

Bird Banding at Dolly Sods

THE ALLEGHENY FRONT MIGRATION OBSERVATORY
HAS BEEN BANDING BIRDS IN THE ALLEGHENY MOUNTAINS
OF WEST VIRGINIA SINCE 1958

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The view from the Allegheny Front Migration Observatory at Dolly Sods

PHOTO BY SHELBY CALHOUN

Every morning from late August until early October, volunteers at Dolly Sods move about the breezy ridge tending mist nets and collecting data on birds that are banded and released. The weather can be harsh: rain and even snow might require keeping the nets closed. On clear days, however, this 3870-foot height has a breath-taking view that extends over a deep valley to seven ridges in the distance. It is a magical place to see the important process of bird banding, and visitors are welcome.

The Allegheny Front Migration Observatory (AFMO) started banding birds in 1958. It is a superb location, directly in the migratory flight path of many birds leaving northern forests to winter in distant southern climes, and home to an array of other local birds who don't travel as far. In a typical season, 3000 birds will be banded in less than two months. Over the years, the AFMO has banded more than 300,000 birds.



The largest number of birds banded at AFMO are warblers such as the Black-throated Blue (above) and the Cape May (right). PHOTOS BY STEVE SHALUTA

Dolly Sods, a high plateau of the Allegheny Mountains in eastern West Virginia, was at one time covered in ancient hemlocks and spruces. Early settlers, such as the Dahle family (whose surname sounded like Dolly), took advantage of existing open areas (called “sods”) and cleared additional space for fields. When rail lines were built nearby, logging intensified, and between the 1880s and the 1920s, much of the forest was removed, leading to exposure of the thick humus that had been beneath the trees. This remaining vegetation was vulnerable to wildfire, which further denuded the land.

In the 1940s, the U.S. Army chose Dolly Sods for an artillery training range because the place was so relatively uninhabited. It is worth noting that though efforts have been made to clear the munitions, campers and hikers are still warned to stay on the trails and to report any suspicious items they see.





Above: LeJay Graffious, Dawn Fox, and Jackie Burns (left to right) at the seasonal hut on the ridge.

PHOTO BY MIKE CALHOUN

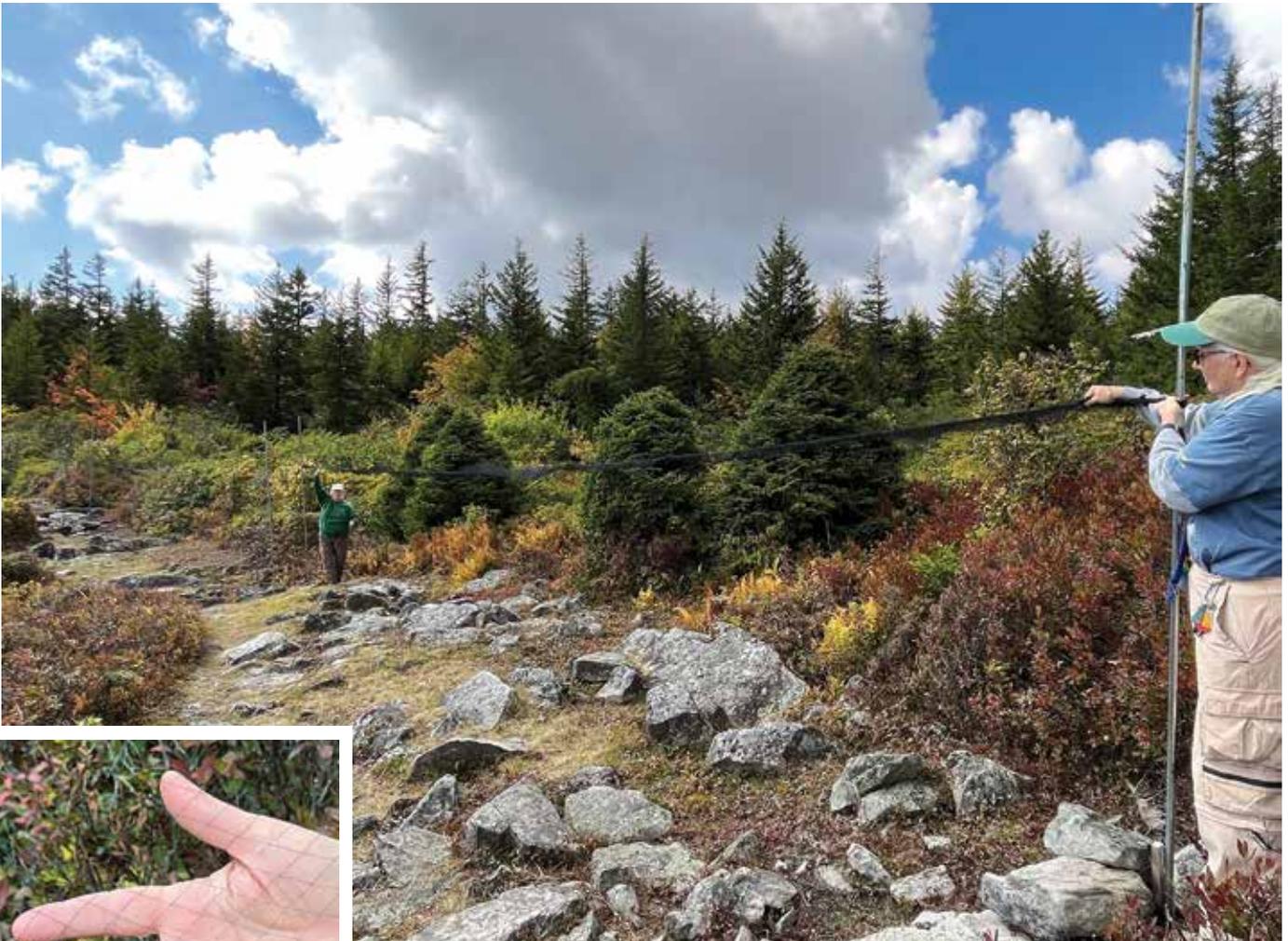
Left: The AFMO bands more Blackpoll Warblers than all other banding stations combined.

PHOTO BY STEVE SHALUTA



This rugged landscape of exposed rocks, native shrubs, and “flagged” spruce trees (whose branches grow mostly on the east side away from the prevailing west wind) has been compared to a moonscape, but it is rich with flora and fauna that survived the fires or emerged afterward. In 1975, it was designated by Congress as a wilderness and scenic area. It is part of the Monongahela National Forest managed by the U. S. Forest Service.

Early efforts to observe birds here focused on hawks; these birders soon noticed that there were also thrushes and warblers in large numbers. George A. Hall, a professor of chemistry and wildlife, with a special interest in birds, started banding birds in this part of Dolly Sods. As editor of the *Wilson Journal of Ornithology* and author of *West Virginia Birds: Distribution & Ecology* (1983), he lent specialist scientific knowledge to the project. The AFMO itself traces its beginning to Ralph Bell, who obtained permits for an official bird banding station in 1958. Nets were initially set up in what is now the Red Creek Campground. George Hall recounted stories of cattle whose horns became entangled in the nets.



Above: Dawn Fox (left) and Jackie Burns (right) furl the mist nets at the end of banding.
Inset: The mist nets are nearly invisible. PHOTOS BY MARY REISINGER

Banding operations were transferred to the present site of the Allegheny Front Migration Observatory (AFMO) when Bell noticed birds streaming past a short distance away. He hiked over to the ridge line and decided to set up nets there; this turned out to be such a successful location that it remains in use today, staffed solely by volunteers. Due to insurance, all volunteers are members of the Brooks Bird Club, which oversees the station.

Livestock were removed from the property when it became a wilderness and scenic area, so they were not blundering into the nets, but they had served to keep trees and shrubs low enough for the nets to be effective. Without the grazing animals, the vegetation grew higher than the net poles and

greatly reduced the number of birds that flew into the nets. Tom Fox, a volunteer, worked with the U.S. Forest service to clear cut the area around the nets, and banding numbers rose again.

Originally, people staffing the station used a cave just below the ridge line in inclement weather. Steps were built down to it, and a handrail was installed to make it safer. This cave is still used on occasion.

In 1981, George Hall asked LeJay Graffious if he knew anyone who could build a hut to place near the center of the net array, and LeJay said he could do it. He designed and constructed a three-sided hut that could be transported in pieces in the back of a pickup truck and assembled on site. When he noticed that the wind blew a lot of dust into the hut, he added a floor and work surfaces. This same hut continues to be used today. LeJay appreciates



help when it is time to disassemble it and take it to the storage building provided by the staff of Monongahela National Forest. Kevin Dodge, a naturalist in Garrett County, now brings some of his students from Garrett College to assist.

At the AFMO, the focus is on the fall migration. In 2023, bird banding started on August 26 and ended on October 12. Staying open into October, when possible, adds to sightings of birds such as sparrows and kinglets that migrate later. The hut is set up the first day, brush is cleared as necessary, and the site is in operation until the hut is taken down on the final day. The site is staffed every day, weather permitting. Some volunteers commute to the station when they can; others live at the nearby Red Creek Campground for part or all of the season. In 2024, the anticipated opening date is August 25. The closing date will likely be around the end of September or early in October. One place to look for up-to-date information is at the Facebook group “Mountain State Birders—WV.”

Banding is done from before dawn until noon, the hours when birds are most active. The mist nets are opened early; at noon, the nets are completely furled so as not to be a hazard to birds when no one is minding the site. Birds that enter the nets are gently extricated by volunteers into individual paper bags with a twist at the top to keep them inside. At the hut, the birds are weighed within the bag on a scale set to subtract the weight of the bag. The net tenders write the species on the bag. As soon as the bird is removed from the bag, the species is confirmed and a lightweight, durable band with a unique 9-digit number is attached to one leg. Then a series of other details are noted. The bander measures the wing and the tail, assessing feathers while measuring, and attempts to determine the gender, age, and condition of each bird.

This work requires training, experience, and knowledge. People interested in becoming banders must be qualified

Each bird is fitted with a numbered band.

PHOTOS BY MIKE CALHOUN

to apply for a permit. The person banding has to have learned how to hold the bird correctly and how to interpret the evidence of feathers and bones. Bone formation (ossification) helps identify the age of the bird. Newly hatched birds do not yet have the double layer of skull with connecting struts that they will later develop. If only a single layer is present, it is transparent enough to reveal blood vessels that identify it as a young bird. Another developmental indicator is pneumatization—air forming within the bones to make them strong and light. Similarly, feathers provide evidence of age and gender by their molt pattern, size, and color.

Naturally, an essential skill is to accurately identify the bird species being banded. For instance, banders at Dolly Sods see two subspecies of juncos—some are more local and others migrate much further. The difference lies in their size and the color of their beaks and legs. Some birds have different colored plumage in winter and summer. The volunteers at AFMO by necessity acquire extensive familiarity with the many types of birds they encounter.

Most of these birds are passerines—birds that perch—a category that includes more than half of all birds. Most passerines have three toes pointing forward and one pointing backward to enable them to grasp branches from two sides. The most numerous birds banded at AFMO are warblers: Black-throated Blue, Black-throated Green, Blackburnian, Blackpoll, Magnolia, and Cape May. Though Blackpoll Warblers are fourth in this list, the AFMO bands a larger number of these birds than all other banding stations combined.

Other birds that are commonly banded include thrushes, sparrows, kinglets, juncos, and chickadees, but as one volunteer puts it, they see everything from hummingbirds to hawks. Even eagles are sighted. Blue jays migrate over Dolly Sods in large numbers, but they avoid nets and are wary of people, so they are seldom banded. Some of the birds in the area are local and don't migrate very far. Others



Measurements and other data are collected.

PHOTOS BY MIKE CALHOUN



Volunteers (l to r): co-director LeJay Graffious, Katie Garst, Taylor Burdette, and co-director Bob Dean displaying the site's 2023 statistics on the final day of the bird banding season in October.

PHOTO BY JOSÉ MARTIN

nest in boreal forests of Alaska, Canada, and the northern United States. The rule of thumb, according to LeJay, is that the birds that migrate from the north go the longest distance for their winter abode, many heading to Central or South America or the Caribbean.

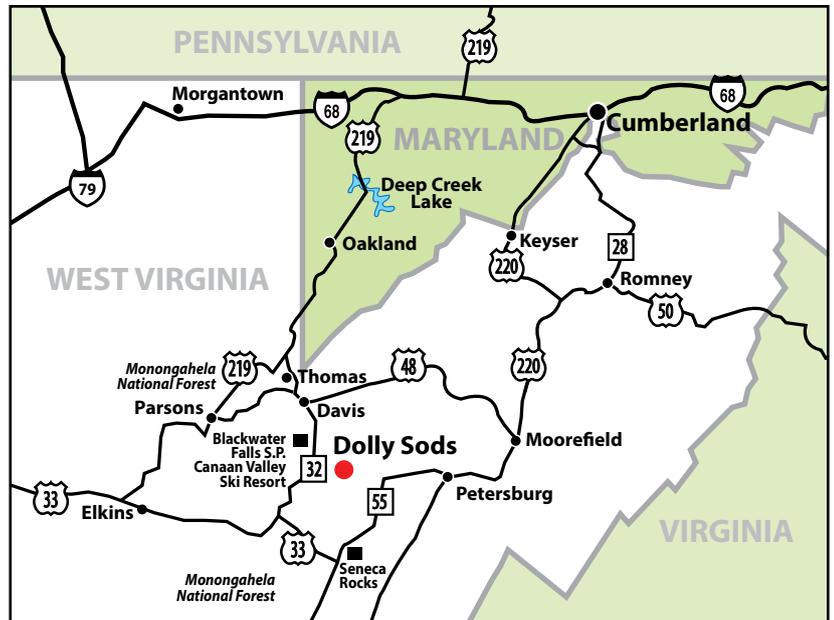
Much is learned about bird populations from the AFMO and other banding stations. Scott Weidensaul, in *Living on the Wind: Across the Hemisphere with Migratory Birds*, quotes Jack Connor, who says in *Season at the Point* that almost everything known about birds has been “discovered or proven through banding.” In fact, Connor believes “the numbered leg band has been as important...in the science of avian migration as the telescope has been in planetary astronomy.”

For instance, we know that the weight of most birds is less than it was a few decades ago, and bird populations have generally dropped by 40% in the past 50 years. Scientists are studying possible causes such as pesticides and loss of habitat. It is interesting that Blackpoll Warblers banded at Dolly Sods are seldom banded at stations closer to the coast even though they are preparing for a 4.5 day journey over the ocean to their winter habitat in South America or the Caribbean. Perhaps this is partly due to the diet provided in

the rich habitat of Dolly Sods. These birds need to accumulate significant fat reserves for the long flight ahead.

The data collected all goes to the Bird Banding Lab at the U.S. Geological Survey in Patuxent, Maryland. If you find a banded bird, you should contact www.reportband.gov (to find this if you don't remember the URL, Google “report band”) and report whatever information you have. You will be sent a certificate of appreciation, and you will learn who banded the bird and where it was done.

Birders come to this activity in different ways. The current co-director of the AFMO, LeJay Graffious, has had a life-long interest in nature, including birds, but he traces his involvement with bird banding to an early morning bird walk he took in May 1976. LeJay was in graduate school and had the month of May off. He and his wife decided to spend a weekend at the West Virginia Wildflower Pilgrimage at Blackwater Falls, where the bird walk was offered. The leader of the bird walk was Ralph Bell, who described bird banding. Shortly afterward, Elizabeth Zimmerman, a friend in Morgantown, introduced LeJay to the Dolly Sods bird banding location. Despite working as a school principal, LeJay eventually qualified as a bird bander and spent increasing amounts of time at the AFMO.



The Allegheny Front Migration Observatory is on Forest Road 75 in Dolly Sods, opposite the Red Creek Campground.

PHOTO BY MIKE CALHOUN

Another volunteer, Tom Fox, was a naturalist who took school children on field trips in parks. One girl told him that he should join the Brooks Bird Club because he acted just like the people there. He did join the club, and that resulted in his involvement at Dolly Sods. His wife Dawn is a nurse; she became interested because of Tom. LeJay, Tom, and Dawn—and others—have been volunteering at AFMO for many years. They're eager to share their expertise with newcomers. A good person to contact about the Brooks Bird Club or the banding station is AFMO co-director Bob Dean, at bobdean52@gmail.com.

Watching the process of bird banding is fascinating. It is awe-inspiring to have a close-up glimpse of a wild creature. If you go to the AFMO, check the weather report ahead of time. Be prepared for rough roads within the wilderness area. The walk from the road to the banding station is easy. It's a fairly level and not too lengthy path.

New methods for collecting information about birds are emerging. Tiny cellular, Motus, and GPS transmitters can be attached to the birds. Some of these transmitters are recharged by solar cells. Advances in miniaturization mean that these devices can even be made small enough to be attached to butterflies. The great benefit of transmitters is

that the data is available as soon as the birds pass the towers. This means that individual birds provide a great deal of information. The Motus website (<https://motus.org/>) provides more information about this form of wildlife tracking, including the locations of towers.

Despite these newer technologies, conventional banding remains essential. The goal of LeJay Graffious and others is to ensure that it continues long into the future, so make a visit. Maybe you'll be hooked!

Note: To find the Allegheny Front Migration Observatory, follow directions to the Red Creek Campground in Dolly Sods, on Forest Road 75. Opposite the sign for Blackbird Knob Trail, look for a path. Follow it to the ridge where the banding station is located.

