

CENTER FOR ENVIRONMENT & SOCIETY

# CHESTER RIVER FIELD RESEARCH STATION

2014 ANNUAL NEWSLETTER



Located on Chino Farms, about five minutes from Washington College in Chestertown, Maryland, the Chester River Field Research Station is dedicated to:

- Large-scale restoration of diverse wildlife habitats, especially mid-Atlantic coastal grasslands, Delmarva bays and the Chester River (all suffering from the impact of agriculture and pasturing)
- Designing studies and protocols for sustainable management of these habitats, especially as they interact with on-going modern farming
- Conducting basic and applied research on the flora and fauna that colonize these restored habitats, to learn their natural requirements for survival, growth, and reproduction
- Sustaining the Foreman's Branch Bird Observatory, a year-round avian research and banding station
- Environmental education programs for K-12, undergraduate and graduate students, and people interested in the natural sciences.

# Grasslands Research & Education



## Grasslands Summary

2014 marked the 16th year that the **Chester River Field Research Station (CRFRS)** has conducted research on grassland bird ecology on Chino Farms. Research on the 228 acres of restored native warm season grassland continued to revolve around three of the project's founding goals. The first is to create and maintain critical habitat for declining grassland birds during all phases of their life cycle: the breeding season, winter months and stop-over and refueling portions of their migratory journeys. The second is to provide a platform for conducting scientific research to answer questions related to grassland bird ecology in our region. The third is to actively engage students in our research to provide with them valuable experience and on the job training in field biology.

During this year's summer field season we began one exciting new study, continued some on-going projects and started to wrap up another. After a few pilot years we have made Field Sparrows one of our focal species, Northern

Bobwhite restoration has grown to become an even higher priority project (see story on page 5), Dickcissels made themselves scarce and questions about Grasshopper Sparrows are being phased out.

*Field Sparrows are considered a common bird in steep decline with a population decrease of 65% from 1966-2010*

We've long been intrigued by the research questions surrounding **Field Sparrows** and the feasibility of studying them on our site. Field Sparrows are common in our study plot, have relatively easy to find nests and sing prominently from tall perches, making them an agreeable species to work with. Field Sparrows are present year-round on the farm; but some individuals within the population migrate south for the breeding season, while others winter here but move further north to breed. Still other individuals remain the entire year. This flux in the birds present

at any given time allows us to study the sub-groups comprising the local population which in turn might help identify what factors are the strongest in determining survivorship. In 2014, the State

of the Birds Report named Field Sparrows as a "common bird in steep decline" and the North American Breeding Bird

Survey estimates a cumulative drop of over 65 percent from 1966-2010. All this means that our findings might contribute significantly to their conservation.

We have begun a multi-year collaboration with **Dr. Jennie Carr**, Assistant Professor of Biology at Washington College, to study the breeding biology of Field Sparrows in the grasslands. Specifically, we are interested whether the age of parents determines in any way the quality of care they provide their offspring, as measured by provisioning rates





(how often adults bring food to chicks in the nest). Because of our years of banding on the site and the high rate of birds that either remain in or return to the grasslands, we already know the age and sex of many Field Sparrows on the study site. With these data we can investigate whether older birds are different types of parents than younger birds and we can examine such questions with much greater precision, for example: are five year old females better parents than females nesting for the first time?

With the help of our three summer interns we searched three different areas of the grasslands for Field Sparrow nests and mapped males' territories. Once a nest contained chicks, it was videotaped to record the feeding attempts of the male and female on select days. After the day's field work was complete we reviewed the videos and recorded the number of feedings by each parent (identified by their color bands) and the size of prey they fed the nestlings.

In total, we found 90 Field Sparrow nests and successfully recorded 32



of them. Some nests were located so that filming was impossible, other nests failed or were depredated prior to filming and some videos turned out to be unusable due to obstructed views preventing the parents from being identified. Many of these nests were recorded on multiple days resulting in a total of 132 hours of footage to analyze. This is a remarkable number of nests for the first year of the project. During the 2015 field season we hope to double the number of recorded nests now that we've worked out the kinks in the system. We hope this undertaking will provide valuable insights in the breeding ecology of this declining grassland bird.

*Front cover: Osprey nestlings overlooking the Chester River, image by Amanda Spears. Above left: Prairie Coneflower. Below left: the 2014 summer field crew. Top: Field Sparrow feeding chicks in the nest.*

## Interesting Recaptures

Species	Original Data	Recapture Date	Years Old
Field Sparrow	HY-U 8/23/2007	5/21/2014	6 yrs and 11 months
Field Sparrow	SY-U 6/23/2008	5/28/2014	6 yrs and 11 months
Indigo Bunting	SY-M 5/21/2006	5/21/2014	8 yrs and 11 months
Tree Swallow	AHY-M 5/02/2008	5/19/2014	6 yrs and 11 months
Common Yellowthroat	SY-M 5/01/2007	5/8/2014	7 yrs and 11 months

# Grasslands Research & Education

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We have continued to monitor **Dickcissel** populations in the grasslands, but to say they were sparse in 2014 would be an understatement. There was only a single male bird that sang over the course of several days and then disappeared from the site. While there are never very many Dickcissels present in a given year (between one and a dozen pairs), this is the first season since the establishment of the grassland when there have been no breeding pairs. Their populations fluctuate locally due to their nomadic nature. In years past, it was thought that mid-western droughts in the core of their breeding range may have played a role in pushing birds further east. Lower Dickcissel numbers were observed throughout Maryland last year. It will be interesting to see what next year holds in store.

Another on-going effort is monitoring the property's Northern Bobwhite population. Breeding season surveys of calling males were conducted several times over

the summer at permanently established points. As has been the case in the past several years, numbers of calling males continue to increase, particularly in areas in and around the restored grasslands. All habitat management decisions on the site are made with bobwhite in mind. More information about our other bobwhite project can be found on page 5.

This past year marked a transition away from Grasshopper Sparrow research and an intense summer banding program to the aforementioned studies on Field Sparrows and Northern Bobwhite. We have amassed an immense dataset on breeding Grasshopper Sparrow demographics and other interesting behavioral data since 1999 when they quickly colonized the grasslands in large numbers the very first year after restoration. This wealth of data, coupled with a decrease in the numbers of Grasshopper Sparrows on the site, led us to the decision to stop collecting additional data. Still, we have our work cut out for us as we analyze the many years of Grasshopper Sparrow data that we have collected and publish our results in ornithological journals.

Though our efforts were mostly focused on target banding Field Sparrows, we did band 511 new individuals of 27 species and 149 previously banded birds returned. Of the new birds, 181 were adults and 330 were hatch-year birds. Of the total 90 Field Sparrow nests we found, exactly 50% fledged



successfully. We also found 50 Grasshopper Sparrow nests and 62% of those fledged successfully. In addition to finding nests we also recorded territory points of male and females to determine mate and territory fidelity which we will examine across future breeding seasons.

None of this work would be possible without creating and maintaining a grassland mosaic habitat. This is a labor-intensive project. Each year a rotating portion of the site is burned, disc strips are strategically maintained to create smaller blocks of habitat, problematic woody invasives are treated with herbicides and dense tracts of tall grasses are thinned. We are looking forward to another productive field season in 2015 continuing to focus on answering behavioral questions and investigating conservation needs of grassland birds.



*Left: Field Sparrow chicks in nest. Above: American Goldfinch being released after banding.*



## Mid-Atlantic Northern Bobwhite Restocking Project

Together with **Dr. Theron Terhune** from the Tall Timbers Research Station, CES staff and local landowners initiated a Mid-Atlantic restocking project to investigate alternative ways to bolster declining quail populations in the region. 2014 was the first year of a three-year effort to evaluate the effectiveness of releasing genetically wild, parent-imprinted chicks from the southeastern U.S. in Maryland. These chicks were fostered by a formerly wild female quail that adopts and raises a small group of young birds until about six weeks of age. The birds spend their time in an expansive outdoor pen with native vegetation and very little exposure to humans (in an attempt to keep them as wild as possible).



The young birds, having learned foraging skills and honed their survival instincts, were released on Chino Farms and a second property in neighboring Kent County. In total, 120 young quail were released on each property in six groups in different areas of each farm and about half the birds in each release group were fitted with radio collars. CRFRS ecologist Dan Small began radio-tracking the birds immediately. The main project goal is to evaluate the effectiveness of this restocking technique by measuring survivorship, but additional data on movement and habitat use were also collected.

Another growing aspect of our quail-related efforts is outreach. CES staff, together with Tall Timbers, began to advise interested landowners on creating, increasing and maintaining quail habitat on their properties. This is the very first step in an effort to bring quail back to Kent and Queen Anne's counties. One added benefit of providing habitat for quail is that many other grassland obligate birds as well as insects will benefit. Because the creation of new quail habitat is often along agricultural fields and streams, it provides a buffer which can reduce runoff and pollution which ultimately can help clean the waters of the Chester River and the Chesapeake Bay.

*Left: Theron Terhune with a quail just before its release on Chino. Above: Maren Gimpel and Kathy Thornton with second graders at the Kent School.*



## It's For The Birds

Our parent organization, The Center for the Environment & Society (CES), received a **NOAA B-WET** grant to create resources for and present a professional development workshop to Kent and Queen Anne's County teachers interested in incorporating birds into their lessons in the classroom, but also in the school yard and beyond. CRFRS staffer **Maren Gimpel** along with CES STEM (science, technology, engineering and math) Educator and Program Coordinator **Kathy Thornton '13** ran the day-long workshop for educators in October. A broad introduction to birds, including life histories, research techniques and conservation concerns. The grant also funded the assembly of a resource kit any teacher in the program can borrow, including a class' worth of binoculars, field guides, lesson plans and more. After the workshop, Kathy and Maren made several school visits to talk with teachers (and sometimes their students) about bird feeder and nest box placement as well as to brainstorm about lesson plans. For more information please call 410-810-5062.

# Foreman's Branch Bird Observatory

## Foreman's Branch Summary

Foreman's Branch Bird Observatory has now been banding at our current location for 17 years! 2014 was an average year bird-wise, though we are very pleased with our increased outreach efforts. More students and visitors are joining us every year and this aspect of our work is very important to us.

3,914 birds were banded during the spring migration season (March through May), which is slightly above average. During the fall migration (August through November) 10,404 birds were banded, which is well above last year's 9,578 but slightly below our long term average of 10,883.

During the breeding season, station director **Jim Gruber**, with the help of **Bird Clarke** and **Christie Phebus '15**, banded 313 individuals at the banding station and Maren Gimpel banded 217 birds as part of the nest box monitoring project on the farm. Combining all these totals with that



of the grassland summer project yield a total of 15,658 birds banded in 2014 at the research station.

Many birds show strong site fidelity to their breeding and wintering grounds and thus are captured again after they have been banded. We recaptured a total of 4,070 birds that were already banded, 1,546 of these were "returns" meaning they were banded by us in a prior season.

The total captures for 2014 include 134 species, 3 races and 1 intergrade, which is above our long term average of 129 species per year. New species for the station included Common Merganser and Cliff Swallow (more on these in the standout captures section).

We continue to give many banding demonstrations throughout the year. Birds are an easy way to get people excited about nature and

our visitors are always thrilled to see them up close. A partial list of the year's visitors includes: numerous Washington College classes (see page 13), the Philadelphia Garden Club, residents from the nearby Heron Point community, the Pickering



*Clockwise from top: Jim Gruber and Bird Clarke check nets. Maren Gimpel and Bird banding. Age-record Cedar Waxwing. Top and right photos by Wendy Clarke. Opposite: Nathan Sutton holding an Indigo Bunting.*



# Foreman's Branch Bird Observatory

Creek Audubon Center's Junior Naturalists Club and field trips by both the Anne Arundel and Caroline County Bird Clubs. In 2014 we gave 65 banding demonstrations to 333 people!

Our most intensive education effort was the training of two Washington College banding interns, Christie Phebus '15 and Maddie Zins '15 and volunteer Mike Hudson '18, who learned all aspects of running a banding station during the course of a whole semester. Through our collaborator Dr. Bernie Lohr, of UMBC, we also provided a banding refresher to his graduate student Archer Larned before she set out for her field season in Florida.



We broke a few species records in 2014, the species with new high captures (with the previous record in parentheses) were Common Grackle 260 (210), Purple Finch 242 (234), Common Yellowthroat 999 (953) and Song Sparrow 1499 (1386). Catching a species in record high numbers does not necessarily mean that the population is increasing. Variables such as weather, habitat and yearly variation in nesting success or survivorship can all affect capture rates.

To arrange a visit to the Foreman's Branch Bird Observatory, please contact FBBO director Jim Gruber at [jgruber2@washcoll.edu](mailto:jgruber2@washcoll.edu).

## Top Ten Table — 2014 Spring and Fall Migrations

*The 10 most commonly banded species at Foreman's Branch Bird Observatory during migration periods.*

### Spring 2014

Species	Total
Red-winged Blackbird	602 (1)
American Goldfinch	413 (4)
Gray Catbird	372 (2)
Common Yellowthroat	348 (3)
White-throated Sparrow	318 (5)
Common Grackle	133
Brown-headed Cowbird	116 (6)
Song Sparrow	108 (10)
Swamp Sparrow	101 (8)
American Robin	81 (7)

### Fall 2014

Species	Total
Song Sparrow	1,374 (1)
White-throated Sparrow	1,254 (2)
Ruby-crowned Kinglet	728 (4)
Common Yellowthroat	594 (5)
Slate-colored Junco	581 (7 tie)
Indigo Bunting	451 (3)
Gray Catbird	382 (8)
Field Sparrow	322 (7 tie)
Swamp Sparrow	269 (6)
American Goldfinch	261

\*Numbers in parentheses indicate last year's rank within the table

# Foreman's Branch Bird Observatory

## Foreign Recaptures in 2014

A “foreign recap” is a bird that was banded by someone else in another location and subsequently recaptured by us. FBBO netted only two foreign recaps in 2014, but the similarities between the two were pretty amazing. Both were American Goldfinches, caught on back-to-back days and both had originally been banded in the northeast. The first, bird #2260-67696, was banded as an After Second Year (ASY) male on April 16, 2011 in the South **Burlington, Vermont** back yard of Dr. Therese Donovan of University of Vermont, whose station there is informal and used primarily for educational purposes. We recaptured the bird on November 23, 2014. The second bird, #2710-21438, was banded as an ASY male on December 15, 2013 by Gary Lee of **Inlet, New York**. We recapped it on November 24, 2014. Gary also bands in his yard during winter using two nets and two traps. He has never captured this bird again after it was banded.



*This page: Male American Goldfinch. Right top: Common Merganser. Right middle: Cliff Swallow. Bottom right: Barred Owl*

## FBBO Recoveries

*When a bird we've banded is encountered elsewhere, we say that that bird was recovered. FBBO had half a dozen recoveries in 2014 that were of note due to the distance from us that they were encountered.*

Species	Banding Data	Recovery Details
House Wren	April 28, 2013	•Found dead in Windham, Connecticut (265 miles northeast of here) on June 4, 2014.
Song Sparrow	October 14, 2012	•Hit by a car in Raleigh, North Carolina (280 miles southwest of here) on January 6, 2014.
American Goldfinch	November 8, 2012	•Hit a window in Val-des-Monts, Quebec, Canada (450 miles north of here) on April 18, 2014.
White-throated Sparrow	October 29, 2013	•Found dead in Goose Creek, South Carolina (500 miles southwest of here) on January 23, 2014.
White-throated Sparrow	October 29, 2009	•Killed by a cat on July 10, 2014 in Bayswater, New Brunswick, Canada (650 miles northeast of here).
Ruby-throated Hummingbird	August 17, 2014	•Found dead in Brookwood, Alabama (750 miles southwest of here) one month later on September 18, 2014.



# Foreman's Branch Bird Observatory

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## Standout Captures

Hands down the best and least expected capture of the year was a male Common Merganser, a species first for the station. Common Mergansers are the largest of the merganser species and they winter in our area from mid-November through mid-April. We have nets across Foreman's Branch on an old bridge, but they are not designed to catch ducks. On March 9th as we approached these nets, we flushed a group of **Common Mergansers** that were swimming near the bridge and one flew into the net. We figure the net held the bird only because the bird was just starting to take off and hadn't gained much speed. Staff sprinted to the net to retrieve the merganser before it got free.



An adult Cliff swallow banded on April 27th was the second new species for the station in 2014. Although we regularly catch Barn, Tree and Northern rough-winged Swallows and from time to time are lucky enough to net a Bank Swallow, netting a **Cliff Swallow** was an unexpected surprise as they are very rare breeders on the Eastern Shore and uncommon migrants.

Another exciting capture was a Barred Owl. FBBO has been participating in Project OwlNet's Northern Saw-whet Owl banding protocol for several years now. From late October through mid-November we open 10 nets after dark while broadcasting the call of the saw-whet to attract them to the nets. Imagine our surprise checking the nets on October 26th for the tiny (7" tall) saw-whet and seeing a giant bird in the net instead. It was not a station first, one **Barred Owl** was captured during routine fall migration banding ten years ago in August of 2004.

Another sort of standout capture is a new longevity record. The U.S. Bird Banding Laboratory keeps records of the oldest known individuals of all North American species and this year we netted one bird that broke such a record. **Cedar Waxwing** #2281-97602 was banded on August 12, 2008 as an Second Year male (meaning it hatched in 2007). We did not capture this bird again until August 14, 2014 at which point it was 8 years and 2 months old.





# Volunteers & Citizen Science

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## Thank You Brennan!

Not many people can say they started a volunteer position at age five. **Brennan O'Connor** may not have actually been a volunteer back in 2007, but he was a regular visitor to Foreman's Branch Bird Observatory and his familiarity with the station's routine and local birds built a solid foundation for his current volunteer efforts. He is now getting pretty good at extracting birds from nets and traps and it has become nearly impossible to stump him with confusing fall warblers! Now 12, Brennan is a 5th grader at the Kent School in Chestertown. Introduced to the station by his uncle Bill Snyder (one of our original volunteers) he started coming weekly with his mom, Anne O'Connor. Each Sunday he gradually learned the birds and the art of handling them. A new but already avid waterfowl hunter, Brennan also participates in the Lower Kent Christmas Bird Count. Aside from actual birds, his other main interest is also bird-related; he's a huge Baltimore Ravens fan. It's been a pleasure watching Brennan grow and develop his skills... we hope to keep him around for years to come.



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## Christmas Bird Count

On December 21, 2014, 19 people walked 43 miles and drove 343 miles for 100 hours of effort on the 9th annual Chesterville Christmas Bird Count. This season was the 115th year that the National Audubon Society has coordinated the winter bird censuses, which began as an alternative to the Christmas bird shooting parties common in the late 1800's. Christmas Bird Counts (CBCs) are a 15-mile wide circle in which teams try to count every bird seen or heard during a 24-hour period. This year's teams collectively tallied 95 species and a total of 91,523 individuals. High counts for 18 species were recorded and four new species were seen for the first time



on this count, including Redhead, House Wren, **Say's Phoebe** and Evening Grosbeak. The latter would have been the bird of the day, if it weren't for the Say's Phoebe! Finding one in Kent County in December is amazing and, in fact, it's only the 5th time a Say's Phoebe has been recorded in Maryland. Say's Phoebes typically winter in the southwestern U.S. and Mexico, not Maryland!

You never know what you'll find on a CBC. Join us in 2015 when the Chesterville CBC will be held on December 27th. For more information on Christmas Bird Counts both locally and nationally please see [www.audubon.org](http://www.audubon.org) or contact Maren Gimpel at [mgimpel2@washcoll.edu](mailto:mgimpel2@washcoll.edu).

*Top: Brennan O'Connor extracting birds from nets at FBBO. Left: Say's Phoebe in Kent County. Above right: Melissodes dentiventris. Right: color-marked hummingbird.*



## Native Bee Sampling

Wild pollinators provide an essential ecosystem service, but despite their value to the health of native plants, crops and ornamental gardens, we still know surprisingly little about the community structure of native bees. Forest ecosystems in particular have been markedly overlooked as habitat for native bees, although they support diverse communities and can potentially serve as reservoirs to export bees into agricultural fields and gardens. USGS scientist **Sam Droege** and **Grace Savoy-Burke**, a graduate student from the University of Delaware, are conducting a study aimed at examining the communities of native and introduced bees supported by spring woodlands in the Mid-Atlantic region.

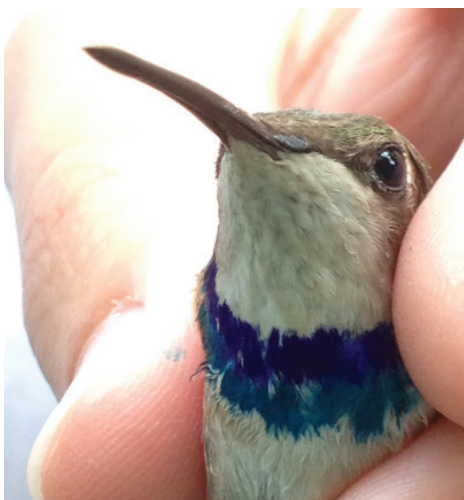


It would be much too time consuming for one graduate student to obtain as many samples as were desired for this project. It was the recruitment of citizen science volunteers that has allowed the study to cover such a big region. Here at Chino Farms, field ecologist Dan Small collected bees from several sites around the property. In other forests across the mid-Atlantic, other people also volunteered to collect bees and the project was able to sample more than 100 forest sites. As a community effort, the project engages citizens to increase our understanding of the habitat needs of bees and improve conservation efforts to maintain pollination services. If you're interested in learning more or getting involved for the upcoming season, contact Grace at [gsburke@udel.edu](mailto:gsburke@udel.edu).

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## Hummingbird Research

Did you know that praying mantises sometimes eat hummingbirds? Do hummingbirds know this and if so, does it alter their behavior? These questions were the basis for a new research project at the field station this past summer. **Dr. Jennie Carr**, Assistant Professor of Biology at Washington College with help from **Amanda Peters '16**, John Toll Science Fellow, designed an experiment to test whether Ruby-throated Hummingbirds perceive praying mantises and bees as potential threats by monitoring changes in their feeder choice and the amount of time that they spent "vigilant" while feeding. Vigilance is a trade-off for animals: they are protecting themselves, but are also spending energy that could be used for feeding or other activities. Two pairs of hummingbird feeders were placed in different habitats at the field station. The visiting hummingbirds were captured, banded and color-marked so they could be uniquely identified. Birds were video-recorded as they fed from one of two feeders, with researchers noting choice of feeder, length of feeding session and posture while feeding (an indicator of vigilance). A model mantis was placed at some feeders and wild bees fed from all feeders. Surprisingly, hummingbirds did not alter their feeding behavior in response to a model mantis. However, the presence of bees tended to increase vigilance and hummingbirds avoided feeders where bees were present. Dr. Carr hopes that further investigation will yield more information regarding how hummingbirds sense, perceive, and respond to risk in their environment, including how such behaviors may interfere with energy conservation.



## Senior Capstone Experience

A graduation requirement of Washington College is that each senior complete a project, thesis or monograph in their major field of study. **Dana Devore '14** worked **Dr. Christian Krahforst**, Mellon Postdoctoral Fellow with the Center for Environment & Society, to examine whether switch grass “filter strips” in the Chester River watershed improved water quality by reducing nutrients in the surrounding landscape. Dana took soil samples from several locations near and within an established switch grass plot on the farm and found that generally the lowest nitrate values were inside the switch grass plot compared to adjacent forested or grassland samples.



Completing her study in 2014, **Katherine Wares '14** worked with **Dr. Robin Van Meter** to study how water quality might affect the distribution of Marbled Salamanders. They surveyed three roadside vernal pools and three agricultural vernal pools on the farm and collected a variety of measurements. Overall, agricultural pools had slightly greater larval growth and abundance and they also had greater chlorophyll concentrations. Roadside pools had higher conductivity, lower dissolved oxygen and greater metal concentrations. However, there was no statistically significant difference in water quality and salamander development between the two pool classifications.

Starting her capstone project in 2014, **Maddie Zins '15** will examine migration patterns of Northern Saw-whet owls using data from FBBO and also from some member stations of Project Owl-net across the state of Maryland. She is working with Dr. Van Meter and Maryland Department of Natural Resources Ecologist **Dr. David Brinker**. Maddie hopes to draw connections between migration volume and lunar cycles.



Also beginning a project in 2014 is **Jeff Phipps '15**. Under the guidance of Assistant Professor of Environmental Science and Studies **Dr. Rebecca Fox**, Jeff will be comparing nitrous oxide ( $N_2O$ ) fluxes from an agricultural field to fluxes from one of the native warm season grass and forb plantings that were installed for wildlife. Nitrous oxide is a potent greenhouse gas and contributes to stratospheric ozone depletion, so his findings about whether vegetation type affects nitrous oxide levels could have a real world application in climate change research.

*Above: Dana Devore testing soil samples. Left: Jeff Phipps monitoring nitrous oxide fluxes. Opposite top: Ecology students with lecturer Nate Nazdrowicz trapping turtles. Opposite bottom: students from the Future Animal Professionals Club visit FBBO with Drs. Carr and Van Meter.*



## Academic Engagement

Opening up all the various habitats and landscapes on Chino Farms to the students and faculty of Washington College is one of our



highest priorities. We are thrilled to be expanding opportunities for study, observation and experience to so many students.

In September, the ten students enrolled in the 16-credit **Chesapeake Semester** spent two nights camping on Chino Farms next to the Chester River. Their trip allowed them to feel a bit wild, while only being minutes from campus. The group cooked over open fire, explored the forests and talked about what life was like in the region during colonial times.

Ecology (BIO 206) lab sections continue to make great use of the farm. Under the direction of lecturers **Dr. Nathan Nazdrowicz** and **Nancy Weibell**, as well as Assistant Professor of Environmental

Science and Biology **Dr. Robin Van Meter**, 64 students each visited three times for lab sessions about arthropod species diversity as it correlated to plant species richness, seed dispersal in meadow versus forested habitats and exploring mark and recapture techniques to monitor freshwater turtles.

Assistant Professor of Biology **Dr. Jennie Carr** brought several different classes to the field station. During the spring semester, the 14

students in her Behavioral Ecology class (BIO 394) visited FBBO to look at birds as examples of how environmental pressures- such as competition, sexual selection and social interactions- have affected behavior.

In the fall semester two sections of Carr's Diversity and Adaption (BIO 100) class totaling 18 students also came to FBBO. The visit demonstrated how birds are great examples of variety and morphology. In addition to seeing

how banding works and learning its scientific uses, students noted differences in bill shape, wing length and plumage variation in a variety of bird species. This class is designed for non-majors and we think it's important that even they get time in the field, outside of the classroom.

Two sections of Introduction to Environmental Studies (ENV 101) visited FBBO in September. Under the direction of **Dr. Robin Van Meter** and Assistant Professor of Environmental Science and Studies **Dr. Rebecca Fox**, 42 students explored the diversity of local birds and learned about the importance of bird banding as a population monitoring tool. In a follow up assignment, students each chose one species and reported on its life history using banding data from the station, as well as other resources.

The 17 students in **Dr. Van Meter's** Wetlands Ecology class (ENV 394) visited vernal pools on the farm several times to survey amphibians, classify plants and soils and measure water quality.



# Washington College Interns

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## Student Internships

Spring FBBO intern **Maddie Zins '15** is an English and environmental studies double major from Ellicot City, MD. During her internship she learned the common bird species in our area and the basics of handling and banding birds. She appreciated that the length of the internship allowed her to have continued exposure to the research as the bird composition changed with the season. Her experience at the banding station led her to choose migratory Northern Saw-whet Owls as the subject of her Senior Capstone Experience (SCE). Coming out to the banding station during owl banding season was a change of pace from her normal weeknights on campus and the exposure to birds of prey has shaped Maddie's ideas about post-graduate employment.



Returning to the field station for another year was environmental science major **Christie Phebus '15** of Trappe, MD. Christie spent both the spring and fall migration seasons at FBBO and broadened her involvement by joining the summer grasslands research crew where she spent most of her time finding Grasshopper Sparrow nests. Christie said that the summer “made me truly respect the endurance, focus, and patience that field research takes, especially in the hot summer sun. It made me really appreciate small things, such as a cool breeze on a muggy day or finding a blackberry bush full of juicy berries for a quick snack.” In addition to the grasslands work, Christie also spent one summer day a week at FBBO working on the breeding bird banding project.

**Jack Hinder '16**, of Darlington, MD is double majoring in environmental studies and anthropology. Jack came to us with a passion for the environment, but wanted to explore how that could translate into real-world experience. As part of the CRFRS summer Field Sparrow crew, Jack's main task was finding nests, but he also contributed to our territory maps of adult Field Sparrows. After adult birds were identified by reading their color bands through a spotting scope, Jack took GPS points of their locations to create the map. “Throughout the summer I learned valuable information regarding field methods and the process of conducting field research. I was fascinated by the bountiful information I acquired about the birds themselves, and Field Sparrows in particular.”



As part of the summer CRFRS grasslands crew, **Cait Kerr '16** also spent her days searching for Field Sparrow nests. She looked for adults carrying nesting material or food and then observed their movements from a distance. Once Cait had a good idea where the birds were going, she looked carefully for a nest. An environmental studies and political science double major from Eldersburg, Maryland, Cait joined us as a John Toll Science Fellow. The Toll Fellows Program at Washington College financially supports academic and research activities of student scholars in the natural sciences.



# Washington College Interns

Another John Toll Science Fellow on our team this year was **Amanda Peters '16**. A junior from Toms River, New Jersey, Amanda is double majoring in biology and environmental science and earning a minor in chemistry. Working with Dr. Jennie Carr on her new study of Ruby-throated Hummingbirds, Amanda's summer was spent setting up nectar feeders, filming them and then watching the films to quantify how often and for how long hummingbirds fed (more details on this project can be found on page 11). "After a great summer of field research, I decided that I want to get my Ph.D, and I really want to continue to do ecological and animal behavioral research. I loved holding the hummingbirds that we were studying and the feeling of their wings taking off from your hands as you release them- there's nothing else quite like that," said Amanda.



**Bird Clark (Gunston Day School) '16** returned to volunteer for a second summer of breeding bird banding at FBBO. When asked for her thoughts on banding, she brought up handling Northern Cardinals. Their large beaks and powerful jaws intimidate many, but Bird was philosophical about the risk of painful bites. "Getting bitten by a cardinal is a good metaphor for life's challenges. There are tasks you dread and make larger in your mind for the longest time, until finally you do it, the bird bites and it hurts and then it's over and you say, 'Oh. Okay. Now that I've done it once I can do it again.' The observatory and the people who work there have taught me a lot, and I treasure every minute there and every lesson learned."

Biology major **Mike Hudson '18** first visited the Foreman's Branch Bird Observatory while touring Washington College as a perspective student. An avid birder and Baltimore native, Mike has been participating in various avian research projects for years. Mike was interested enough in the banding station to spend many of his Sundays with us as a volunteer. "I have always been attracted to bird research and conservation. The opportunity to contribute to these endeavors almost immediately upon my arrival at college was too special to pass up, even if it meant riding my bike in the cold at 4:50 a.m." How's that for dedication?



The Center for Environment & Society is dedicated to providing excellent, challenging, and inspiring experiential internship opportunities. For more information on our internships or to apply please visit our website: [www.washcoll.edu/centers/ces](http://www.washcoll.edu/centers/ces) or call our office (410) 810-7161.



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# CRFRS 2014 Newsletter



We love sharing our knowledge and the field station with visitors! This photo shows CRFRS Field Ecologist Dan Small and two members of the Youth Division of the Maryland Ornithological Society “Birds and Bird Habitats” workshop that visited the restored grasslands in June. Participants were both educators and students and they enjoyed a morning learning about bird banding and appreciating grassland bird species. Over the course of the year hundreds of people visited the farm to hear about our work, including visitors from like-minded organizations and landowners seeking advice on habitat management, quail restoration and more. We also took the show on the road to present programs about our research to multiple bird and nature clubs.

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 the Chester River Field Research Station at Chino Farms.

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](mailto:jemley2@washcoll.edu) or 410-810-7161. Thank you.



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