

THE RIVER AND FIELD CAMPUS 2021 ANNUAL NEWSLETTER



Washington College's River and Field Campus is dedicated to:

- **Mentoring our next generation** of field biologists through hands-on training and research experiences.
- **Restoring diverse wildlife habitats**, especially mid-Atlantic coastal grasslands within the agricultural landscape.
- **Designing studies and protocols** for the establishment and sustainable management of these wildlife habitats.
- **Conducting basic and applied research** on the flora and fauna that colonize these restored habitats.
- **Sustaining the Foreman's Branch Bird Observatory**, a year-round avian research and banding station.
- **Providing outreach and education** for K-12, undergraduate and graduate students, and members of society interested in the natural sciences.



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River and Field Campus

Annual Newsletter

Issue No. 11

2021

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Chesapeake Conservation Corps

Madelaina Ondo '20

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Director's Message

Director's Message

As I write this it's hard to contain my excitement. We have raised nearly \$1 million dollars for our new Foreman's Branch Bird Observatory banding station, putting us within reach of our fundraising goal of \$1.35 million! Those of you that have visited FBBO or follow us on social media, are familiar with our current modest building. Built sometime in the 1960's to raise pheasants, it is unconditioned and without amenities. Re-purposed in the late 90's, it has held up well - and would likely continue to hold up well- for our monitoring program. However, as you will see clearly in this year's newsletter, our banding station has evolved to do so much more than monitor breeding and migratory birds. First and foremost, it is has grown to be a critical educational resource shared broadly with our community and campus. Even in the midst of the global pandemic FBBO was able to host 137 WC students and 122 community members. Imagine what we will do with a brand new, environmentally friendly banding station intentionally designed for teaching and learning about birds, their habitats, and their conservation. The new banding station will have an enhanced banding work space with a wide viewing area and stadium seating for educational access. It will also be powered by on-site solar and built to the highest standards in energy conservation. If you're as excited as we are, please see the back page of this newsletter to see how you can help us meet our goal! Of course RAFC is more than just FBBO. These pages illustrate the diverse activities and rich experiences this property and our programs provide Washington College students and the broader community.

Mike Hardesty



Cover photo: Male Dickcissel perched on Common Milkweed at a Natural Lands Project site. Above: Familiar Bluet damselfly at RAFC. Photo by P. Cowart-Rickman



Chesapeake Carbon Initiative

Climate change is a global crisis that demands innovative, timely solutions. Progress has been made through emissions reductions and reliance on green energy; however, technological

and financial barriers to immediate results have prompted the development of a critical instrument of climate change reversal: the carbon offset. Carbon offsets signify the removal, avoidance, or reduction of greenhouse gases from the atmosphere resulting from a certified activity – but not all carbon offsets are equal. Scientists and policy advocates alike promote the amplifying power of natural carbon offsets as the most effective method to reverse climate change and improve our overall environment. At Washington College the solution dates back to our founder’s love of nature – the planting and preservation of our trees. Within Washington College’s 5,000-acre River & Field Campus lies an asset with great potential to create

a cascading reversal of climate change – 1,700 acres of natural hardwood forests. From beneath the forest floor to the highest reach of the canopy, the RAFC forests are capturing and storing thousands of tons of carbon dioxide from the atmosphere. Unlike other carbon offset projects, the sale of our offsets goes well beyond reducing the carbon footprint of a partner-buyer; they will have the multi-fold impact of protecting critical forest habitat, filtering water that supplies our cherished Chester River, and providing boundless educational opportunities for students. All proceeds will be used to endow educational programs on RAFC for decades to come.

Chesapeake Conservation Corps

The River and Field Campus hosted its first Chesapeake Conservation Corps volunteer during the 2020-2021 season, Madelaina Ondo '20. The Chesapeake Conservation Corps (CCC), sponsored by the Chesapeake Bay Trust, “supports and trains the next generation of stewards in professions that restore and protect our environment and natural resources.” Young adults are placed with nonprofit or government agencies throughout the Chesapeake Bay watershed for a one-year term of service. During her CCC year, Madelaina joined the fall 2020 and spring 2021 migration bird banding team at FBBO. During the winter months, she worked with Jemima Clark '95, education program manager to survey potential future user groups at RAFC, and she spent summer 2021 as a crew leader for our grassland birds breeding study (see page 9). In between all that, Madelaina completed a capstone project analyzing captures of birds banded at FBBO from 1998-2020. This capstone will be especially useful as FBBO moves forward with more outreach and educational programming. Visitors always ask what trends we’ve noted over the years and now we have graphs and analyzed data to share. Reflecting on her year Madelaina said, “Spending my CCC year on RAFC couldn’t have been better. While my fellow Corps members were stuck inside doing work online due to the pandemic, I was lucky enough to be outside participating in real, ongoing, scientific research.” After her CCC year ended, Madelaina was hired to be part of the fall 2021 banding crew. We’ve greatly enjoyed having her around the past few years and wish her all the best with her next position working on Spotted Owls in California.



Top left: Emily Rugg '19 inventories trees at RAFC.

Above: Madelaina Ondo '20 with a Cooper's Hawk.

Foreman's Branch Bird Observatory

Foreman's Branch Summary

2021 was the 24th year of migratory bird banding at Foreman's Branch Bird Observatory, and while we had fewer visitors than usual, operations at FBBO carried on as we all adjusted to a new "Covid normal."

We had a very busy spring season (March through May) during which we banded 4,372 birds of 107 species. This was a higher than average number of species and the second highest number of birds banded in spring in our 24 year history.

Our fall season, August through November yielded 10,225 birds of 112 species. The number of birds banded was very close to average, but the species diversity was well below the long term average of 120. Throughout the year we also documented 1,946 returning birds (more on page 5), 3,612 repeat birds and captured 3 birds that had been banded elsewhere.

The station operated for a total of 225 days including 14 in winter, 84 in spring 18 in summer and 109 in



fall. Our grand total for the year was 16,073 new birds banded of 127 species.

We did not capture any species that were new for our station list this year, but since our founding in 1998 we have banded 323,334 birds of 177 species!

As always we relied on help from seasonal banders to run the station. **FBBO Director Jim Gruber** and **Field Ecologist Maren Gimpel** welcomed **Catherine Werth** to the team for the spring season, and in fall **Laura Porter** and **Madelaina Ondo '20** (fresh off her year with the Chesapeake Conservation Corps) joined the crew. We also resumed offering internships to Washington College students. **Olivia Butler '21** and **Meghan McHenry '21** assisted us in the spring, and in the fall **Libby Witham '24** provided valuable assistance (more on them on pages 14-15 of this newsletter).

We did manage to host some visitors again, but nowhere near as many as in a pre-covid world. 259 people in 47 groups visited FBBO in 2021. Included in those numbers were a variety of Washington College classes, a writer from Chesapeake Bay Magazine, members of the Caroline County Bird Club, and assorted local residents.

As in most years, there were species we banded in record high and low numbers. One new record high was the yearly record for the number of White-throated Sparrows banded. The old record was 2,564 and we banded 3,164 which is also significantly higher than average. Another species with a big up-tick was the Red-eyed Vireo, we broke the old record of 200 birds by banding 258 of them. On the other end of the spectrum, we banded record low numbers of Ruby-



throated Hummingbirds, only 112 for the year (the old low record was 132, the average is 207 and the record high is 316). We also banded a record low number of American Goldfinch- 329 and the previous low was 485. It's impossible to interpret fluctuations based on a single year's data. That's why we were thrilled that our CCC corps member Madelaina Ondo '20 analyzed over 20 years of FBBO data to look into the trends in capture rates. In the example of Ruby-throated Hummingbirds, the trend was not statistically significant. In the case of American Goldfinch, the decrease in captures in both spring and fall were statistically significant. Even knowing this, it's hard to know if the species population as a whole is declining or if perhaps there has been some change

Left: FBBO fall bander Laura Porter bands a Blue Jay.

Above: Spring bander Catherine Werth with return Pileated Woodpecker.

Opposite page: female Blue Grosbeak.

Foreman's Branch Bird Observatory



at our station which makes our area less appealing to them. Only through long term monitoring at multiple sites (i.e. other banding operations) can researchers get a more complete picture of species health.

We continued to collaborate with two outside researchers. We again collected ticks for **Dr. Holly Gaff of Old Dominion University** who is looking into whether tick dispersal is being aided by birds. We also deployed several radio transmitters for **Luke DeGroot of Powdermill Avian Research Center** who is researching outcomes of birds that have collided with buildings. In 2021 we deployed 3 tags on two species- White-throated Sparrow and Ovenbird that will hopefully be detected by the Motus Network as they migrate.

As always, we are grateful to all of the people who donate time and effort to help keep our operation afloat. In addition to those previously mentioned, we'd like to thank Erin Betancourt, Nina Black '20, Alanis Bowman, Joelle Carbonell-Bierbaum, Sabine Harvey, Daniel Irons, Jonathan Irons, Connor O'Hea, Hanson Robbins, Danielle Simmons, Nathan Simmons '18, Everett Smith, and Mirabelle White '24.

Returns of Note

Each year we recapture hundreds of birds we have banded in previous years. In 2021, we recaptured 1,946 birds of 62 species that were banded previously. As one might expect, the most frequently "returning" species are also the species we capture the most. This year our returns included 658 White-throated Sparrows, 207 Song Sparrows and 136 Northern Cardinals. Of all the returns, 41 individuals

were older than 6 years. The oldest bird we captured in 2021 was Red-winged Blackbird #1352-09722 who was 11 years and 5 months old the last time we caught him. That might seem old, but the age record for the species is 15 years and 9 months. We again captured **Pileated Woodpecker #914-51225** (see photo on facing page). We've netted her almost every year since she was banded in 2016. She was 7 years and 10 months old when we caught her. **Blue Grosbeak #2571-64824** was banded as a second year female on May 7, 2012. We recaptured her on September 8, 2021 when she was ten years and 3 months old. This set a **new longevity record** for this species in North America. Another old bird was Tufted Titmouse #2581-08821 banded June 5, 2012 as a after second year



bird and recaptured at 10 years and 8 months old on February 6, 2021. This titmouse has been caught 34 times over the years.

Top Ten Table – 2021 Spring and Fall Migration

| Spring 2021 | | | Fall 2021 | | |
|---------------------------|-------|------------------|---------------------------|-------|------------------|
| Species | Total | Last Year's Rank | Species | Total | Last Year's Rank |
| 1. White-throated Sparrow | 598 | 4 | 1. White-throated Sparrow | 2,509 | 1 |
| 2. Common Yellowthroat | 596 | 1 | 2. Song Sparrow | 1,044 | 2 |
| 3. Gray Catbird | 485 | 2 | 3. Indigo Bunting | 549 | 10 |
| 4. Red-winged Blackbird | 351 | 5 | 4. Common Yellowthroat | 515 | 7 |
| 5. American Goldfinch | 253 | 3 | 5. Gray Catbird | 492 | 9 |
| 6. Swamp Sparrow | 204 | 9 | 6. Ruby-crowned Kinglet | 412 | 6 |
| 7. Brown-headed Cowbird | 111 | 10 | 7. Swamp Sparrow | 379 | 8 |
| 8. Song Sparrow | 96 | 7 | 8. Slate-colored Junco | 354 | - |
| 9. Northern Cardinal | 96 | 6 | 9. Hermit Thrush | 300 | - |
| 10. Blue Jay | 81 | - | 10. Red-eyed Vireo | 232 | - |

Foreman's Branch Bird Observatory



Northern Saw-whet Owl.

Foreign Recaptures in 2021

Most of the banded birds we capture were banded here at FBBO. When we capture a bird that was banded elsewhere, we call that a “foreign” recapture. We only had three foreign recaps in 2021 and all were Northern Saw-whet Owls. We band this species in conjunction with **Project Owlnet**, a collaboration of banders across the continent following similar protocols. We open nets after dark and broadcast the owl’s call to attract them. The first foreign bird was captured on November 1st. It was originally banded at **Long Point Bird Observatory**, Port Rowan Ontario on October 22, 2020. This bird was presumably making its second foray south for the winter. The next foreign bird was captured on November 5th. This bird was originally banded just a few weeks earlier in **Hilliardton Ontario**, 618 miles north of FBBO. The third bird was a Saw-whet banded November 3rd, 2021 that we recaptured just one week later on November 10th. It was banded in Danielsville, PA, 105 miles north of FBBO.

FBBO Recoveries

When a banded bird is found away from the banding location, banders call that bird a “recovery.” These selected recoveries are of note due to the distance from FBBO or the circumstance in which they were encountered.

| Species and Banding Date | Recovery Details |
|---|---|
| Blue Jay September 21, 2010 | Injured hitting a window, later died at Tri-State Bird Rescue Wilmington, DE December 21, 2020 (47 miles northeast of FBBO) |
| White-throated Sparrow October 19, 2019 | Killed by a cat, Wappingers Falls, NY on October 19, 2019 (197 miles northeast of FBBO) |
| Pine Siskin November 1, 2020 | Captured and released alive at Hilton Pond, York, SC on February 3, 2021 (412 miles southwest of FBBO) |
| Gray Catbird October 6, 2020 | Found dead in Clearwater, FL on April 24, 2021 (869 miles southwest of FBBO) |
| American Robin April 10, 2018 | Found dead on May 20, 2021 in Baddeck, Nova Scotia, Canada (904 miles northeast of FBBO) |
| Osprey June 23, 2018 | Shot in Alto Orinoco, Amazona, Venezuela, date unknown (2,590 miles south of FBBO) |

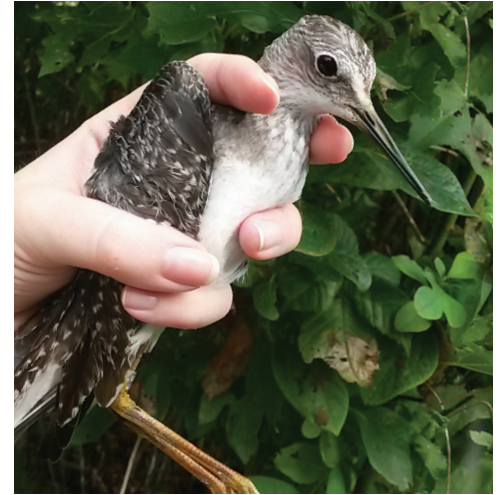
Bat Surveys

For two weeks in July Maryland Department of Natural Resources conducted automated bat surveys at RAFC. A microphone pointing skyward is mounted on a mast raised 20 feet high. It detects and records the ultrasonic echolocation produced by bats which is unique to each species. The most frequently detected species was the big brown bat, but 3 other species were confirmed including eastern red bat, evening bat, hoary bat.

Maryland DNR bat detector at RAFC.



Foreman's Branch Bird Observatory



Standout Captures

Each year we have a few captures that stand out for one reason or another. FBBO's 18th **Summer Tanager** was banded on September 16th. This species does breed in Maryland, but they prefer open deciduous or pine-oak forests, a habitat not found within our netting area. We banded our 17th ever **Eastern Whip-poor-will** on September 5th. Whip-poor-wills are just so cool it's a treat every time we catch one. These nocturnal insectivorous birds have giant mouths and bristles on either side of their bill to help them capture and swallow insects whole. If that isn't cool enough, they nest on the ground, timing the laying of eggs to the lunar cycle so they can hunt on either side of a full moon to find the most food for growing chicks! Maybe the most interesting capture of 2021, was actually multiple captures. Prior to 2021 we had banded a total of 6 **Lesser Yellowlegs** and in the four weeks spanning late September into late October we banded 7 Lesser Yellowlegs! We have nets over Foreman's Branch, the shallow lake used to irrigate commercial agriculture crops on the farm. The water level fluctuates due to usage, but also rain fall and thus the amount of mudflats can vary considerably. We attribute the amazing Lesser Yellowlegs captures of 2021 to having just the right amount of mud available at just the right time.



Volunteer Spotlight

We first met Kent County resident **Alanis Bowman** back in 2019 when she attended the Maryland Birds Ecology and Conservation summer program we hosted for teens. While some attendees were new to birds, Alanis was already familiar with not only the birds found in our area, but also interesting birds from around the globe. Her quiet passion was obvious. She visited FBBO as part of the program and it definitely made an impression on her. Fast forward to summer 2021 when Alanis reached out about volunteering during the upcoming bird banding season at FBBO. Alanis already knew nearly all the bird species we capture, but we taught her how to age and sex

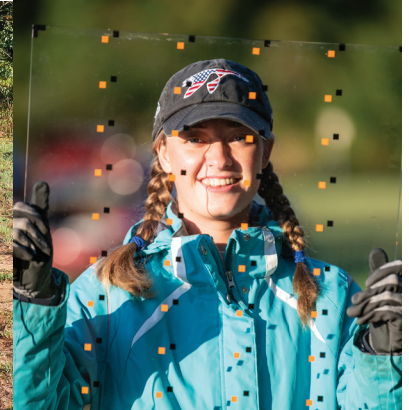
them, how to properly remove them from mist nets and to take accurate measurements. Northern Saw-whet Owl banding was a highlight of the season for Alanis, as was seeing Chestnut-sided Warblers, one of her favorite birds. "I loved seeing all the birds molt from their summer plumage into fall plumage, especially American Goldfinches." Alanis ended up spending an incredible amount of time at the banding station, she was out more than half the days we were open and gave over 350 hours of time! Alanis' calm and easy going presence was appreciated by everyone on the crew and she quickly became a great help. Thank you Alanis for all the time you devoted to fall migration 2021!

Top from left to right: Summer Tanager, Eastern Whip-poor-will, Lesser Yellowlegs. Above: Alanis Bowman with a female Sharp-shinned Hawk.

River and Field Campus

Bird Friendly Glass

Every day birds collide with glass in our homes and offices. Researchers estimate these collisions might be killing up to a billion birds a year in the U.S. alone. Maybe you've found a bird-shaped smudge on your windows or heard a disheartening thunk at your house. Birds sometimes hit glass because they see through glass and can't sense that it's there or sometimes the glass reflects vegetation or sky. The good news is that manufacturers are interested in producing bird friendly glass, but need to know if their designs are actually reducing collisions. The **American Bird Conservancy (ABC)** has been testing such glass since 2010, but they have struggled to keep up with demand. Now, with the construction of a specially designed testing tunnel, FBBO is the second test site in the U.S., doubling the amount of glass that can be tested each season. At one end of the tunnel are two panes of glass, one regular and one experimental pane. The tunnel is dark, except for the glass at the far end. Birds are released from



the opposite end and fly toward the light. A net in front of the glass prevents birds from hitting the glass. 80-100 test flights are run for each glass sample and all the test flights are filmed to quantify avoidance behaviors, which would indicate that the bird saw the glass and tried to change its flight. Bird friendly glass comes in several forms. Some glass has ultraviolet coatings visible only to birds, others have patterns we can see too, like dots or stripes. Etchings in the form of murals have also been used. ABC tests glass from all over the world, including as far away as Turkey and South Korea and their rating

system is becoming the standard for bird-friendly glass in North America. Running the glass testing tunnel at FBBO is Meghan McHenry '20 a biology major and former FBBO intern. She was drawn to the project since it allows her "to contribute to the conservation of birds, as well as handle so many different species in a day. I've always had a passion for wildlife, so combining conservation with hands-on experience made the position a perfect fit."

Top left: Glass testing tunnel at FBBO. Top right: Meghan McHenry with a glass sample.

Grasslands Summary

The experimental grasslands at the River and Field Campus continue to be an amazing resource for multiple aspects of research and education for the Washington College community. Our main academic project is the long term monitoring and research into the breeding biology of Field Sparrows, a common bird in decline. **Assistant Professor of Biology Dr. Jennie Rinehimer** and **Field Ecologist Maren Gimpel** once again led a team of Washington College undergraduates in this endeavor.

For more on crew members, **Nate Braddock '22**, **Adam Brown '23** and **Libby Witham '24** please see pages 14-15 of this newsletter. In summer 2021 we also had the help from Chesapeake Conservation Corps member **Madelaina Ondo '20** who worked as an intern on the project back in the summer of 2019. We also had significant volunteer help from another alumna, **Nina Black '20** who was on the crew in summer 2018.

The crew met each morning at sunrise to go over the day's plan. Each team

member was assigned a portion of the grasslands to cover and they spent the morning searching for adult color banded birds and marking their locations using GPS devices. These data helps us map territories of breeding pairs. When an adult bird was seen carrying food, or chipping aggressively, it indicated that a nest was probably nearby. The crew member would then watch and wait, observing the behaviors of the adult to lead them to their nest. Once a nest was found, we checked on it every few days until



it either failed or fledged chicks. After the nesting process was concluded, we collected a variety of vegetation measurements such as how concealed the nest was, how high it was off the ground and what plant species it was built in. We also collected the same data from a paired random point nearby so we can analyze what choices sparrows are making when they construct their nests.

What is all this data for, you may be wondering? The 101 nests found during the 2021 season and their data are added to our longterm dataset going back to 2014. We now have data on nearly 500 nests. Because we have a thorough color banding program on



the study plot, we know the ages of most of the birds in our population. This will allow us to analyze how the age of the parents may be affecting nest success. For example, are older parents with more experience fledging more chicks? If they are, can this be attributed to some physical aspect of the nest? Maybe it was better concealed than the nest that a first time breeder built. This project provides a great experience for our team of student interns. They learn field skills like behavioral observations, navigating with maps, collecting accurate data and we discuss the “whys” behind the project. It's actual research that will become a scientific publication.

We hosted some outside groups in the grasslands in 2021. Staff led a walk for participants in ShoreRivers' Solstice Expeditions, provided several bird walks to regional bird clubs and arranged for a group from the Upstream Alliance to camp during a multi-day paddle down the Chester River. Several WC classes also visited the grasslands See page 13 of this newsletter for more.

Natural Lands Project Coordinator Dan Small continued to oversee management of and bobwhite use of the grasslands. Several species of woody plants such as Sumac and

Chinese bushclover have established strong footholds and thinning them is a constant challenge. We continue to use prescribed fire in late spring to help with this endeavor. Staff conducted summer and fall Northern Bobwhite counts across RAFC (though the grasslands remain the area of most abundance of quail). The 13th year of these surveys show the summer male whistling count was down for the fourth year a row, while the fall covey counts held steady across those four years. This means that the number of birds making through the winter have been lower each of the past four years, but due to the extensive breeding habitat and good nest success the number of birds going into the winter remains steady. These grasslands support one of the largest populations of quail in the region, making them a draw for those wishing to learn more. We hosted members of Quail Forever in June for a field trip exploring quail habitat management at RAFC.

Top left: Summer Field Sparrow crew. Left: a just hatched Field Sparrow chick. Top right: WC students present results of summer Field Sparrow data at Fall Family Weekend.

Natural Lands Project

Natural Lands Project

2021 was another busy year for NLP. We continued to work closely with members of the NLP community, making lots of farm visits to provide advice on appropriate and timely habitat management activities since periodic management is key to having optimal quail habitat. New landowners continue to reach out about ways they can help quail populations, and due to this interest we planted 80 new acres of meadows across six properties in 2021. These new project sites bring our total to 1,120 acres of new early successional habitat – meadows, buffers, and pollinator plantings. No wetlands were restored in 2021, but our partners **ShoreRivers** surveyed and designed five wetlands that will be installed in 2022

We continue to build our partner base and are pleased to have the **Lower Shore Land Trust** (LSLT) join the NLP team. We received \$400,000.00 from the National Fish and Wildlife Foundation to create 150 acres of meadows and 40 acres of wetlands throughout the lower shore counties of Dorchester, Wicomico, Somerset and Worcester. Quail populations are doing slightly better on the lower shore compared to other areas of the state so we are really excited to working down that way to motivate landowners to make some changes on their properties. We have also applied for additional funding from the DNR Trust fund in partnership with the **Eastern Shore Land Conservancy** and **Ducks Unlimited** to create 230 acres of quail habitat and restore 12 acres of wetlands. Big things are on the horizon for NLP in the coming years.



Clockwise from top: A native Melissodes bee finding pollen on Purple Coneflower; Drone photo of a native grass and wildflower buffer on a private property; Eastern Tiger Swallowtail nectaring on Wild Bergamot; wintering flock of Canada Geese takes flight from a recently restored wetlands on Conquest Preserve; A Bobolink taking refuge in one of the NLP meadows.

Welcome Erin Stiede

The Center for Environment & Society was fortunate to welcome Erin Stiede to the Natural Lands Project (NLP) team this year. Erin moved to Chestertown from Texas where she recently completed her Masters of Science in Biology at West Texas A&M University studying how the mammalian community responds to burning across the rolling plains of Texas. Erin brings a diverse background in wildlife research and monitoring with experience working with Chronic Wasting Disease in deer, monitoring Northern Bobwhite, and conducting herpetofauna (snakes, lizards, salamanders) studies.

Erin is involved in all aspects of NLP from landowner outreach, social media, mentoring our WC interns, care and maintenance of our tree projects, planting several hundred Eastern Red Cedars trees, conducting Northern Bobwhite calling counts, and taking lots of great drone photos of NLP project sites. In addition to working on NLP

Top right: Erin Stiede at a prescribed burn.

Bottom right: Drone photo of a restored wetland on Conquest Preserve surrounded by upland meadows- the Corsica River is in the background.



projects, Erin has been helping out with habitat management activities at RAFC including prescribed burning, woody brush management, creating protective cover for wildlife and lots more. Her favorite part of the job so far

is working with landowners. "The majority of Maryland is privately owned so if we want to make meaningful strides to increase wildlife habitat, we need the support of private landowners." We are glad you are here Erin.



If you are interested in learning more about the Natural Lands Project please visit:

<https://www.facebook.com/NaturalLandsProject/>

or contact Dan Small:

dsmall2@washcoll.edu.

Faculty Spotlight: Dr. Jill Bible Assistant Professor of Environmental Science & Studies

What are your research interests? I am a marine ecologist interested in how humans impact and rely on coastal ecosystems. In particular, I study how climate change and invasive species affect aquatic ecosystems such as streams, estuaries, and rocky intertidal zones. Most of my work has focused on restoration of native oysters in both West Coast and East Coast estuaries. At Washington College I teach ENV 101: Introduction to Environmental Studies, ENV 141: Atmosphere, Ocean, and Environment, ENV 242: Applied Ecology, ENV 294: Environmental Communication, ENV 394: Marine Conservation and ENV 394: Restoration Ecology.

How have you been able to take advantage of the River and Field Campus (RAFC) for your classes? I love taking students to RAFC.

In Introduction to Environmental Science, I take students to the see bird banding at FBBO. In Atmosphere, Ocean, and Environment, students measure stream discharge on Foreman's Branch. In Restoration Ecology, Dan Small, Natural Lands Project Coordinator, and I designed a lab experiment in which students conducted vegetation surveys in order to assess different management strategies employed at the experimental grasslands. In Environmental Communication, students worked closely with RAFC staff to develop interpretive signs for many RAFC locations (e.g., the bird banding station, the lake). This list really highlights the diversity of ways in which RAFC staff and resources are integrated into student experiences at Washington College.

What does it mean for WC students & faculty to have access to a place like RAFC so close to campus? I am extremely grateful for the access we have to RAFC. We are able to create learning experiences for our students that utilize the unique resources at RAFC. For example, instead of only reading about streams and calculating discharge rates based on pretend scenarios, students don waders to investigate streams and measure actual discharge rates. Instead of just learning about general grassland management, students trek into the grasslands at RAFC to collect their own data. This kind of exposure to hands-on, real-world field work enables a very rich engagement in the concepts we are learning in class.

Do you have an example of a student's meaningful experience in the field? Most of the students in Introduction to Environmental Studies are freshmen and are just getting introduced to all that Washington College has to offer. I love taking that class to FBBO, where they get to walk around RAFC, learn about bird banding, and often get to hold and release birds. I have countless videos of students laughing, saying "wow," or jumping up and down like little kids after watching the birds fly from their hands.



Do you have a favorite RAFC experience? Although most of my research takes place in saltier waters, I have spent a bit of time investigating bivalves that live in Foreman's Branch. One summer, in just a few inches of water, my summer Toll Fellow student and I snorkeled in the stream. We had so much fun and actually found both native mussels and invasive clams, perhaps the impetus for future research or lab activities for students.

*This page top: Dr. Bible with students at Foreman's Branch.
Bottom: Students measure vegetation in the RAFC grasslands.*



Academic Engagement

While the Covid-19 pandemic prevented classes from visiting RAFC during the first part of the year, by fall semester 2021 WC classes were back to using the River and Field Campus in a big way. Here are just some of the faculty and students who took advantage of RAFC for their courses.

In August the **Chesapeake Semester** camped at RAFC as part of their orientation. **Dr. Robin Van Meter Associate Professor of Environmental Science & Studies and Biology** and Lab Instructor Madeline Poethke '16 brought students taking Applied Ecology class ENV 242 out on numerous occasions. Students sampled for ticks in the net lanes of Foreman's Branch Bird Observatory and compared the species they collected with those collected by FBBO staff directly from birds. On subsequent occasions they also investigated leaf stomata in a forest, sampled invertebrates in the Foreman's Branch stream, monitored long term salamander plots and conducted stream surveys.

Dr. Van Meter is also working with **Dr. Jennifer Wanat Assistant Professor of Biology** to study Marbled Salamanders in RAFC wetlands using noninvasive sampling through dermal swabs, and sediment and water samples to get a snapshot of salamander health as it relates to anthropogenic activities.

Dr. Rebecca Fox Associate Professor of Environmental Science & Studies and her students measured stream attributes at Foreman's Branch and came to FBBO with ENV 311 Field Methods to learn about the methodology of bird banding.

Two groups of first year students came to FBBO as part of Washington College's **Explore!** Program. The RAFC visit was day two of a weekend adventure that began with catching Chester River crabs for their own feast.

Dr. Jennie Rinehimer, Associate Professor of Biology took advantage of RAFC with BIO 228 Ornithology. The class made two visits to FBBO to compare species composition over the course of migration and also birded the experimental grasslands.

BIO 206 Ecology taught by **Dr. Martin Connaughton, Associate Professor of Biology** and **Lab Instructor Amy Pfarr '18** also used RAFC for several labs. One afternoon they explored seed dispersal in grassy and forested areas. On another visit they studied tree diversity.

Dr. Jillian Bible, Assistant Professor of Environmental Science and Studies used RAFC for ENV 141 Atmosphere, Ocean and Environment and with her Restoration Ecology class ENV 394. See page 12 of this newsletter for more details about Dr. Bible.

Lastly, **Dr. Leslie Sherman, W. Alton Jones Associate Professor of Chemistry**, Dr. Fox, and **Lab Instructor Madeline Poethke '16** brought three sections of ENV 101 Introduction to Environmental Studies to FBBO.

In all, RAFC hosted 382 student visits in 2021, not bad considering we were still in the midst of a global pandemic. Most agreed that having access to these outdoor spaces seemed more rewarding than ever.



Top: Shalis Hunt '23 with a Marbled Salamander.

Middle: students collect ticks for Applied Ecology.

Bottom: students measure stream discharge at Foreman's Branch.

Washington College Student Interns



Nate Braddock '22 took Behavioral Ecology with Dr. Rinehimer and found himself fascinated by animal behavior, so he was really excited to be a part of the summer breeding Field Sparrow research crew. The biggest part of the job requires using bird behavior to find nests. The internship allowed him to see what research was like in a field setting. The Silver Spring, MD native's favorite part of the summer was "observing the same birds day after day and getting to see the nuances of their behavior. The rush of finding a nest after a long stakeout was pretty great too!" Though Nate, a biology major, had learned some field methods in labs, it was valuable "as I worked out in the field every day to see all the principles I had learned about in classes with my own eyes."

Pottstown, PA native **Adam Brown '23** was also a member of the summer Field Sparrow crew. He spent his days identifying color banded sparrows and searching for their nests. An environmental science major, Adam was drawn to the internship in part due to an existing interest in birds. The early morning starts were no challenge for Adam who was used to getting up early as a member of the men's rowing team. He recommends the internship to others noting that "each day was fun and educational. It complemented my coursework, and helped me find a passion for field work."



Environmental Studies major **Analiese Bush '22** was one of two Natural Lands Project interns this year. She was drawn to the internship in an attempt to understand the uses of restoration for lands in close proximity to the Bay. One of her favorite parts of the job was tending seedlings in the greenhouse. "Growing plants from seed has its fair share of challenges which made our progress even more rewarding. It was exciting to be a part of something that was going directly back to the waterfront campus as an educational tool for the rest of WAC to benefit from." The Media, PA native felt that the internship built on what she'd learned in the Chesapeake Semester about the concepts of restoration within the agricultural landscape, but as an intern she was part of the team implementing the practices.

Olivia Butler '21 was supposed to intern at Foreman's Branch Bird Observatory in spring of 2020, but Covid forced her to wait until spring of 2021. The environmental science major was hard pressed to choose a favorite moment. Catching Green Herons was a highlight, but she also appreciated seeing the bird species change as migration progressed. The Sykesville, MD native was disappointed not to have been able to fit ornithology into her schedule during her time at WC, but the internship was a great way to learn about bird anatomy and behavior. Learning to handle wild birds and extract them from mist nets was great hands-on experience. "I've learned so much! The mentoring you get from the banding staff is amazing."



Washington College Student Interns



Easton, PA native **Meghan McHenry '21** took ornithology with Dr. Rinehimer and she fell in love with birds. She too was supposed to intern with FBBO during the spring that Covid shut down the world and was delighted to be able to finally intern in spring 2021. The biology major's favorite part of being at the banding station was the excitement of what we might catch- "we never knew what fun new species might be waiting for us in the nets around the corner, and it was always a good feeling to be able to ID a new bird." The biology major loved that the internship allowed her to participate in real world applications of many subjects she'd learned about in class, from identification to human impacts on the environment. Meghan recommends the internship to any student wanting experience with wildlife ID or handling. She reports that the staff were always happy to share their knowledge, not just about bird banding, but also for career tips and job opportunities.

Wallingford, PA native **Sarah Polo '21** was part of the RAFC Field Sparrow crew in summer 2021 and considered the restoration internship with the Natural Lands Project in 2022 as an opportunity to continue working outside and supporting the Northern Bobwhites she loved seeing in the grasslands the previous summer. Sarah majored in environmental studies and took a course on estuarine restoration, which led her to want to learn more about other types of restoration work. Tasks in her internship included starting seeds in the college greenhouse as well as outdoor work like transplanting cedar trees (important for wildlife) and maintaining tree shelters to protect saplings. She considered this field work one of the best things about the internship. She says "It was so amazing to be outside at least twice a week! It greatly improved my mental health and provided a break from my school work."



Libby Witham '24, an environmental science and biology double major from New Egypt, NJ filled two roles at RAFC in 2021. During the summer she was part of the Field Sparrow breeding biology crew. She spent her mornings finding nests and marking the territories of individual birds. In the fall, Libby interned at FBBO during our fall migration banding season. There she learned to extract birds from mist nets, how to age and sex different species and how to collect accurate data. One of her favorite parts of the summer internship was "when one of the nests I found eventually fledged chicks. It was fulfilling to watch these birds- that you'd followed around every single day- successfully complete the process of building their nest, laying their eggs, and fledging their young."

Libby appreciated being a part of multi-year studies and the ability to work closely with researchers and professors. "Field work comes with its challenges, but having a passion for conservation and ecology made it highly rewarding."

The Center for Environment & Society is dedicated to providing excellent, challenging and inspiring experiential internship opportunities.

For more information on our student internships, or to make a gift, please visit our website:

washcoll.edu/learn-by-doing/ces/index.php or call our office (410) 810-8405.

River and Field Campus 2021 Newsletter

Help Us Grow!

Foreman's Branch Bird Observatory currently operates out of a 12 x 20 foot space that was built as a pheasant coop decades ago. It has neither potable water nor bathrooms. While we could continue to limp along in this space, it is woefully inadequate for hosting the increasing number of visitors, from both inside and outside the College who come to learn about our work.

We are making great progress toward our fundraising goal for a new building. This new structure will have dedicated office and storage space, an expanded banding area allowing for a better visitor experience, a meeting room and pavilion for use by all WC faculty as additional teaching and learning spaces.

An improved lane will accommodate buses and we will finally have running water! The building will be solar powered, extremely energy efficient and the windows won't leak in driving rain.

We have provided dozens of WC internships at FBBO and helped thousands of visitors gain a new appreciation for birds and their conservation. Won't you please help us continue this work?

We would be most grateful if you considered a donation to help us reach our fundraising goal. Please visit: <https://washcoll.edu/learn-by-doing/ces/make-a-gift.php> Be sure to select "Foreman's Branch Bird Observatory." For naming opportunities, please contact Vice President of Advancement Susie Chase at 410-778-7813 or schase2@washcoll.edu.



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Gifts may be earmarked for the River and Field Campus, or the Bird Observatory. Please contact Sherri Spray at sspray2@washcoll.edu or 410-810-8405. Thank you.

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