

Warm Springs Mountain Restoration Project

2016 Avian Monitoring Summary



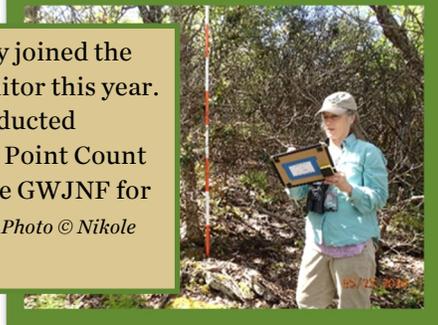
Avian Monitoring in the Allegheny Highlands

A sixth 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) and the George Washington and Jefferson National Forests (GWJNF). 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 four 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.

Fire has thinned the shrub layer, making room for seeds to germinate. Left: Plot 05-01 in the Porter's Mill burn unit taken before burning in August 2011. Right: Plot 05-01 in the Porter's Mill burn unit taken in August 2014, two years after burning in the Easter Complex Wildfires in 2012. *Photo © TNC*



Terry Flaherty joined the team as a monitor this year. Terry has conducted Breeding Bird Point Count Surveys for the GWJNF for over 20 years. *Photo © Nikole Simmons/TNC*



17-year cicadas emerged on Warm Springs, which made for many sightings of the insect and molts, and many loud mornings filled with cicada calls. *Photo © Zoe McGee/TNC*

Methods

Using pre- and post-burn ecological monitoring plots, an enthusiastic group of TNC staff and volunteers worked together to survey one hundred seven plots of varying habitat. These plots were monitored during the peak of avian breeding season (mid-May through June). After recording weather conditions (e.g., cloud cover, wind speed, etc.), individual birds were identified by ocular and/or acoustical characteristics within a 100-meter fixed radius circle and recorded in one-minute intervals over a 10-minute count session.

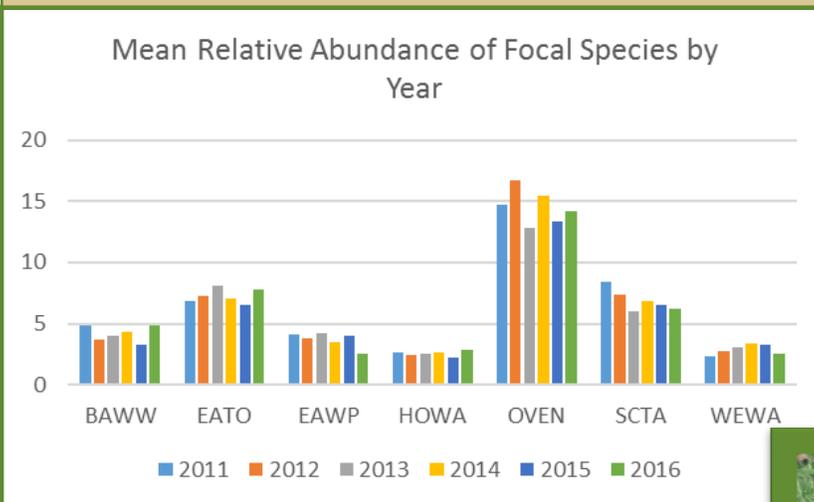
Table 1: Summary of Avian Monitoring Metrics

	2011	2012	2013	2014	2015	2016
Individuals	763	893	948	1119	1132	1214
Species	52	50	53	57	58	56
Shannon-Weiner Index	3.17	3.19	3.26	3.39	3.35	3.31

Focal Species

Although each bird recorded in this survey is significant, the presence of seven focal species are influential to distinguishing 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. Tracing preliminary trends in abundance of these species will help to document changes in habitat and inform future management decisions.

Table 2: Mean Relative Abundance (% of total population) of each Focal Species between 2011-2016



Results

A higher number of individuals was recorded this spring over previous years, with a total of 1,214. The number of species was slightly lower than in 2014 and 2015 and in turn, the diversity index was also lower (Table 1). The mean relative abundance of the seven focal species show slight fluctuations between years in response to prescribed fire (Table 2). These preliminary results suggest that although there are positive and negative avian responses to prescribed fire, these seven focal species remain resilient both in geographic space and over time.

Special thanks to our great volunteers Allen Hale and James Shelton for their monitoring help!

Sources cited: allaboutbirds.org, Tringa Photography, Dick Rowe Photography

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For more information: visit nature.org/alleghenyhighlands

Two newly recorded species for 2016. Left: Blackpoll Warbler.

Right: Common Yellowthroat. Photo © Tringa Photography



Highlights of the 2016 Avian Monitoring Season

◆ 5 species were added to the 2016 survey:

Eastern Phoebe
Turkey Vulture
Common Yellowthroat
Blackpoll Warbler
Prairie Warbler

◆ Monitors had two encounters with Wild Turkey hens

Monitors observed a nest at the base of a tree with 12 eggs

Monitors observed a hen and several chicks



Wild Turkeys inhabit mature forests equipped with nut bearing trees such as hickory or oak. Their typical clutch size is about 4-17 eggs. Photo © Dick Rowe

Species Highlight

Cedar Waxwings tend to inhabit mixed woodlands. They are one of the few North American birds that specialize in eating fruit. They like to eat cedar berries in the winter, hence the name Cedar Waxing. Monitors observed 17 this spring, including a group gathering nesting material. Photo © Dick Rowe

