APPALACHIAN MOUNTAINS JOINT VENTURE

Dear AMJV Partners,

I am very happy to celebrate another successful year for the Appalachian Mountains Joint Venture (AMJV). Our partnership's bird conservation work in 2016 expanded our on-the-ground efforts throughout the Appalachians. Some major highlights from this past year included:

- **The first full year of implementation of our Cerulean Warbler Appalachian Forestland Enhancement Project, with 47 landowner contracts enrolling 1,900 acres and obligating almost $1.1 million towards Cerulean Warbler conservation.**
- **Partners working with Natural Resources Conservation Service (NRCS) to revise and enhance Golden-winged Warbler conservation efforts through Working Lands for Wildlife (WLFW). AMJV staff and partners also worked with Partners for Conservation and NRCS to host a regional landowner forum to develop a 5-year shared vision for future WLFW efforts in the Appalachians.**
- **Establishment of a Northeast Region AMJV Working Group to better coordinate and promote our bird conservation efforts in this area of the Joint Venture.**
- **And the continued efforts of all our partners in protecting and enhancing habitat for AMJV priority bird species, many of those highlighted in this Year in Review.**

This has been a year of both implementation and growth for the AMJV, where we saw planning and development efforts of the previous year progress into on the ground conservation. We continue to welcome new partners to our collective bird conservation efforts, and this speaks strongly to the value partners see in the work of the AMJV. I'm excited for what we will accomplish in 2017.

I thank everyone for their continued support and dedication to the AMJV partnership!

Todd Fearer
Coordinator

Appalachian Mountains Joint Venture

APPALACHIAN MOUNTAINS JOINT VENTURE

Regional

A Truly Extraordinary Effort of the AMJV Partnership – Cerulean Warbler Appalachian Forestland Enhancement Project

By Todd Fearer (AMJV), Amanda Duran (AMJV/American Bird Conservancy), Kyle Aldinger (AMJV/National Wild Turkey Federation), and Kylie Schmidt (AMJV/Green Forests Work)

Cerulean Warbler; U.S. Forest Service.

2016 was the first full year of implementing the AMJV's *Cerulean Warbler Appalachian Forestland Enhancement Project*. This 5-year project, funded through the NRCS Regional Conservation Partnership Program (RCPP), dedicates $8 million of federal funds to address the conservation needs of the Cerulean Warbler on private lands in a coordinated fashion across the core of their range. Over twenty AMJV partners are assisting with this project, contributing an additional $8 million in direct, in-kind, and logistical support, resulting in a truly extraordinary effort by our partnership.

This project, along with initiatives like Working Lands for Wildlife and other regional and local efforts, are the initial steps in a long term investment by the AMJV partnership in Appalachian forests to promote sustainable and science-based forest management practices, contribute to forest health and resiliency, and create habitat for multiple bird and wildlife species.

Pennsylvania: Improving Habitat for Cerulean Warblers on more than 1300 Acres

Exciting progress has been made toward our overall goal of improving habitat for Cerulean Warblers on more than 7,000 acres in the state and reversing the decline of this imperiled species. Our team in Pennsylvania conducted our first outreach mailing to forest landowners to help identify those interested in participating in the program. About 1,000 mailings were sent to landowners with more than 50 acres of property within selected counties in Cerulean Warbler focal areas. As a result of this mailing, we received 63 responses from interested landowners, of which 14 went on to submit applications to participate in the program. Additional outreach efforts included presentations at local woodland owner groups and articles in publications aimed at hunters and outdoor enthusiasts.

We developed contracts with private landowners through NRCS. Through these contracts, we are providing landowners with technical and financial assistance to conduct active forest management to improve forest health and benefit Cerulean Warblers and other wildlife species. This year, 31 contracts were awarded in Pennsylvania, providing landowners with more than $950,000 in financial assistance and improving habitat for Cerulean Warblers on more than 1300 acres in 14 counties. Foresters are already offering technical assistance to landowners implementing their contracts. Most projects to improve Cerulean Warbler habitat

Timber harvest creates prime Cerulean Warbler habitat on private lands in Pennsylvania; Kevin Yoder.

include thinning the forest by removing low-quality trees. This year's contracts include more than 1,200 acres of forest thinnings, with our foresters marking trees to indicate which should be removed and which should be saved to best address forest health concerns and improve Cerulean Warbler habitat. Moving forward, our team is checking in frequently with landowners to help ensure projects stay on schedule, and process payments for completed practices. We are currently accepting applications to be considered for funding in FY17, and so far, more than 90 have been received.

Finally, the Harrisburg Capitol Region Water's Board of Directors unanimously approved an agreement to conserve its 8,200 acre DeHart Property in Dauphin County though a conservation easement with the Pennsylvania Chapter of The Nature Conservancy (TNC) through their Working Woodlands program. This Working Woodlands easement ties in with TNC-PA's resiliency management strategies, and also ties into a larger partnership in the Central Kittatinny Working Landscape, where TNC is piloting a landscape-level collaboration that works to advance resiliency and Cerulean Warbler management approaches. The acres of this easement are considered as TNC's contribution to the Cerulean Warbler Appalachian Forestland Enhancement Project, greatly surpassing their 2,000 acre goal.

This flyer was one of many products developed to promote the Cerulean Warbler Forestland Enhancement project to private landowners in West Virginia.

West Virginia: Changing Attitudes on Dynamic Forests in Cerulean Warbler Global Hotspot

The first wave of private landowners embarked on a mission to enhance forest habitat for Cerulean Warblers in the state, with 438 acres contracted in 2016. The AMJV, National Wild Turkey Federation, NRCS, US Forest Service, WV Division of Forestry, WV Division of Natural Resources (WVDNR) and West Virginia University worked together to plan and implement 52 individual outreach efforts that reached an estimated 461,244 people. Two articles in NWTF's *Turkey Country* magazine, with a readership of 362,000, were some of the farthest-reaching. As a result, we welcomed 189 new landowners to the "I'm-interested-and-want-to-know-more" team by tackling over 1,600 correspondences and 48 technical assistance site visits.

On public land, the WVDNR devoted 91-acres on Sleepy Creek Wildlife Management Area in Berkeley County as a Cerulean Warbler habitat demonstration area. Wildlife managers Larry Hines and Josh Vance, forester Josh Simons, and partner avian biologist Steven Wilson selected the site to maximize benefit to Cerulean Warblers (territorial males found nearby) and public access (visible from a highly used County Road). Forest management on the site may begin during fall 2017 with tours to follow.

APPALACHIAN MOUNTAINS JOINT VENTURE

Project partners learned valuable lessons in 2016, particularly how to assist a larger pool of private landowners. We revised the application screening process by relaxing the requirement to have an existing forest stewardship plan and refined the project focal area using results from the WVDNR's recently-completed breeding bird atlas. Although 2017 is young, we are already well ahead of where we were at this point in 2016! To learn more about the Cerulean Warbler project in West Virginia, contact project coordinator Kyle Aldinger (304-284-7595, kaldinger@nwtf.net).

Attendees of a National Hunting and Fishing Day event in West Virginia enjoy bird and tree identification games at the Cerulean Warbler Appalachian Forestland Enhancement Project booth; Kyle Aldinger.

Kentucky and Ohio: Reforesting Mined Land is Addressing Significant Threats Facing Ceruleans

Given the overlap of the Appalachian coal basin and Cerulean Warbler focal areas, mined land reforestation offers an excellent opportunity to address two of the three most significant threats facing Cerulean Warblers in its breeding range: the loss of mature deciduous forest and forest fragmentation. To convert these grass- and shrub-lands, which often consist of exotic and invasive plant species, back into native forests, a modified version of the Appalachian Regional Reforestation Initiative's Forestry Reclamation Approach is used. This approach involves unwanted vegetation removal, soil decompaction, and native tree and shrub planting.

Ohio project site for mined land reforestation is currently being leased for hay production; Kylie Schmidt

The original intent of the surface mine aspect of this project was to reforest mine land acres in each of the five states involved. However, after further consideration by NRCS offices and partners in West Virginia, Pennsylvania, and Maryland, a decision was made to focus the entire 1,000-acre reforestation goal in Kentucky and Ohio to achieve a greater landscape-level impact on the ground. In 2016, three private landowners in Kentucky and three in Ohio enrolled in the program, with one project from each state determined as suitable. The Kentucky project (30 acres) is located in Knox county, near Barbourville, at a site close to lands enrolled in the NRCS's Wetlands Reserve Program. Reforesting this site will build on existing conservation efforts to create a more resilient ecosystem. Invasives were mechanically removed by a large bulldozer with a brushing blade. The site received an herbicide application in the fall of 2016 and plantings in the spring of 2017. The Ohio project (120 acres) is located in Harrison county, near Cadiz, on a site that is currently leased for hay production. Because of the lack of woody plants, the project site only needs an herbicide application to control the unwanted vegetation, which reduces the overall project cost.

Moving forward, landowner outreach efforts in Kentucky will focus around the Pine Mountain area, where the Cerulean Warbler and Golden-winged Warbler's Focal Areas overlap. Reforestation in this area will capitalize on existing efforts by the Kentucky Natural Land's Trust to create better connectivity between protected lands. Potential new project sites in Ohio have already been identified.

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Forest Management in Appalachians Benefits Migratory Birds

By Natural Resources Conservation Service

In 2016, the Natural Resources Conservation Service (NRCS) released a report detailing how wildlife can benefit through the application of sustainable forestry practices. The report, titled Sustainably Managing Forests Creates Golden-Winged Warbler Breeding Habitat, highlights proven conservation strategies for the bird based on sound forestry management.

The report cites research in which scientists monitored golden-winged warbler response to targeted habitat management. They found that managed forestlands can provide enough habitat to support three pairs of golden-winged warblers per 50 acres. In addition, these lands provide habitat for more than 120 other bird species, a third of which are suffering from population declines.

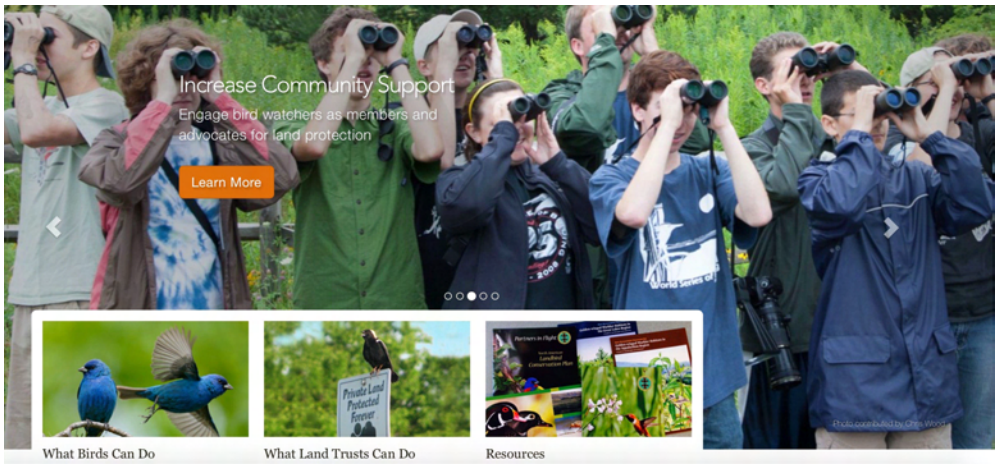
Golden-winged Warbler; Natural Resources Conservation Service

Land Trust Initiative Aims to Protect Birds on Private Lands

By Cornell Lab of Ornithology

A new partnership between Cornell Lab of Ornithology and the Land Trust Alliance seeks to help protect birds on private lands. The goal of the new Land Trust Bird Conservation Initiative and associated website (birdtrust.org) is to improve conservation for declining species by pairing the bird conservation community with land trusts, which protect more than 24 million acres of private land nationwide.

A recent survey conducted by the Cornell Lab found that birds and bird habitat are a priority for two-thirds of land trusts. Many land trusts are already contributing to bird conservation in a variety of ways, such as putting land under easement and managing their lands to enhance habitat for birds. At the same time, a high percentage of land trusts expressed a desire for new resources, tools, and technical support to amplify their bird conservation efforts.



The home page for the new Land Trust Bird Conservation Initiative; Cornell Lab of Ornithology

The Resources Directory of birdtrust.org is chock-full of technical information and funding resources that were gleaned from conservation partners across the United States, and are intended to aid land trusts in strategic bird conservation. The Cornell Lab is also working to connect land trusts that share oversight of one or more bird species of concern in a region. The Lab holds workshops and provides technical support to help these collaborative groups strengthen bird conservation in their region.

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Energy Working Group Makes Strides on Engaging Industry and Promoting Bird Conservation and Energy Issues

By Matthew Cimitile, AMJV, and Laura Kearns, Ohio Department of Natural Resources

One of the webinars from the AMJV energy webinar series focused on the boom in pipeline development from hydraulic fracturing, leading to challenges and opportunities for avian conservation; Ohio Department of Natural Resources.

The AMJV and partners are working to assess energy-related risks and determine the potential impact of land-use changes on bird populations from expanded and new energy extraction. Energy extraction in the Appalachians is a fact, and the AMJV Energy Working Group was established to be proactive in working with energy industry to minimize the impacts to birds and the landscape.

This year the Working Group began to develop an effective, all stakeholder value-added approach and engagement strategy to work with industry. Key aspects of the strategy so far include focusing on fragmentation of forest cores, encouraging management of shrubby habitat in regards to pipelines and pad sites, and promoting best practices such as restoring decommissioned hydraulic fracturing pad sites and consolidating infrastructure.

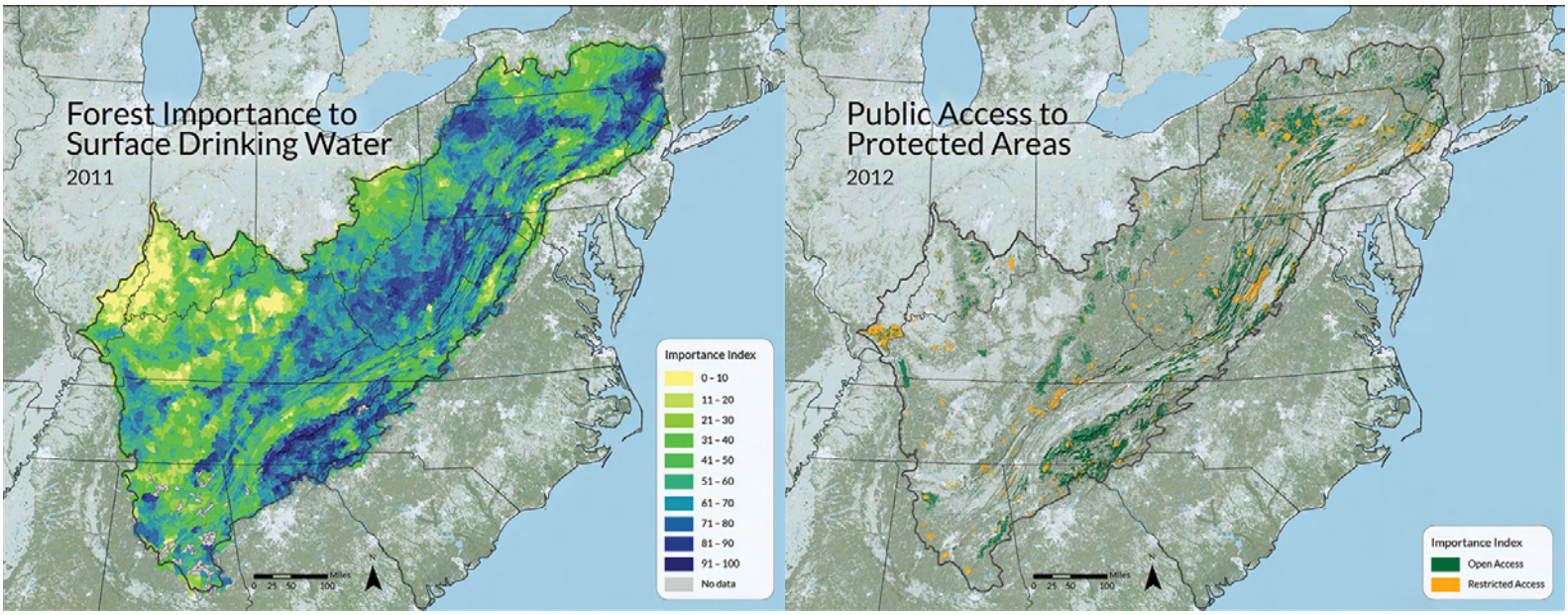
The group is also hosting an energy webinar series for the AMJV community that promotes current research, activities and success stories pertaining to bird conservation and energy development in order to implement solutions to mitigate impacts throughout the region. This past year saw webinars focused on pipeline expansions, impacts on Marcellus Shale Gas development on forest birds, and tools to address energy development in the Appalachians. The AMJV Energy Working Group will continue to host future webinars throughout 2017 as well as finalize its engagement strategy to begin to constructively work with industry in the near future.

Ecosystem Benefits and Risks Research Aides Appalachian Resource Management

By Matthew Cimitile, Appalachian LCC

The Appalachian Landscape Conservation Cooperative (LCC) and the U.S. Forest Service released products from the first phase of an ongoing study assessing benefits of and risks to the region's "ecosystem services" -- natural assets valued by people such as clean drinking water, outdoor recreation, forest products, and biological conservation. A wealth of regional data, maps, and other knowledge on ecosystem services and risks to their sustainability are now available on the "Ecosystem Benefits and Risks" website within the Appalachian LCC Web Portal. The first phase of the research provides a synthesis of existing knowledge, where users can:

- Explore the many natural benefits – such as drinking water and recreation - provided by the Appalachian region's diverse ecosystems;
- Understand how these natural benefits may be placed at risk by rapid societal and environmental change; and
- Access maps, decision support tools, assessments and scientific literature to incorporate ecosystem benefits and risks information into planning and management decisions.



Mapped products derived from the Ecosystem Benefits and Risks research, focused on water (left) and landscape values/sense of place (right); Appalachian LCC/U.S. Forest Service.

Building upon this research, the LCC and Forest Service are developing new assessments to better understand how Appalachian ecosystem services have changed – and are likely to change – as a result of urbanization, energy development and other major drivers of environmental change. Future products will include a toolkit to assist managers and partners in strengthening the resilience of landscapes and their capacity to provide important natural benefits. Access the "Ecosystem Benefits and Risks" website at: http://applcc.org/ecosystem-risks-benefits

Collaborative Shrike Banding Project Continues in Virginia and West Virginia

By Sergio Harding, Virginia Department of Game and Inland Fisheries, and Rich Bailey, West Virginia Division of Natural Resources

In 2016 the Virginia Department of Game and Inland Fisheries continued leading a Loggerhead Shrike (LOSH) trapping and banding project in western Virginia in collaboration with the West Virginia Division of Natural Resources (WVDNR). The work is implemented as part of a broader multi-state endeavor through the LOSH Working Group and this year banding activities included the training of state agency personnel from Kentucky and North Carolina for the expansion of the project to their states.

Shrike banding; Rich Bailey.

Twenty-one shrikes were color-banded in western Virginia in 2016, and feather samples collected for genetic and other analyses. Shrikes were banded during the breeding season between April and June, and on winter territories in both February and December. Banding took place at 11 unique pasture sites in the Shenandoah Valley and in southwest Virginia. To our surprise, a female breeder banded on territory in Smyth County, VA in May was re-sighted 550 miles away in August in Ontario, Canada. This is not the first documented case of post-breeding long-distance dispersal by LOSH. However, the shrike's northward journey was completely unexpected. The event was another data

point in support of the emerging connection between the Virginia/West Virginia and Ontario populations. Over the past five years, three banded Ontario shrikes have been re-sighted in Virginia. In addition, preliminary analyses of data collected through this project have demonstrated a previously unknown genetic link between the Ontario, Virginia and West Virginia populations.

In West Virginia, researchers monitored over 20 historical/recently-active loggerhead shrike sites in Grant, Greenbrier, Hardy, Jefferson, Monroe, Pendleton and Pocahontas counties. During the breeding season, shrikes were observed at nine of these sites, all in the Greenbrier Valley. Breeding pairs were located at eight of these sites, and follow-up visits found fledged young at three. Staff also banded eight shrikes during the 2016 breeding season, using color bands to enable field identification of individuals. And just as in Virginia, feather samples were obtained that will answer questions pertaining to subspecies status and fitness (fitness is being determined through blood collection rather than feather collection). Overall, the total number of shrikes banded in West Virginia since spring 2014 to 27.

Other valuable partners who contributed to the Virginia banding project in 2016 include the Smithsonian Conservation Biology Institute, the Virginia Department of Conservation and Recreation's Natural Heritage Program and the U.S. Forest Service.

Prime shrike habitat in Virginia; Sergio Harding.

APPALACHIAN MOUNTAINS JOINT VENTURE

International

North America United by its Birds to Secure Vital Habitats

By North American Bird Conservation Initiative

The North American Bird Conservation Initiative (NABCI) published The State of North America's Birds 2016, the first comprehensive report assessing the conservation status of all bird species that occur in Canada, the continental United States, and Mexico. This report shows that more than one third of all North American bird species need urgent conservation action and calls for a renewed, continent-wide commitment to saving our shared birds and their habitats.

Despite the many challenges faced by North American birds, this report also shows that conservation works. Waterfowl and other waterbirds are doing well, thanks in part to effective investment in conservation of wetlands through programs like the Duck Stamp, which allows hunters and other wildlife enthusiasts to contribute funding to purchase and protect wetland habitat, and the North American Waterfowl Management Plan, a tri-country initiative to coordinate waterfowl protection efforts. One example of urgent conservation action taking place is in temperate forests, where the *Appalachian Mountains Joint Venture* is planning for a mix of forest types from New York to Alabama. By integrating bird conservation objectives into forest management plans, it will diversify habitats across the eastern U.S.

The report evaluates the conservation status of all native North American bird species across all major habitats —nine key ecosystems. It is based on the first-ever conservation vulnerability assessment for all 1,154 native bird species that occur in Canada, the continental U.S., and Mexico, and reflects a collaboration between experts from all three countries. The overall conservation status of each species takes into account its population trend and size, extent of breeding and nonbreeding ranges, and severity of threats.

Partners in Flight 2016 Landbird Conservation Plan Released

By Partners in Flight

A new analysis of the population status and trends of all landbirds in the continental U.S. and Canada documents widespread declines among 450 bird species—a troubling indicator of the health of these species and their ecosystems. Nearly 20% of U.S. and Canadian landbird species are on a path towards endangerment and extinction in the absence of conservation action, according to the Partners in Flight (PIF) 2016 Landbird Conservation Plan Revision. Fortunately, regional partnerships like Migratory Bird Joint Ventures can help implement cooperative strategies found within the Landbird Conservation Plan Revision to restore habitats and reverse bird population declines at the continental scale over the next decade and beyond.

The Plan presents new science using year-round eBird data to assign stewardship responsibility, identifying regions of greatest importance to landbirds during winter and migration. The Plan also recommends specific actions to guide landbird conservation over the next 10 years to reverse long-term population declines, prevent future species listings, and keep common birds from becoming highly threatened or at risk.

The second half of the Plan highlight Migratory Bird Joint Ventures, their conservation challenges and successes, and the continental Watch List species they have responsibility for in their regions. The Plan provides regional partnerships with important information on Watch List species, such as population trends, loss, and extinction risk, to aid in prioritizing and carrying out conservation actions across the full life-cycle of birds.

New Jersey

Creating Young Forest, Working with Utilities, and Conducting Surveys on Managed Lands in the Garden State

By Sharon Petzinger, New Jersey Division of Fish and Wildlife

Habitat management at Sparta Mountain Wildlife Management Area; Sharon Petzinger.

The New Jersey Division of Fish and Wildlife, in collaboration with New Jersey Audubon, created a draft revision to an existing forest stewardship plan that will create patches of young forest habitat within a forested matrix to provide essential habitat for golden-winged warbler and other species without the detrimental edge effects, invasive plants, and consistent maintenance that occur on high-tension powerline rights-of-way. The 10-year plan is developed for the Sparta Mountain Wildlife Management Area in New Jersey. It is still in draft form but is nearing its final set of revisions after incorporating many of the comments submitted during open comment period.

NJ Audubon and the NJ Division of Fish and Wildlife also collaborated with Public Service Electric and Gas Company (PSE&G), a utility company that maintains the nearby high-tension powerline rights-of-way where golden-winged warblers are currently breeding. Last winter, PSE&G implemented the first year of the eight-year plan to maintain portions of the powerline as suitable breeding habitat for golden-winged warblers while remaining in compliance with state and federal regulations. As a result of this modified management, the number of golden-winged warblers breeding on this section of powerline did not change. In fact, one golden-winged warbler male who banded in the powerline in 2014 was recaptured this past spring on the same powerline just a few hundred meters from the original capture site. This generous contribution by PSE&G will ensure that golden-winged warblers will not be extirpated from NJ by maintaining existing breeding habitat until suitable breeding habitat created nearby is established.

Finally, we conducted surveys for all bird species, including golden-winged warblers, to evaluate the response of species to even-aged forest management on public and private lands. We compared results to natural shrub wetlands and, when possible, surveys conducted prior to management. The average species richness detected in natural shrub wetlands and sites with even-aged management was between 18 and 20 species, which was significantly higher than the mean species richness of 12 detected in forested areas prior to the

implementation of even-aged management. The mean number of bird species of concern was slightly greater in areas with even-aged management (8) than natural shrub wetlands (6), but significantly greater than in forested areas prior to implementation of even-aged management (4). These results align with literature that suggest that even-aged management conducted within a forested matrix, when not exceeding 20% of the forest, increases the diversity of birds in the area.

New York

Young Forest Initiative on State Wildlife Management Areas

By Sandy Van Vranken, New York State Department of Environmental Conservation

The NYSDEC (DEC) launched a Young Forest Initiative (YFI) in 2015. Goals of the YFI include establishing a minimum of 10 percent of the total forested acreage as young forests on select Wildlife Management Areas (WMAs) over the next 10 years and managing for young forest in perpetuity.

This Initiative was the catalyst for starting in-depth planning process for wildlife habitat management projects. Habitat management plans (HMPs) are being developed for all WMAs and other DEC properties, including select Multiple Use and Unique Areas. These plans guide land use management for a 10-year time period, after which time DEC will assess progress made and modify plans as needed. Public meetings are also being held for every completed HMP. Of the 90 WMAs in this program, 25 fall within the AMJV boundary. In 2016:

- 9 HMPs were completed within the AMJV boundary (16 total statewide)
- 5 meetings were held to share the plans with the public (10 total)
- 1 on-the-ground project was completed (2 total)

To support the success of this Initiative, DEC has begun outreach to increase awareness of the importance of young forest. Efforts include informational YFI signs for kiosks at each WMA in the program and a Conservationist for Kids issue, which was dedicated to young forests and distributed to all 4th graders in New York State. Drafts were started for large banners to use at public meetings and for signs that will be placed on WMAs near management projects so visitors understand the changes are to benefit wildlife.

Seed tree cut in Southwestern New York; New York State Department of Environmental Conservation.

Over the next 10 years, biologists will evaluate wildlife response to management practices. Methods are outlined in a 10-year monitoring plan. Visit http://www.dec.ny.gov/outdoor/104218.html for more information and to view program documents.

APPALACHIAN MOUNTAINS JOINT VENTURE

North Carolina

Golden-winged Warbler Habitat Management on Pisgah Game Lands

By Chris Kelly, North Carolina Wildlife Resources Commission

Creating Golden-winged habitat using Best Management Practices on Pisgah Game Lands; Chris

North Carolina Wildlife Resources Commission created and improved golden-winged warbler nesting habitat on the Beck tract of the Pisgah Game Lands, located in Roaring Creek Valley, Avery County. Over the course of two days, staff from the Wildlife Diversity Program and the Land and Water Access Division's Burnsville and Marion Wildlife Depots worked to create 15 acres of shrub/sapling habitat preferred by the golden-winged warbler. Treatments applied Best Management Practices to expand the existing openings, retain 5 to 15 trees per acre and 30-70% shrub cover, and feather the hard forest edge. Creating habitat for golden-wings also creates habitat for "less picky" species such as chestnut-sided warbler, American woodcock, ruffed grouse, and Appalachian cottontail. Staff will begin measuring the golden-wing's response come May.

Roaring Creek Valley is home to approximately a dozen breeding pairs of golden-winged warblers. More pairs reside throughout the greater Roan Highlands. Thus this area has been designated by the Golden-winged Warbler Working Group as a focal area for conservation. The Commission's Beck tract is just one parcel in this broader landscape where work is being done to improve nesting habitat for this imperiled bird. Southern Appalachian Highlands Conservancy and Audubon North Carolina are improving their adjacent Elk Hollow tract and nearby Grassy Ridge tract. The Nature Conservancy and U.S. Forest Service are doing likewise on neighboring tracts: setting back field edges, thinning woods, and protecting good nest cover.

Construction of Towers will Provide Valuable Roost Sites for Chimney Swifts

By Chris Kelly, North Carolina Wildlife Resources Commission

Over this past summer, North Carolina Wildlife Resources Commission's Wildlife Diversity staff had an opportunity to collaborate with both partners and citizens to help chimney swifts in western North Carolina. In August, the Town of Black Mountain erected two chimney swift towers-- one next to the Black Mountain Library and the other adjacent to Lake Tomahawk. These towers are intended to replace a nearby chimney that swifts used as a fall roost site but was removed during a building renovation.

One of two newly constructed chimney swift towers; Chris Kelly.

Chimney swift tower; Chris Kelly.

Though only one pair of swifts may nest in any given hollow tree, chimney, or other suitable structures, during the fall migration dozens to thousands of swifts will spend the night together in a roost structure, depending on its size. The nightly gathering of swifts at their fall roosts is a popular wildlife viewing opportunity that already inspires an annual swift watching event among town residents. Developing structures that promote wildlife viewing opportunities is a priority in the 2015 North Carolina Wildlife Action Plan. Coincidentally, the chimney swift is Audubon North Carolina's 2016 "bird of the year." Thus, this was an excellent opportunity to help the swifts as well as engage the public.

Partners in the bird conservation community were in a good position to act quickly to address the loss of the former roost. Wildlife Diversity staff, Elisha Mitchell Audubon Society, and U.S. Fish and Wildlife Service provided technical guidance on site selection. Locating the structures not far from the original roost and in public places was a conscious decision to maximize bird use and educational opportunities for the citizens of Black Mountain. Staff with the Town of Black Mountain's Public Works department constructed and installed the 12-foot towers, which are designed to accommodate a nesting pair or a small number of roosting swifts in the fall. Local artist Libba Tracy painted swift silhouettes on the structures and bird and art enthusiasts celebrated the installation on opening night of the "For the Birds" art exhibit at the Black Mountain Center for the Arts. *Partners and members of the public now await a swift discovery of the towers!*

Land Acquisitions Add Important Habitat for a Diversity of Birds in North Carolina

By Chris Kelly, North Carolina Wildlife Resources Commission

Over the last year, North Carolina Wildlife Resources Commission focused on adding to its game land system, with the acquisition of nine parcels totaling 1810 acres. These parcels add important habitat for vesper sparrow, yellow-bellied sapsucker, and hermit thrush on Pond Mountain Game Land; Kentucky warbler, Swainson's warbler, Acadian flycatcher, and wood thrush on Thurmond Chatham Game Land; Kentucky warbler, Swainson's warbler, yellow-throated warbler, prairie warbler, Acadian flycatcher, wood thrush, and yellow-billed cuckoo on Green River Game Land; and Acadian flycatcher, brown creeper, common raven, veery, worm-eating warbler, and ruffed grouse on Cold Mountain Game Land. Finally, 581 acres of these new acquisitions form the basis of a new NCWRC game land situated adjacent to Great Smoky Mountains National Park and encompassing patches of spruce-fir forest.

APPALACHIAN MOUNTAINS JOINT VENTURE

Successful Year Implementing Working Lands for Wildlife on Private Lands

By Curtis Smalling, Audubon North Carolina

This was another very busy and successful year for implementing the NRCS Working Lands for Wildlife program in North Carolina between Audubon NC and our volunteers and partners. A major aspect of this work was providing technical assistance to about 80 landowners as well as beginning to implement management for Golden-winged Warblers on their lands. Our recognition program featured several of these landowners this year on our social media outlets including the following blog posts: http://nc.audubon.org/news/audubon-signs-designate-specialized-habitat-0

Landowners Don and Holly Addis, recognized by Audubon for implementing management for Golden-winged Warblers on their property; Aimee Tomcho.

In May and June, Golden-winged Warbler surveys were conducted on private lands to locate new territories in southwest NC, as well as ongoing regional survey efforts associated with the Golden-winged Warbler Atlas Project. Based on findings from this survey and those conducted the year before, a new round of direct outreach was conducted that included local media in advance of targeted mailings to landowners in close proximity to new locations.

Finally, three additional projects were funded by Audubon for GWWA management. One of which established a long term cooperative management agreement with the NC State Parks system at Elk Knob State Park for GWWA management. This year we conducted maintenance work there on about 70 acres of shrubland for GWWA.

Providing Training and Enhancing Capacity for Geolocator Deployment

By Curtis Smalling, Audubon North Carolina

Golden-winged Warbler equipped with a geolocator; Aimee Tomcho.

In January of 2016, Audubon NC Aimee Tomcho visited Nicaragua at one of our partner sites to help the North Carolina Museum of Natural Sciences deploy geolocators at Finca Esperanza Verde. The primary goal was to deploy 21 new geolocators on male Golden-winged Warblers in order to learn more about their migratory patterns. Researchers are specifically interested in where the Golden-winged Warblers that winter in Nicaragua go to breed during the spring in the United States.

The team was led by the NC Museum of Natural Science Research Curator for Ornithology, John Gerwin. Lizzie and John Diener, of the Tennessee River Gorge Trust, joined the group seeking hands-on experience to learn about geolocator technology, which they may apply to upcoming research on the Louisiana Waterthrush.

We also hosted Audubon staff from Vermont who were interested in training on geolocator deployment and our approach to habitat work. We spent time setting up mist nets to recapture Golden-winged Warblers that were equipped with geolocators in 2015.

Ohio

New Breeding Bird Atlas Provides Unprecedented Snapshot of Bird Life in Ohio

By Matthew Shumar, Ohio Bird Conservation Initiative

Twenty-five years after the publication of the state's first breeding bird atlas, *The Second Atlas of Breeding Birds in Ohio* was released in April 2016. Using 6-years of data (2006-2011), the Atlas documents the current distribution and changes in status for more than two hundred bird species in Ohio, including five new breeding species and five species not known to have bred in over fifty years. Point counts were also conducted, enabling precise estimates of the actual statewide populations for many of the breeding species detected. In all, more than one million bird records were compiled by birders and professional researchers for the second Atlas, providing an unprecedented snapshot of the bird life of Ohio.

Managing Forests for Birds Video Series

By Matthew Shumar, Ohio Bird Conservation Initiative

A new video series by the Ohio Bird Conservation Initiative highlights the importance of proper forest management in improving a diversity of habitat for birds and other wildlife. The series focuses on several Ohio private landowners detailing their experiences managing and improving conditions of their woodlands and the beneficial changes in the bird community following such actions.

Initiating changes to forest structure that create a more diverse and healthy forest can be daunting for woodland owners. Through this video series, landowners can learn critical information and how to access tools and resources needed to manage their property for wildlife. Though focused on landowners and properties in Ohio, the videos are a great educational resource for land managers and private landowners with a variety of forest structure and addressing numerous issues.

The video series was developed to further assist land managers in improving forest habitat for birds and illustrates recommendations from “Managing Forest Birds in Southeast Ohio: A Guide for Land Managers.” The guide was developed by OBCI and its partners and written by Amanda Rodewald, Director of Conservation Science at the Cornell Lab of Ornithology. Along with the Ohio Bird Conservation Initiative, the Appalachian Mountains Joint Venture, the Ohio Department of Natural Resources–Division of Wildlife, Ohio Department of Natural Resources–Division of Forestry, The Ohio State University, The Nature Conservancy in Ohio, and several enthusiastic landowners were instrumental in the development of these videos.

Pennsylvania

AMJV Partners Join NRCS and Landowners to Celebrate Working Lands for Wildlife Success

By Todd Fearer, Appalachian Mountains Joint Venture, and Justin Fritscher, Natural Resources Conservation Service

The Golden-winged Warbler is one of the eight nationally identified target species of Working Lands for Wildlife (WLFW), the targeted, science-based conservation effort led by the U.S. Department of Agriculture’s Natural Resources Conservation Service (NRCS). NRCS selected this species because of its significant decline over the past four decades as well as the capacity for private lands conservation to make a difference. NRCS, AMJV and many others are working with private landowners to sustainably manage their forests and restore young forests, to maintain a healthy balance of old and young growth, and provide habitat for Golden-winged Warblers and a diversity of other birds and wildlife.

Landowners Don and Natalie Love (foreground right) explain to Jason Weller (foreground left), former NRCS Chief, some of the forest management work they completed on their property for Golden-winged Warblers; Justin Fritscher

Since 2012, landowners – like Don and Natalie Love – have restored more than16,000 acres of young forest habitat through WLFW, with just over 8,000 of those acres occurring in Pennsylvania. The Love’s hosted a celebration in July on their Huntington County, Pennsylvania forest, where representatives from AMJV, NRCS and many other groups gathered to see forest management practices and to discuss ideas. Other groups attending included Indiana University of Pennsylvania, Pennsylvania Game Commission, American Bird Conservancy, and Pennsylvania DCNR Bureau of Forestry. The Love’s are implementing a forest management plan to establish and improve early successional habitat on 70 acres. Their management focuses on controlling invasives and selectively removing trees, and work on their property is emblematic of what other landowners are voluntarily implementing across the region to enhance forest diversity and health.

“Most forest land in Appalachia is privately owned, making landowners pivotal to the bird’s success,” said Jason Weller, former NRCS chief, while visiting the farm. “Stewardship-minded landowners are stepping up to help the golden-winged warbler and other wildlife while also managing healthy, more productive forests.”

Not only was this event celebrating the success of improving habitat on the ground for Golden-winged Warblers and other species, but it also recognized the accomplishments of the partners in making this a truly adaptive and improving effort. Indiana University of Pennsylvania, working with many other AMJV partners, has led an ongoing monitoring effort across the region to assess the response of wildlife to the habitat enhancements on lands enrolled in WLFW. This work, funded through NRCS' Conservation Effects Assessment Program (CEAP), has collected four years of data and was highlighted in a recent Science to Solutions report, Sustainably Managing Forests Creates Golden-winged Warbler Breeding Habitat, as well as the agency's new WLFW magazine, A Partnership for Conserving Landscapes, Communities & Wildlife. The Science to Solutions report will help NRCS fine-tune its future conservation efforts. NRCS is in the process of renewing its Golden-winged Warbler conservation effort and is working with AMJV and others to update its five-year conservation plan. The agency anticipates releasing this plan in spring 2017.

Rare Mountain and Peatland Bird Project

By Douglas Gross, Pennsylvania Game Commission, and David Yeany, Western Pennsylvania Conservancy

Yellow-bellied Flycatcher; Doug Gross. WPC David Yeany conducting field work in high elevation forested wetlands; WPC

The Pennsylvania Game Commission Wildlife Diversity Bird section continued its rare mountain bird project and engaged with partners – David Yeany of the Western Pennsylvania Conservancy (WPC) and Brittingham Lab at Pennsylvania State University – to expand the project and accomplish a great deal more in 2016. We have studied the state Endangered Yellow-bellied Flycatcher and Blackpoll Warbler for several years in isolated high elevation forested wetlands within large forest blocks. That study continued this year with Yellow-bellied Flycatchers found on territory only in Coalbed Swamp where there were three and possibly four males singing from early June into July, but no females. We also found 15 Blackpoll Warbler territories at three locations: Coalbed Swamp (7 territories), Tamarack Swamp (7), and Opossum Brook wetland, all in Wyoming County. A key contributor of the Blackpoll Warbler portion of the study has been Eric Zawatski, an undergraduate student at PSU who has volunteered for the Game Commission studies for the last three years and took on a special study with Dr. Margaret Brittingham to study Blackpoll Warblers at the southern extent of their range. He is collecting and summarizing data on the vegetation of Blackpoll Warbler territories. One discovery so far is that Blackpoll Warblers are as likely to be found in fairly open parts of the wetlands with low canopy cover, high shrub density, and dominated by black spruce and tamarack. Both Blackpoll Warbler and Yellow-bellied Flycatcher are found in areas dominated by red spruce. In the cases of both species, there often is 50% or less canopy cover with a mix of deciduous trees with the conifer evergreens.

Painter Creek Bog; David Yeany.

The project conducted point counts in several peatlands, the first quantitative bird surveys of most of these forested wetlands. WPC conducted 148 points at 22 sites and the Game Commission added 47 points at 8 sites. We are only beginning to analyze the data but have found that some of the target species have fairly high densities. These include Canada Warbler, White-throated Sparrow, Northern Waterthrush, and Nashville Warbler. One of the discoveries of the project was that point counts that were evenly spaced through the swamps seemed to survey Yellow-bellied Flycatchers and Blackpoll Warblers fairly well with all known Yellow-bellied Flycatcher territories accounted by point counts and over half of the Blackpolls. However, Blackpoll Warblers are often clustered so area-searches are still needed for full surveys. This project will continue in 2017 to build our knowledge of these headwater forested wetlands that often are at the heart of the large forest blocks of the Northern Appalachians and with the intention of establishing some long-term monitoring similar to the Mountain Bird Watch in New England.

Tennessee

Geolocators, Bandings, and Monitoring: Studying Bird Abundance and Habitat in the Tennessee River Gorge

By Rick Huffines, Tennessee River Gorge Trust

The Tennessee River Gorge Trust (TRGT) launched Phase 1 of a Bird Banding Lab approved Louisiana Waterthrush (LOWA) geolocator pilot study to test new leg harness techniques and materials. A total of 16 geolocators were attached to LOWAs and an additional 16 LOWA's were color leg banded as control birds. Phase 2, the recapture, will begin in the Spring of 2017 and a peer reviewed paper highlighting the techniques and materials used in the pilot study as well as the results will be forthcoming in late 2017.

The Trust also finished it's 3rd season of Spring and Fall migration inventory banding at our Bird Observatory. There was a total of 249 birds banded in 2016, comprising 38 different species and a total of 36 recaptures. The most common bird banded was the Swainson's Thrush.

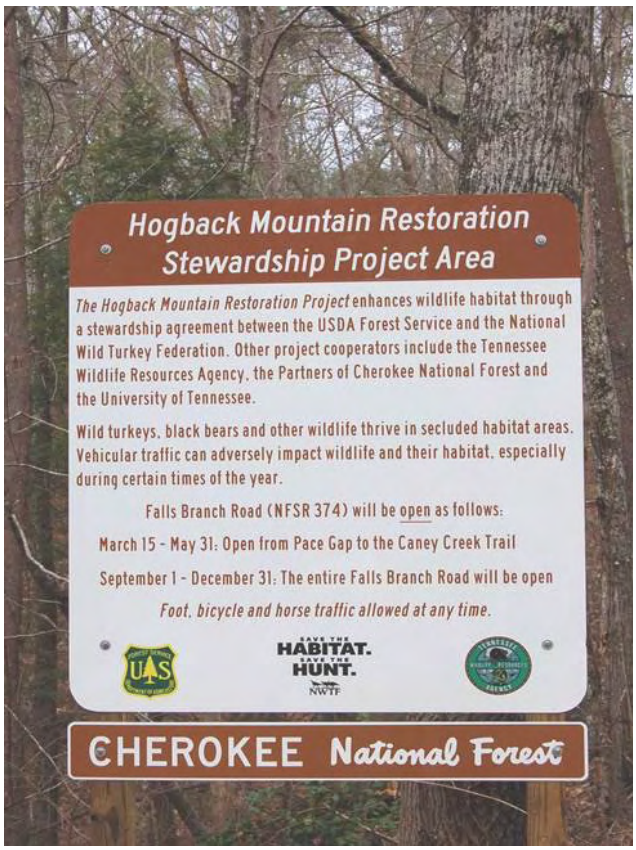
Holland Youngman, a TRGT Avian Technician and Masters student at the University of Tennessee at Chattanooga, also completed a two-year study of post fledgling foraging habitat of Worm-eating Warblers (WEWA). Radio transmitters were attached to WEWA fledglings and used to locate and observe post fledgling feeding habits and preferences. This work was monitored by Dr. David Aborn through a contract with the University of Tennessee at Chattanooga and a peer reviewed paper will be published in 2017.

Finally, the Tennessee River Gorge Trust hosted a North American Banding Council certified basic bird banding workshop at the Tennessee River Gorge Trust Bird Observatory in partnership with the Klamath Bird Observatory, with six students in attendance.

Worm-eating Warbler with color leg band attached; Rick Huffines.

Hogback Mountain Stewardship Project Enhances Young Forest Habitat

By Mary Miller, U.S. Forest Service



The Cherokee National Forest Ocoee Ranger District began implementation of the Hogback Mountain Stewardship project in 2010. The project goal is to enhance elements of Southern Appalachian young forest habitat including mast production and other forage, seclusion and young rearing areas for black bear, wild turkey and a host of many other game and non-game species. Habitat management of the area hopes to improve hunter success and satisfaction.

This is one of the first stewardship projects with the National Wild Turkey Federation (NWTF) to be implemented in the Cherokee National Forest. The project includes:

•Creating approximately 470 acres of oak woodland
•Restoring natural communities and improving forest health through silvicultural regeneration treatments on approximately 40 acres
•Restoring forest health, tree vigor, and wildlife browsing by diversifying stand age classes through silvicultural treatments on approximately 23 acres
•Restricting public access by seasonal closure of approximately 3.5 miles of open road going through the habitat improvements.

The area is highlighted as a showcase of collaboration and habitat restoration during many field trips. It is in a location popular with sportsmen and within the Cherokee Wildlife Management Area and signage describes the work and the benefits to the natural resources. Organizations and user groups involved in discussions and work on this project include the Tennessee Wildlife Resources Agency, Partners of the Cherokee National Forest, The University of Tennessee's Department of Forestry, Wildlife and Fisheries, The Tennessee Exotic Pest Plant Council, Southern Environmental Law Center (on behalf of Cherokee Forest Voices, Wild South, American Hiking Society, and Chattanooga Hiking Club), the Southern Appalachian Forest Coalition, Wildlaw and The Tennessee Ornithological Society.

Cutting and prescribed burning at Whigg Meadow in Cherokee National Forest; Mary Miller.

Restoration of Grassy Balds and High Elevation Meadows

By Mary Miller, U.S. Forest Service

Grassy balds and high elevation meadows play an important role in supporting biodiversity in the Appalachians. These unique habitats are rapidly declining range-wide due to woody plant invasion and will require active recovery and long-term management if they are to survive. A project by the Cherokee National Forest seeks to protect and enhance the grassy bald at Whigg Meadow (5,000 feet elevation) in order to conserve the unique plant and animal communities and contribute towards the restoration of high elevation early successional game and nongame species such as golden winged warbler. The project also aims to improve habitat conditions for the Carolina northern flying squirrel, a federally listed species present in the area, and will contribute toward enhancing significant visual resources for recreationists.

Whigg Meadow is a frequently visited and highly visible area for the public. It is on the Benton Mackaye trail system and is just off the Cherohala Skyway which runs from Tellico Plains, TN to Robbinsville, NC. Many people use the area for sightseeing, berry picking and camping. Furthermore, it is a permanent migratory bird banding station where volunteers have run the station for 18 years with help from the U.S. Fish and Wildlife Service, Tennessee Wildlife Resources Agency, the University of Tennessee and other colleges and universities.

Landscape view of Whigg Meadow; Mary Miller.

Whig Meadow Bird Banding Station, a permanent banding station that has been run by volunteers for 18 years; Mary Miller.

Before the project began only about six acres of actual grassy opening remained. Small diameter stems were cut to create small openings around the existing opening. Much of the overstory remains and protects beech gaps and moist areas. In the more xeric transitional vegetation around the meadow, habitat for golden-winged warbler and associated high elevational species are improving. Herbicide is being applied to the cut stumps and prescribed burning will shortly follow. Other activities will continue to open up still more of the early successional area in the near future.

Preserving a Cultural Landscape while Creating Young Forest Habitat
By Mary Miller, U.S. Forest Service

Upper Wolf Creek in Cocke County, Tennessee was once home to the historic Wasp community, a small farming community from the late 1800s to the mid 1900s. It is designated a Cultural Heritage Area in the Cherokee National Forest Revised Land and Resource Management Plan and is adjacent to the Appalachian Trail. The Cherokee National Forest Unaka Ranger District Wolf Creek Project is restoring a portion of the historic landscape while creating habitat for wildlife including golden-winged warblers. The project is reconstructing 87 acres of historic fields, converting old roads into trails, and providing accessible hunting/ wildlife viewing. In 2016, timber was removed from the site and field conversion began. Partners assisting in this effort include the Tennessee Wildlife Resources Agency, Appalachian Trail Conservancy, Buckmasters, and National Wild Turkey Federation.

APPALACHIAN MOUNTAINS JOINT VENTURE

Virginia

Virginia's Second Breeding Bird Atlas Launches

By Sergio Harding, Virginia Department of Game and Inland Fisheries

Volunteers assisting Virginia Breeding Bird Atlas in analyzing changes in bird populations in the state; Megan Marchetti.

In 2016, the Virginia Department of Game and Inland Fisheries (DGIF) launched the second Virginia Breeding Bird Atlas (VABBA2) in partnership with the Virginia Society of Ornithology (VSO). The VABBA2 builds on Virginia's first Atlas, which was sponsored by DGIF and VSO between 1985 and 1989. As such, it will be positioned to analyze changes in the distributions of the Commonwealth's breeding birds over the past 30 years. Following in the footsteps of other modern Atlases, the VABBA2 will also implement a point count survey across the state in order to generate abundance values from which population estimates and modeled density maps can be derived for various species. Through a partnership with the Cornell Lab of Ornithology, data collected by volunteer Atlasers is entered into a VABBA2 eBird portal, which is serving as the project's primary data storage and management system. An additional database for more detailed reporting of priority species was developed along with an Atlas block sign-up tool; these and other VABBA2 materials are housed at vabba2.org, the official Atlas website hosted by the Appalachian Mountains Joint Venture.

Through the enthusiastic and effective leadership of Atlas Coordinator Dr. Ashley Peele, and with the help of Regional Coordinators, Year 1 of the Atlas has proven to be a success. By year's end over 14,000 individual checklists by 450 volunteers were submitted to eBird, totaling over 180,000 observations, with 228 species reported and 174 species confirmed as breeders. By comparison, 196 species were reported through the first VABBA over its total 5 year period, 191 of which were confirmed. These numbers reflect both the outpouring of volunteer effort in 2016 and confirmed additions to Virginia's breeding avifauna in the intervening 30 years, including species such as Mississippi Kite.

An estimated 450 volunteer Atlasers participated in this first year, submitting data for nearly 38% of Atlas blocks and 45% of 'priority' Atlas blocks (i.e. those being targeted for surveys for comparison with the results from the first Atlas). As expected, volunteer effort was less concentrated in sparsely populated regions of the state. Areas with lower participation include most of the lower 2/3 of western Virginia, a region largely contained within the AMJV; the average number of confirmed species in these areas was understandably much lower. Recruitment efforts targeting these under-surveyed areas will continue in 2017, and opportunities to partner with agencies and organizations that head up volunteer networks are most welcome.

The significance of the VABBA2 is not only in generating actionable, science-driven avian data products, but in engaging both experienced and beginning birders in a large-scale citizen science project and engendering general public support for wildlife conservation. The VABBA2 is also helping to bring a diversity of organizations to the table, and hopefully laying the foundation for more permanent partnerships that will persist beyond the project.

APPALACHIAN MOUNTAINS JOINT VENTURE

West Virginia

Surveying Distribution and Abundance of Northern Saw-whet Owls

By Richard Bailey, West Virginia Division of Natural Resources

Northern Saw-whet Owls: Rob Tallman.

The true distribution and abundance of our smallest owl species has long been an open question. Northern saw-whet owl breeding habitat usually, but not always, includes a conifer component. During our second Breeding Bird Atlas survey, this species was detected at 13 locations statewide, including nest boxes monitored by staff and volunteers on Briery Knob and at Blackwater Falls State Park. In 2015, WVDNR initiated a two-year research effort to better-delineate distribution and habitat for the species using playback and modeling. Results for the breeding season survey in 2015 included:

- Over 300 points were surveyed. At each point, a 15-minute passive listening period was followed by 15 minutes of recorded calls;
- Northern saw-whet owl was detected at 55 of these points, or 17.9%; and
- Most were detected at high elevation in mixed spruce/northern hardwood habitats.

Building off of these findings, year two of this project noted the following:

- Researchers attempted to capture Owls at 60 sites in Tucker, Randolph and Pocahontas counties using 2 mist nets and playing their call for about an hour at each site;
- Overall, this species was detected at 24 of the 60 sites, and 17 were captured; and
- They were assessed for age, sex, fitness, and samples were collected for stable isotope analysis, with results pending.

WV Breeding Bird Atlas: Analyzing Data and Developing Book

By Richard Bailey, West Virginia Division of Natural Resources

The final field season of the six-year atlas project was successfully completed in 2014. Staff coordinated agency activities, volunteer efforts and contracts and grants to assist the project while completing numerous days of field work to gather data for breeding confirmations and abundance counts. Priorities have shifted to outline and write chapters and species accounts for the upcoming book. Final six-year atlas summary include:

- Abundance sampling completed on over 400 priority blocks;
- Total bird observations for the entire atlas period now stand at 106,816;
- Over 20,000 hours of volunteer effort logged by 378 participants;
- 179 species reported, 164 species confirmed breeding; and
- 2,075 of 2,766 blocks received data. All priority blocks received data

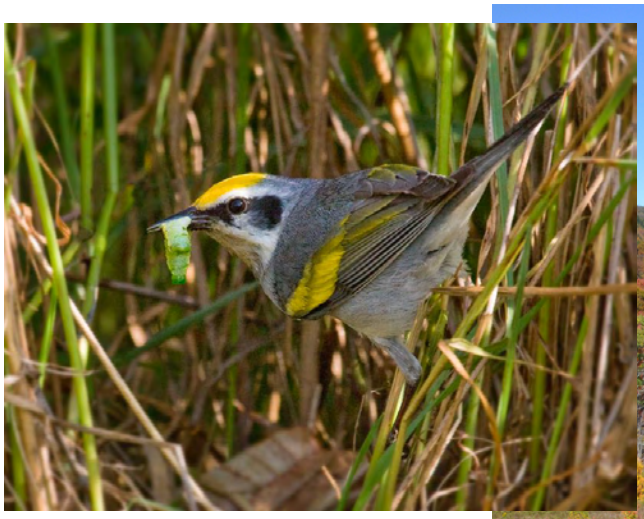
Work completed in 2016 included:

- Collaborated with Conservation Management Institute (CMI) to complete summary and analysis of data;
- CMI provided final outputs, including distribution/change maps as well as density and occupancy models. Additional outputs include summaries of Bird Breeding Survey data by species and final database.23
- Author meeting was held where support materials and style guidelines were discussed and distributed;
- Drafts of ~100 of 179 species accounts were completed;
- Compiled media and graphics for inclusion in the book; and
- In the midst of contracting position to assist with final atlas work.

2016 Year in Review

APPALACHIAN MOUNTAINS JOINT VENTURE

The Appalachian Mountains Joint Venture mission is to restore and sustain viable populations of native birds and their habitats in the Appalachian Mountains Joint Venture region through effective, collaborative partnerships.



Clockwise from top: Golden-winged Warbler; Bob Schameron. Appalachian landscape in Fall; Curtis Smalling. Louisiana Waterthrush with geolocator attached; Rick Huffines. North American Banding Council basic bird banding workshop at the Tennessee River Gorge Trust; Rick Huffiness. Doug Gross (PGC) and Eric Zawatski (PSU) between survey work for Rare Mountain Bird Project; Doug Gross.