

# Warm Springs Mountain Restoration Project

## 2015 Avian Monitoring Summary



### Avian Monitoring in the Allegheny Highlands

The fifth year of avian monitoring within the 18,000-acre Warm Springs Mountain Restoration Project, a partnership between The Nature Conservancy, George Washington and Jefferson National Forests (GWJNF) and the Central Appalachians Fire Learning Network (FLN), has been completed. Since its initiation in 2008 the FLN has striven to restore the historic role of fire in Appalachian pine and oak forests and woodlands. By monitoring bird populations in both burned and unburned areas we are observing landscape-scale response of these birds to a range of fire effects and habitat changes. During the past 7 years, 8,500 acres has been burned within the project area through

prescribed fire or managed wildfire.



Allegheny Highlands Science Technician Jessie Gorges records all species during a survey in a post-burn area. Photo © Nikole Swaney/TNC



Three additional species were detected this year for the first time during the survey: Wild Turkey, Eastern Screech Owl, and Yellow-bellied Sapsucker. Photos © Dick Rowe

### Methods

One hundred seven plots, stratified across a diversity of habitat types, were surveyed during the peak of breeding season (mid-May through June) by a combination of TNC staff and volunteers. At each point all individual birds were recorded in one-minute intervals for ten minutes. Birds are identified by either sight or sound within a 100-meter fixed radius.

**Table 1: Summary of 2011-2015 Avian Monitoring**

	2011	2012	2013	2014	2015
Species	52	50	53	57	58
Individuals	763	893	948	1119	1132
Shannon Diversity Index	3.17	3.19	3.26	3.39	3.35

# Focal Species

While all birds are recorded during surveys, seven species are the focus for detecting changes in the landscape; 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) were chosen for their abundance, high detection probabilities, foraging niches and nesting habitat preferences. The preliminary population trends for these species may indicate changes in habitat condition and help inform future management decisions.

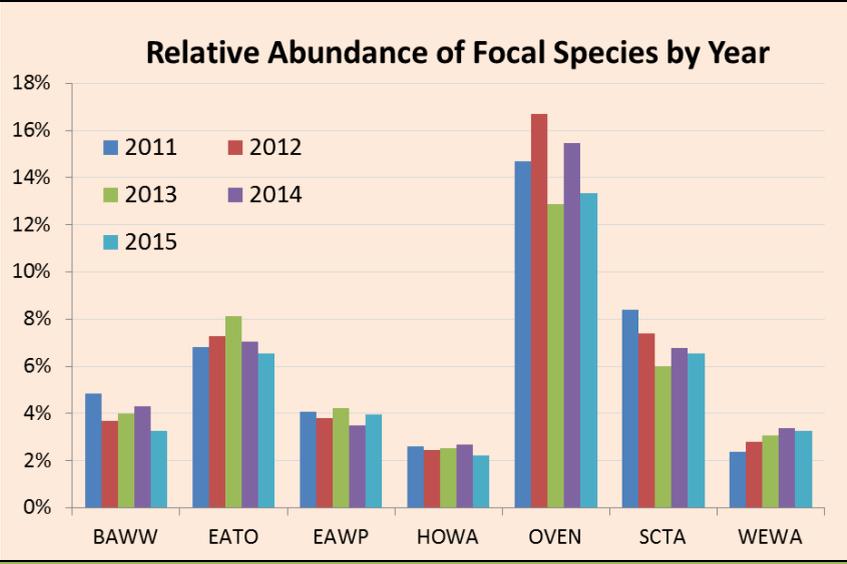


Figure 1: Mean relative abundance of focal species from years 2011-2015 throughout 107 plots in the avian monitoring program. Although there are yearly fluctuations, none of the focal species are showing significant annual trends.

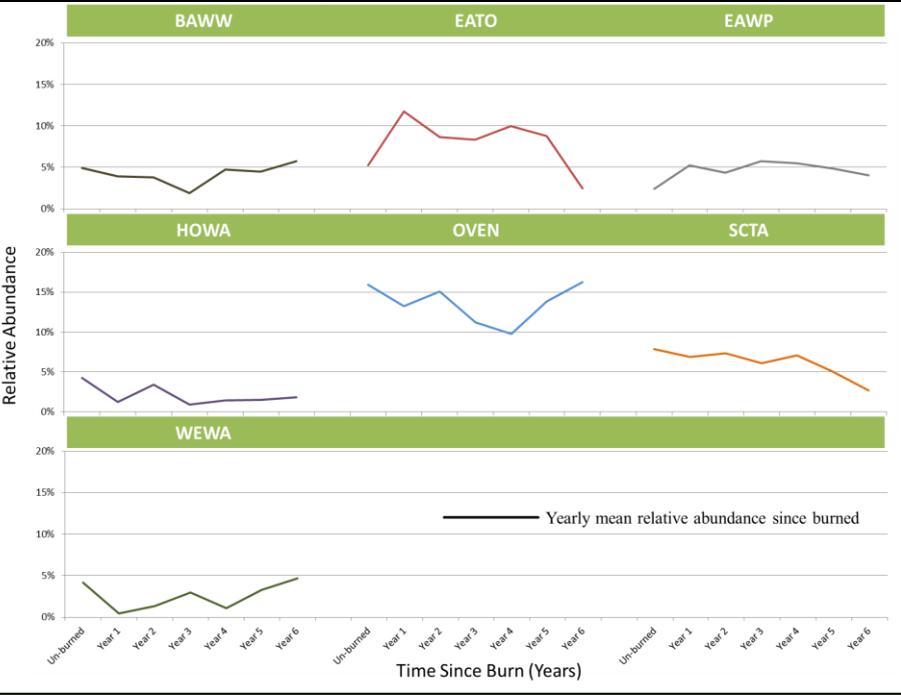


Figure 2: Mean differences in relative abundance of seven focal species since the last fire entry.

## Results

A higher number of both individuals and species was recorded than in previous years, but the overall species diversity was lower than the previous two years (Table 1). The relative abundance of the seven focal species throughout the whole project area has remained relatively constant for all the years of survey (Figure 1). However, there are changes in the relative abundance of the focal species in response to fire (Figure 2). These preliminary results suggest that although avian species show positive and negative responses to prescribed fire their populations are resilient both in geographic space and over time.

### Species Highlight:

The male Black-throated Green Warbler sings persistently during the breeding season. One individual has been observed singing 466 songs in one hour.



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