

Research & Education

the River and Field Campus 2020 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. 10 2020

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Director's Message

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In January of 2020, Washington College was over the moon about the recent news from the Maryland Department of Commerce's Maryland E-Nnovation Initiative Fund to establish a Director of the River & Field Campus (RAFC). I was confident to step into the role, buoyed by the long history of experimentation and conservation by generations of the Sears family. "This is going to be a dream job," I thought.

In March of 2020, my dream job and my visions for the future of RAFC became a little cloudy, then turned upside down entirely. Like it was for so many, last spring was riddled with uncertainty. But as you will discover in the following pages, not only did our team adapt, they succeeded in the face of all the challenges presented by Covid-19. You will read about our "skeleton crew" but you will see the stalwarts and the students still working, still experiencing, still learning, and still creating balance in our landscape. If there has been any certainty throughout all of this is, it has been the creativity and dedication of our faculty and staff.

As for the future; we are hard at work on a 3-year Strategic Road Map for RAFC that will lay out bold new ideas. We have raised over \$500,000 for a new banding station at FBBO. Established partnerships continue to flourish while new ones develop - such as joining American Bird Conservancy's glass collision program to test bird-friendly glass. And, our Natural Lands Project continues to grow as we expand into partnerships on the Lower Shore.

A tough year for many, but the future does look bright!

Thank you for your support,

Mike Hardesty

Cover photo: Red-headed Woodpecker, photo by B. Hubick. This page: Field Sparrow chicks in their nest. Opposite right: Members of the 2020 crew look for Field Sparrows in the grasslands. Photo by P. Cowart-Rickman.

Grasslands Research

Grasslands Summary

2020 was the 22nd year of avian studies in the experimental grasslands on the River and Field Campus. Despite the Covid-19 pandemic, we were able to run a mostly normal field season, concentrating our efforts on Field Sparrows and Northern Bobwhite.

Our Field Sparrow breeding biology project continues to run under the direction of Field Ecologist Maren Gimpel and Associate Professor of Biology Jennie Carr. Washington College undergraduates Sarah Collins '22, Kyle McKim '22 and Sarah Polo '21 (more on them can be found on page 11 of this newsletter) rounded out the regular crew, while alumnae Nina Black '20 and Madelaina Ondo '20 helped out as well.

The season began a few weeks late due to Maryland's stay at home order, but once it was lifted Washington College took into account the fact that our work was conducted entirely outside, and mostly independently, and we were cleared to start our season.

Field Sparrows are a common bird that nest in large numbers in the RAFC grasslands. We are researching their breeding biology to see if the age of sparrow parents has any effect on their nesting success. Because we have been banding birds on this site for many years, we know exactly how old many of the individuals are- a unique situation for a field project.

During this 9th summer of Field Sparrow work, we identified about 100 adult pairs and found a total of 89 nests. The nest total is lower than normal, due to the shortened season. We banded 160 Field Sparrows, 106



of which were nestlings. Incredibly, there were two sparrows that were banded back in 2013 that returned again to breed in the grasslands. If birds successfully fledge chicks and the habitat remains good, many individuals will continue to return year after year to the same breeding grounds, a phenomena called "site fidelity." While many of our adult birds return for multiple years, seven years in a row is pretty amazing.

Because our research questions focus on keeping track of specific birds, the first step each season is to identify all color banded birds on the study plot and to get color bands onto the birds that are new arrivals. Next, the crew works to find as many nests as possible for these individually identifiable birds, and to monitor their fates. Once a nesting attempt has concluded (whether it fledged chicks or failed) we collect a suite of measurements at the nest site, including its percent concealment, height, what plant it's in and how far it is from an edge, like a wood lot or a farm lane. Once we have compiled enough data, we will run statistical analyses to see if older and more

experienced birds construct nests differently than younger birds and to see if this may be influencing nest success.

Staff also continued to monitor Northern Bobwhite in and around the grasslands using both summer male whistle counts and fall covey counts. 2020 was the 12th year of these surveys and the good news is the bobwhite population on the field station appears stable. We are thrilled to host the largest wild bobwhite population in the state of Maryland.

We again supported University of Maryland graduate student Kiri Staiger who is studying the plants that colonize tilled ground and comparing them to the existing adjacent plant community in several plots within the grasslands.

Due to the pandemic, we did not host any outside groups for tours. We look forward to resuming this portion of our outreach work in 2021.

Foreman's Branch Summary

2020 was an unusual year at Foreman's Branch Bird Observatory, but that wasn't entirely a bad thing. We completed our 23rd year of migration monitoring, hit a major milestone (see page 6), and assisted colleagues on a variety of projects despite having less help than normal due to the Covid-19 pandemic.

Our spring migration season started March 1st and we enjoyed about 10 days of normalcy before the pandemic hit. Our undergraduate student internships were canceled, our volunteers stayed home, and we hosted no visitors, but with a skeleton crew of three we managed to run a somewhat regular season.

We banded the fewest birds ever in a spring season (3,010), but our diversity (103 species) and effort were on par with our average, so the capture rate was a function of weather and birds, not Covid.

By fall migration we had Covid protocols down pat and while we still had fewer folks on hand than usual, we manged to have an amazing season. We banded a record-breaking 15,305 birds between August and November- our average for fall is only 10,471. We banded 123 species which is slightly above the average. In total for the year, including some winter and summer banding, we banded for 244 days and banded 20,023 birds of 131 species.

FBBO Director Jim Gruber and Field Ecologist Maren Gimpel survived the spring season with help from seasonal bander Melissa Simon (who also worked with us in fall 2018). In the fall we welcomed Michael Gamble (returning from fall 2019) and Phillip Mercier to the team. We were also joined in fall by Madelaina Ondo '20 who will spend a year with us through the Chesapeake Conservation Corps (CCC) (learn more about her and the CCC program on page 10 of this newsletter).

Just before we went on lockdown, we were delighted to host a writer and photographer from **Baltimore Magazine**. We recommend searching out the resulting article "Into Thin Air" from the May 2020 issue.

Due to the pandemic, we could not offer our normal internships to Washington College students, nor did we host groups or visitors at the banding station. It was a quiet year from a people perspective, though bird-wise, things were quite different.

Of the 131 species we banded in 2020,

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28 species we banded in 2020, 28 species were captured in record high numbers. One of the standouts on this list was Pine Siskin. These goldfinch cousins are an "irruptive" species meaning they only come south in large numbers when the food supply across the northern part of the continent is insufficient. Some years we have banded zero, but in 2020 we banded 891. That



was an increase over the old record of 575 by 55%! Several warblers broke records as well, including Bay-breasted Warbler, Northern Parula, Cape May Warbler, Louisiana Warbler, Black-and-white Warbler, Mourning Warbler, Ovenbird, Black-throated Blue Warbler and American Redstart. Two species were captured in record low numbers- Red-winged Blackbird and Canada Warbler. Many factors, especially weather affect our capture rates, so without looking at long-term data, we can't know if these high and low numbers are a trend or an anomaly. We hope to analyze our longterm data set in the coming year.

We continued several research projects with collaborators in 2020. We have been collecting ticks from birds for several years now on behalf of **Dr. Holly Gaff of Old Dominion University** who is studying whether migratory birds are assisting in tick dispersion. We collected fecal samples from Blackpoll Warblers for **Dr. Brian Trevelline of Cornell University**

Left: FBBO fall bander Michael Gamble with a Red-shouldered Hawk. Above: Fall bander Phillip Mercier with a Song Sparrow.

who is studying the microbiome of the warblers' stomachs. Lastly, we deployed radio transmitters on behalf of Luke DeGroote of Powdermill Avian Research Center. These tiny units allow the Motus network of automated antenna to track movements of birds. The project hopes to see if birds that survived window strikes migrate as expected. In tandem with a rehabber, FBBO deploys tags on birds we assume have not hit windows. We deployed 4 tags on three bird species in 2020- American Woodcock, Ovenbird and Wood Thrush.

While our volunteer team was mostly absent from the station for the year, we did have a small group of folks who



volunteered either before Covid hit or late in the year when our protocols allowed. Thanks to Nina Black '20, Daniel Irons, Jonathan Irons, Sammi Ocher, Hanson Robbins, Danielle Simmons, Nathan Simmons and Gabby Solomon.

Returns of Note

Each year we recapture thousands of the birds that we have banded. A bird that is handled in a new season is called a "return." In 2020, FBBO tallied 1,801 returns of 62 species. Band #914-51225 was placed on a female **Pileated Woodpecker** on May 28, 2016. We have recaptured this individual most years since then and on April 21, 2020 when we last captured her, she was 7 years and 11 months old. We also recaptured Belted Kingfisher #1813-66798. Originally banded in August 2017, we have recaptured her each year since.

An unusual set of returns were three Yellow Palm Warblers banded in March of 2020 that we recaptured in the fall. These birds were probably wintering in the area when we banded them and coming back for another winter at the time of their recapture.

The oldest bird we netted in 2020 was male Red-winged Blackbird #1292-95654, banded in March of 2011, he was a minimum of 10 years and 11 months old at the time of his



last recapture on May 16, 2020. We captured eight birds that were older than nine years old, three of the eight were Northern Cardinals.

Left: Spring bander Melissa Simon with a Cooper's Hawk. Top right: Yellow Palm Warbler.

Top Ten Table – 2020 Spring and Fall Migration

Spring 2020

Species	Total	Last Year's Rank
1. Common Yellowthroat	404	1
2. Gray Catbird	374	4
3. American Goldfinch	177	3
4. White-throated Sparrow	157	2
5. Red-winged Blackbird	126	5
6. Northen Cardinal	122	10
7. Song Sparrow	116	-
8. Indigo Bunting	102	9
9. Swamp Sparrow	86	6
10. Brown-headed Cowbird	65	8

Species	Total	Year's Rank
1. White-throated Sparrow	2,284	2
2. Song Sparrow	1,839	1
3. Pine Siskin	896	-
4. American Goldfinch	785	-
5. Purple Finch	614	-
6. Ruby-crowned Kinglet	600	6
7. Common Yellowthroat	572	3
8. Swamp Sparrow	507	4
9. Gray Catbird	500	5
10. Indigo Bunting	432	7



Female Red-winged Blackbird.

Foreign Recaptures in 2020

FBBO captured two birds in 2020 that were banded elsewhere. These "foreign recaps" are among the most exciting events at a banding station. On February 23, 2020 we captured female Red-winged Blackbird #861-12333. It was banded July 15, 2017 at the Queens University Biological Station in Elgin, Ontario, Canada, under the permit of Dr. Frances Bonier. Interestingly, we captured a male blackbird banded by the same group in 2019 suggesting possible migratory connectivity between breeding birds in Ontario and wintering birds here in Maryland. The Ontario site is 370 miles north of FBBO

The second foreign recap of the year was Northern Saw-whet Owl #1104-07686 which was banded on October 28, 2016 in Pennington, NJ, 100 miles north of FBBO. We recaptured it on October 27, 2020. We band Northern Saw-whet Owls as part of **Project Owlnet**, a continental network of banders who use an audio lure at night to attract these otherwise secretive birds into our nets.

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
American Goldfinch April 10, 2017	Killed by a dog, Chestertown, MD May 23, 2020 (1 mile from FBBO)
Mourning Dove September 21, 2019	Shot by hunter, Chestertown, MD on September 1, 2020 (5 miles from FBBO)
Blue Jay September 21, 2010	Died from injuries from a collision December 21, 2020 Wilmington, DE (47 miles northeast of FBBO)
American Robin April 1, 2018	Killed by cat, Oceanside, NY July 19, 2020 (161 miles northeast of FBBO)
Song Sparrow October 18, 2018	Found dead February 19, 2020 in Fort Mill, SC (400 miles southwest of FBBO)
White-throated Sparrow October 16, 2018	Died from hitting a stationary object May 10, 2020 (483 miles northeast of FBBO)

FBBO Milestone!

Big round numbers are always exciting and we eagerly anticipated one for most of the fall. On October 21, 2020 Jim Gruber banded the 300.000th bird banded at Foreman's Branch Bird Observatory. Here the FBBO crew celebrates with the lucky White-throated Sparrow.



Standout Captures

Each year we have a few captures that stand out among the thousands of birds we band. In 2020 we were lucky to add two new species to the station list. On September 16th we were delighted to capture our first Redheaded Woodpecker. This was the last remaining species of woodpecker found in Maryland that we hadn't yet banded. Red-headeds can be found throughout the state, and in fact, we've seen and heard them in the banding area before, but they were always transient. This is a species we have expected to catch for years. The second new species was even more exciting.

In the fall of 2020 reports of "irruptive" species appearing in surprisingly high numbers began spreading throughout the birding community. Pine Siskins, Red-breasted Nutchatches and

Volunteer Spotlight

Danielle Simmons became an FBBO volunteer after a fortuitous Sunday morning outing. She joined a field trip of the Kingstown Horticultural Club to visit the banding station



FBBO volunteer Danielle Simmons with a Sharp-shinned Hawk.



Common Redpolls were delighting birders in the mid-Atlantic. Sightings of **Evening Grosbeaks** from across Maryland got our hopes up that some might find their way to FBBO. On November 1st, we banded three

and was hooked. She came back out every day for the last two weeks of her summer vacation in 2017. Since then, Danielle has learned to identify all regularly occurring bird species, to safely and efficiently remove them from mist nets, and to correctly age and sex the species we capture. She has volunteered nearly every Saturday of our spring and fall banding seasons since then, donating over 600 hours of her time to us! Danielle is currently a 17-year-old junior at the Gunston School and how she balances all of her extracurricular activities while still making the honor roll is beyond us. She is a member of 4-H, a dance team and is a competitive archer. As if that isn't enough, she also hunts, fishes, and works on her family's Christmas tree farm. She had no trouble coming



Evening Grosbeaks, two males and one female. These species were the 176th and 177th to be banded by FBBO since our founding in 1998.

Left: Red-headed Woodpecker. Right: Male Evening Grosbeak.

up with some of her favorite experiences at FBBO. On her very first day we caught a Barred Owl (talk about being in the right place at the right time). She loved the day a Greater Yellowlegs finally ended up in the nets after foraging on the mudflats all morning. And she released an American Woodcock once that did a little dance before it flew off "I had never seen anything like that, it was amazing." Danielle plans to study biology in college, so she also loves volunteering at FBBO since it's great experience for what might be her future career. She's been a big help to FBBO these last few years and we've really enjoyed having her on our team. Thanks Danielle!

Natural Lands Project





Natural Lands Project

It's hard to believe that NLP completed its 6th year in 2020. While it was a challenging year on many fronts, including for NLP related activities, it was also a very successful one for the project. Each season brings new and exciting observations and stories from landowners who are seeing and hearing birds and bugs on the project sites, but nothing is more satisfying then when folks see or hear Northern Bobwhite.

On several NLP properties this year, male quail whistling their empathic "BOB-white" were heard for the first time in years. Based on the accumulated stories from NLP landowners and additional observations from the field it is clear that there are probably more quail on the landscape than we know, which makes our job a little easier, creating a new population is a lot more work than increasing the size of one that already exists. Our first-hand experience on the River and Field Campus has demonstrated that when there is good habitat in place quail will respond, and it is incredibly satisfying that we now get to see this happening on other properties across the Shore. This, of course, was the main reason we started working with area landowners and it is extremely gratifying to know that the long-term efforts on RAFC creating and maintaining habitat for quail and other grassland wildlife is now inspiring other similar minded landowners.

In 2020 we finished up a 3-year grant from the National Fish and Wildlife Foundation. Over the course of the grant we planted 290 acres of diverse native wildflower and grass meadows, and restored 16 acres of wetlands on farms across Talbot and Queen Anne's Counties. We have also been hard at work on several public lands projects. We finished habitat work on the Queen Anne's County Conquest Preserve, where we planted a total of 137 acres of meadows, 38 acres of trees and created 37 acres of



Top left: A Grasshopper Sparrow defending its territory at the Conquest Preserve meadow. Top right: Spotted Beebalm, a showy and nectar-producing wildflower enjoyed by both humans and countless pollinators during the summer months. Above: Pearl Crescent, one of numerous butterfly species documented using NLP meadow projects.

Natural Lands Project

wetlands. On North County Park in Caroline County we planted a 46acre meadow, and at Sassafras Natural Resources Management Area in Kent County we planted 45 acres of trees adjacent to the large 83 acre meadow we planted in 2018.

All of these acres create much needed habitat for declining wildlife, whether it's Northern Bobwhite needing early successional habitat, American Black Ducks using new wetlands or forest interior dwelling species (FIDS), such as Scarlet Tanagers or Marbled Salamanders, that need large forested blocks of habitat. Removing marginal cropland from production and converting it to permanent habitat also contributes to a cleaner Chesapeake Bay.





Working with landowners to find a balance on their properties between productive agriculture and wildlife habitat.

Above: Installing a Barn Owl nest box at Conquest Preserve. Left: Washington College Habitat for Humanity members constructing Barn Owl nest boxes Below: Newly established buffer on a private farm in Talbot County overlooking Harris Creek.

Habitat Installed to Date

- 996 acres of meadows
- 87 acres of wetlands
- 85 acres of trees

Annual Nutrient Reductions

- Nitrogen 24,610 lbs
- Phosphorus 644 lbs
- Sediment 1,136,075 lbs



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

washcoll.edu/learn-by-doing/ces/ natural-lands-project.php

> or contact Dan Small: dsmall2@washcoll.edu.

umni Profil

Eric Waciega '13 describes his internship on the grassland bird project at the River and Field Campus back in summer 2012 as "transformational." The environmental studies major says "I learned much about grasslands management and bird ecology, but the experience taught me much more about being an independent worker, the value of working on a team, how to be organized, and how to be reliable employee. It was this knowledge that made me a competitive candidate when moving from a seasonal worker with the Maryland Park Service to a classified state employee." Eric has now worked for the Maryland Department of Natural Resources as a Park Ranger at the Fair Hill Natural Resources Area for over five years. 2020 was challenging for Maryland State Parks as millions of us sought solace in nature during the Covid Pandemic. At Fair Hill, Eric reported such an uptick in visitation that they had to close off some areas that were at carrying capacity for the first time in the park's history. Eric recommends that students interested in careers in environmental sciences or ecology take advantage of things like the internships offered at the River and Field Campus or programs like Americorps or the Maryland Conservation Corps. Such positions provide practical experience and can

be a great way to get a foot in the door of government agencies, in fact he says the majority of full time employees in the MD Park Service started out with a seasonal contractual position. As for where Eric's career has taken him, he says "The best part of my job is the satisfaction that comes with helping to preserve Maryland's most beautiful public spaces. I am very lucky to be able to work in a place that brings me, and millions of other citizens, peace."

The River and Field Campus is proud to host a Chesapeake Conservation Corps volunteer for the first time. The program, run by the Chesapeake Bay Trust, provides young adults with hands-on environmental and leadership experience by placing them in one-year terms of service with nonprofit organizations and government agencies. The year running August to August also provides the volunteers with extensive training and service-learning. We were thrilled to be matched with Madelaina Ondo '20 who had already served as an intern both at the Foreman's Branch Bird Observatory (FBBO) and the RAFC grasslands as part of the avian research crew. As an environmental science major at Washington College, Maddy used her internships to explore avian research. Maddy began her Corps year as a member of the fall migration bird banding crew at FBBO where working full time as a bander allowed her to rapidly expand upon her foundational skills. In the winter months, Maddy will work on the feasibility of capacity building at RAFC, create lesson plans and educational materials for FBBO and complete a capstone project analyzing over 20 years of FBBO data. In 2021, she will work as a spring migration bander at FBBO before spending her summer as the Field Sparrow crew leader in the grasslands. That brings it all full circle, as that was the first internship that Maddy held with us and where she first discovered her love of birds. We are delighted to be hosting Maddy through August 2022.



Washington College Student Interns



Sarah Collins '22 of Worton, MD joined the summer Field Sparrow crew because she wanted experience with wildlife biology. The sociology major spent eight weeks identifying individual birds and recording their movements to document their territories. Sarah's favorite part of the job was seeing the sunrise while being an important contributor to this long-term study and getting hands-on skills, such as collecting GIS data, plant identification and learning to interpret bird behvaior. Following sparrows all morning can be frustrating, but she recommends the internship to any Washington College student who is passionate about wildlife conservation. Though she had taken some biology classes prior to her internship, the summer helped her realize her interest in subjects like ecology and ornithology.

When **Kyle McKim '22** heard about our summer field research he immediately recognized it as a unique opportunity that he wanted to be a part of. The environmental studies major searched for Field Sparrow nests and mapped locations of individual birds on the study plot. A veteran of WC's Chesapeake Semester, he felt the internship complemented his existing knowledge of Chesapeake Bay ecosystems. His favorite part of the job was learning the intricacies of Field Sparrow behavior and recognizing their individual personalities. He felt the internship was a great opportunity to get experience working in the field and gathering real data. "Maren (Field Ecologist) and Dr. Carr are extremely knowledgeable and always open to teaching, so don't be afraid to ask questions," was his advice to future interns.





Sarah Polo '21 took ornithology (BIO 294) with Dr. Carr and became fascinated with birds. Some of her friends that had been interns with the Field Sparrow research project said how much they enjoyed their summers and she recognized it as a logical next step. Sarah especially appreciated being outside during the pandemic summer when so many other things had been canceled. The environmental studies major and biology minor from Wallingford, PA loved being able to apply ecological knowledge from her classes to the job. "Since I was already familiar with bird behavior, I could quickly understand what to look for in the field," she said. She was glad to take advantage of the River and Field Campus and seeing the sunrise over the Chester River made getting up super early worth it.

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/or call our office (410) 810-8405.

River and Field Campus 2020 Newsletter

In the fall of 2020, CES Chesapeake Semester faculty and CES Associate Kate Livie ran a nature journaling class in partnership with RiverArts. The eight community members and two Washington College students gathered at RAFC over two weekends to learn the basics of sketching in nature, from how to capture the elements of a botanical to drawing and painting quick landscapes. Nature journaling can be fun and relaxing, but it can also improve one's ability to draw, observe and to write. Class participant Jay Falstad described it as "one of the most rewarding classes I've ever taken." He had always wanted to explore nature journaling, noting that they document your experiences in nature, which by itself, makes it more meaningful than an iPhone photo. Some of the great naturalists kept journals, documenting species, experiences and unique spots off the beaten path." The class was a success, and Livie looks forward to creating new ways to bring the arts and humanities to life in RAFC's woods and fields in the future.







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Instagram (@ForemansBranch) for daily updates and photos!

Gifts may be earmarked for the River and Field Campus, or the Bird Observatory. Please contact Jamie Frees Miller at jfrees2@washcoll.edu or 410-810-8405. Thank you.

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