



# 2017 Accomplishments Report

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## Introduction

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The Potomac Highlands are an area nestled in the middle of the Appalachian Mountains that offers a considerably diverse ecosystem. However, challenging this diversity are outside invaders in the form of weeds and pests that harm the native flora and fauna.

To combat this, the Potomac Highlands Cooperative Weed and Pest Management Area (PHCWPMA) was created. The PHCWPMA is a partnership between federal, state, and local agencies, community groups, non-profit organizations, and private landowners working to fight non-native invasive species (NNIS). The PHCWPMA encompasses twelve counties in West Virginia and Virginia. In West Virginia this includes: Grant, Hardy, Pendleton, Randolph, Pocahontas, and Tucker counties and in Virginia this includes: Bath, Highland, Augusta, Rockingham, Page and Shenandoah counties.

PHCWPMA partners strive to perform invasive species treatments on both public and private lands, and on forests and agricultural areas. This report features highlighted projects from the past year as well as a complete list of reported accomplishments from PHCWPMA partners.

Compiled by Haley Hutchins, AFHA AmeriCorps USFS Ecosystems Partnerships.

## PHCWPMA is proud to include the following partners:

- Appalachian Forest Heritage Area (AFHA)
- AmeriCorps
- Blue Ridge PRISM
- Fairmont State University—College of Science and Technology
- George Washington and Jefferson National Forests (USFS– GWJ)
- Monongahela National Forest (USFS– MNF)
- Natural Resources Conservation Service (NRCS)
- Pendleton County Farmland Protection Board
- Private landowners
- The Nature Conservancy (TNC)
- U.S. Fish and Wildlife (USFWS)
- U.S. Forest Service—Northeastern Area State and Private Forestry (USFS NA S&PF)
- U.S. Forest Service—Northern Research Station (USFS– NRS)
- WesMonTy Resource Conservation and Development Project, Inc. (WesMonTy RC&D)
- West Virginia Conservation Agency (WVCA)
- West Virginia Forestry Association
- West Virginia Department of Agriculture (WVDA)
- West Virginia Division of Highways (WVDOH)
- West Virginia Division of Forestry (WVDOF)
- West Virginia Division of Natural Resources (WVDNR)
- West Virginia Native Plant Society (WVNPS)
- West Virginia Rivers Coalition (WVRC)





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## 2017 Highlighted Projects

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The highlighted projects following were just few of the many projects that were carried out by PHCWPMA partners this year. A complete list of reported accomplishments follows on page 7.

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### Removing Autumn Olive Isn't Easy And TNC's Field Crew Has the Scars To Prove It

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BEFORE



AFTER



*TNC's PHCWPMA Field Crew work to eradicate Autumn Olive on a cliff at Cave Mountain.*

On a general day, the PHCWPMA Field Crew drives out to a location that has been mapped out by the crew leader to have an invasive species infestation. A few examples of these invasive species that are targeted for treatment include autumn-olive, bush honeysuckle, tree of heaven, and garlic mustard. Using an assortment of hand and power tools followed by treatment with herbicide, the team works on removing invasive species from the targeted area.

A variety of places have been visited by TNC's field crew. An example, shown above, is Cave Mountain. At this particular site, Tyler Ulmer, Ben Rhodes, and Sarah Fleck had been working multiple days on removing autumn-olive that was growing along a cliff and down the side of the mountain. The team fought their way through the thick brush and thorny plants to hack at the invader. Hand saws and loppers were used along the edge of the cliff and then a brush saw was used on the more open areas of the mountain. As the autumn-olive was cut with the hand tools, herbicide was applied to each of the stumps to prevent the plants from re-growing. As shown in the after picture above, the team was successful in removing the invader from the cliffside.

**By Sarah Fleck and Tyler Ulmer, AFHA AmeriCorps with TNC**



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## The Riparian Pest: Japanese Knotweed

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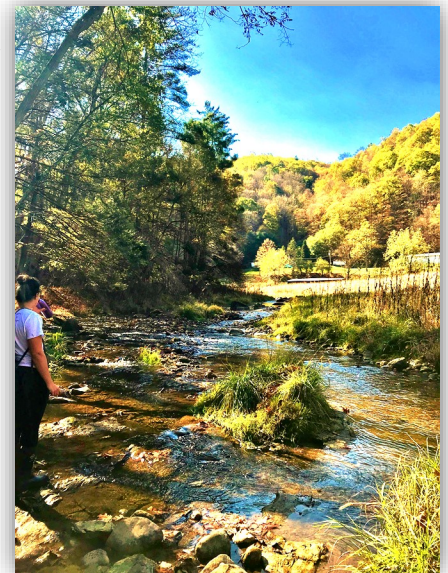


Japanese Knotweed

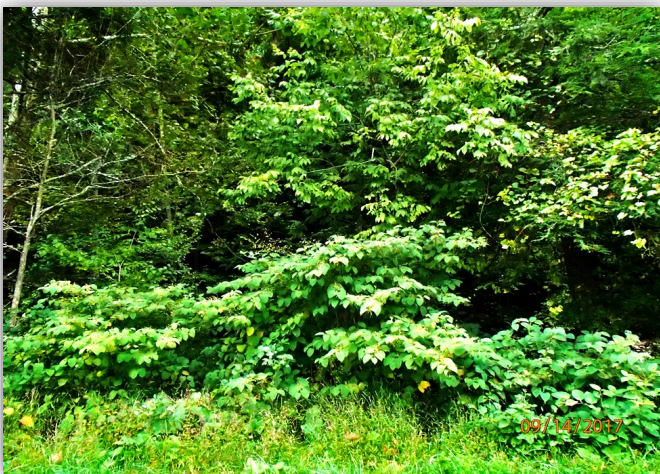
In 2009, a service biologist discovered Japanese Knotweed (*Polygonum cuspidatum*), a noxious species, growing in the Thorn Creek watershed. As a result, the USFWS West Virginia Field Office, in collaboration with other PHCWPMAs partners, is working towards eradicating this invasive plant from our watersheds. The plant is an aggressive, non-native perennial that grows quickly and thickly along river banks, out-competing native species. Knotweed is very adept at spreading; if part of the plant breaks off into the river, it can float downstream and regrow wherever it lands. Therefore, locating and subsequently killing each and every plant is essential for the total eradication of Japanese Knotweed.

In 2010, Partners for Fish and Wildlife (USFWS) gained permission from land owners to survey and treat the banks of the river for knotweed in the Thorn Creek Watershed. Since then, the Partners program expanded its eradication efforts to the Seneca Creek watershed, the Tygart Valley River, the Dry Fork, and the North Fork of the South Branch of the Potomac River. The Partners program continued to monitor knotweed in 2013, 2014 and 2017. In 2017, AmeriCorps members walked close to 30 miles of these rivers recording the GPS locations and approximate square footage of Japanese Knotweed plants. This effort will be continued into early 2018 so that these plants can be treated in the summer of 2018.

Knotweed, similar to many invasive plants, is tricky to kill. It has an extensive rhizome system that expands with the plant. Thus, simply cutting the plant above ground is ineffective in removing the whole plant. Timing is essential in effectively eliminating these plants. In June, the



USFWS AmeriCorps, Hannah Lieberman surveys a stream for Japanese Knotweed.



A large infestation of Japanese Knotweed

plants are cut to the stem, stimulating the rhizome to invest energy and resources into the above ground biomass, thereby diminishing the belowground biomass. In late summer or early fall, the remaining stems and rhizomes are sprayed with an appropriate glyphosate-based herbicide, weakening the remaining plant. This method is proven to be the most effective overall. The monitoring will continue into the future to attempt to permanently eliminate Japanese Knotweed from these waters.

**By Hannah Lieberman, AFHA AmeriCorps with USFWS**



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## The Nature Conservancy and the PHCWPMA Field Crew

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This year, the PHCWPMA field crew contributed to a season-long cooperative NNIS control project involving the US Forest Service, The Nature Conservancy (TNC), the Cheat Mountain Club, and local landowners from the Hatchery Run Homeowners Association. This major undertaking was focused on removing invasive Tatarian honeysuckle from the Cheat Bridge area on Cheat Mountain.

There were three main steps to the project.

1. The Forest Service used a mechanized mulcher provided by the non-profit Ruffed Grouse Society to shred the largest, densest honeysuckle thickets down to their stumps.
2. Stumps were given time to re-sprout, depleting the energy stores in their roots, and then the PHCWPMA finished the plants off by applying herbicide to that new growth.
3. Remove smaller shrubs from areas the mulcher couldn't reach, including TNC's Upper Shavers Fork Preserve and several adjacent private properties.

In addition, TNC held a workshop to teach local landowners how to identify and treat invasive honeysuckle. Despite the rainy weather, over a dozen landowners attended the workshop, showing impressive commitment to keeping their area invasive-free!

**By Ben Rhodes, TNC Ecological Restoration Coordinator**



*2017-2018 TNC AmeriCorps, Sarah Fleck and Tyler Ulmer stand triumphantly after defeating Autumn Olive at Cave Mountain.*

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## Discover Nature Day 2017

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*Kids digging into a decomposing log at Discover Nature Day 2017.*

Discover Nature Day was held again in 2017 at the Seneca Rocks Discovery Center. Put on by the U.S. Forest Service and partners, about 400 visitors attended the educational event. The weather was rainy and cold, but that did not deter the patrons from learning about nature and all that it has to offer!

The activities included fly-tying, rotten log destruction, a bat cave, and live animal shows featuring raptors and snakes. Fourteen groups participated in providing nature education featuring everything from pollinators to fish to habitat fragmentation. The West Virginia Department of Forestry brought a decomposing log retrieved from the forest and allowed the kids to dig in! They found bugs and fungi galore and learned about how decomposition is a vital part of the ecosystem.

**By Haley Hutchins, AFHA AmeriCorps with USFS**

# PHCWPMA Accomplishments

## 2017

Following is a complete list of the reported projects completed by the PHCWPMA partners with-in the PHCWPMA boundaries with in the last year.

### Invasive Plant Treatments

- **THE NATURE CONSERVANCY (TNC):** The PHCWPMA field crew in total removed 1151 acres of non-native invasive species.; of which 360 acres are on private lands and 791 acres are in the Monongahela National Forest. The crew treated 17 species on 33 different sites, including areas with rare or endangered plants.
- **WEST VIRGINIA DIVISION OF FORESTRY (WVDOF):** Treated 2.5 acres of critical red spruce habitat in Kumbrabow State Forest for Japanese Stilt Grass.
- **NATURAL RESOURCES CONSERVATION SERVICE (WV NRCS):** Performance Results System (PRS) and Integrated Data for Enterprise Analysis (IDEA) reports WV NRCS implemented 682 acres of Brush Management in Grant, Hardy, Pendleton, Randolph, Tucker and Pocahontas counties in FY 2017 (Oct 1, 2016 – September 30, 2017).
- **WEST VIRGINIA DIVISION OF AGRICULTURE (WVDA):** Infestations of mile-a-minute, yellow toadflax, and purple loosestrife were treated with biocontrol agent, the weevil. See Resistance and Biocontrol Section.



2016-2017 TNC AmeriCorps, Angela Burdell, Owen Peet, Breezey Snyder, and Liza Morse doing some rare plant monitoring.



Example of Japanese Knotweed treated by USFWS.

- **U.S. FISH AND WILDLIFE SERVICE (USFWS) :** Continued to treat 10.57 acres of Japanese Knotweed in Randolph County and gather coordinates for 2018 treatments.
- **GARLIC MUSTARD CHALLENGE:** During the spring of 2017, 156 volunteers pulled approximately 13,640 pounds of garlic mustard at different locations in the Monongahela National Forest over the course of a month. See Education & Outreach section.
- **CANAAN VALLEY NATIONAL WILDLIFE REFUGE (CVNWR):** 207.35 acres of the refuge (along trails, roads, and within meadows) were treated for Japanese Stilt Grass, Autumn Olive, Multi-flora Rose, and Japanese Barberry by use of cutting/herbicide application or hand pulling by staff and AFHA AmeriCorps members.



## Invasive Plant Treatments

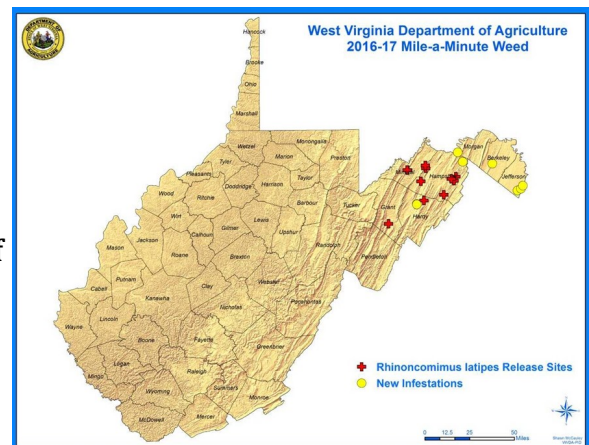
- **CANAAN VALLEY NATIONAL WILDLIFE REFUGE (CVNWR):** Areas of Japanese Stilt Grass were manually removed along roads in Old Blackbear Woods, a housing development adjacent to the Refuge and along Camp 70 Road on the Little Canaan WMA .
- **CANAAN VALLEY NATIONAL WILDLIFE REFUGE (CVNWR):** AFHA AmeriCorps and the TNC Ecological Restoration Team treated Multiflora Rose and Autumn Olive on 41 acres of grassland and 72 acres of shrubland/old field.
- **CANAAN VALLEY NATIONAL WILDLIFE REFUGE (CVNWR):** 1.17 acres of the refuge were monitored for Garlic Mustard, and all plants found were pulled by hand. 3 volunteers helped staff during the spring 2017 pulls.

## Resistance & Biocontrol

- **WEST VIRGINIA DIVISION OF AGRICULTURE (WVDA):** A total of 3,500 weevils received from the Phillip Alampi Beneficial Insect Rearing Laboratory were released at 7 locations in 3 counties (Grant, Hampshire and Hardy) during the summer of 2017 in an effort to control mile-a-minute infestations. Of these weevil release sites: 1 release site was in Grant County and 1 was in Hardy County.

### OUTSIDE PHCWPMMA BOUNDARIES:

- **WEST VIRGINIA DEPARTMENT OF AGRICULTURE (WVDA):** During the month of August 2016, approximately 100 *R. latipes* weevils were collected from an established weevil population at Edwards Run WMA and re-released at one site in Hampshire County.
- **WEST VIRGINIA DEPARTMENT OF AGRICULTURE (WVDA):** In order to meet landowner needs during the months of June and July 2017, approximately 500 *R. latipes* weevils were collected from an established weevil population at Edwards Run WMA and re-released at 4 sites in 2 counties, Hampshire and Mineral.
- **WEST VIRGINIA DEPARTMENT OF AGRICULTURE (WVDA):** A total of 100 *M. janthinus* beetles were released at one location in Mineral County to treat Yellow Toadflax Infestation.
- **WEST VIRGINIA DEPARTMENT OF AGRICULTURE (WVDA):** Purple loosestrife: A total of 6 new sites were recorded in Hampshire, Jackson, Mercer, Summers, and Upshur Counties. 7 previous release sites were also visited and healthy populations were recorded. Staff attempted to collect biocontrol agents from these sites during the spring and summer of 2017 but were unsuccessful.





## Monitoring & Research

- **WEST VIRGINIA DEPARTMENT OF AGRICULTURE (WVDA):** Staff recorded 8 new infestations of mile-a-minute, including 1 new infestation site in Hardy County.
- **WEST VIRGINIA DEPARTMENT OF AGRICULTURE (WVDA):** Scouting was conducted for suitable yellow toadflax biocontrol sites. During the late summer of 2016 and spring and summer of 2017, 11 new sites were recorded. In August 2017, staff visited 2 post release sites in Pendleton County.
- **WEST VIRGINIA DEPARTMENT OF AGRICULTURE (WVDA):** Sites were surveyed for Russian Knapweed in the late summer and early fall of 2016 and during the spring and summer of 2017. 2 new sites were recorded but were deemed negative after further inspection. At this point in time, no populations of Russian Knapweed are known to occur in the state.
- **WEST VIRGINIA DEPARTMENT OF AGRICULTURE (WVDA):** Scouting was conducted for suitable purple loosestrife biocontrol sites.
- **USFS NORTHERN RESEARCH STATION:** Conducted sampling for exotics and native plant species of 29 sites in Tucker and Randolph counties this past summer as a part of a long-term study that requires resampling every 5 years. The sites are 95+ years of age and have no recent anthropogenic disturbance but may have natural disturbance (tree falls). The goal is to document exotic species abundance (which despite being undisturbed are increasing) and determine a rate of change in species (both exotic and native understory species).
- **USFS NORTHERN RESEARCH STATION:** Paper in press that utilized research on 22 sites within the PHCWPMMA boundaries; mainly Pendleton, Grant, and Hardy counties in WV and Shenandoah County in VA. This research evaluated understory vegetation across two physiographic regions, two topography types (NE and SW facing slopes) and four different management regimes
- **CANAAN VALLEY NATIONAL WILDLIFE REFUGE (CVNWR):** 207.35 acres of the refuge (along trails, roads, and within meadows) were monitored for Japanese Stilt Grass, Autumn Olive, Multi-flora Rose, and Japanese Barberry.



*Yellow Toadflax exhibiting significant weevil feeding damage (right) at Pike Knob as a result of a biocontrol project.*

## Education & Outreach

- **WEST VIRGINIA DEPARTMENT OF AGRICULTURE (WVDA):** Staff corresponded with landowners who were interested in weevil biocontrol releases on their property. Mile-a-minute weed literature was distributed to all landowners interested in the project.
- **WEST VIRGINIA DEPARTMENT OF AGRICULTURE (WVDA):** Pest alerts and ID cards specific to West Virginia have been created and distributed for Mile-A-Minute weed, Yellow Toadflax and Russian Knapweed.
- **WEST VIRGINIA DEPARTMENT OF AGRICULTURE (WVDA):** Two-hundred “Don’t Move Firewood” outreach bags were filled with outreach handout materials including pest ID cards, EAB/ALB activity booklets and pencils to West Virginia State Parks to distribute to visitors. Display units were delivered to West Virginia State Parks including: Blackwater Falls State Park and Lost River State Park. The displays included informational trees, discovery tables with examples of gypsy moth egg masses, an Asian longhorned beetle adult, an emerald ash borer adult, larva and examples of infested wood, spotted lanternfly adult and nymphs and an information holder with numerous coloring sheets, pest alerts and pest id cards.
- **PETERSBURG CITIZEN SCIENCE PROGRAM:** A 4-week program for the 5th graders at Petersburg Elementary educated the students on NNIS and their treatments. The program culminated in a field trip to the forest where the students removed Autumn Olive.
- **CANAAN VALLEY NATIONAL WILDLIFE REFUGE (CVNWR):** Hosted an “Invasive Species Week” on the CVNWR Facebook page during February 2017. The goal was to educate the public about the most common invasive species in the refuge, how to manage them, and how to prevent their spread.
- **DISCOVER NATURE DAY:** Approximately 400 people attended Discover Nature Day at the Seneca Rocks Discovery Center despite the cold, rainy weather. 14 groups participated to provide NNIS and other information to the public. 44 of the attendees volunteered to pull Garlic Mustard during the event, see Garlic Mustard Challenge.



TNC AmeriCorps talk to the public at Discover Nature Day 2017.

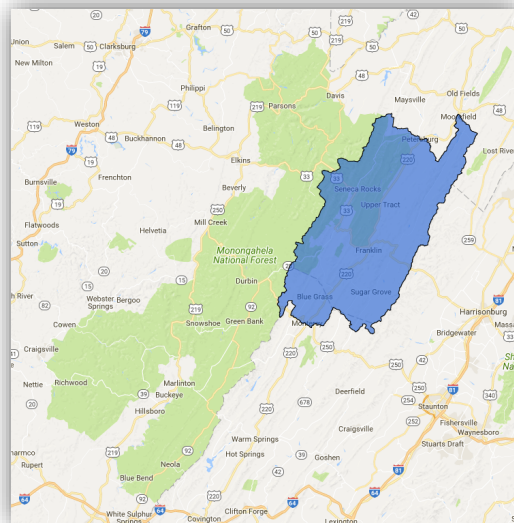


## Education & Outreach

- GARLIC MUSTARD CHALLENGE:** Last spring, USFS in conjunction with partners and volunteers coordinated the Garlic Mustard Challenge. Over the course of about a month, approximately 13,640 pounds of Garlic Mustard were removed by 156 volunteers. See table below.

Date	Location	# of Volunteers	Pounds of Garlic Mustard Removed (lbs)
4/11/2017	Blue Bend	17	595
4/28/2017	FR90	38	1,120
4/29/2017	Ice Mountain	24	1,960
5/6/2017	Discover Nature Day	44	2,152.5
5/6/2017	Greenbrier State Forest	12	2,135
5/13/2017	Thunderstruck	N/A	455
5/13/2017	Bickle Knob	12	875
5/14/2017	Nelson Rocks	9	1,102.5
Multiple	Multiple Locations	1 (Austin Price)	140
Multiple	Canaan Valley Wildlife Refuge	N/A	1,085
Multiple	WVU Arboretum	N/A	2,020
<b>TOTAL</b>	<b>&gt; 11 Locations</b>	<b>156 Volunteers</b>	<b>13,640 lbs. of Garlic Mustard</b>

- FACEBOOK:** the PHCWPMA page has 330 likes and has reached 1,261 people through posts this year. [PHCWPMA Facebook Page](#)
- PHCWPMA WEBSITE:** The PHCWPMA website remains updated and active. (<http://www.phcwpma.org/>)



*Map of the PHCWPMA that can be found on our website.*