, USA

Some of these, like the House Finch and the White-crowned Sparrow, will stay through the winter. Coniferous woodlands are wonderful resting places for weary flocks. The Kokosing River and the riparian corridors surrounding it are wonderful places for Mallards, Canada Geese, Black Ducks, Hooded Mergansers, and other waterfowl returning from their breeding grounds in the north.



Hooded Merganser
Photo: U.S. Fish & Wildlife

Mixing Migrants and Residents

Migration season poses a unique challenge for birders because many species have molted their vibrant summer breeding plumage and many young still retain their juvenile feathers. The birder's greatest frustration is the dreaded 'Little Brown Bird,' or 'LBB.' Could it be a juvenile sparrow? A catbird? A faded goldfinch? Looking at the body shapes, sizes, and flight patterns of the birds you see, and knowing their preferred habitats are important to identifying which is which. Certain resident birds are good marker species for certain migrants. For example, warblers and sparrows often join in with flocks of foraging chickadees.

Thankfully for us, many of our feathered friends will stay with us through the winter. Our chickadees, titmice, cardinals and goldfinches, our White-breasted Nuthatches, catbirds, Blue Jays, and crows, our woodpeckers and beloved Eastern Bluebirds will all keep the cold, dark days with us. We will miss the dawn chorus of warblers and sparrows, but it's comforting to know that our skies will never be truly empty.

Helping Weary Travelers

How can you help these travelers on their journey? Birds need food as they travel, so stocking feeders with seeds, millet, and cracked corn will help them refuel, and help you see them in action. Keeping birdbaths full is important too, because all birds need a cold drink and a nice bath after strenuous exercise. Limiting light pollution at night is also critical, because many migrants like wood warblers and vireos, do most of the journey by moonlight, and excessive light from the ground can be dangerously disorienting.

Interested in Birding?

If you are curious to see what kinds of birds are taking advantage of BFEC habitats, join us for a fall birdwatching program on Saturday, November 5 from 7:30 am to 11 am. We will begin with a short presentation inside the Resource Center discussing Ohio migrants and how to identify them. Then we will head outside to see what we can find!

American Goldfinch
Photo: Ohio Dept of Natural Resources

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 | kerkhoffj@kenyon.edu | bfec.kenyon.edu

Fall Night Sky - **Friday, October 14, 8pm**

Bring a blanket and admire the season's constellations as you listen to Professor of Humanities, Tim Shutt, tell mythological stories about the stars. Meet at the BFEC Farmhouse. Rain/cloud date is Oct 21, 8pm. Call the BFEC for program status.

Fall Harvest Festival - **Saturday, October 15, 2-5pm**

This FREE family event includes hayrides, live music, children's activities, farm animals, bonfire, cider press, pumpkin decorating and the Knox County Nature Photography Contest show. Join us!

Native Plant Gardens: A Wildlife Habitat
Saturday, October 22, 10am

Ray Heithaus will lead a stroll through our native plant gardens in search of seeds and winter fruits and animals that rely on them. If you're considering starting your own native plant garden, this is a great opportunity to learn about local wildlife that might use your garden through the winter.

Birding During Fall Migration
Saturday, November 5, 7:30am

Join us to see what kinds of birds are taking advantage of BFEC habitats during fall migration. We will begin inside learning the basics of bird ID, then we'll head outside to see what we can find!

Knox County Nature Photography Contest

TAKING SUBMISSIONS NOW!

All community members are invited to enter our annual photo contest in celebration of our scenic Knox County. **Prizes awarded** in three divisions: children (ages 15 and below), adult, and student. The submission fee is $5 per entrant, and the deadline is October 10. A contest show will take place during our Fall Harvest Festival on Oct 15. Contest rules at bfec.kenyon.edu or 427-5050.

Family Fun Day **Saturday, November 26, 1-4pm**

After you've eaten too much turkey and survived Black Friday, come enjoy a fun afternoon at the BFEC. Bring the whole family to enjoy short nature hikes, nature investigations, crafts using natural materials, and more!

Make Your Own Christmas Wreath - **Saturday, December 10, 10:00am**

Relax and celebrate the season while we show you how to create your very own Christmas wreath. All materials will be provided. Space is limited - call now to save your seat. Materials fee of $20. Call 740-427-5052 or email jordan2@kenyon.edu to register.

Christmas Bird Count - **Sunday, December 18**

For over 100 years the Audubon Society has organized the Christmas Bird Count to track long term trends in bird populations. Help the BFEC monitor birds in Knox County, covering Mt. Vernon, Gambier, Apple Valley, and Fredericktown. Volunteers are needed to count birds at home feeders, or in the field along roads and trails. Lunch provided at noon for all participants. Call 740-427-5052 or email jordan2@kenyon.edu to register.

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

Become a tree detective and learn to identify trees in the winter. We will 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!

Thank You to...

Our Members *April, May, June*

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**** In the office, on the trails ,in the garden and during events:***

Beth & Jay Waller, Terri & Jim Heironimus, Nancy Kephart, Brian Miller, Ray Heithaus, Sarah Goslee Reed, Keith Kitchen, Keith Robinson, Shirley Hughes

Become a MEMBER

Now is the time to join for 2017!
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 events, a hard copy of our newsletters, and 10% discount on bird seed. Return the form below with your contribution or give online at support-bfec.kenyon.edu. Thank you!

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

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

Brown Family Environmental Center at Kenyon College
9781 Laymon Road, Gambier, Ohio 43022 ~ (740) 427-5050 ~ bfec.kenyon.edu

Our Mission

The mission of Brown Family Environmental Center (BFEC) is to conserve natural diversity and engage people of all ages with nature.

Our Staff

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

Upcoming Events

Fall Harvest Festival

October 15 | BFEC Resource Center | 2pm - 5pm

Birding During Fall Migration

November 5 | BFEC Resource Center | 7:30am - 10am

Family Fun Day

November 26 | BFEC Resource Center | 1pm - 4pm

Make Your Own Christmas Wreath

December 10 | BFEC Resource Center | 10am - 12pm

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