TROUT LILY
A SIGN OF SPRING!

Photo by Alan Cressler, Lady Bird Johnson Wildflower Center
Here are edited excerpts from Stephanie Trapp’s Graduate thesis at Purdue University: Diet and Food Availability of the West Virginia Northern Flying Squirrel (Glaucomys sabrinus fuscus): Implications for Dispersal in a Fragmented Forest. (Graduate Committee: Professor Liz Flaherty, Dr. Winston Smith & Dr. Patrick A. Zollner)

The West Virginia northern flying squirrel (WVNFS) is an endemic subspecies of the northern flying squirrel, found in fragmented populations throughout West Virginia and parts of Virginia. Flying squirrels play an important role in forest ecosystems, dispersing fungal spores and seeds throughout the forest floor, as well as serving as an important prey source for many forest carnivores. Virginia northern flying squirrels live in high elevation red spruce/northern hardwood forest habitat, (see Menzel, Smith, Weigl) which have become increasingly rare due to habitat modifications and climate change. In order to maintain a functional population, the WVNFS must disperse through managed forest stands to reach other suitable habitat patches. We evaluated the possibility that availability of their favorite food items might limit their dispersal and potentially threaten the long-term viability of the population.

To do this, we first determined the diet items that were the most important to the WVNFS using stable isotope analysis. Stable isotope analysis evaluates the ratios of heavy to light isotopes of nitrogen and carbon present in both animal tissues and potential food items (we are what we eat!). We measured the stable isotope ratios for both hair samples from flying squirrels and potential food items that we collected during our field work in West Virginia in 2014 and 2015. Using a computer model, we determined which of the food items contribute the most nitrogen and carbon to the tissues of the flying squirrel. With the help of Friends of Blackwater, we collected a total of 316 hair samples in our hair snares, 42 of which were from WVNFS. Through stable isotope analysis of the hair and analysis of potential diet items, we determined that truffles, mushrooms, invertebrates, and lichen contribute the most to the overall diet of the WVNFS. Beech mast is another important food item available in the fall.

To determine the availability of these preferred diet items, we completed 60 vegetation surveys throughout the northern half of the Monongahela National Forest. We measured habitat variables such as tree density, height, and size, horizontal cover of smaller vegetation on the ground, dug truffle plots in search of the elusive truffle, and used small pitfall traps to estimate invertebrate availability within each plot. We found that habitat structure and age (older forest patches) and not habitat type, likely play a larger role in diet item availability for the WVNFS. With this information, we can improve our management plans for these northern flying squirrels to ensure this species remains an integral part of the ecology of the region.

**MONARCH POPULATION REBOUNDS**

The monarch butterfly population has soared in its Mexican winter sanctuary this season, hopefully marking the beginning of a recovery for the threatened species that migrates across North America. The official announcement was made on February 28. This is three times the numbers from last year but still just 20% of the population in 1996. Thank you for supporting our efforts to bring back the monarch by planting milkweed and helping with our Monarch Garden in Davis, WV. Learn more at MONARCHWATCH.org
BIRD AND BAT DEATHS AT INDUSTRIAL WIND PROJECTS

AES LAUREL MOUNTAIN FINED

On February 12, 2016, FOB Director Judy Rodd attended a criminal sentencing hearing in federal court in Elkins for the wind turbine company AES. She addressed the court and thanked the US Fish and Wildlife Service for its efforts to enforce environmental law.

AES was fined $30,000 for killing 484 birds that were protected under the Migratory Bird Treaty Act at the AES Laurel Mountain turbine site on the Barbour-Randolph County line. The company also agreed to pay $48,000 to the West Virginia Land Trust to protect birds in the region. As part of a plea agreement, there was no punishment for the company’s killing of an Indiana bat on July 9, 2012 at the Laurel Mountain site.

Both endangered Indiana and Virginia big-eared bats are found in the area of this 68-turbine project. After the Indiana bat kill was discovered, the Fish and Wildlife Service suggested that the company write a Habitat Conservation Plan to avoid future deaths, and obtain an Incidental Take Permit. This has not yet happened.

From AES Laurel Mountain’s monitoring report filed on March 16, 2016 with the West Virginia Public Service Commission, it appears that the company is experimenting with curtailing the turning of turbine blades when wind speed is low, to reduce bat mortality. Acoustic monitoring at the turbines indicates that bats are most active when the wind speed is low.

The reports show that birds and bats are still being killed, based on searches of 24 of the 61 turbines from April 1 to November 15. Sixteen dead bats and twenty-one dead birds were found at the project in 2015. However, this is a reduction of 91% from the mortality at the site in 2011-2012, before the experimental curtailing of blades was put in place.

AES and the US Fish and Wildlife Service need to continue to address bat kills with strong and enforceable regulations. A recent report on bat deaths around the world showed industrial wind turbines to be a leading cause. “Multiple mortality events in bats: a global review,” by Thomas J. O’Shea, Paul M. Cryan, David T.S. Hayman, Raina K. Plowright, and Daniel G. Streicker states, “We compiled 1180 accounts of Multiple Mortality Events (MME) in 152 species of bats in all regions, beginning in 1790. Cumulatively, collisions with wind turbines caused the highest number of MMEs (a number biased by regulatory reporting requirements in North America and Europe), followed by MMEs due to WNS (white-nose syndrome).”

Friends of Blackwater is the leading environmental group in West Virginia working to enforce and protect the Endangered Species Act, landmark legislation that is, regrettably, continually under attack. Currently FOB is pressuring the federal and state regulators to protect endangered and other bats whose populations have crashed due to White Nose Syndrome, which reached West Virginia caves in 2009. To date 95% of the state’s little brown bats and 87% of the endangered Indiana bats have died from this illness. The fragile state of West Virginia’s bat populations make bat deaths from wind turbines something that must be strongly avoided, and with your support we will continue our advocacy in this area.

See AES Laurel Mountain report on our website www.saveblackwater.org.

GET OUTSIDE WITH FRIENDS OF BLACKWATER!

We need volunteers for monthly water quality sampling and trail work on the Olson Tower Trail Project. Please contact David Young for opportunities, 304-345-7663 x6 or david@saveblackwater.org.
NEW PIPELINE PROPOSAL REDUCES HARM TO MON FOREST AND "GINNY" – YOUR COMMENTS NEEDED!

In February 2016, the US Forest Service and Friends of Blackwater objected to a route for the proposed Dominion gas pipeline that would severely degrade critical habitat in the Monongahela and George Washington National Forests for "Ginny," the West Virginia Flying Squirrel, and for the Cheat Mountain and Cow Knob salamanders.

On March 2, 2016, Dominion proposed a new route that substantially reduces the number of miles of pipeline through the National Forests -- from 20 miles down to 5 miles -- and that takes the route away from important habitat for "Ginny" and her salamander pals. The Forest Service is now asking for comments on the new route proposal -- the comment period ends on March 21.

A comment letter can be sent from our website, www.saveblackwater.org, where detailed maps are posted. Overall this is a much better route for wildlife, but it may also impact endangered bats and rare aquatic species in the headwaters of the Elk River. Careful surveys of the new proposed route can reveal potential problems, so they can be avoided.

Special thanks to everyone who has contacted the Forest Service so far -- your voices have been heard! With your support, FOB will continue our work to protect "Ginny" and all of the rare and endangered species of West Virginia and the Allegheny Highlands, and we will continue to update you on this important issue.

West Virginia Northern Flying Squirrel
On January 15, 2016, sophomore and graduate landscape architecture students from West Virginia University drove 3 vans to the town of Thomas, in Tucker County, to explore historic resources and environmental remediation sites. They were very excited by the old Engineering Building across from the FOB offices in the old company store (Buxton Landstreet Building). They also toured the coke ovens, the water treatment wetland across from this industrial site, and the old railroad bridge at Douglas. Back at the University, students went to work on designs to enhance the visitor experience at Coketon.

On February 24, we previewed their exciting and diverse designs in Morgantown. They explained nearly thirty concepts for the development of a trailhead and community space adjacent to the Davis Coke and Coal Engineering Building and the coke ovens. Professor Butler will now work through the designs with stakeholders to identify specific plans and elements of the designs that best fit the needs of the site, local residents, and heritage tourism visitors. During the summer, a Master of Landscape Architecture graduate student will develop a ‘singular vision’ design that can then lead to fundraising and potential implementation. Design work this summer is supported by the Tucker County Foundation through a heritage tourism planning project in partnership with the Benedum Foundation. Landscape Architecture 251 is a designated service learning course at WVU that engages communities in small park design projects, building local capacity for positive change.

Thanks to WVU for this great effort!

(See Ian Molgaard’s design below.)
NORTH FORK: ART AND AMD
By David Young

In and around the Tucker County, West Virginia Towns of Thomas, Coketon, and Douglas, 100 years of underground and surface coal mining have both scarred the land and polluted many of the streams with acid mine drainage ("AMD"). While many surface scars have largely been healed, the damage to water resources is far more long-lasting.

For photographer John Ryan Brubaker, these injured waters presented an opportunity -- to make powerful art that comments on the tragedy and challenges posed by AMD pollution of the North Fork.

Early last summer, Brubaker walked the North Fork riverbed with Kyle Rooke. Their route took them past tributaries clean and polluted, past the acid mine discharges from the Coketon mine pool, through reclaimed strip mines, and by the brickwork and iron infrastructure of the coking era.

They began below the abandoned hydroelectric dam downstream of Thomas. The rocks in the riverbed were slippery, and the two moved at the slow and deliberate pace of a photographer seeking his shot while balancing on a slippery rock.

This is the “home turf” of the Friends of Blackwater’s North Fork Watershed Project. Staff members and volunteers have been monitoring water quality at 13 sites for the 10 years. The collected data is of the highest importance, because it is used to prioritize restoration needs and inform AMD remediation projects.

The sounds of birds singing, bugs buzzing, and unseen animals rustling in the tall grass on the banks reminded John Ryan and Kyle that they were visitors in a wild place. The water ran clear and cool, with water striders and whirligigs leading every advancing step. They encountered a great blue heron and a family of ducks. Kyle remembered his boyhood playing in the streams of Pennsylvania.

It was not until they reached the bridge south of Coketon that they detected a change in the environment. Now, orange-stained rocks meant AMD seeps and mine discharges. With each step it seemed that signs of life began to drop off -- fewer types of plants and fewer birds. They had to focus more on negotiating the river bottom because of brown cake-like algae covering the rocks.

In this river section is one of the worst mine discharges in the Upper Cheat River watershed. Combined discharges have a moderate iron concentration (3.56mg/l), high aluminum concentration (18.5 mg/l), a low pH (3.24), and a mean flow rate of 2675 gallons per minute. Because of these discharges the North Fork falls below the state water quality criteria of: aluminum: below .75mg/l, iron: below 1.50 mg/l, and pH: between 6 and 9.

At Barbershop Falls in Douglas, with daylight waning, they climbed out of the river and headed to the clean waters of incoming Snyder Run to bathe.

On another day, Brubaker returned to Barbershop Falls. He walked to a pool on Long Run where the acidity of the water is ideal for an alternative iron-based photographic process, called the “Van Dyke Print.” This process uses acidic water as its developing agent. The deep contrast of the photos is the result.

John Ryan Brubaker, and these photographic works, will be featured at the White Room Art Gallery in Thomas WV during the Art Spring Festival on Memorial Day.
JOHN RYAN BRUBAKER: ON CONFLUENCE

The eight photos above show the steps of iron-based photographic process called the Van Dyke Print.

Day Weekend.

See more on his website at http://jrbrubaker.com/onconfluence2015/

As for the water quality of the North Fork, in February Friends of Blackwater submitted a revised Watershed Based Plan that outlines how sources of pollution can be remediated so that the North Fork and its tributaries can fully support aquatic life. We will be working with West Virginia Department of Environmental Protection and the US Office of Surface Mining and Reclamation to implement these projects.

Art can bring us a renewed appreciation of the beauty and fragility of the natural world. Thanks, John Ryan Brubaker, for your distinctive and sensitive work – and thanks to the Friends of Blackwater supporters who make this water remediation effort possible.

Orange staining from the iron during the development process

Two more of the photos John Ryan Brubaker produces using the Van Dyke Print process
FILM FESTIVAL SUCCESS!

On Saturday February 13, 2016, Friends of Blackwater hosted the annual Winter Wildlands Alliance Back Country Film Festival and raffle at Tip Top in Thomas, WV. With over 50 people in attendance the event was a rousing success.

Those in attendance were treated to a series of short films that highlight back country winter sports and scenic beauty.

Tom Rodd and his banjo provided additional entertainment for the evening. He developed quite a following among the younger members of the audience. Lori Haldeman coordinated and ran the raffle.

Thanks to all who braved subzero temperatures to have a wonderful evening.

Special thanks to Cade, Carrie and the staff of Tip Top for providing the space and serving up pure deliciousness! Thanks to Tom for sharing his musical prowess with us all!

HISTORY DAY AT THE LEGISLATURE

We had an exciting time at the Legislature’s History Day in Charleston promoting coke ovens, Limerock and JR Clifford history. We were pleased to talk over railroad history with Jim Porterfield from the Railway History Initiative at Davis and Elkins College. FOB plans to do a program on Henry Gassaway Davis and his railroad at Coketon this year with help from Jim.

Porterfield’s next project is the Sounds of Railroading Conference. See poster at right for more details.

Sounds of Railroading
CONFERENCE AND CONCERT

June 3-5, 2016
Davis & Elkins College
Elkins, West Virginia

Join In!
Noted folk musicians, specialists in railroading songs and sounds: Concert headliners Emily Miller and Jesse Milnes, plus Jimmy Costa, Roy Harper and Johnny Bellar, William Sherman Holstine, Gary Wayne Jordan, Gerry Milnes • Meet, share stories & jam!

Recognized authorities on traditional music and railroading: Author Norm Cohen, Folklorist Gerry Milnes, Folklorist and Filmmaker Maggie Holtzberg, Folklorist Jimmy Costa

Explore Music!
Railroad music traditions include: Appalachian railroad music; John Henry and the labor movement; Hobo music; Lining bar crew chants, and more

Enjoy Railroad History!
Events: Friday evening dinner train, Saturday evening dinner in historic Graceland mansion featuring an authentic dining car menu; Saturday evening concert; and Sunday morning jam

Center for Railway Tourism
Davis & Elkins College
JIM PORTERFIELD, DIRECTOR

For more information and registration visit:
www.dewv.edu/SOR
NEW CLIFFORD BOOK REACHES SCHOOLS THANKS TO RESA's

Thanks to Friends of Blackwater's J.R. Clifford Project, West Virginia libraries and schools are receiving more than 2500 free copies of a new book from Quarrier Press, "Stories from West Virginia's Civil Rights History." The book is designed for middle- and high-school readers, and features stories from the life of J.R. Clifford (1848-1933), West Virginia's first African American lawyer and civil rights pioneer.

The book includes the case of Carrie Williams, an African-American teacher in the 1890s, who taught in a segregated school in the town of Coketon, at the head of the Blackwater Canyon. In 1898 the West Virginia Supreme Court ruled for Carrie, and required equal pay for teachers and equal education terms for all students, regardless of race. Two historic markers were recently erected to commemorate the case and school, and this we had a great visit from Carrie Williams' descendants.

The West Virginia Legislature, the Governor's Community Partnership Grant Program, and the West Virginia Humanities Council and Library Commission have supported the book and its distribution. We got a great note from Dr. Robin Lewis from the Regional Education Service Agency (RESA) #1, saying, "Our schools love the books!!!"

To see if this book is available to borrow, please contact your local library. Book purchase is available in Charleston at Taylor Books and the WV Marketplace at Capitol Market, and online from the West Virginia Book Company at www.wvbookco.com. All proceeds benefit the J.R. Clifford Project. For more information contact the Clifford Project at 304-345-7663 or visit our website at www.jrclifford.org. And thanks to the FOB supporters who make this work possible!

NOTE FROM PEGGY FRANKENFIELD ABOUT DAVIS & HER GRANDFATHER JACOB ALDERTON

Dear Judy,

Thank you for your note about my 15 years of support. I’m sure you must wonder why an old lady who lives in Philadelphia is such a loyal fan. I thought you might like to know that my grandfather - Jacob Alderton – was an early settler in Davis. He came there in the late 1800’s with Babcock Lumber Co and stayed on when they moved on. I spent my summers there in the house on Henry Ave. until I was 16.

After he died my mother and her sisters kept the house as a summer place and it was fun all summer with visiting aunts, uncles and cousins. Those are treasured memories for me. Several times in the summer we would visit the falls and take a picnic. I remember the first ranger – I think his name was Belmont Cleaver? When the war came, the house was sold but until a few years ago my cousins met every summer at Blackwater Lodge for a short reunion. Now we have steps to view the falls and marked trails – quite different from the way it was in the 30’s and 40’s but still dear to my heart.

Good luck with your fund raising and protection of a unique resource.

Peggy Frankenfield.
"Son it is long after dark, where," implored the mother, "would we get one tonight?"

His ready answer was that he could go over in the meadow and cut the top out of a small hemlock tree that stood beside the path. When the mother saw how sincere he was, she relented.

"Well, if it means that much to you, go on and I will get the trimmings out, but your father isn't feeling well, and I won't awaken him to put a base on the tree."

The boy assured her that the had watched his father make bases for Christmas trees and that he could do it. With that the mother lit the kerosene lantern and gave him a handsaw and told him to be careful.

The next hour ran swiftly with mounting pleasure as the old hemlock that didn't set too level was, none-the-less decorated with tree balls, trinkets, tinsel and roping as it were the finest tree to be found anywhere. A string, which the mother fastened to the tree and each side of the window would keep the tree from falling over. The joy in the boy was radiantly overflowing.

When the decorating was done, the mother asked if he was now satisfied.

"Not quite," he said with a twinkle in his eye and ran up to his room and his mother heard him getting into his old trunk. In a moment he returned with an armful of presents.

"Son, where did you get the money for all these things? We haven't seen this much money for over two months.

"Mother, all last summer I 'sang'd' every time I went after the cows and a few days ago I sold it along with a possum hide and I bought all this."

There was a beautiful dish for his mother, a yellow folding carpenter's rule for his father, a delightful little doll for his sister, Margie and a black and white beaded mouse for Maurice. Of course, there was also a gift for himself, a harmonica. He appropriately hung his father's and his brother's and sisters's stocking on the posts of ladder back chairs for there was not a mantle in his home.

Tears of shame came to the mother's eyes as she looked on the admonition of herself and her own lack of faith and went to the kitchen saying, "Regardless of how poor we ever become, we will never try to skip Christmas again. If Sam can do that, surely I can do something." She returned with three oranges and a handful of Brazil nuts and English walnuts. In a moment of weakness when last trading eggs for staples at the Cash Store, she had taken the balance due her in these luxuries instead of cash. Into the toe of each stocking went the nuts and the oranges and the gift on top with only a slight hint of it sticking out.

The next morning the young children were up, running through the house with squeals of delight at the surprise of the Christmas tree and the joy of a new toy. Everyone was up but the father. When the two younger children went to him demanding him to get up that it was Christmas Day and that Santa had come and had even left something in his stocking, he reacted in total disbelief. So the children took the stocking with the carpenter's rule to his bed. A moment later he appeared in the doorway of the living room, the sock in one hand and the carpenter's rule in the other, looking first at the tree and then at his wife, the children and their toys and then back at his wife. "Nora, what's the meaning of this?"

The little ones chimed out loudly, "Santa Clause came last night!"

"But Nora," he faltered, "I thought we agreed we weren't going to ...that is... Where did all this stuff come from?"

The mother winked at her son, Sam, as he sat cross legged in the rocking chair nonchalantly playing his harmonica, and said, "I guess you will have to ask Santa about that!"
THANK YOU, STEVE SHALUTA!

SPECIAL PHOTO OFFER

West Virginia photographer Steve Shaluta is a Blackwater hero. He has supported us since Friends of Blackwater began in 2000. His most recent act of generosity was to donate the use of 4 of his photos to raise funds for FOB.

The photos are available as 11x14" matte finished photos for $20 each or as a 16x20" stretched photo canvas for $60 each.

You can order these amazing works of art by sending in the form below or going to our on-line store at http://www.saveblackwater.org/shaluta_photos.html. (The prices on the form below are for the 11x14" matte photos. If you would like to order the larger photo canvas please visit the link above or call Brandae at 304-345-7663 x2.)

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<th>Item Description</th>
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Name

Address

Phone

Mail completed form and check made payable to Friends of Blackwater to:

Friends of Blackwater
501 Elizabeth St.
Charleston, WV 25311

SPRING EVENTS IN THE HIGHLANDS!

**Plum Tuckered Film Festival - April 23** - Celebrating Stories of Life, Adventure and Culture. Films under 20 minutes accepted until March 20.  www.plumtuckeredfilmfestival.org

**Cheat Fest: 11:30am ‘till 11:30pm on Saturday, May 7th**, the festival grounds in Albright, West Virginia  http://cheatfest.org/about/

**Wildflower Pilgrimage May 5, 2016** - 10:00 AM to May 8, 2016 12:00 PM at Blackwater Falls State Park, Contact Wendy.L.Greene@wv.gov

**Artspring 2016 Memorial Day Weekend**
May 27th, 28th, 29th Annual county-wide Arts Festival!, artspringwv@gmail.com 304-698-2869

**Canaan Valley Birding Festival June 2-4** at Canaan Valley State Park  http://canaanresort.com/13/event-calendar/canaan-valley-birding-festival/

**Sounds of Railroading: June 3-5 Conference and Concert** at Davis and Elkins College in Elkins WV.  http://www.dewv.edu/sor

**Harper’s Ferry Outdoor Festival: June 10-11**, www.harpersferryoutdoorfestival.org
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