

CHESTER RIVER FIELD RESEARCH STATION

2018 ANNUAL NEWSLETTER

L. Washington
WASHINGTON COLLEGE
RIVER and FIELD
CAMPUS



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 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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CRFRS Annual Newsletter
Issue No. 8
2018

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Grasslands Research



Grasslands Summary

We celebrated a major milestone this summer in the Field Station's restored grasslands. 2018 marked 20 years since the grasslands were planted (more on that anniversary can be found on pages 9-10). Our current projects include studying the breeding biology of Field Sparrows, determining best practices for habitat management, and Northern Bobwhite monitoring.

Our in-depth examination of Field Sparrow biology is only possible due to years of banding on the study plot. We have dozens of birds of known age, allowing us to investigate if older birds with more breeding experience make different choices resulting in different breeding outcomes than those of younger birds. We measured feeding rates at nests for three seasons and those results are now part of a peer-reviewed paper currently in press. In 2017 we shifted our focus to how Field Sparrow parental age may affect nest construction, location, and fate.

This work involves making sure all the breeding pairs on the study plot are color banded, so we know who is who, and then finding and monitoring as many nests as we can throughout the season. In 2018 our field crew was comprised of Washington College students **Nina Black '20**, **Ryan McKim '20** and **Kayla Lauer '19**, and field ecologists Dan Small and Maren Gimpel. Collaborator Dr. Jennie Carr was away for the field season, but



Cover photo: a Field Sparrow perched at a Natural Lands Project property. Top: the 2018 summer field crew. Above: clouds over the grasslands.



remains an important part of the team.

We found nearly 100 nests and banded 147 Field Sparrows (105 of which were nestlings) in 2018. After a nest has either fledged or failed, we collect a suite of measurements about the vegetation characteristics of its location, such as how high it is off the ground and what percent of the nest can be seen from above. We'll need at least one more field season to have enough data to see if older parents make different choices regarding nest placement and if that leads to greater nest success.

The fact that undergraduate students are collecting this type of data is noteworthy. "This is the kind of position I didn't get until after I'd graduated from college," said **Maren Gimpel**. "These students are at a real competitive advantage when they apply for jobs because they will already have this valuable experience and field skills."

We continue to conduct both breeding season and fall covey counts for Northern Bobwhite. **Dan Small, Natural Lands Project Coordinator** leads these efforts. The number of calling males heard in summer 2018



Left: Field Sparrow chicks in their nest. Above: a foggy morning in the grasslands. Bottom: interns observe sparrow behavior.

was a record high since we began the surveys in 2010. We heard slightly fewer coveys during fall surveys than in 2017, which was the highest recorded since the surveys began.

A number of factors can affect the number of coveys heard. The number of young quail entering the population may be low as a result of poor breeding success due to nest depredation or nest failure due to weather. Additionally, the type and amount of standing crops and habitat management during the survey period can affect locations of coveys, perhaps pushing them beyond hearing range of the count locations. This is why long term data sets are so valuable.

We love to show visitors the grasslands. This past year we hosted nearly a dozen groups of various types including the local Chester Testers of ShoreRivers, to a field trip for the Lancaster County, PA bird club, a group from New Jersey Audubon, and a group of students

from Garrett College studying wildlife management.

University of Maryland College Park graduate student **Kiri Staiger** returned for a second season of plant sampling in the grasslands. She's studying plant species distribution, functional traits, and the abundance and diversity of dormant seeds. We are working with her to establish some multi-year study plots for the coming seasons.

Whether it is bird clubs delighted to see their first quail in years or students learning about fieldwork, these grasslands continue to provide an excellent living laboratory for the region.

Correction: the cover photo from our 2017 newsletter was taken by Max Remey, not Max Wilson.



Foreman's Branch Bird Observatory

Foreman's Branch Summary

2018 was another great year for the Foreman's Branch Bird Observatory. We banded a total of 235 days during the year: 18 days in winter, 84 days in spring, 26 days in summer and 107 days in fall. We amassed a total of 80,201 net hours.

The bulk of our efforts at FBBO focused on migration. We banded 4,370 birds of 110 species in our spring season (March-May). That translated to 13.1 birds per 100 net hours (how we measure banding effort), which was below our average of 16.5, though the total number of birds banded was well above the average of 3,331.

During our fall season (August-November) we banded 10,352 birds of 125 species. That total was just above our long term average of 10,129 and the 27.5 birds per net hour were slightly below the average of 32.9.

We do some banding during winter and summer and totaling the year's banding effort, we banded 16,064 new birds in 2018 of 135 species.

Staffing a banding station is no small feat. In addition to permanent banders **Jim Gruber** and **Maren Gimpel** we were lucky to have three fantastic women work with us this past year. In spring we were ably assisted by **Nancy**



FBBO Director Jim Gruber processing a Wood Thrush. Photo by M. Maddox.

Raginski who returned to band with us a second season, while **Melissa Simon** and **Katie Temple** joined the team for the fall season. In addition to getting great help, it's fun for us to meet folks from Toronto to Louisiana to Washington. All three of these women were skilled, professional, and great company. Summer grasslands intern **Nina Black '20** volunteered for most of August and previous FBBO intern **Kayla Lauer '19** returned for the duration of the fall season.

Our training efforts centered on our spring Washington College interns **Kerrigan Buck '19**, **Larisa Okshewski '20**, and **Nathan Simmons '18**. Additionally, we continued to train three local high school students, brothers **Daniel and Jonathan Irons**, and **Danielle Simmons**.

In 2018 we gave 90 banding demonstrations to 502 visitors. We hosted a wide variety of groups including the local Chester Testers from ShoreRivers, an ornithology class

from Dickinson College, the Anne Arundel Bird Club, and a continuing education class sponsored by the Washington College Academy of Lifelong Learning.

As is the case each year, we caught some species in record high numbers. In 2018 those included Spotted Sandpiper, Red-bellied Woodpecker, Acadian Flycatcher, Purple Finch, Rose-breasted Grosbeak, Barn Swallow, Louisiana Waterthrush, Common Yellowthroat, Yellow-breasted Chat, Gray Catbird, Blue-gray Gnatcatcher, Bicknell's Thrush and Swainson's Thrush. On the other end of the spectrum are species we missed or captured in record low numbers. We had record low numbers of Baltimore Oriole, Savannah Sparrow, Grasshopper Sparrow, Field Sparrow, White-eyed Vireo and Northern Mockingbird and we missed Hooded Warbler entirely. Both of these groups contain species that are residents and species that are migrants, so there is no one explanation for the fluctuations. As is the case with most banding data, the trends only become clear with years of data.

We assisted in two collaborative projects in 2018. We continued to collect ticks from birds for **Dr. Holly Gaff at Old Dominion University** and we contributed to a new project collecting fecal samples from Blackpoll Warblers for **Dr. Brian Trevelline of The University of Pittsburgh**, who is studying the birds' gut biome.

We were again lucky to have a crew

Left: FBBO fall banders Katie Temple and Melissa Simon. Above right: Rose-breasted Grosbeak. Far right: spring bander Nancy Raginski, photo by M. Maddox.

Foreman's Branch Bird Observatory



of dedicated and hardy volunteers. 21 people donated 2,125 hours of time to the station. In addition to those already mentioned, we'd like to thank Erin Betancourt, Jennie Carr, Janet Christensen-Lewis, Kai Clarke, Jeannine Fleegle, Michael Gamble, Rachel Grimsley, Trish Young-Gruber, Mike Hudson, Lauren Michael, Anne and Brennan O'Connor, Jerald Reb, Hanson Robbins, and Tyler Winter.

Returns of Note

Each year we capture thousands of birds that we have already banded. Some of these are from earlier in the same season ("repeats"), while others are from a previous season ("returns"). We caught returns of 57 different species in 2018. The most frequently returning species mirror our seasonal top ten lists and include species like White-throated Sparrow, Gray Catbird, and Common Yellowthroat, but there were some unusual records too. We netted a Spotted Sandpiper in July that had been originally banded in August 2015. This bird was probably migrating southward both times we captured it.

We recaptured two Least Sandpipers in May 2018 that were both originally banded in May 2017. In each case the birds were captured within two calendar days of their original banding

date. Least Sandpipers are the smallest shorebird in the world, wintering from the southern U.S., throughout Mexico and the Caribbean, sometimes even as far south as Peru and Brazil. At the time of their capture, these birds would have been migrating north to their breeding grounds in the Arctic.

Clearly, if a stopover site has worked for them, they'll keep it on their itinerary. When you consider the distance these birds are traveling, the fact that they find the one acre of mudflats on Foreman's Branch the first time, never mind a second time is astounding.

Some other returning birds were noteworthy due to their age. We captured two Blue Jays that were both over 11 years old and an Orchard Oriole that was 10 years old. Birds that were over 9 years old included two Red-winged Blackbirds, a Gray Catbird, a House Finch, a Brown Thrasher, and a Wood Thrush. These individuals are examples of how long some birds can live, with the right genes and some good luck.

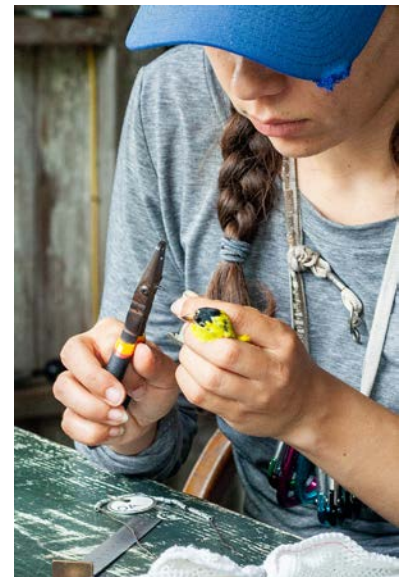
Top Ten Table – 2018 Spring and Fall Migration

Spring 2018

Species	Total	Last Year's Rank
1. Common Yellowthroat	649	3
2. Red-winged Blackbird	536	1
3. Gray Catbird	465	4
4. American Goldfinch	327	2
5. White-throated Sparrow	296	5
6. Swamp Sparrow	123	7
7. Northern Cardinal	117	8
8. Indigo Bunting	101	-
9. Brown-headed Cowbird	99	10
10. Song Sparrow	81	-

Fall 2018

Species	Total	Last Year's Rank
1. White-throated Sparrow	1,408	1
2. Song Sparrow	1,116	2
3. Purple Finch	706	-
4. Ruby-crowned Kinglet	689	5
5. Common Yellowthroat	538	4
6. Gray Catbird	519	3
7. American Goldfinch	380	-
8. Indigo Bunting	329	7
9. Slate-colored Junco	302	8
10. Northern Saw-whet Owl	256	-



Foreman's Branch Bird Observatory



Red-tailed Hawk #1687-13386.

Photo by B. O'Connor.

Foreign Recaptures in 2018

One of the most exciting events in bird banding is netting a bird that was banded elsewhere, what we call a "foreign recapture." Although over 1.2 million birds are banded each year, the odds of this happening are still very small, but in 2018 we caught 7.

On May 5, 2018 we captured Gray Catbird #2451-43031 which was originally banded on July 16, 2017 as a hatch year bird in Hillsborough NJ at **Duke Farms MAPS Banding Station**. MAPS is an international protocol used to monitor breeding birds. When we recaptured this bird, it was making its way northward for its first breeding season. Hillsborough is 96 miles north of FBBO.

We captured female Common Yellowthroat #2720-52563 on May 12, 2018. This bird was originally banded on September 30, 2014 by the **Kiawah Island Banding Station**

FBBO Recoveries

When a bird we've banded is encountered elsewhere, we say 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
Common Grackle May 19, 1997	Found dead June 26, 2018 in Morgnec, MD, was at least 22 years old (1 mile north of FBBO)
Northern Saw-whet Owl November 8, 2018	Killed by a cat, Laurel, DE on November 16, 2018 (52 miles southeast of FBBO)
Common Yellowthroat May 5, 2016	Captured and released alive at Kiawah Island Banding Station, Charleston, SC (510 miles southwest of FBBO) on September 24, 2018
Hermit Thrush October 27, 2016	Killed by hitting a window in Lavonia, GA (521 miles southwest of FBBO) on January 21, 2018
Song Sparrow November 1, 2016	Killed by a cat, St. Felicien, Quebec on May 14, 2018 (675 miles northeast of FBBO)
White-throated Sparrow November 23, 2016	Captured and released alive at Tadoussac Bird Observatory, Tadoussac, Quebec on October 14, 2018 (700 miles northeast of FBBO)
Ruby-crowned Kinglet April 8, 2017	Found dead in Lakeland Highlands, FL (819 miles south of FBBO) on March 11, 2018

in Kiawah, SC. When we captured it, this bird would have been making its 8th trip between its breeding and wintering grounds and it was just shy of its fourth birthday. KIBS is 510 miles southwest of FBBO.

On November 4, 2018 we captured Red-tailed Hawk #1687-13386. This bird was originally banded as a hatch year of unknown sex on December 1, 2011 as part of the **Cape May Raptor Project**. At the time we captured it the bird was 7 years 5 months old.

During our Northern Saw-whet Owl banding season we netted four foreign birds. Owls #1104-42255

and #1104-07845 were both banded in November 2018 in central New Jersey and recaptured by us only a few weeks later. A third owl #1104-18428 was banded in Cape May NJ in fall 2016. The 4th owl covered the most ground, #1104-79793 was banded as a hatch year bird in fall 2016 over 500 miles northeast of us at the **Petit Manan National Wildlife Refuge** in Milbridge Maine.

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

Foreman's Branch Bird Observatory

Standout Captures

Each year there are a handful of captures that are exceptional. In 2018 one of these was a female **Golden-winged Warbler**. This was only the 4th of its kind ever banded at FBBO. The species is on many watch lists due to its severe population declines. When netted on August 15th, it would have been in the process of migrating south for the winter.



A surprise in the nets on April 6th was an adult male **Northern Harrier**, nicknamed by birders as the “gray ghost.” Harriers are a common site in our area in winter, they are often seen soaring low over grasslands and fields in search of prey. While we see them occasionally in the banding area, we



don't have much of the open habitats they prefer, so it was a great surprise to catch one. It was the first harrier netted at the banding station, though we did capture one in the grasslands back in 2006.

On August 5th we banded our first ever **Little Blue Heron**. It was caught in the nets over Foreman's Branch. This species can be found in the Chesapeake Bay area in late summer as young of the year disperse and make their way south for the winter, but they are uncommon and we had never seen one at the banding station. Adults of this species are slate blue, but young birds, like the one



we captured, are white, and without a good look, this species resembles the more common Snowy Egret, but it lacks the black legs and yellow feet. This is the fourth species of heron we have banded at FBBO.

A second new species for the cumulative FBBO species list was the **Fish Crow** we banded on May 30th. The species is not unusual for the area that time of year, but they are often seen flying overhead or in the middle of agricultural fields. Fish Crows are difficult to separate from American Crows unless they vocalize, or if you have it in your hand and can use measurements. The total number of species banded at FBBO now stands at 174!



We banded two **Eastern Whip-poor-wills** in fall 2018. The first on September 26th and the second on October 7th. Both were hatch year males. These were the 7th and 8th whip-poor-wills we've banded at the station. Little is known about these nocturnal birds' migration, but both of these individuals were probably heading south for the winter at the time of their capture.

Clockwise from top left: Golden-winged Warbler, photo by M. Simon; Fish Crow, photo by N. Raginski; Eastern Whip-poor-will; Little Blue Heron, photo by B. Hubick; Northern Harrier, photo by N. Raginski.

River and Field Campus

Foreman's Branch Bird Observatory 1998-2018

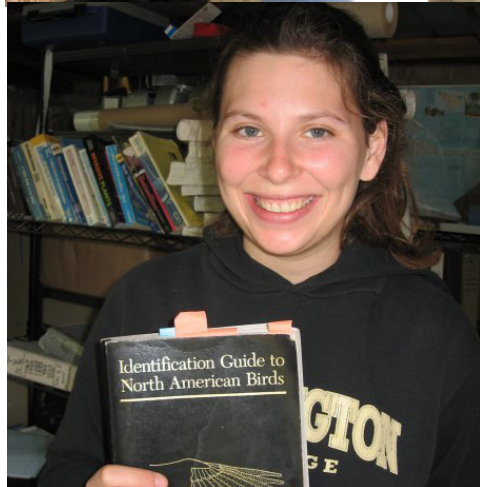
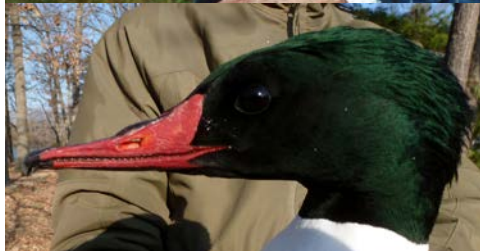


Jim Gruber had been a bird bander for years, and was looking for a place to establish a long-term migration monitoring station. Dr. Harry Sears offered up an area on Chino Farms and what eventually would become the Foreman's Branch Bird Observatory began on March 22, 1998 when Jim banded a Carolina Chickadee, working out of an old shed.

In the twenty years since, Jim and his staff have mentored numerous area teens and given banding demonstrations to hundreds of visitors.

FBBO has collaborated with outside researchers on studies as varied as avian flu in wild birds, how lights might affect migratory birds, and the gut biome of a neotropical warbler.

Since establishing the relationship with Washington College, FBBO has provided **27 internships** to undergraduates. As of the end of 2018, the station has banded 272,446 birds of 174 species.



Clockwise from top left: Jim Gruber with Northern Shrike, 2000; Common Merganser; Melody Warner '08 (first WC intern); Hooded Warbler; LeConte's Sparrow (photo by J. Parks); Carolina Chickadee; Jim Gruber, Maren Gimpel and Dan Small with the 100,000th bird banded, 2006; Seaside Sparrow (photo by J. Yacabucci); Jim Gruber and Bill Snyder banding Osprey, 2006; Pileated Woodpecker (photo by N. Raginski).

Restored Grasslands Celebrate 20 Years

In 2018 we also celebrated two decades since the establishment of the restored grasslands along the Chester River and all the research conducted throughout that time. In late fall 1998 **Dr. Doug Gill**, then **Professor of biology at the University of Maryland at College Park** got a call from Chino Farms owner **Dr. Harry Sears**. Dr. Sears wondered, could an area of the farm, after 300+ years



of human manipulation be restored and converted to a native warm season grassland. The two devised an experimental planting scheme to create an eastern prairie as a way to maximize benefits for the largest number of locally rare species.

In the years since, we have learned a lot about grassland ecology, optimal planting mixes of seeds, and best management practices. As a result of our efforts, we have thriving populations of grassland breeding birds, including the largest wild population of Northern Bobwhite in the state. The insights gained and lessons learned from this work led to the creation of the Natural Lands



Project (see page 11). The property has been a big draw for visitors ranging from local garden clubs to the National Bobwhite Conservation Initiative. Washington College students and professors conduct labs in the fields and bird clubs have come to see the locally rare species that call the area home.

Early research focused on the vegetation establishment and colonization of the site, as well as on Grasshopper Sparrows, the first avian species to breed abundantly in the grasslands. Over the years, summer field crews of mostly undergraduates collected data on the plants and the birds that used them. Originally these students mostly came from the University of Maryland College Park, where Doug Gill was on the faculty. After his retirement, most of these students were from Washington College. While the outreach and research have been impressive, perhaps the greatest legacy of the grasslands to date is this mentoring of our next generation of field biologists.

Peter Blank arrived at the grasslands in 2001. “Walking waist high in the beautiful, warm-season grasses and wildflowers of the grasslands while tracking the elusive sparrows...



is when I fell in love with doing field research.” Peter went on to study bird use of grass buffer strips around crop fields for his doctoral research. Today Dr. Blank runs his own environmental consulting company and says “I wouldn’t be where I am today were it not for Doug Gill’s mentoring and the opportunity he gave me at the CRFRS grasslands.”

Ben Weinstein spent summer 2005 in the fields when he was still a



Clockwise from top left: Jared Parks and Peter Blank circa 2002, unknown photographer; Grasshopper Sparrow, by M. Hudson; Doug Gill and Evan Miles monitoring a prescribed burn; the 2001 grasslands field crew, photo by P. Blank.

River and Field Campus



initial studies on Grasshopper Sparrow song were conducted as a post-doctoral researcher at the University of Maryland. Currently **Dr. Lohr is Associate Professor of Biology at the University of Maryland Baltimore County**, and the grasslands continue to be a resource. "I am able to mentor students from the Baltimore area on field research projects within an easy drive of a major metropolitan area, and can take advantage of the site's many pedagogical opportunities to train budding conservation biologists and behavioral ecologists."



high school student. It was his first experience as a field assistant. "The kind and generous help I received from the crew helped spur my decision to become a researcher. Now, when I'm working with students, I often reflect on the patience it must have required to help me get to where I am today." Today **Dr. Ben Weinstein** is a postdoctoral fellow at the University of Florida where he works on converting remote sensing data into large scale models used to preserve biodiversity.



Biology. The founding missions still apply, staff is continuing to restore habitat, provide numerous outreach and educational programs to the community, and to arrange for outside researchers to take advantage of the ecosystem. The grasslands remain a haven for bobwhite, a destination for visitors, and a source of dozens of publications. But as Doug Gill put it "that amazing telephone call in autumn 1998 from Dr. Sears has jump-started dozens of careers in conservation biology."

In 2001 Dr. Bernie Lohr began several long term research projects in the restored grasslands. He described the grasslands as an "indispensable asset as a study site, given the paucity of natural grassland habitats." His

Several changes have occurred in the oversight of and research in the grasslands in the early 2010's. Dr. Gill retired from the University of Maryland and the Chester River Field Research Station and its two full time employees, **Dan Small** and **Maren Gimpel** became part of **Washington College's Center for Environment & Society**. The grasslands themselves are situated on what is now known as Washington College's River and Field Campus.

After years of emphasis on Grasshopper Sparrows, the team shifted focus to Field Sparrows and gained a new Washington College collaborator, **Dr. Jennie Carr, Assistant Professor of**



Top left: Dan Small radio-tracking Grasshopper Sparrows; Bottom left: morning crew meeting; Middle: Dickcissel, photo by B. Hubick; Top right: Bobolink; Lower right: Bernie Lohr.

Natural Lands Project

In 2018 the Natural Lands Project (NLP) successfully completed its first three-year grant period. The original concept of NLP was born out of the successful restoration efforts and annual management of quail lands at the River and Field Campus. The knowledge gained from our work at RAFC provided the opportunity to “get off the farm” and work with regional landowners looking to make improvements on their properties. This was made possible by a grant from the Maryland Department of Natural Resources' **Chesapeake and Atlantic Coastal Bays Trust Fund**.

With this generous funding we worked with 25 landowners in Kent and Queen Anne's Counties creating

372 acres of native meadows and 35 acres of wetlands over the last three years. These numbers exceeded our original goals thanks to landowner interest and cost saving efficiencies allowing us to do more with less. **Dan Small, NLP Coordinator**, will continue to work with all the landowners to ensure the habitat remains in optimal shape for wildlife while continuing to monitor birds at project sites to document their value as breeding sites.

2018 marked the first year of **National Fish and Wildlife Foundation** funding. Most efforts concentrated on outreach, meeting landowners in Queen Anne's and Talbot Counties to develop projects for 2019 and 2020. Using funding from both grants we were able to plan 137 acres of native warm season grasses and a diverse mix of wildflowers across nine private properties.

This past year we collaborated with US Fish and Wildlife Service's **Partners for Fish and Wildlife** program to convert 53 acres of non-native grasses to native warm season grasses and wildflowers. This project was all about improving wildlife habitat as non-native cool season grasses have very little wildlife value compared to the native grasses. It didn't take long for us to see the differences. Numerous grassland dependent birds were found breeding on-site, including several pairs of Dickcissels. Dickcissels are rare breeders in the State and this project in Kent County was among only a handful of sites around Maryland that hosted these birds in 2018.

With the majority of the land on the Eastern Shore of Maryland held in private hands, efforts to improve declining grassland bird populations and improve water quality must be focused here, but efforts to work on public land hold unique opportunities. This past year we had the chance to partner with MD State Parks to plant 83 acres of native grasses and wildflowers at **Sassafras Natural Resources Management Area** in Kent County creating one of the largest grasslands on public land on the Shore. Once the grasses are established we will be adding walking trails for the public as well as planting hedgerows for wildlife cover. If you are in the area in July, it would be worth your time to stop by and enjoy the wildflowers and listen to the breeding grassland birds.

Top right: a native grass and flower buffer between a corn field and the Chester River.



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

River and Field Campus



Volunteer Spotlight

Janet Christensen-Lewis has been volunteering at the Foreman's Branch Bird Observatory since August 2016. She's our regular scribe on Fridays and Saturdays and has more recently been learning to extract birds from nets and is now doing a bit of banding. Janet and her husband Frank own Puck's Glen, an organic farm just across the river in Kent County. Their interest in land preservation has led to Janet's serving as chair of the Kent Conservation & Preservation Alliance, whose mission is to "conserve and preserve our cultural landscape which includes natural, historic, cultural, and agricultural resources." She's also a volunteer at the humane society, an artist and a master gardener. She shares her farm with two standard poodles, Parker and Sadie. In 2018 Janet donated 166 hours of her time to help us run the station and we are most grateful. Thank you Janet!

Senior Capstone Experiences

The field station hosted two Washington College Senior Capstone Experiences in 2018. **Julia Portmann, '19 a biology and environmental science double major**, worked with Dr. Robin Van Meter Assistant Professor of Environmental Science/Studies and Biology to sample **Marbled Salamanders** in agricultural, intermediate, and non-agricultural sites for the fungus *Batrachochytrium dendrobatidis*. The fungus causes chytrid, a deadly amphibian disease and Julia is interested if agriculture has an influence on its presence.

A second research project was conducted by **physics major Siyuan Lu '19**. He measured skyglow to determine which portions of the River and Field Campus were the darkest. Working with Dr. Charlie Kehm McLain Associate Professor of Physics and Environmental Science & Studies, Siyuan set up two cameras, one that stayed in place as a reference, and a second that he moved around to take the measurements. **Skyglow** varies due to proximity to population centers, business and homes.



Marbled Salamander, photo by J. Portmann.



Thank You!

We are most grateful to **David & Samantha Purvis** of Frederick, MD who donated twelve nest boxes with poles and baffles to the field station. These boxes are well-constructed and in excellent condition. We monitor over 100 nest boxes on the field station and will use the donated boxes to replace older and/or damaged ones.



Thanks to Kingstown Farm, Home and Garden! They donated birdseed to FBBO in exchange for field ecologist Maren Gimpel presenting a series of talks about birds.

Academic Engagement

2018 was another great year for student engagement at the Chester River Field Research Station and the River and Field Campus as a whole. Here are some of the classes and labs that took advantage of the farm.

In February **Dr. Leslie Sherman, the W. Alton Jones Associate Professor of Chemistry** and students in CHE 210 Environmental Chemistry compared soil samples from the grasslands to adjacent crop fields. **Dr. Robin Van Meter, Assistant Professor of Environmental Science & Studies and Biology** and her students in BIO 313 Wetlands Ecology examined soil profiles, identified hydrophytic vegetation, and learned to delineate wetland boundaries over several visits.

In March a new interdisciplinary course CHE 294 Greener Art through Greener Chemistry was co-taught by **Heather Harvey Associate Professor of Art** and **Dr. Anne Marteel-Parrish, Professor of Chemistry**. With their students, they collected clay from RAFC to use in art projects, including making their own paint.

Another interdisciplinary use of the property was the April visit of **Dr. Courtney Rydel, Assistant Professor of English, Shane Brill, Campus Garden Advisor**, and a local herbalist. The students enrolled in ENG 301 Chaucer foraged for and discussed medicinal and edible plants.

Dr. Amelinda Webb, visiting professor of Environmental Science & Studies, taught ENV 141 Atmosphere, Ocean and Environment. Her students visited Foreman's Branch to assess flow rates.

Dr. Charlie Kehm, McLain Associate Professor of Physics and Environmental Science & Studies brought the students in his ENV 240 Earth and Planetary Systems out for some night sky study.

Dr. Van Meter took great advantage of the field station in the fall with her new course ENV 294 Applied Ecology. Early in the semester students collected ticks from around the banding area to compare them to those that banding staff removed from birds. Later in the semester they used a wood lot to examine leaf stomata. A multi-week lab evaluating streams and surveying for aquatic invertebrates capped off their visits.

BIO 206 Ecology taught by **Lecturers in Biology Kathy Thornton, Mark Keese, Antonio Golubski, and Maren Gimpel** used the field station with their students for two different labs, one to study seed dispersal and another on forest species richness.

ENV 101 Introduction to Environmental Studies was taught by **Drs. Jillian Bible and Rebecca Fox, both Assistant Professors of Environmental Science & Studies**, and their labs used the station on multiple occasions. They studied forest composition and attributes in a wood lot and were among many lab sections that visited FBBO to learn about bird monitoring techniques. Also included in this group was **Dr. Jennie Carr, Assistant Professor of Biology's** two sections of BIO 100 Diversity & Adaptation.

Dr. Fox's ENV 311 Field Methods in Environmental Science conducted some stream sampling at Foreman's Branch in September and also visited FBBO to discuss how banding is



Top: tick surveys. Middle: students measure seed dispersal. Bottom: measuring fish, photo by K. Lauer.

used to monitor birds and avian populations.

Dr. Carr's BIO 315 Ecophysiology class used sites around the field station for students to conduct independent research projects. Students investigated body temperature of fish and crayfish, spatial variation in organisms and abundance of soil invertebrates at varying distances from water. There were a total of 605 student visits to RAFC this year.

Washington College Student Interns



Kayla Lauer '19 is an environmental science major from Baltimore, MD who joined us for two seasons in 2018. During the summer, Kayla was part of our Field Sparrow crew and in the fall, she returned to Foreman's Branch Bird Observatory as a banding assistant for the 3rd season! In her capacity working on the Field Sparrow project, Kayla identified individual sparrows and searched for their nests. Aside from a morning meeting, the crew works alone. Kayla said "I learned to fully remain on task, even when working independently. Both of these internships have given me a leg up over my peers in terms of having field experience. It will be a real advantage after graduation when I start looking for jobs." Kayla's favorite bird at FBBO was the Cooper's Hawk, despite their intimidating talons.

One of our spring Foreman's Branch Bird Observatory interns of 2018 was **Nathan Simmons '18** of Chestertown, MD. A biology and environmental science double major, Nathan loves being outside and is interested in all types of animals, from turtles to beetles. He learned to extract birds from mist nets and scribe data. He was lucky enough to be there they day we caught a Pileated Woodpecker. "I saw the bird on a tree, but it flew off and out of sight. I ran around the corner, and there it was in the net. It only had about a foot to go and it would have escaped." "The best part of my internship was spending time with the staff and other interns and volunteers. Watching and listening to them was the best way to learn."



Kerrigan Buck '19 is an environmental science major from Dalton, PA. She too was an intern at Foreman's Branch Bird Observatory in spring 2018. Kerrigan reports that her internship provided her with valuable insights into science. "Understanding how this long-term and global study (bird banding) works makes it easier to relate it to papers and studies in my classes." In addition to scribing data, she improved her bird identification skills and loved that she became "that cool person who identifies the birds when my class is out for lab." Kerrigan also valued learning about the dedication required to conduct field work, "it takes resiliency to get up so early every morning, even when it's cold outside."

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

Larisa Okshefsky '20 from Huntingtown, MD was another spring intern at the Foreman's Branch Bird Observatory in 2018. A biology and chemistry double major, Larisa loved that she got hands-on experience from her time with us. Larisa braved chilly early mornings to learn about bird banding data and to extract birds from mist nets. "My favorite part of this internship was how I was able to use what I learned about molting patterns and bird behavior in the ornithology class I took at WAC and relate it to field work," she said. Her favorite birds were Carolina Chickadees because "though they are small, they also have a lot of personality!"



Ryan McKim '20 a biology major was another member of our summer Field Sparrow crew. His determination and competitive nature meant he took finding nests seriously! "My favorite part of the internship was definitely the thrill of sleuthing out a nest's location after spending a long time observing sparrow behavior from afar." Outside of the field Ryan was a huge help updating our catalogue of bird migration charts, he was a wizard with Excel. Ryan's career goal is to be a veterinarian and so being exposed to many different animals in different environments was appealing to him. Ryan's favorite bird is the Shoebill, a bird he knows from Uganda where he lived while in high school. He says their bill shape "makes them look like they are perpetually smiling," which in turn always makes him smile too.

Nina Black '20 a biology major from Chestertown, MD was another member of our summer Field Sparrow crew. Nina spent hours under the hot summer sun observing sparrow behavior and finding nests. She reported that the internship intersected perfectly with courses she had taken at Washington College. She arrived with the advantage of having taken Dr. Carr's behavioral ecology class, so she had an understanding that certain bird movements could indicate a nest was near. It seemed to pay off, Nina was an excellent nest finder! Nina said the best part of the internship was "definitely the feeling that comes with finally finding a nest when you've been stalking the parents for hours or sometimes days. Any day that I found a nest was automatically a great day, and made me more excited for the next day."



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CRFRS 2018 Newsletter



2018 marked the inaugural year of the Center for Environment & Society's new summer program for teens. The Young Environmental Stewards Conference (YESC) provided high schoolers the opportunity to interact with other like-minded students and explore the integration of environmental issues and social values. The conferees explored the culture and history surrounding the Chesapeake Bay region by kayak and aboard the College's 46-foot research vessel, Callinectes. They learned about commercial and primitive food production and got an introduction to Geographic Information Systems (GIS). At the College's River and Field Campus, the group conducted quail surveys, learned about bird banding, and cooked dinner over a campfire. The 2019 session will run July 16-19. For more information or to enroll, please see <https://www.washcoll.edu/centers/ces/summer-conference/> or contact Jamie Frees Miller at jfrees2@washcoll.edu

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 12-15 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 Jamie Frees Miller at jfrees2@washcoll.edu or 410-810-8405. Thank you.



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