Washington College River and Field Campus

CHESTER RIVER FIELD RESEARCH STATION

2017 ANNUAL NEWSLETTER

Located on Washington College's River and Field Campus, the Chester River Field Research Station 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 habtats.
- **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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WASHINGTON COLLEGE

River and Field Campus

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Grasslands Research

Dan Small, Andrew Wells '18, Andrea Freemann '18, Dr. Jennie Carr, Virginia Parker '19 and Maren Gimpel.

Grasslands Summary

2017 marked the 19th year of avian studies in the restored grasslands at the Chester River Field Research Station. This year our research focused on the breeding biology of Field Sparrows, grassland management and Northern Bobwhites.

We completed our first season of research into a new dimension of Field Sparrow behavior, namely, if decisions about nest placement and location vary with breeding experience (i.e., the age of the individual) and are they correlated with nest success. Our summer crew of Washington College students **Andrea Freemann '18**, **Virginia Parker '19** and **Andrew Wells '18** worked to identify individual Field Sparrows and their mates and then find their nests. (Profiles on our WC students can be found on pages 14-15). After the nest either fledged or failed, we collected various vegetation measurements such as nest height, percent of the nest visible from above, and vegetation density around the nest. This study will continue for two more seasons and then we will analyze the data to see if

Field Sparrow chick in the process of hatching.

Cover photo: This male Common Yellowthroat was 250,000th bird to be banded at FBBO. Photo by Max Wilson.

Grasslands Research

Left: Male Northern Bobwhite. Top: Black-eyed Susans blooming in the CRFRS restored grasslands.

breeding experience drives decisions made by parents about where to build their nests.

The project is directed by **Field Ecologist Maren Gimpel** and **Assistant Professor of Biology Dr. Jennie Carr**. "The student interns on this project get firsthand experience with the rigors of data collection as part of a study that will ultimately be submitted as a peer-reviewed publication. This is a true research experience that can help set the benchmark of expectations as students consider their academic and professional lives after Washington College. Publications are an exciting final outcome of research, but it takes a lot of time, energy, and many frustrating moments to get there," says Carr.

This year's crew was eager and enthusiastic. They found a total of 103 nests, 33% of which fledged chicks. This is a lower success rate than previous seasons and could be due to a variety of reasons including inclement weather, and an increase in nest depredation by mammals and snakes. Data from our 2014-2016 study on Field Sparrow nest provisioning rates as it relates to parental age has been analyzed, written and submitted for publication in an avian scientific journal.

The **Northern Bobwhite** population on the farm continues to grow since its near decimation due to heavy snows in February of 2010. In 2017 the annual summer and fall surveys finally documented the population to be above pre-2010 size. Staff has also noticed quail on parts of the farm where they have been absent for several years - a sign that the rebounding population is spreading out. We look forward to seeing this trend continue. **Dan Small, Natural Lands Project Coordinator,** conducts the surveys and coordinates the management of the grasslands. We continue to burn blocks of habitat every other year and to experiment with ways to thin and control the robust warm season grasses. "Our annual management has been the key driver that has enabled the quail population to increase throughout the property," says Small. For more information on how to help quail on your property, see pages 10-11.

In June, the field station was delighted to host a visit of congressional staffers as part of a **National Bobwhite Conservation Initiative** education session. It was the second time we have welcomed staffers from numerous states to learn about the importance of USDA conservation programs and to tour the farm to see what they look like when implemented. CRFRS is one of the closest places to Washington to reliably see and hear bobwhite.

Our grassland outreach efforts included hosting Washington College alumni in early June and pre-orientation students in late August. We also hosted a teacher workshop organized by **Pickering Creek Audubon Center** and gave tours to other interested groups.

Grasslands such as this are unique in our area and we continue to attract interest from outside researchers. In 2017 we hosted Adam Mitchell, a graduate student from the University of Delaware who conducted insect surveys, and Kiri Staiger, a graduate student from the University of Maryland who was studying plant distribution and functional traits. Dr. Bill Lamp, also of the University of Maryland, wrapped up a multi-year study on the effect of agricultural runoff on aquatic invertebrates.

Foreman's Branch Bird Observatory

Foreman's Branch Summary

2017 marked our **20th year** of migratory bird banding at the Foreman's Branch Bird Observatory. What **FBBO Director Jim Gruber** founded independently in an old shed has grown into an amazing College asset, collected an impressive dataset, hosted thousands of visitors, and provided paid hands-on internships to 23 WC students since 2008. We will be celebrating the 20 year span (1998-2018) of FBBO in the coming year and in next year's newsletter.

But back to the year at hand! The 2017 spring season ran from March through May and netted 4,188 new birds, which was the station's highest spring total since 2009 and well above the long-term average of 3,813. We handled 99 species which is just below the average of 101. In fall (August through November) we banded 9,147 birds, which is below the average of 10,112, but we handled 123 species, which is above the average of 120.

Outside of the migration seasons, we opened nets on 15 days during winter and FBBO Director Jim Gruber banded weekly during the breeding season at the station while **Field Ecologist Maren Gimpel** monitored nest boxes across the farm and banded the nestlings hatched from them. Combining all the aforementioned birds with those banded during the grasslands research project yields a grand total of 14,757 birds banded of 128 species plus two races and one hybrid in 2017.

FBBO Director Jim Gruber with Common Yellowthroat.

We also captured and processed 6,640 birds that had been previously banded at the station. Of those, 1,632 were birds that had returned to the banding area for the first time that season, the remainder were repeat visitors. These recaptures fall into several categories. Some are permanent residents like titmice or chickadees that we capture throughout the year. Others are birds that return to our area to breed year after year, like orioles or buntings. Still others spend only their non-breeding season in our area, like White-throated and Fox Sparrows, but head north at the end of the winter to their breeding grounds.

After years of collecting these data, visitors often ask what changes we have noticed over time. Our spring capture rate, when standardized for effort (the amount of hours nets were open) was 20 birds per 100 net hours. That's well above our long term average of 15. The fall season was a different story–we averaged 21 birds per net hour, which is well below our average of 29. Rates of bird capture are always higher in the mornings. On days when we keep our nets open long after normal hours, we are artificially lowering our capture rates, by having open nets during the slow portion of the day. However, even taking into account such days, the fall season was much slower than average, in fact it was our lowest bird per 100 net hour number ever. Many factors affect bird migration including wind and weather patterns, both locally and continentally. Fall 2017 could have been fluke or it could be part of a trend. We can't see the big picture without many more years of data, which is why long term monitoring projects are so important.

During 2017 we captured 10 species

FBBO banders Jim Gruber (in window), Vicki Morgan, intern Kayla Lauer '19 , Nancy Raginski, and Sarah Groendyk.

in record high numbers including Solitary and Spotted Sandpipers, Swamp Sparrow, Mourning Warbler, Gray Catbird and Carolina Wren. We missed European Starling for the first time in our 20 year history and we missed Louisiana Waterthrush for the 6th time in 20 years. We also had some record low captures including Osprey, which suffered widespread nest failures across the Chesapeake Bay (thought to be a result of food stress and poor weather), Common Grackle, Slate-colored Junco and Tufted Titmouse.

Our Washington College interns this year were **Kayla Lauer '19** and **Danielle Huston Hakey '17**. Returning to volunteer in spring and work in fall was **Mike Hudson '18**. More information about them can be found on pages 14-15. Several local students are in training with us. Brothers **Jonathan** and **Daniel Irons** continued their weekly visits and a new addition to the team was **Danielle Simmons**. In a staff change, we bid farewell to bander **Amanda Spears** at the end of the spring season and we wish her well in her next endeavors. We filled the gap she left with a fantastic group of seasonal banders. In spring **David Weber** joined us, and in fall we were ably assisted by **Nancy Raginski**, **Vicki Morgan** and **Sarah Groendyk**.

Visitors this season included perspective WC students, many WC classes (see page 13), students from Dickinson College and Gunston School, Kingstown Horticulture Club (in spring and fall), members of the Eastern Shore Land Conservancy, Anne Arundel Bird Club (in spring and fall), Caroline County Bird Club, WC alumni during alumni weekend, teachers from Pickering Creek, and WC pre-orientation groups. These visitors totaled an amazing 566 people in 81 groups.

Another group of very important folks that spent time at the station last year were our volunteers, in addition to the student volunteers mentioned above we thank **Janet Christensen-Lewis**, **Anne and Brennan O'Connor**, **Erin Betancourt**, **Maria Smith**, **Chrissy Barton**, **Hanson Robbins**, **Trish Gruber**, **Jeannine Fleegle**, **Jennie Carr**, **Nathan Simmons**, **Heather Gilbert**, **Kai Clarke**, and **Aaron Wallace**. These folks gave nearly 1,500 hours of their time to help us run the station. We are grateful for their dedication and company.

Top Ten Table – 2017 Spring and Fall Migration

Spring 2017

Species	Total	Last Year's Rank
1. Red-winged Blackbird	638	2
2. American Goldfinch	487	3
3. Common Yellowthroat	455	1
4. Gray Catbird	350	4
5. White-throated Sparrow	266	5
6. Yellow-rumped Warbler	195	7
7. Swamp Sparrow	155	10
8. Northern Cardinal	91	8
9. Least Sandpiper	90	-
10. Brown-headed Cowbird	86	6

Fall 2017

Species	Total	Last Year's Rank
1. White-throated Sparrow	1,463	1
2. Song Sparrow	1,036	2
3. Gray Catbird	551	8
4. Common Yellowthroat	50	5
5. Ruby-crowned Kinglet	495	4
6. Swamp Sparrow	395	7
7. Indigo Bunting	288	-
8. Slate-colored Junco	262	6
9. Yellow-rumped Warbler	246	10
10. Hermit Thrush	242	-

In October, **Maren Gimpel** and **Mike Hudson '18** attended the 2nd International Bird Observatory Conference in Cape May, NJ. Attendees came from five continents to discuss challenges and successes of their institutions. It was wonderful to exchange ideas with so many other dedicated conservation and education professionals.

Foreign Recaptures in 2017

Song Sparrow #2771-61976.
Photo by Nancy Raginski

We netted three foreign recaptures in 2017, birds that were banded elsewhere, but captured here at Foreman's Branch Bird Observatory. As is often the case, Northern Saw-whet Owls made up a large portion of these birds. On the night of February 27, 2017, FBBO director Jim Gruber opened a few nets hoping to capture migrating owls and was rewarded with bird #1014-49945, which had an interesting history. This owl was banded on October 28, 2016 only 19 miles away at Tuckahoe State Park. We captured it 9 days later on November 6, 2016 and then again 3 months later in February 2017. Since we captured it twice a few months apart, it seems likely that the bird spent the winter in the FBBO area.

A second foreign recapture Northern Saw-whet Owl arrived during our fall owl banding season. On November 15, 2017 we captured owl 1104-00093. It was banded in Cape May, New Jersey as a hatch year female the previous fall on October 26, 2016. Cape May is about 60 miles southeast of FBBO.

The most exciting foreign recap of our fall season was Song Sparrow 2771-61976 which we captured on October 24, 2017. It took a while to get word, but we eventually learned this bird was banded on August 16, 2017 as a hatch year at the **Tadoussac Bird Observatory Quebec**, which is 700 miles northeast of FBBO. According to the federal Bird Banding Lab, this is the second ever encounter of a Song Sparrow from Quebec to Maryland. It was especially fun for the staff since we follow the social media accounts of L'OOT (as it's known in French).

FBBO Recoveries

When a bird we've banded is encountered elsewhere, we say that that bird was recovered. 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
Least Sandpiper May 17, 2017	Resighted by spotting scope on July 30, 2017 at Jamaica Bay Wildlife Refuge, Queens, NY (150 miles northeast of FBBO)
Common Yellowthroat September 8, 2017	Captured and released at Kiawah Island Banding Station, Charleston, SC (510 miles southwest of FBBO) on September 21, 2017
White-throated Sparrow October 12, 2016	Hit by a car in July, 2017 in Waite, Maine (600 miles northeast of FBBO)
Purple Finch October 29, 2014	Found dead in Montague, Prince Edward Island, Canada on July 5, 2017 (833 miles northeast of FBBO)
Gray Catbird June 19, 2013	Killed by cat, Big Coppitt Key, Florida on December 30, 2016 (1065 miles south of FBBO)
Osprey June 16, 2003	Found dead in El Carmelo, Falcon, Venezuela April 1, 2017 (1964 miles southeast of FBBO)

To arrange a visit to FBBO please contact Maren Gimpel mgimpel2@washcoll.edu

Standout Captures

In 2017 we added a new species to our station list, which is becoming a challenge since we've been banding in our location for 20 years. The new species wasn't unusual for our area, just unusual in our nets. On September 8th we banded our first ever **Great Blue Heron**. These herons are a daily sight on Foreman's Branch where we have some nets to target kingfishers, shorebirds and the swallows that perch on the powerlines overhead. It's incredible that the heron stayed in the net, which is designed for much smaller birds. We assume it was startled into the net, if it had been flying at regular speed it surely would have broken right through. It was a memorable capture for all of us and the 171st species we've banded at FBBO.

We are regularly treated to the "who cooks for you" call of **Barred Owls** in and around the banding area, but we were surprised on August 11th to find one in our nets. Barred Owls are permanent residents in Maryland where they live in mature wood lots, often near water.

The bird was captured on the first net check of the morning, when we assume it was on its way back to roost for the day. The hatch year bird of unknown sex was the 3rd Barred Owl we have banded at FBBO. The first was also on an early morning net check back in August of 2004. The second was during our Northern Saw-whet Owl banding in October 2014.

Because we target them by broadcasting their calls, Northern Saw-whet Owls made up a large portion of our foreign recaptures

On September 3rd we banded our 7th ever **Brewster's Warbler**, which is a hybrid between Blue-winged and Golden-winged Warblers. The two species interbreed regularly where their ranges overlap and researchers are concerned that Blue-winged Warblers dominate and out-compete the Golden-winged. Sometimes hybrids breed with each other and their offspring are field identifiable as well. Neither species is a regular breeder on the Eastern Shore, at the time of its capture, this bird was migrating south to its wintering grounds in southern Mexico or Central America.

And, as shown in this newsletter's cover photo, we had another huge milestone this fall season when on September 17th we banded the 250,000th bird since the station's founding. The male **Common Yellowthroat** was celebrated by the staff and visitors present that day. It was a bird typical of the season and one of 24 yellowthroats banded that day.

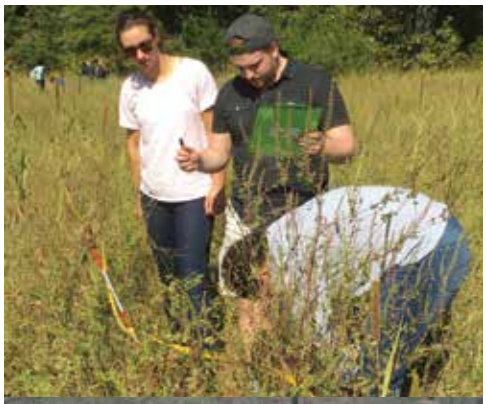
Top Left: Great Blue Heron, photo by Vicki Morgan
Center: Barred Owl, photo by Vicki Morgan.
Top Right: Brewster's Warbler.

River and Field Campus

Easily the most exciting development of 2017 was the announcement of the new **River and Field Campus**, formerly Chino Farms, at Washington College. All the projects described in this, and previous CRFRS newsletters, take place on this unique property, currently owned by Dr. Henry Sears, trustee of Washington College. The 4,700 acre farm has been designated an **Audubon Important Bird Area** since 2005 and is protected from future development with conservation easements. In addition to fields, wood lots and Delmarva Bays, the farm also has 2.5 miles of Chester River waterfront and a commercial farming operation. Dr. Sears has generously donated all of this as a legacy gift to Washington College.

River and Field Campus

Dr. Sears's vision is a farm preserved in perpetuity as a mix of wild and farmed land, as an outdoor laboratory for undergraduate and faculty researchers, and as a test bed for the very best ideas in large landscape conservation. Research programs will explore the connections between land and water, people and nature. We hope it will be a focus not just for science, but for the social sciences and humanities, attracting writers and artists alongside biologists. This is a remarkable gift that will provide untold opportunities for current and future students.



Opposite Page: students participate in various labs at RAFC. Maren Gimpel at FBBO. Dr. Harry Sears lights a prescribed burn (photo by Will Parson, Chesapeake Bay Program).
This page: Additional student engagment, and scenes from the property.

Natural Lands Project

Natural Lands Outreach

Momentum and interest from area landowners and farmers continues to grow as the Natural Lands Project (NLP) wrapped up a successful 2017. We made many farm visits and gave multiple presentations as part of our outreach efforts to spread the word about **Northern Bobwhite** population declines and how participating in NLP can help make a difference both for declining grassland species but also improve water quality in the Chesapeake Bay.

One hundred and four acres of marginal cropland were removed from production and enrolled into NLP in 2017, bringing our total number of acres converted into prime grassland habitat to 274 acres. Crops adjacent to woods often suffer from deer damage, and must compete for light, water and soil nutrients which leads to low yields, making that land ideal for conversion to grassland habitat. Planting grasses in these areas, or larger blocks of habitat where feasible, also creates a buffer which prevents excess nutrients and sediments from running off farm fields. Buffers of 100 or more feet in width have been shown to prevent greater than 85% of nutrients and sediments from leaving the farm field (see sidebar for nutrients reduced in 2016 and 2017).

Nutrient and Sediment Reductions

Annual reductions from land enrolled with NLP over the past two years.

Nitrogen	1,319.95 lbs
Phosphorus	91.30 lbs
Sediment	68,474.68 lbs

Three wetlands totaling nearly 9 acres were created in 2017, varying from 2 acres to 4.2 acres in size. Wetlands are strategically placed in areas of farm fields where run off is removing topsoil, or in areas that naturally hold water, leading to poor crop production. These areas must also have the appropriate soil type, often containing high proportion of clay, which is important to hold water in the wetland. In addition to being an exceptional best management practice, wetlands also provide habitat for wintering waterfowl and stop-over areas for migrating waterfowl, which motivates most landowners.

One group of critters receiving a lot of attention lately are pollinators. Native pollinators come in many forms, from showy butterflies to cryptic bees, wasps and flies. Whether showy and highly visible or not, these insects all perform a vital function – pollination, including a majority of our flowering plants and many of the vegetables we eat. All of the NLP grasslands are planted with a diverse mix of native wildflowers selected to benefit a wide variety of pollinators. In addition to native pollinators benefitting from the wildflower meadows honey bees have been seen using the newly created habitats, no doubt making nearby beekeepers happy.

Crops adjacent to woods often suffer from deer damage, and must compete for light, water and soil nutrients which leads to low yields, making that land ideal for conversion to grassland habitat.

Project Coordinator Dan Small conducted a second year of bird surveys during the breeding season from June to July. While no Northern Bobwhite were heard during these surveys, one landowner did hear the emphatic “Bob-white” near a newly created grassland on his property. Interesting birds heard and seen during these summer surveys were Dickcissels, Grasshopper Sparrows, Field Sparrows and Eastern Meadowlarks. All of these species are showing long-term population declines so it is gratifying that NLP properties are supporting these species with their newly installed habitat.

Outreach continues to be a high priority for NLP. Many dozens of farm visits were made to properties

in Kent and Queen Anne's Counties throughout the year. In addition to giving presentations to area organizations, we hosted a "quail summit" and a congressional tour. This year's quail summit was attended by many of our new NLP property owners, other area landowners interested in quail as well as local agency personnel that also work with landowners. Speakers included **Isabel Hardesty, Regional Director at ShoreRivers, Bob Long, Maryland DNR Upland Game Biologist,** Dan Small, NLP Coordinator and **Theron Terhune, Director of the Gamebird Lab at Tall Timber's Research Station.** After the presentations and lunch we visited a local farm to talk more about quail habitat and how best to manage it. In collaboration with the National Bobwhite Conservation Initiative we hosted a congressional tour of Chino farms on June 30th. Participants included congressional aides, regional wildlife or habitat organizations and local and state agency personnel. The goal of the event was to provide information and real world examples on how beneficial the Farm Bill can be for wildlife habitat within an agricultural setting and to advocate for support for stronger Farm Bill provisions for conservation practices.

Partnerships and Awards

Due to continued motivation and interest from area landowners, and positive wildlife and water quality results, we applied for additional funding to continue NLP. In partnership with ShoreRivers and Duck's Unlimited we were awarded $499,000.00 from the **National Fish and Wildlife Foundation** (NFWF). This will allow us to plant 285 acres of native upland meadows and install 16 acres of wetlands in southern Queen Anne's and Talbot between 2018 and 2020. In addition to the NFWF funding we applied for and received funding from the **MD Department of Natural Resources** to install habitat on Sassafras NRMA in Kent County. This a public property in northern Kent County along the Sassafras River. We will be installing 80 acres of native upland meadows, close to a mile of native shrub hedgerows, and two miles of walking trails throughout. This project is a fantastic opportunity to showcase how habitat for declining grassland birds and pollinators can coexist in the agricultural landscape as well as provide unique recreational opportunities for the public.

If you are interested in learning more about the Natural Lands Project please visit: www.washcoll.edu/nlp or contact Dan Small at dsmall2@washcoll.edu.

Alumna Profile

"Everything I learned about bird conservation, habitat management, and data collection was useful to me in the jobs I had after college. But more than anything I'd say that it taught me to have patience"

Margaret Rohde '12 with an Orchard Oriole. Photo courtesy of M. Rohde.

As the stewardship coordinator for the Wissahickon Valley Watershed Association, **Margaret Rohde '12** might be found clearing downed trees from a path or mowing a meadow or banding birds, a skill she was first taught as a CRFRS intern in our restored grasslands during summer 2011. As one of our earliest Washington College interns Margaret learned not only to band birds, but also identify color banded Grasshopper Sparrows through a spotting scope and to use behavioral clues to find their nests. During her senior year she created a Senior Capstone Experience (SCE) studying bird response to wetland creation on a Kent County farm. Though she's liked birds since early childhood, a WC class visit to FBBO made an impact on her. he got to release a banded bird and says that gave her new goals and awakened a "passion that has guided a lot of my life decisions."

After graduating from Washington College with a degree in environmental studies, Margaret worked in several seasonal avian technician positions including studying breeding Saltmarsh Sparrows in New Jersey, and wintering Northern Bobwhite in Florida. These experiences made her a great match for the job at Wissahickon. She knew she wanted to incorporate bird banding into her new job and brought her supervisor to visit us at FBBO so he could see what banding entailed and understand the educational possibilities. She has since set up her own breeding bird banding station using the MAPS protocol established by the Institute for Bird Populations. The summer 2018 season will be her fourth year running the project.

Margaret credits her early experiences at CRFRS with preparing her for post graduate jobs. "Everything I learned about bird conservation, habitat management, and data collection was useful to me in the jobs I had after college. But more than anything I'd say that it taught me to have patience (waiting for a Grasshopper Sparrow with food to go to its nest will do that to a person…) and to be comfortable doing field work alone. Those things have been really vital everywhere I've worked since."

Thank You!

We are grateful to two organizations that supported us in 2017. We were honored to receive a research grant from the Maryland Ornithological Society to offset the cost of buying mist nets for Foreman's Branch Bird Observatory. Additionally Kingstown Farm, Home and Garden donated birdseed in exchange for Maren Gimpel presenting a series of talks about birds. We extend our heartiest thanks to both of these groups for helping to make our work possible.

Gifts to support the Field Station and its mission are always appreciated. To make a donation please contact Jenifer Emley at 410-810-8405.

Academic Engagement

We were thrilled to dramatically increase the number of Washington College student visits we had at the field station in 2017. Here is a sampling of their activities. In February **Dr. Leslie Sherman**, the W. Alton Jones Associate Professor of Chemistry and her students in **CHE 210 Environmental Chemistry** compared soil samples from agricultural and grassland plots. **Dr. Charlie Kehm**, McLain Associate Professor of Physics and Environmental Science and Studies took his **ENV 141 Introduction to Earth Science** students to Foreman's Branch to examine flow rates and take discharge measurements.

Later in the semester, **Dr. Robin Van Meter**, Assistant Professor of Environmental Science & Studies and Biology used vernal pools on the property to show her **ENV 302 Conservation & Wildlife Techniques** class water quality testing and to look for amphibians. The same class visited another part of the farm to study mark and recapture, and monitoring of small mammals.

Hundreds of students visited Foreman's Branch Bird Observatory to explore the scientific uses of bird banding including those enrolled in Lecturer of Biology **Nancy Weibell's BIO 104 Ecology of the Chesapeake Bay**, three different groups of pre-orientation students, three sections of **ENV 101 Introduction to Environmental Studies**, and **BIO 100 Diversity & Adaptation** taught by **Dr. Jennie Carr**, Assistant Professor of Biology.

We were thrilled to dramatically increase the number of Washington College student visits to the field station in 2017

Dr. Carr also taught **BIO 281 Ornithology** in the fall semester and her students took full advantage of the property. The class made two visits to FBBO to observe the change in migration over the course of the season and they spent several lab periods birding different habitats on the farm.

BIO 206 Ecology labs taught by **Dr. Van Meter** and Lecturers in Biology **Kathy Thornton** and **Maren Gimpel**, and Nancy Weibell made two visits to CRFRS. The first lab explored methods of seed dispersal and the second examined forest species richness.

Dr. Shelly Thomas Visiting Assistant Professor of Biology and Environmental Science & Studies taught **BIO 394 Forest Ecology and Sustainability** in the spring. Her students practiced a variety of forestry measurements and identified trees. The 15 students taking **ENV 394 Field Methods in Environmental Science** with **Dr. Rebecca Fox,** Assistant Professor of Environmental Science & Studies, set up a permanent station at Foreman's Branch to measure stream discharge, then the students in her **ENV 312 Watershed Biogeochemistry** class visited it twice in the fall to collect data on nutrient and dissolved gas levels.

Rounding out 2017 visits were two trips by **PHY 105 Astronomy** taught

by **Dr. Kehm** who was joined by **Brian Palmer,** Director of Digital Media Services. The 32 students came to study the night sky and learn about astrophotography.

We hosted an incredible **628 student visits** this year, our highest total to date. The College's current enrollment is about 1450 students, so we've reached an amazing percentage of students.

Washington College Student Interns

As part of our summer breeding bird crew, **Andrew Wells '18** spent his mornings stalking Field Sparrows through the CRFRS restored grasslands. A biology major from Towson, MD, Andrew found 23 nests despite missing time due to an ankle injury. In the afternoons he created some great data entry templates for us using his skills in Excel. "This job really gave me insight on where data comes from and how much effort goes into fieldwork and research. The summer definitely made me more confident about the idea of doing fieldwork, or at least working outside and/or with wildlife," said Andrew. He also said that the summer helped him realize that he is, in fact, cut out for field work.

Kayla Lauer '19 spent both spring and fall migration seasons at the Foreman's Branch Bird Observatory. An environmental science major from Baltimore, MD, Kayla was drawn to the opportunity of being a part of two decade's worth of data collection. She learned to extract birds from mist nets, record data and identify most of our local birds. Her spring internship inspired her to take Ornithology in the fall semester. A highlight of her time at FBBO was arriving just as we were banding our first ever Great Blue Heron - "It was such a surprise walking in and seeing this massive bird," she said. Kayla said the best part of the internship was seeing birds up close and the realization that it's important to her to pursue a career that allows her to work outside.

Andrea Freemann '18 was another member of our summer breeding bird study team. A biology major from Estell Manor, NJ, Andrea joined us as a John Toll Science Fellow. She applied to the internship thinking "it would be a good opportunity to get more experience out of lab." While she found finding nests a challenge, she excelled at gathering clues and observations to hand off to the next member of the crew assigned to that area, thereby getting "assist" credit for quite a few nests. Andrea enjoyed the field work so much that she's reconsidering her future career plans. "I no longer know if I want to continue to pursue microbiology," she admitted.

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:

ces.washcoll.edu or call our office (410) 810-8405.

Washington College Student Interns

The early start and hot days of summer breeding bird research didn't get **Virginia Parker '19** down. The environmental studies major from Annapolis, MD arrived every day with boundless energy and a big smile. Virginia was drawn to the project because it was so different from anything else she had done, and it turned out to compliment her studies well. "I had taken two ecology classes at WC and this internship gave me real life examples of predation and survival. It also reinforced the fact that I want to work in the environmental field," she said. She said the best part of the job was the rush when she finally found a nest she'd been looking for.

Joining us for the spring migration season at Foreman's Branch Bird Observatory was **Danielle Huston Hakey '17**, an environmental science major from Waldorf, MD. Danielle spent two mornings a week learning to identify and handle birds, record data, and gaining an understanding of the scientific uses of bird banding. Danielle thought the internship complimented her classroom work by giving her field experience, which she's already put to use in another field position studying sea turtles during summer 2017. The internship also has her reconsidering her career goals "I thought I wanted to work on water-related projects, but now I'm leaning more towards conservation." Danielle said her favorite bird was the Brown-headed Cowbird.

Baltimore, MD native **Mike Hudson '18** has been a part of our FBBO team for seven seasons! He volunteered during the spring and was awarded an internship during our busy fall season. In his early semesters, the biology major learned the basics of how to handle birds and extract them from mist nets, but now he is banding and aging many birds on his own and acting as a mentor to our newer interns. Mike has also taken on an additional interpretative role. "As labs, local bird clubs, and other groups come out to the banding station, I have been able to help show them why the work we do at FBBO is important. Explaining our projects and talking to visitors about why I keep interning and volunteering has become a rewarding part of my experience at the station."

Follow us on facebook (www.facebook.com/CRFRC) and **Instagram** (@chesterriverfieldresearch) for daily updates and photos!

CRFRS 2017 Newsletter

We owe a huge thanks to the Washington College chapter of **Habitat for Humanity** and their construction supervisor **Jay Yerkes of Yerkes Construction** for building us a foot bridge in March of 2017. The group arranged for the **Schauber's Lumber & Saw Mill** to donate the materials and the team spent a sunny spring morning replacing our patchwork of planks that washed away in heavy rains with a sturdy and wider bridge over a wet swale. Thanks to both businesses and the students, **Erika Koontz '17**, **Justin Yerkie '19**, **Ari DeArriz '19** and **Despina Thomas '20** who installed the boardwalk.

The Center for Environment & Society at Washington College supports interdisciplinary research and education, exemplary stewardship of natural and cultural resources, and the integration of ecological and social values. By managing precious resources over the long term, we can preserve the natural world and opportunities to study it for generations to come. One of our most important goals is to provide research opportunities for students. The Center awards 10-12 competitive internships each year, with many students choosing to work at Washington College's River and Field Campus.

Funds are needed to support a variety of programs and research projects.
Gifts may be earmarked for the Center, the Field Research Station, or the Bird Observatory.
Please contact Jenifer Emley at jemley2@washcoll.edu or 410-810-8405. Thank you.

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