Joint Chiefs' Landscape Restoration Partnership West Virginia Restoration Venture Success Story: Lambert Ecological Restoration

### 2015 Summary



United States Department of Agriculture Natural Resources Conservation Service

#### **Description:**

The Lambert Ecological Restoration project consists of 2,600 acres of land within the Monongahela National Forest. Prior to being purchased in the late 1980s, the land was heavily mined and timbered; the soils were degraded and compacted; and the land was replanted with nonnative plant species. The goals of the Lambert Ecological Restoration Project are to focus on watershed and landscape restoration. Deep ripping to de-compact soils will allow rainfall, snowmelt, and runoff to infiltrate soils, which will help recharge groundwater and reduce the adverse impacts of storm water runoff and erosion on streams. Ripped soils will be planted with native vegetation, such as red spruce, to restore habitat and further reduce runoff and erosion. Wildlife habitat in the newly created wetlands will be enhanced through the addition of native plantings and coarse woody debris favorable to early successional species.



**Figure 2:** Wetland creation after ripping and placement of woody materials. Photo by: Crystal Simons



**Figure 1:** Landscape scale restoration. Foreground completed 2014, background completed 2015. Photo by: Shane Jones

#### Results:

In 2015, approximately 130 wetlands were created across a 116 acre area. In addition to providing wildlife and amphibian habitat, the wetlands were created in areas most likely to help restore natural surface and subsurface drainage, thereby improving water quality and reducing sedimentation into streams.

Non-native conifer trees were knocked down and soils were ripped over approximately 65 acres to prepare the project area for native plantings and wetland creation. Approximately 150 acres were planted with red spruce and a variety of native woody and herbaceous plants to provide habitat for early successional and pollinator species.

An interpretive kiosk was installed on site to explain our restoration efforts, with a focus on the importance of ecological restoration.

Restoration efforts are expected to not only create early successional habitat in the short term, but to achieve ecological restoration and improve watershed health in the long term.

Year initiated: FY11 Pilot, FY12-15 Full Restoration Contact Person: Shane Jones, <u>scjones@fs.fed.us</u> Partners: CASRI (http://www.restoreredspruce.org/)

### Joint Chiefs' Landscape Restoration Partnership West Virginia Restoration Venture Success Story: Pasture Reclamation & Early Successional Cutback

# 2015 Summary



#### **Description:**

Grazing allotments on the Monongahela National Forest have been under-managed for many years, resulting pastures. in overgrown woody encroachment from bordering forest, and a high density of tall trees bordering remaining pasture land. This project maintains early successional habitat by cutting vegetation to reclaim overgrown also creates pasture land. lt new early successional habitat by cutting back woody vegetation along pasture borders, and by creating gradual transitions in vegetation from pasture to forest. Undesired tree species are targeted for removal to create a feathered forest edge that blends pastures into the remaining forest. The coarse woody debris resulting from tree removal serves as additional habitat for wildlife.

Creation and maintenance of early successional habitat promotes the development of a variety of wildlife species, including the golden-winged warbler.



**Figure 1:** Cleared pasture with thinned edges and brush piles for maximum wildlife habitat. Photo By: Jack Tribble



Figure 2: Tall tree line is thinned between two pastures. Photo by: Chad Arbogast

#### Results:

The project area included approximately 385 acres on the Greenbrier Ranger District. Approximately 309 acres of vegetation along pasture borders was cut to create early successional habitat. An additional 76 acres of pasture was reclaimed to maintain early successional habitat. The project started in November 2014 and was completed in September 2015. West Virginia Division of Natural Resources (WVDNR) and Ruffed Grouse Society helped with design and layout of the projects to provide maximum wildlife benefits.

Year initiated: FY 2015 Contact Person: USFS Chad Arbogast, Range Lead, Greenbrier Ranger District (304)456-3335; charbogast@fs.fed.us

**Partners:** Trout Unlimited, WVDNR, Ruffed Grouse Society, National Wild Turkey Federation, and USDA NRCS Joint Chiefs' Landscape Restoration Project West Virginia Restoration Venture Success Story: **Riparian Habitat Improvements** 

### 2015 Summary



#### **Description:**

Riparian areas that were historically deforested are being planted with native tree and shrub species on the Monongahela National Forest (MNF) to accelerate reforestation and re-establish ecological functions like stream shading, stream bank stabilization, future large woody material recruitment, and habitat for riparian fauna.

relativelv The MNF represents а southern occurrence for populations of native brook trout, a Management Indicator Species (MIS) for the MNF. Brook trout require cold-water habitats; in this region, cold-water ecosystems often depend on a forested canopy in riparian areas to shield streams from the warming effects of the sun. Currently, the headwaters of the Greenbrier River provide critical habitat for brook trout spawning and early rearing. Restoring riparian areas in this area is expected to provide additional habitat for brook trout.

Forested riparian areas also help maintain stream channel stability. Bank erosion is reduced by complex root networks that hold soil and rock in place, as well as by in-stream structures like large woody material. Planting in riparian areas also provides a future source of large woody material. Lastly, it also helps stabilize floodplains by providing roughness that can reduce the erosive energy of flood waters.



**Figure 1**: Trout Unlimited and AmeriCorps members plant a riparian area to re-establish stream shade and stabilize the streambank.



**Figure 2**: Newly planted birch trees thriving in a previously deforested riparian area.

#### Results:

Thirty-two acres of riparian area along five streams in the Upper Greenbrier North project area were planted with trees and shrubs sourced from regional nurseries with local genetic stock. Larger trees were planted this year in an effort to address issues with deer browse and herbaceous competition. Early observations indicate survival rates are high and new growth is excellent. Some trees are already ten feet tall. Successful planting efforts were made possible by our partnership with Trout Unlimited and the assistance of dozens of volunteers.

Over half the open riparian areas in the headwaters of the East Fork of the Greenbrier watershed have now been planted, bringing this priority watershed closer to a "properly functioning" classification under the Watershed Condition Framework, a consistent, comparable, and credible process for improving the health of watersheds on national forests and grasslands.

Year initiated: FY2015 Contact Person: Chad Landress, Fisheries Biologist, MNF, <u>chadmlandress@fs.fed.us</u> Partners: Trout Unlimited (TU); AmeriCorps

### Joint Chiefs' Landscape Restoration Partnership West Virginia Restoration Venture Success Story: Watershed Rehabilitation Trail Crew

## 2015 Summary



United States Department of Agriculture Natural Resources Conservation Service

#### **Description:**

The Monongahela National Forest (MNF) used a seasonal trail crew, directed by North Zone Trails Staff, to improve watershed conditions by rehabilitating trails within the Cheat-Potomac and Greenbrier Ranger Districts. The crew's goal was to reduce erosion and sedimentation by reducing interruptions to surface runoff and improving overall trail tread conditions. The work was done using hand tools, machines, and manpower. The two districts combined have approximately 430 miles of trails of varying use levels, in both remote "backcountry" and high use "front country" areas. For FY 2015, the crew concentrated on trails in higher use areas. These areas are at greater risk for resource damage on and around the trails, due to heavy use.



**Figure 2:** Work crews are installing a permeable paving system to harden a trail to halt erosion. Photo by: Brandon Olinger



**Figure 1**: A standard rolling grade dip is being constructed to divert surface runoff from the trail tread. Photo by: Brandon Olinger

#### Results:

In 2015, four miles of trail underwent tread, drainage, and erosion control maintenance. The crews used a variety of techniques, equipment, and materials to improve the trails and reduce erosion. Between 50 to 100 standard drainage structures were constructed throughout the At Spruce Knob-Seneca reaion. Rocks Recreation Area, erosion control matting was installed along the Seneca Rocks Trail to reduce erosion and natural resource damage caused by users. At the Big Bend Loop Trail, older rock work was protected by using a permeable paving system to halt erosion.

Project funding made it possible to hire the first watershed restoration/rehabilitation trail crew.

Year initiated: FY15 Contact Person: Julie Fosbender, North Zone Recreation Manager, MNF, <u>jfosbender@fs.fed.us</u> Partners: Forest Service

West Virginia Restoration Venture Success Story: **Riparian Fence and Water Development** 

## 2015 Summary



#### **Description:**

The Greenbrier District Riparian Fence and Water Development project is designed to construct a series of fences that exclude livestock from sensitive riparian areas within allotments. Excluding grazing livestock from riparian areas is a necessary step toward reducing stream bank erosion, sedimentation, fecal stream coliform contamination, and elevated water temperatures. The construction of riparian fences in grazing allotments allows for livestock to be contained in managed Water troughs have been pastures. constructed to provide alternative sources of water for livestock.



**Figure 1:** Evidence of typical stream bank erosion by livestock; Source: <u>http://www.tringa.org/images</u>



Figure 2: New riparian fence and water trough. Photo by: Crystal Simons

#### Results:

Trout Unlimited and the USDA Forest Service are working together to protect streams by constructing riparian fencing in grazing allotments. In FY 2015, 8.2 miles of fencing were constructed along sensitive riparian areas. A total of 13 water troughs were constructed to provide alternate sources of water for livestock. Riparian fencing construction in high priority areas will be completed by the summer of 2016.

Exclusion of livestock from riparian areas will allow for eventual plant succession and streambank stabilization.

Year initiated: FY14 and FY15 Contact Person: USFS Chad Arbogast, Range Lead, Greenbrier Ranger District (304)456-3335; charbogast@fs.fed.us Partners: Trout Unlimited and USDA NRCS

West Virginia Restoration Venture Success Story: Stream Restoration Crew

# 2015 Summary





#### **Description:**

The Monongahela National Forest (MNF) is adding large woody material (LWM) to streams and riparian areas to mimic ecosystem processes that naturally create and sustain healthy aquatic habitats in mountain streams of the Appalachian region. LWM is an important structural component to streams that provides habitat for aquatic communities. Stream structures naturally provide cover and nutrients, sort spawning gravels, and generate scour needed to create pools that aquatic species require for rearing, feeding, escape, and over-wintering habitat. Due to historical land management practices, natural LWM recruitment processes have been effectively absent for nearly a century. Consequently, aquatic habitats and floodplain areas are deficient in the LWM structure needed to develop and maintain guality habitat for native aquatic communities that include the Forest's only aquatic Management Indicator Species, wild brook trout.

Various approaches may be used to accomplish aquatic habitat enhancements by adding LWM to impaired streams and floodplains. Grip hoist methods allow strategic selection and placement of trees within stream environments without the disturbance that occurs when heavy equipment is used to install LWM. Grip hoist techniques provide the mechanical advantage needed to allow hand crews to up-root relatively large trees (up to 14" DBH with root wads intact) and arrange them within streams.



Figure 1: Grip hoist crew maneuvering a large tree to a stream



Figure 2: Partnership crew with new in-stream LWM structure.

#### **Results:**

The headwaters of the East Fork Greenbrier River in the Upper Greenbrier North (UGN) project area was targeted for LWM additions by grip hoist crews in 2015.

This watershed is a stronghold for brook trout and several aquatic Regional Forester Sensitive Species. As a result of dedicated partnership work with Trout Unlimited, about 15 miles of habitat in 13 brook trout streams were treated by adding an abundance of LWM. These successful outcomes advance this priority functionina" watershed closer "properly to а Watershed Condition classification under the framework, a new consistent, comparable, and credible process for improving the health of watersheds on national forests and grasslands.

Year initiated: FY2015 Contact Person: Chad Landress, Forest Fisheries Biologist, MNF (304) 456-3335, ext: 128; chadmlandress@fs.fed.us Partners: Trout Unlimited (TU) Joint Chiefs' Landscape Restoration Partnership West Virginia Restoration Venture Success Story: Aquatic Organism Passage

## 2015 Summary



#### **Description:**

Habitat connectivity is a key conservation principle for sustaining healthy populations at a landscape scale. In aquatic ecosystems, designs for road stream crossing structures have historically failed to adequately consider the need for aquatic organism passage (AOP), or the ability for fish and other aquatic creatures to move up or downstream under roads; this has led to considerable fragmentation of aquatic habitats throughout the Monongahela National Forest (MNF). This condition is frequently aggravated by crossing structures that are not properly sized to withstand flooding and modified stream run-off.

Shortcomings in stream crossing designs lead to aquatic passage barriers by creating vertical barriers (perched outlets/inlets exceed jumping ability), velocity barriers (stream velocity exceeds swim speeds), exhaustion barriers (distance between aquatic resting areas is too great), and water depth barriers (water column becomes too shallow).

The MNF is working to systematically correct crossings that create AOP barriers. Priority crossings are either replaced with new AOPcompliant structures (based on stream simulations) or removed and rehabilitated if crossings are no longer needed.



Figure 1: Perched culvert creates a barrier for aquatic organisms



Figure 2: Stream crossing allows for aquatic organism passage during low and high flows

#### **Results:**

Four AOP projects were planned for 2015 in the Headwaters of the East Fork Greenbrier River watershed with involvement from project partners (Canaan Valley Institute and Trout Unlimited). This watershed is one of the Forest's priority watersheds within the Upper Greenbrier North (UGN) project area, partly due to its persistent brook trout populations (the Forest's only aquatic Management Indicator Species) and multiple aquatic Regional Forester's Sensitive Species (RFSS). Paired stream simulation and road designs for the planned AOP sites were largely completed during 2015 and these projects will be implemented during 2016. Two other priority AOP sites in UGN were successfully treated. Trout Unlimited removed and rehabilitated two AOP sites to reconnect about 23 miles of cold-water fisheries stream habitat.

Year initiated: FY2015 Contact Person: Mike Owen, Forest Aquatic Ecologist, MNF (304) 636-1800 ext. 203; mdowen@fs.fed.us Partners: Canaan Valley Institute (CVI), Trout Unlimited (TU) Joint Chiefs' Landscape Restoration Partnership West Virginia Restoration Venture Success Story: Aquatic Organism Passage

## 2015 Summary



#### **Description:**

Habitat connectivity is a key conservation principle for sustaining healthy populations at a landscape scale. In aquatic ecosystems, designs for road stream crossing structures have historically failed to adequately consider the need for aquatic organism passage (AOP), or the ability for fish and other aquatic creatures to move up or downstream under roads; this has led to considerable fragmentation of aquatic habitats throughout the Monongahela National Forest (MNF). This condition is frequently aggravated by crossing structures that are not properly sized to withstand flooding and modified stream run-off.

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Year initiated: FY2015 Contact Person: Mike Owen, Forest Aquatic Ecologist, MNF (304) 636-1800 ext. 203; mdowen@fs.fed.us Partners: Canaan Valley Institute (CVI), Trout Unlimited (TU) Joint Chiefs' Landscape Restoration Project West Virginia Restoration Venture Success Story: Traveling Soil Monolith: A teaching tool for soil resource education

### 2015 Summary



United States Department of Agriculture Natural Resources Conservation Service

#### **Description:**

Soil monoliths are soil horizon replicas extracted from a soil pit and preserved on a frame board for display and educational purposes. Traditionally, these monoliths are "at scale" representations of the soil pit horizons. The soil material is placed on a wooden frame and preserved with nitrate fabric preservative, which creates a ceramic-like soil replica. While striking in appearance, these monoliths are heavy and cumbersome at 80 inches tall and up to 200 pounds (depending on soil type and depth). The Nicholas Putnam Group (NPG), Environmental consultants, constructed a scaled down model of a soil monolith from a pre-selected Spodosol, similar to the Blandford soil series, that facilitates easy transport and set-up for outreach activities. The soil horizons are preserved on a display board and is designed to fit inside a portable cart as part of the Central Appalachian Red Spruce Initiative (CASRI) Teaching Toolkit.



**Figure 1**: Kristin Stockton, AmeriCorps member, describes the role soils play in sequestering carbon in the red spruce forests of Central Appalachia.



**Figure 2:** The soil monolith is a travel display designed and built by The Nicholas Putnam Group Environmental Consultants.

#### Results:

NPG provided instruction on collecting soils and constructing a soil monolith to the Monongahela National Forest's (MNF) Pathways soil scientist intern. The knowledge gained makes it possible to create additional soil monoliths in the future.

The soil monolith display was first used at the 2015 Mountain State Forest Festival (http://www.forestfestival.com). Thousands of people visited the outdoor education booth sponsored by the USDA Forest Service and AmeriCorps. This soil monolith will provide an excellent resource tool for teaching people about the importance of soil in the red spruce ecosystem.

Year initiated: 2015 Contact Person: Stephanie Connolly, Soil Scientist, MNF, sconnolly@fs.fed.us Partners: CASRI www.restoreredspruce.org

West Virginia Restoration Venture Success Story: Invasive Plant Outreach & Field Crew

# 2015 Summary



#### **Description:**

Non-native invasive species are one of the greatest threats to the biodiversity and natural resource-based economies in West Virginia. Examples of some high-priority invasive species include mile-a-minute weed, garlic mustard, Japanese stilt grass, and Japanese knotweed.

The Potomac Highlands Cooperative Weed and Pest Management Area (PHCWPMA) partnership includes federal, state, and local agencies, community associations, non-profit organizations, and private land owners. The mission of the PHCWPMA is the prevention and management of invasive species in the headwaters region of the South Branch of the Potomac River in West Virginia and Virginia. PHCWPMA conducts landscape-scale management on public and private lands using Integrated Pest Management methods, including mechanical, chemical, and biological treatments. PHCWPMA also conducts education and outreach activities aimed at raising public awareness of invasive species issues.



**Figure 1**: Japanese knotweed (*Fallopia japonica*) is a common invasive plant found in the project area. It destroys riparian habitat by outcompeting all other vegetation



**Figure 2**: Mile-a-minute weed (*Polygonum perfoliatum*) is just beginning to invade the project area. Mile-a-minute can grow up to six inches a day, and even more around water. Like Japanese knotweed, it is capable of completely outcompeting all other vegetation.

#### <u>Results:</u>

In 2015, the CWPMA field crew continued its management of invasive species by controlling 1647 acres of invasive plant infestations on public lands and 430 acres of infestations on private lands. Education and outreach activities included the involvement of Petersburg Elementary School fifth graders in garlic mustard control, placing knotweed awareness billboards along prominent highways, making one-on-one educational contacts with numerous anglers and campers, and conducting the annual Discover Nature Day celebration at the Seneca Rocks Discovery Center.

Year initiated: 2010 Contact Person: The Nature Conservancy Mike Powell; (304) 637-0160 USFS Whitney Bailey, Ecologist, MNF; whitneybailey@fs.fed.us Partners: PHCWPMA; WWW.PHCWPMA.ORG

West Virginia Restoration Venture Success Story: **Road Decommissioning** 

### 2015 Summary



United States Department of Agriculture Natural Resources Conservation Service

#### **Description:**

Road decommissioning techniques are being implemented within the Monongahela National Forest (MNF) as a component of watershed restoration. Roads can intercept groundwater along road cuts, reduce water infiltration along compacted road surfaces, expedite the conveyance of water through watersheds, reduce vegetationgrowing area, create new sediment sources, and introduce artificial passage barriers for aquatic organisms. These effects can impair watershed health by altering watershed hydrology, soil productivity, stream sedimentation rates, stream channel conditions. and aquatic habitat connectivity. Road decommissioning projects decompact road surfaces, reshape road beds, remove drainage structures, and essentially "unbuild" roads to rehabilitate the area to a more natural condition.

The Upper Greenbrier North project area, headwaters of the Greenbrier River, is a stronghold for the MNF's only aquatic Management Indicator Species, wild brook trout, and seven Regional Forester's Sensitive Species (RFSS). Decommissioning roads in this priority watershed area is instrumental for securing this aquatic ecosystem for long-term sustainability.



Figure 1: Excavator restoring the hillslope corridor by decommissioning a road



**Figure 2**: A former road location only months after being rehabilitated using road decommissioning techniques

#### Results:

The MNF had a target of twelve miles of road for decommissioning in both the East and West Fork watersheds of the Greenbrier River. With partner involvement through continued challenge cost share agreements, the target was exceeded. Approximately fourteen miles of road were decommissioned and returned to a naturalized state in 2015. In doing so, all planned road decommissioning activities within the East Fork Headwaters watershed were completed. Consequently, this 6<sup>th</sup> level priority watershed was moved one step closer to a "properly functioning" classification under the USDA Forest Service's Watershed Condition Framework. new а consistent, comparable, and credible process for improving the health of watersheds on national forests and grasslands.

Year initiated: FY2015 Contact Person: Mike Owen, Forest Aquatic Ecologist, MNF, (304) 636-1800 ext. 203; mdowen@fs.fed.us Partners: Trout Unlimited (TU), Canaan Valley Institute (CVI)



#### **DESCRIPTION:**

Research conducted through a partnership between the USDA Forest Service Monongahela National Forest (MNF), USDA Natural Resources Conservation Service (NRCS), West Virginia Non-Governmental University (WVU),and Organizations (NGOs) has shown that the majority of high elevation landscapes in West Virginia once consisted of red spruce forests<sup>1</sup>. Through historical accounts and on-the-ground investigation, areas likely to have been dominated by red spruce vegetation have been studied and mapped. Efforts have also been made to determine which of these areas are likely to remain habitable for red spruce in the face of climate change. The current model predictions indicate that Red Spruce habitat will continue to decrease with a warming climate<sup>2,3,4</sup>. However, these models often use estimated information to account for variables that are likely important to red spruce survival, such as soil moisture and temperature.

MNF Pathways Soil Scientist and Graduate Student at WVU, Adrienne Nottingham, is investigating the effects of measured soil moisture and soil temperature values on the results produced by MaxEnt, the model used to predict current and future red spruce extent within the MNF.

<sup>1</sup>Buckley, C. 2011. Central Appalachian Red Spruce Restoration Initiative (CASRI). <u>www.restoreredspruce.org</u>.

<sup>2</sup> Hamburg, S. P. & Cogbill, C. V. Historical decline of red spruce populations and climatic warming. Nature 331, 428-431 (1988).
<sup>3</sup> Byers, E. A., J. P. Vanderhorst, and B. P. Streets. 2010.
Classification and Conservation Assessment of Upland Red Spruce Communities in West Virginia. West Virginia Natural Heritage Program, WVDNR. Elkins, WV.

<sup>4</sup> Butler, P. R. *et al.* 2015. Central Appalachians forest ecosystem vulnerability assessment and synthesis: a report from the Central Appalachians Climate Change Response Framework project. Gen. Tech. Rep. NRS-146. Newtown Square, PA: U.S. Department of Agriculture, Forest Service, Northern Research Station. 310 p.

#### RESULTS:

Due to time and monetary constraints, this study is limited to a small watershed in Pocahontas County. Nottingham has identified sites for characterizing and sampling soils, and measuring soil moisture and temperature. The information gathered at these sites will be used to run a model to map expected current and future red spruce cover. Although this has been done multiple times for the MNF, none have looked at how using measured site specific climate variables will change the modeled red spruce extent.

The results of the project should help the MNF, NRCS and NGOs understand the relationships between soil climate and red spruce. Results will help effectively target areas for red spruce restoration. Output could also help land managers decide where to invest in climate change mitigation through carbon sequestration.



Year initiated: FY 2014 Contact Person: Stephanie Connolly, Soil Scientist, MNF; <u>sconnolly@fs.fed.us</u> Adrienne Nottingham, PATHWAYS Soil Intern, MNF; <u>acnottingham@fs.fed.us</u> Partners Involved: NRCS, Dr. James Thompson, West Virginia University Joint Chiefs Landscape Restoration Project West Virginia Restoration Venture Success Story: Native Brook Trout Habitat Restoration: North Fork of the South Branch of the Potomac River

ISDA

United States Department of Agriculture Natural Resources Conservation Service

2015 Summary



Year initiated: FY 2015

Contact Person: Louis Aspey, West Virginia State Conservationist, NRCS WV

Partners: Trout Unlimited

Website: http://www.nrcs. usda.gov/wps/po rtal/nrcs/site/wv/ home/

Raymond Phares is no stranger to the importance of stream restoration efforts and jumped at the chance to participate in the West Virginia Restoration Venture through the Natural Resources Conservation Service. As an excavation business owner in Pendleton County, Phares sees the importance of taking care of natural resources through his own work as well as on his property.

"I really believe the farmers in this area are good stewards of the land and know that stream restoration projects help people both up and downstream," Phares said. "It makes sense as part of preventing erosion and farm damage as much as it does to keep our waters clean and of high quality. People understand it and I'm happy to spread the word to others about the West Virginia Restoration Venture."

Phares father, Raymond Sr., who goes by Eddie, also has a WVRV contract for stream restoration. The younger Phares, believed in the program so much that he crossed over into nearby counties to promote it to other landowners. "I've done a lot of work over the years in the surrounding area so many of those farmers who may have been uncertain, knew me and my work," said Phares. "Putting my name and work behind it, helped them have a neighbor who used the program with success and also in some instances performed the work. They were more eager to put in an application with that simple fact in place and I was happy to help them out by providing information."

Stream restoration is a complex conservation practice with many variations from site to site even within the same watershed. The elements are unpredictable and can change at any time so it's important to gather as many partner agencies together to find the best solution.

"The folks at NRCS and Trout Unlimited have been awesome and great to work with as they are very knowledgeable about stream restoration and the needs of this community," said Phares. "There haven't been fish in this area since the '85 flood when the fish habitat was destroyed. It would be great not only to bring them back, but also have a good, clean and functional water resource." Joint Chiefs' Landscape Restoration Partnership West Virginia Restoration Venture Success Story: Enhancing Bird Habitat on Forests and Farms Workshop

# 2015 Summary



United States Department of Agriculture Natural Resources Conservation Service

#### Description:

Several priority bird species, including the goldenwinged warbler, the American woodcock, and other game and non-game species, require early successional habitat, which can be a limiting factor in heavily forested regions of West Virginia. In October 2015, partners held a three-day workshop focused on enhancing bird habitat through the use of common forest and agricultural management techniques. Day One focused on management of active pastures, old fields, and young forest habitat, with presentations on using grazing practices and mechanical methods to manage habitats for early successional species. Day Two focused on using forest harvest techniques to enhance habitat for mature forest bird species, such as cerulean warblers. Day Three included field trips to three locations: a Forest Service range allotment, which provides habitat for a variety of game species and sensitive non-game species; a state forest, where different harvest and stand improvement techniques were used to provide enhanced bird habitat while improving forest health; and a private farm, where the landowner's stewardship has resulted in excellent old field, grassland and forest habitat for birds. In addition to providing examples of potential management techniques, the workshop provided information regarding financial incentives and programs available to landowners. Attendees had the option of receiving Society of American Foresters (SAF) Continuing Education Credits for each day of the workshop.



Figure 2: Forest Management Workshop



**Figure 1:** Family of golden-winged warblers banded on USFS range allotment.

#### **Results:**

The workshop was attended by over 60 land managers from four states and a variety of state and federal agencies and non-governmental organizations (NGOs). Many of the participants work regularly with private land owners and can share the knowledge gained at this workshop with them. Given that bird species are declining across the region, it is critical to engage private landowners in bird-friendly land management that provides suitable landscapes. This workshop also provided a template that the Forest Service plans to use, with location-specific modifications and partners, for additional management workshops across the Region, as additional funding becomes available. The forest management workshop grew out of the Joint Chiefs' Landscape Restoration partnership, and exemplifies the purpose of improving the health and resiliency of ecosystems where public and private lands join.

Year initiated: 2015 Contact: USFS, Cathy Johnson, Wildlife Biologist, MNF, <u>catherinejohnson@fs.fed.us</u>; Cindy Sandeno (R9 Regional Office), <u>cmsandeno@fs.fed.us</u>. Partners: Appalachian Mountain Joint Venture, USFS, NRCS, NWTF, WVDOF, WVDNR

# Joint Chiefs' Landscape Restoration Project

West Virginia Restoration Venture Success Story: Documenting the WVRV Story

## 2015 Summary



United States Department of Agriculture Natural Resources Conservation Service

#### **Description:**

The Joint Chiefs' initiative requires media and public relation tools to be developed for each project. The Monongahela National Forest (MNF) partnered with Davis and Elkins College in Elkins, WV in a student training program. The MNF hired Crystal Simons, a senior level Sustainability Studies major and Environmental Sciences Minor, to document the projects for FY 2015. Crystal's job was to interview the project leads and photograph each project before and after completion. A total of 12 projects were documented in this manner. Crystal's general objective was to broaden her understanding of environmental science by observing natural resource management under the mentoring of Stephanie Connolly, Forest Soil Scientist. Each briefing paper for the Monongahela's Joint Chiefs' Landscape Restoration Project was initiated by Crystal.



Figure 1: Crystal Simons, Davis and Elkins College Graduate 2015, Bachelors of Arts in Sustainability Studies Minor: Environmental Science

#### Year initiated: 2015 Contact Person:

USFS Stephanie J. Connolly, Forest Soil Scientist, WVRV Lead, <u>sconnolly@fs.fed.us</u> Kate Goodrich-Arling, Public Affairs Officer (304) 636-1800 Partners: Davis and Elkins College http://www.dewv.edu/



Figure 2: Crystal spent her summer interviewing project leads and photographing activities surrounding the projects.

#### Results:

Crystal described her preferred career direction after working on the WVRV project: "Currently, I am applying to American University for their graduate program in Public Relations and Journalism. It is my goal to develop a more mature and finished education and perspective It is my goal to in environmental and journalism. participate in the opportunities graduate school will offer me to make connections in the workforce in preparations to establish myself in the workforce. In order to broaden my understanding of the international world of journalism, I have plans to apply to the US Peace Corps within three years. My interest in both public servant positions and non-governmental organizational work has drawn me to consider a position in the US Peace Corps. The ability to experience a wide variety of cultures and diversify not only my education but others is inspiring, and using my environmental and communication experience to help developing communities to better themselves while improving the health of the environment is my ultimate goal." The USFS wishes Crystal all the best in her endeavors.