

# Warm Springs Mountain Restoration Project 2017 Avian Monitoring Summary

## Avian Monitoring in the Allegheny Highlands

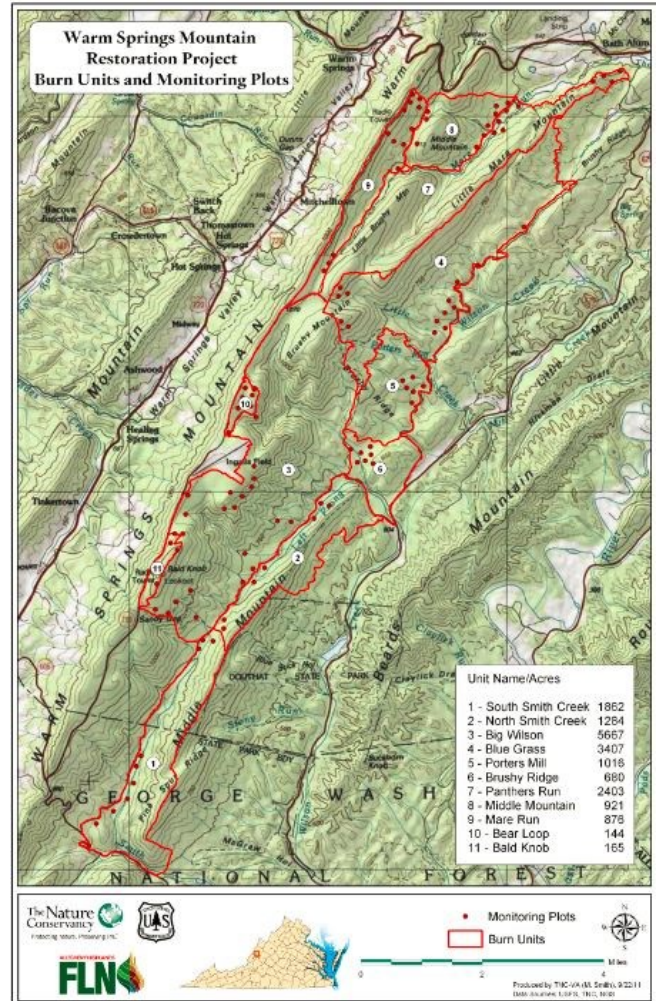
A seventh year of avian monitoring was completed within the 18,000-acre Warm Springs Mountain Restoration Project (WSMRP), a collaborative restoration project spanning lands owned by The Nature Conservancy (TNC), the George Washington and Jefferson National Forests (GWJNF), which is a part of the Lower Cowpasture Restoration Project. Developed by the Central Appalachians Fire Learning Network (FLN) partnership, the WSMRP strives to restore the historical fire regime in Appalachian pine-oak forests through controlled burns and to monitor the landscape-scale responses of associated bird and plant communities. Since 2008, FLN partners have conducted controlled burns on five units totaling nearly 7,400 acres within the project area. An additional 880 acres were burned by a managed wildfire. These units include: Middle Mountain, Mare Run, Big Wilson, Bear Loop, and Porter's Mill.



In his third year of avian monitoring, Allen Hale sets up a range pole for photo monitoring on the Middle Mountain burn unit. The photos paired with monitoring data are used to show landscape-scale responses of controlled burning on bird and plant communities. Photo © Nikole Simmons/TNC

## Methods

Using pre- and post-burn ecological monitoring plots, an enthusiastic group of TNC staff and volunteers worked together to survey 107 plots. These plots were monitored during the peak of avian breeding season (mid-May through June). After recording weather conditions, individual birds were identified by sight and sound within a 100-meter fixed radius circle and recorded in one-minute intervals over a 10-minute count session.



Science Tech Zoe McGee scans for birds on Bald Knob. Scanning for birds is an important tactic of avian monitoring as some birds may be present, yet silent. Photo © Nikole Simmons/TNC



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### Species Highlight

Pileated Woodpeckers are a striking and large mixed forest bird species. They inhabit large, standing dead trees and have a loud, whiny call. Feeding on insects and insect larvae, they make large rectangular cavities in snags. The Avian Team observed a total of 22 Pileated Woodpeckers during avian surveys. Photo © Tringa Photography

### Focal Species

Although each bird recorded in this survey is important, the presence of seven focal species are indicative of changes in the landscape due to fire effects. The focal species for the Allegheny Highlands are: Black-and-White Warbler (BAWW), Eastern Towhee (EATO), Eastern Wood Peewee (EAWP), Hooded Warbler (HOWA), Ovenbird (OVEN), Scarlet Tanager (SCTA), and Worm-eating Warbler (WEWA). These species were chosen for their abundance, high detection probabilities, foraging niches, and nesting habitat. Preliminary trends in abundance of these species will help to document changes in habitat and inform future management decisions.

Figure 1 shows the total bird count since 2012 has increased overall. This includes an increase in the absolute abundance of focal species. Early successional species, defined as species that occupy an area that has been subjected to a disturbance, are represented by the green trend line. After prescribed burning, the abundance of successional species has doubled since 2012. These species include: Eastern Towhee, Gray Catbird, Indigo Bunting, Chestnut-sided Warbler, and Mourning Dove.

	2011	2012	2013	2014	2015	2016	2017
<b>Birds</b>	763	893	948	1119	1132	1214	1292
<b>Bird Species</b>	52	50	53	57	58	56	60
<b>Shannon-Weiner Index</b>	3.17	3.19	3.26	3.39	3.35	3.31	3.37

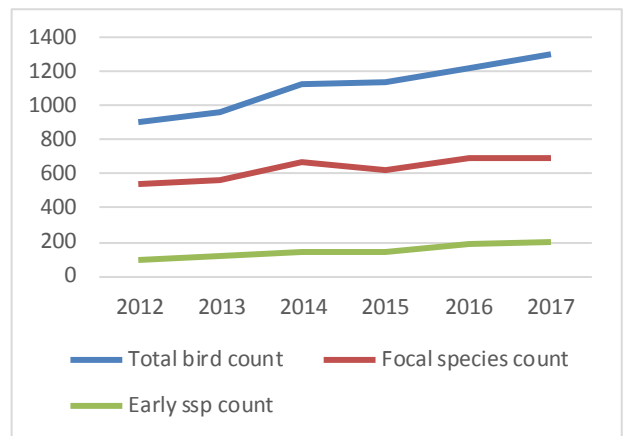


Figure 1

### Results

A higher number of individuals was recorded this spring over previous years, with a total of 1,292. This season has also been the highest number of species recorded with 60 species, and the addition of three newly recorded species during a survey in the last seven years. The mean relative abundance of the seven focal species show slight fluctuations between years. These preliminary results suggest that although there are positive and negative changes before and after a prescribed fire, these seven focal species remain resilient both in geographic space and over time.

### Noteworthy 2017 Species Additions:



Alder Flycatcher, House Wren, and Barred Owl. Photo © Tringa Photography

Special thanks to our great volunteers and monitoring team for all of their help this season: Nikole Simmons, Laurel Schablein, Zoe McGee, Jean Lorber, Jenny Henning, Erin Clay, Allen Hale, James Shelton, Bob Biersack, and Dan Eichelberger

Sources cited: [allaboutbirds.org](http://allaboutbirds.org)  
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[Nature.org/alleghenyhighlandsprogram](http://Nature.org/alleghenyhighlandsprogram)

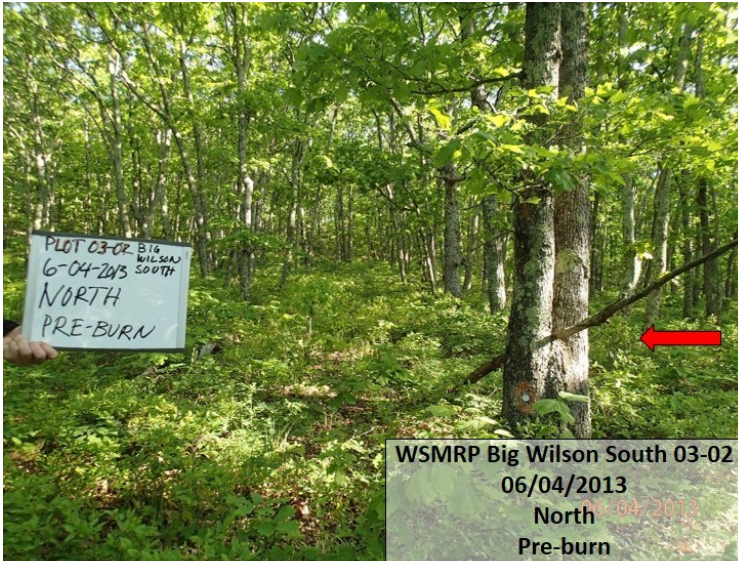




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## Big Wilson South Burn Unit, Plot 03-02 Snapshot

Plot Aspect: 135° Southeast, Plot Elevation: 3,829 ft.



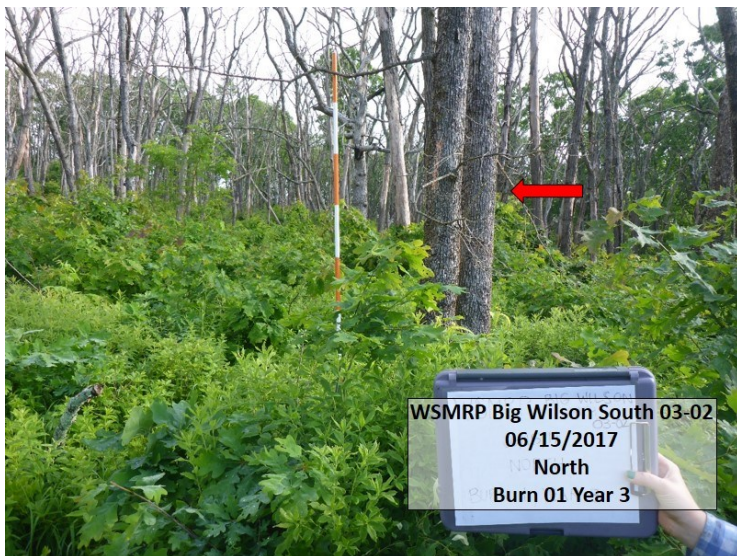
### 2013 Pre-Burn (9 species)

Eastern Wood Pewee, Ovenbird, Eastern Towhee, Dark-eyed Junco, Red-eyed Vireo, Black-throated Blue Warbler, Pileated Woodpecker, Yellow-billed Cuckoo and Cedar Waxwing



### 2015 Burn 1, Year 1 (12 Species)

Eastern Wood Pewee, Ovenbird, Eastern Towhee, American Robin, Dark-eyed Junco, Chestnut-sided Warbler, American Redstart, Great-crested Flycatcher, Canada Warbler, Hairy Woodpecker, Indigo Bunting and American Goldfinch



### 2017 Burn 1, Year 3 (10 Species)

Eastern Wood Pewee, Ovenbird, Rose-breasted Grosbeak, Eastern Towhee, Chestnut-sided Warbler, Scarlet Tanager, Black and White Warbler, Black and White Warbler, Blue-headed Vireo and Cedar Waxwing

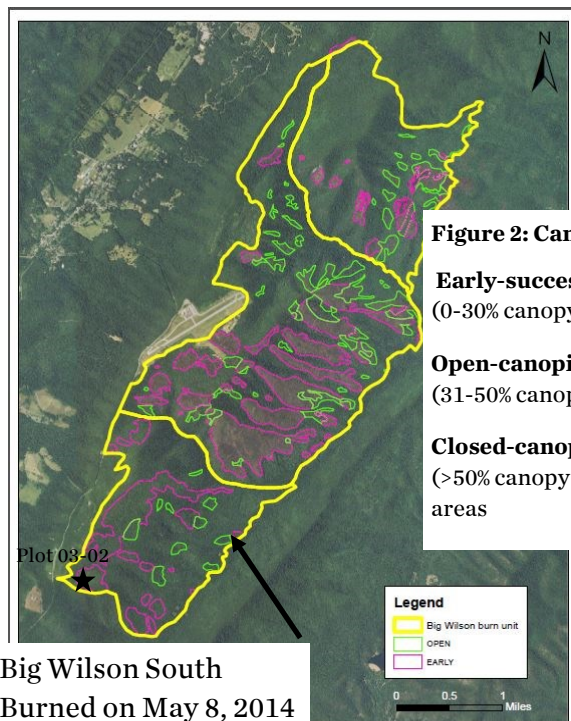


Figure 2: Canopy Analysis

**Early-successional forest**  
(0-30% canopy cover) Purple

**Open-canopied forest**  
(31-50% canopy cover) Green

**Closed-canopied forest**  
(>50% canopy cover) All other areas