

TWENTY YEARS YOUNG

By WENDY MITMAN CLARKE M'16

In March, Foreman's Branch Bird Observatory at the College's River and Field Campus marked its 20th year of banding and recording data on hundreds of thousands of songbirds and other migratory fliers.

By all accounts, its work has only just begun.



BAND OF BIRDERS: From left, Dan Small, Andrew Wells '18, Andrea Freemann '18, Prof. Jennie Carr, Virginia Parker '19, and Maren Gimpel.

*“Taken all together,
the flight paths of birds
bind the planet together
like 100 billion filaments,
tree to tree and
continent to continent.
There was never a time
when the world seemed
large to them.”*

—JONATHAN FRANZEN “WHY BIRDS MATTER,”
NATIONAL GEOGRAPHIC, JANUARY 2018



ABOVE: Jim Gruber, director of the Foreman's Branch Bird Observatory, holds the common yellowthroat that represents a not-so-common milestone. Last September, the young male became the 250,000th bird to be banded at Washington College's bird station.

IN THE PHOTO MARKING THE MOMENTOUS event, Jim Gruber, director and master bander at Foreman's Branch Bird Observatory, is smiling, his eyes pleased, if a little tired. His blue T-shirt is darkened here and there with sweat. Gripped firmly in the fingers of his right hand, a young male common yellowthroat sits alertly, one gimlet eye bright on the photographer, his namesake feature glowing gold beneath a cap and back of velvety dun-colored feathers.

Like so many songbirds, the yellowthroat seems impossibly fragile, yet he has thousands of miles ahead as he migrates south, perhaps to Central America or the Caribbean, before returning this way again in spring. His significance to Foreman's Branch—the reason for the photo on September 17, 2017—is that he's the 250,000th bird banded at the College's banding station, which this spring celebrated its 20th anniversary. His significance to the larger world is his very presence; like so many songbirds, the common yellowthroat has seen a dramatic population decline—about 38 percent from 1966 to 2014—largely due to loss of habitat.

Were it not for stations like Foreman's Branch, where Gruber, field ecologist Maren Gimpel, and a small and ever-changing army of volunteers, staffers, and student interns have captured, banded, and documented two decades of data on hundreds of thousands of birds, we would only be able to speculate about such things. Instead, the data collected at Foreman's Branch and a handful of major, long-lived stations, such as the 60-year-old Allegheny Front Banding Station in West Virginia, and the 50-year-old banding program at Manomet in Massachusetts, help tell a story that affects birds worldwide.

And while 20 years seems like a lot for the only station of its kind on the Eastern Shore, Foreman's Branch is just now coming into its own as a source of data for examining long-term trends that help refine and clarify that story, particularly as migratory birds face the effects of climate change.

“Scientists suspect that the timing of migration and bird movement patterns will likely respond dramatically to a warming climate,” says Bruce Peterjohn, chief of the U.S. Bird Banding Laboratory for the U.S. Geological Survey at the Patuxent Wildlife

Research Center. “Bird banding programs such as Foreman's Branch will play a pivotal role in documenting changes that will be occurring within the mid-Atlantic region and provide a context for comparison with changes reported from other regions in North America.”

In addition, Peterjohn notes, the College's institutional support through the Center for Environment & Society, which oversees the River and Field Campus (RAFC) where the observatory is located, and Foreman's Branch's role in educating fledgling student-scientists in hands-on ornithological field skills sets it apart. Since 2008, the station has provided paid internships for 26 Washington College students, who are closely taught the quick and delicate skills needed to band birds as varied as hummingbirds and owls, as well as how to identify species, age, and sex, and measure wing length, weight, and fat content (a key factor in migration).

“These types of opportunities have become increasingly rare as many institutions tend to emphasize laboratory and genetic studies over field research,” Peterjohn says. “With a substantial long-term banding data set



ABOVE: A newly banded hermit thrush is released from the bird station at Foreman's Branch Bird Observatory.

OPPOSITE: FBBO intern Kayla Lauer '19 (second from left) introduces some visitors from Gunston School—Vicki Morgan, Nancy Raginski, and Sarah Groendyk—to her feathered friends.

combined with the educational opportunities associated with Washington College, Foreman's Branch Bird Observatory remains a largely untapped resource for studying the migration ecology of bird populations through the mid-Atlantic region. I suspect that the banding program at the observatory will make increasingly significant contributions to our understanding of bird movement patterns for many years into the future."

Gruber, who independently founded the station in an old pheasant cote on what is now the River and Field Campus, says 20 years is significant, although it places the station at "baseline, basically."

"One of the things [scientists] are looking at right now is populations seem to be in steep decline. And the longer you're in a location doing the same thing in the same habitats at the same times, and roughly the same amount of time and effort put into it, you're going to be able to see that trend, or not, and prove or not prove that," Gruber says. "Twenty years as far as a banding set is long for most banding stations, but there are stations out there who have 60 or 70 years. I'd like to see it, more than anything, continue this long dataset so we can find out are things really changing that dramatically."

Some species that frequent Foreman's Branch, such as the wood thrush, have seen declines as much as 60 percent over the past 50 years, according to Pete Marra, director of the Smithsonian Migratory Bird Center.

"Long-term data from single sites, like Foreman's Branch, are essential for understanding various aspects of bird ecology," Marra says. "Banding stations are especially unique in that they collect data on the actual birds, from their molt patterns to physical condition, to determining where they originated the previous breeding season, by looking at the stable hydrogen isotopes in their feathers."

On average Foreman's Branch bands about 15,000 birds of about 130 species every year. As of January 2018, it holds North American age records for 10 species, including orchard oriole (11 years), American goldfinch (10 years, 11 months), hermit thrush (10 years, 10 months), and grasshopper sparrow (9 years, 1 month).

During last year's fall migration banding season, which annually stretches from steamy August 1 through chilly November 30, staff, interns, and volunteers banded 9,147 birds of 123 species. The top species was white-throated sparrow at 1,463, along with 497 ruby-crowned kinglets, 288 indigo buntings, and 242 hermit thrushes. Highlights included banding the station's first-ever great blue heron, its third barred

owl, and capturing a song sparrow that had been banded by the Tadoussac Bird Observatory in Quebec, 700 miles northeast of Foreman's Branch.

There are a couple of key factors that make Foreman's Branch so consistently successful at what it does. One is habitat. The 4,700-acre River and Field Campus offers a broad diversity of habitat including restored native grasslands, agricultural fields, fallow fields, brush and thicket, early successional shrub and scrub, second-growth woodlands, mature wood lots, and the open water and mudflats of Foreman's Branch itself. In 2006, Audubon granted the station Important Bird Area (IBA) status, based in part on the unusual habitat and bird populations there.

This diverse habitat—as well as a geographic location that is broader than a typical migratory chokepoint such as Cape May, New Jersey—brings in an array of species. For instance, in May 2017, the station recovered a least sandpiper that the station had first banded in May 2011 and then captured again in 2012. Tiny shorebirds that migrate between the Arctic and South America—well over 6,000 miles one way—this individual consistently has used the mudflats of Foreman's Branch as a stopover for food and rest.

"Protecting these habitats is just as important as protecting breeding and wintering grounds," Gimpel says.

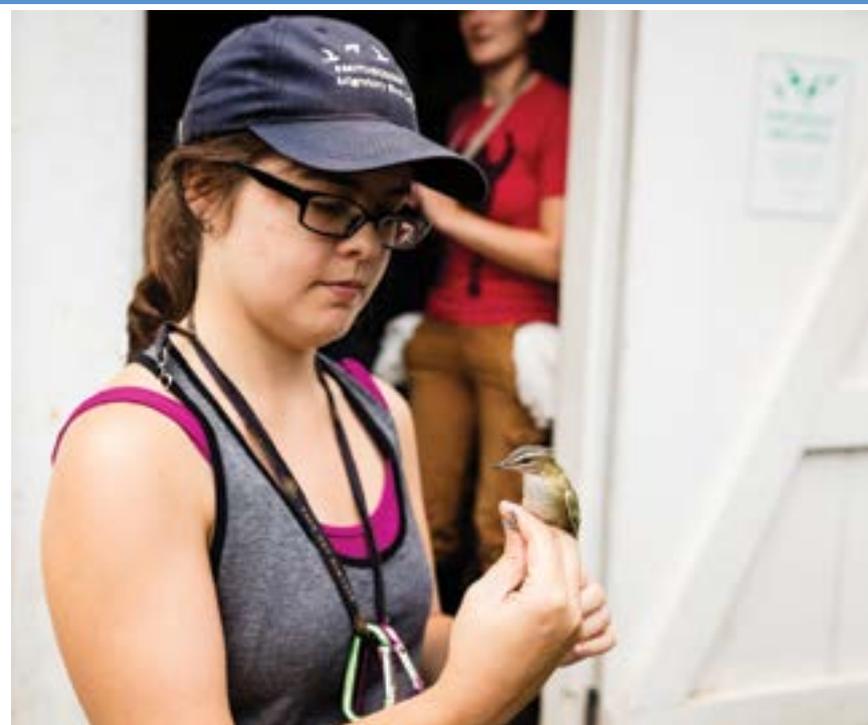
Consistency of habitat is also key, as it helps remove variables in the banding equation and thus the data. Although they can't keep trees from getting taller, much of the habitat at Foreman's Branch and RAFC is routinely maintained, such as the restored native grasslands, which go through regular prescribed burns.

Another vital factor is consistent effort and staffing. At the height of banding season, Gruber, Gimpel, interns, and volunteers put in steady eight-hour days, seven days a week, and if owls are moving, they will also band well into the night. During one memorable day in October 2012, they captured, weighed, measured, banded, and logged 71 ruby-crowned kinglets, 86 song sparrows, and 153 white-throated sparrows. (There's a reason that Gruber's T-shirt in that photo looks a little sweaty and his eyes a little tired.)

"I would emphasize that the reason there are so few stations that have been around for so long is that it's a lot of work on many levels. You need the land, the people, the training, and to not get sick of it and keep going. So the fact that this station has made it 20 years is a testament to that guy," Gimpel says, pointing at Gruber. "Some people think monitoring is boring, but if no one is watching, no one



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FOREMAN'S BRANCH
(JAN. 2018)
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(11 years)
- American goldfinch
(10 years, 11 months)
- hermit thrush
(10 years, 10 months)
- grasshopper sparrow
(9 years, 1 month)



**HIGHLIGHTS FROM THE 2017
FALL MIGRATION BANDING SEASON**

Staff, interns, and volunteers banded

**9,147 BIRDS
of 123 SPECIES**

Top species:

- 1,463 white-throated sparrows
- 497 ruby-crowned kinglets
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- Banded the station's first-ever great blue heron
- Banded its third barred owl
- Captured a song sparrow that had been banded by the Tadoussac Bird Observatory in Quebec, 700 miles northeast of Foreman's Branch



ABOVE: Jim Gruber and Maren Gimpel review collection data.

is going to know what is happening. It's really important to just be documenting what's happening."

Along with consistency and longevity of effort, money is always a challenge. Nets cost money, and so do qualified staff.

"You can't run this operation with just new people. You can't train up a volunteer lickety-split. I don't think people really understand how highly technical and trained a skill it is. People say, 'Oh just get a student to do it.' No, that's not how it works. A student can grow into that, but it's just a really technical, highly skilled thing," Gimpel says. "So money and staffing are the biggest challenges."

The station supports Washington College faculty's research, such as the multi-year study into field sparrows, whose populations have declined 65 percent from 1966 to 2010, according to the North American Bird Breeding Survey. Assistant Professor of Biology Jennie Carr has been collaborating with Gimpel and Dan Small, leader of the CES's Natural Lands Project, to document nesting sites and specific sparrow behaviors.

"Because the staff at Foreman's Branch has been banding birds for so long out there, we have a really well-characterized population of field sparrows where we know exactly how old they are," Carr says. "Very few other studies can do that; they know if they're two years old, and that's it. But we know we have some birds that are seven, eight, nine, and so on... when you're interested in age, and you need this longitudinal study, you need to know how they did when they were four versus five, five versus six."

Other scientists also take advantage of the built-in data and environment of the station, such as a PhD student at the University of Delaware who is studying whether artificial light interferes with migration. Using the station as one of the study's two "dark" locations, with little ambient light, the researchers have installed two lights on poles, which the station staff turn off and on at a prescribed schedule while running the banding operation as usual.

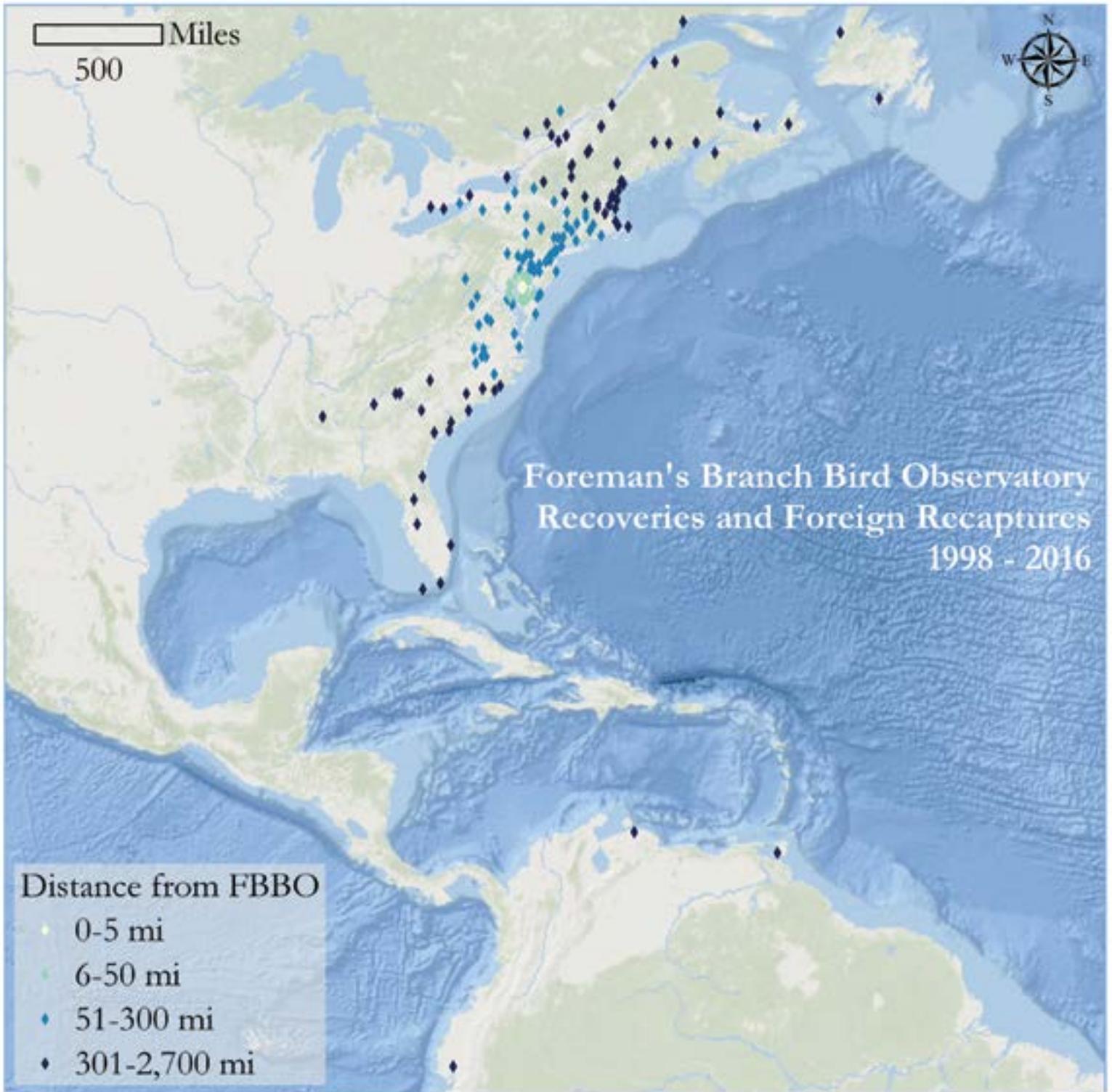
"Did the lights attract more birds, did we capture more birds, did we capture fewer, did the lights make a difference either way?" Gimpel says. "Everyone thinks lights interfere with migration, but he will have this data to show it, and we will have been major collaborators on this potentially cutting-edge, important research."

Perhaps the station's most important role, behind banding data, is educating people about birds. In 2017, the banding station gave 81 demonstrations to 566 people. Just over 250 of them were Washington College students, while the rest came from throughout the community, including neighboring high school students and birding groups, as well as students from Dickinson College and members of the Eastern Shore Land Conservancy.

"Birds have the ability to light a spark with people," Gimpel says. "So if we can work it into environmental education, the bigger picture, that's great. Orchard oriole numbers are down; well, why are they down? Where do they go? What's happening?"

It's important work, not only for the quantifiable data, but to instill in people a sense of wonder about these remarkable winged travelers, to consider how human decisions are affecting their ability to survive, and to understand the very real connection that the woods, fields, and mud flats of Foreman's Branch have to their challenging lives.

"The radical otherness of birds is integral to their beauty and their value," Jonathan Franzen writes in *National Geographic's* January 2018 Year of the Bird issue. "They are always among us but never of us. They're the other world-dominating animals that evolution has produced, and their indifference to us ought to serve as a chastening reminder that we're not the measure of all things."



ABOVE: This map depicts the expanse of territory traveled by birds that were subsequently recovered or recaptured between 1998 and 2016.