



## Fire Learning Network Notes from the Field

# Central Appalachians FLN 2014 Year in Review

### Controlled Burning

Since its formation in 2006, the Central Appalachians FLN's growth in both diversity and strength of our partnership has been key to restoring the role of fire at an ecologically meaningful scale. Increased communication and coordination has resulted in nearly all controlled burns being conducted by multiple partners regardless of land ownership, and completion of memoranda of understandings between founding and new partners has enabled treatments to expand into additional geographies and has directed significant funding towards our restoration efforts.

In 2014, Central Appalachians FLN partners burned over 36,000 acres in Virginia, West Virginia, Kentucky and Pennsylvania. Burns were conducted on several new partner lands this year, including Douthat State Park in Virginia, New River Gorge National River in West Virginia, and Bethlehem (Water) Authority lands in Pennsylvania. Several large-scale burns were conducted over multiple

days allowing for slow-paced and deliberate firing operations and longer residence times on the landscape.

### Prescribed Fire Councils

Active prescribed fire councils in several states continue to make contributions to the FLN and vice versa. Membership continues to increase in the Pennsylvania Prescribed Fire Council, which now has 144 members—twice what participation was four years ago. This council also successfully obtained status as a 501(c)(3) not-for-profit organization. In Virginia, partners recently reinvigorated a council, holding its first meeting after a three-year hiatus, electing new officers, and working collaboratively on new training offerings for the 2015 Virginia State Wild-fire Training Academy.

### Non-Native Invasive Species Control

Thanks to continued support from Scaling-up to Promote Ecosystem Resiliency (SPER), FLN partners were able to treat 147 acres of non-native invasive species (NNIS) in Highland Wildlife Management Area (managed by the Virginia Department of Game and Inland Fisheries) and the George Washington National Forest. Many of these acres were treated in burn units or special biological areas where fire-adapted species are present. SPER funding helped leverage NNIS control efforts initiated by the Potomac Highlands Cooperative Weed and Pest Management Area (CWPMA) and effectively linked those activities with management actions taken by the FLN. The CWPMA field crew treated an

additional 1,343 acres in the Monongahela National Forest, on lands owned or managed by The Nature Conservancy and on other privately-owned lands in West Virginia.



CWPMA NNIS field crew at work.

Photo: TNC/Ben Rhodes

### Burning for Bats

The U.S. Geological Survey's Virginia Cooperative Fish and Wildlife Research Unit at Virginia Tech received funding from the Joint Fire Science Program to begin a comprehensive bat research and monitoring program in partnership with the USDA Forest Service, Radford University, Virginia Department of Game and Inland Fisheries and the Conservancy. The project will document bat species and their foraging and tree-roosting habitat use on Warm Springs Mountain Preserve and the adjacent George Washington National Forest, with a particular focus on forests being restored through controlled burning.

Previous work suggests that forest conditions with more open canopy cover and abundant standing snags improves habitat for many bat species. Last fall, graduate students Lauren Austin, Emily Thorne and



Aaron Bennington and Lindsey Curtin (USFS) patrol the Blue Suck Burn in March 2014.

Photo: TNC/Sam Lindblom

Alex Silvis from Virginia Tech started an initial acoustic assessment of bats on Warm Springs Mountain and documented the pre-hibernation foraging occurrence of Indiana bats, northern long-eared bats and tri-colored bats (all species impacted by white-nose syndrome). Because these species overwinter in local caves, this is a positive sign that enough individuals remain to be studied in the years to come.

**Field work in 2015** will focus on using radio-telemetry to track individual tagged females to their day-roosts, and then comparing day-roost use, characteristics and roost-switching between bats in burned and un-burned areas.



In August, Virginia Tech grad students Alex Silvis and Lauren Austin placed bat acoustic detectors at Warm Springs Mountain Preserve.

*Photo: TNC/Marek Smith*

## Fire Effects Monitoring

**Significant progress** has been made in all FLN landscapes to implement effectiveness monitoring programs. Members of the Monitoring Working Group in the Heart of the Appalachians landscape in Virginia and West Virginia completed data entry into a Feat/Firemon Integrated (FFI) database for all 401 macroplots monitored by the Conservancy and the George Washington and Jefferson National Forests. The Monitoring Working Group also teamed up with the Forest Service

FFI lead, Duncan Lutes, to host two webinar trainings that gave users an in-depth look at the Data Analysis and Reports and Query Builder tools in the FFI program. Trainees used real data to practice the exercises and produce several reports and graphs of vegetation data.

**On the Daniel Boone National Forest**, the Stearns and London Ranger Districts installed over 40 new vegetative monitoring plots located across their landscape and in Pennsylvania, the Conservancy and the Pennsylvania Game Commission contracted with Arcadia University to provide fire effects monitoring for their growing program.



The FLN Monitoring Working Group met in mid-November for training and monitoring coordination.

*Photo: TNC/Marek Smith*

## Avian Monitoring

**We completed a fourth year** of monitoring avian community response to landscape-scale controlled burning in the Warm Springs Mountain Restoration Project, a collaborative initiative spanning lands owned by the Conservancy and the George Washington and Jefferson National Forests in the Allegheny Highlands of Virginia. Preliminary results indicate that while specific avian species



David Fox and Laurel Schablein presented a poster on the FLN's avian monitoring program at a Partners in Flight conference in October.

*Photo: TNC/Nikole Swaney*

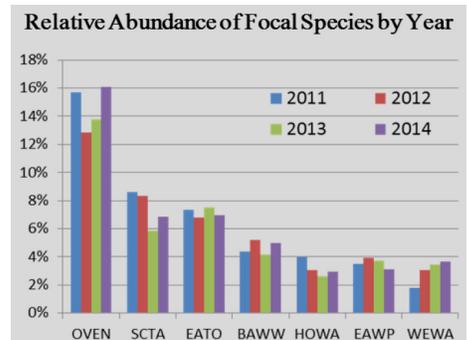


PIO station at the Blue Suck Burn, with maps, handouts and fire tools to engage visitors and support outreach.

*Photo: TNC/Marek Smith*

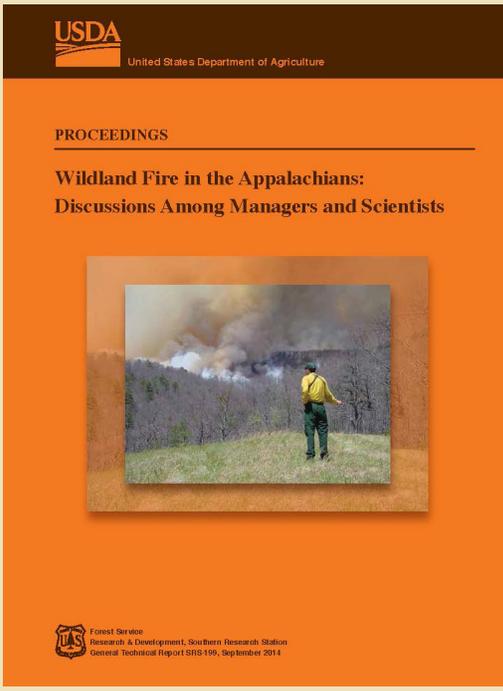
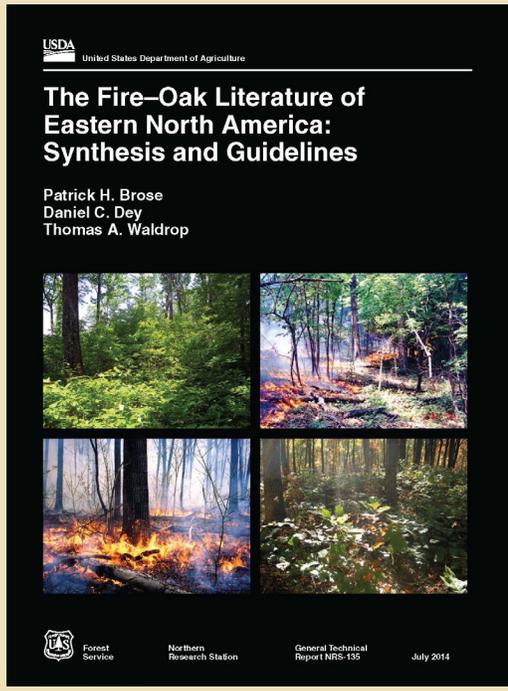
The Heart of the Appalachians landscape increased its efforts to position public information officers at highly visible controlled burns this year. Staff were able to enlighten curious passers-by about the ecology and history of fire in the Appalachians.

can show positive or negative responses to prescribed fire, their populations are resilient in geographic space and over time. Even after fire has been reintroduced to over 50% of the landscape, birds with negative associations to burned habitat show stable abundances across the broader landscape. Temporal effects of fire on habitat are very likely constrained to relatively short time horizons. A poster of this work was presented at the fall 2014 Northeast and Southeast Partners in Flight joint conference in Virginia Beach.



Mean relative abundance of focal species in the years 2011-2014 from 107 plots in the avian monitoring program. Relative abundance is the percent of the total bird population a species represents. Although there are yearly fluctuations, none of the focal species are showing significant trends.

*Table: Warm Springs Mountain Restoration Project Avian Monitoring 2014 Summary*



**CONSORTIUM OF APPALACHIAN FIRE MANAGERS & SCIENTISTS**

Through the work of the Consortium of Appalachian Fire Managers and Scientists (CAFMS), a key partner in this FLN, two invaluable technical resource reports were published in 2014. Both *The Fire-Oak Literature of Eastern North America: Synthesis and Guidelines* and *Wildland Fire in the Appalachians: Discussions among Managers and Scientists* will serve as practical guides to applying recent research findings to the field.

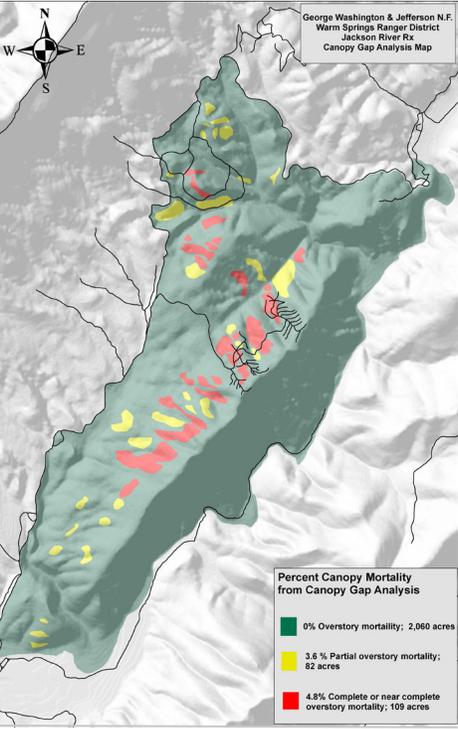
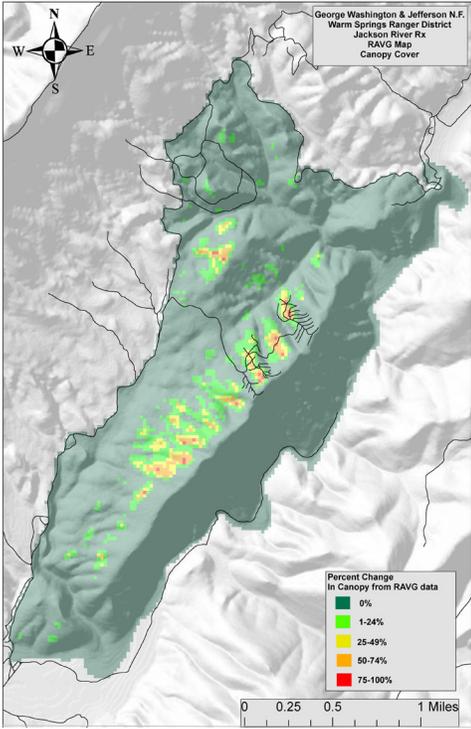
### Burn Severity Monitoring

Partners in the Central Appalachians and Southern Blue Ridge regional networks began coordinating on ground-based protocols and remote sensing tools such as Rapid Assessment of Vegetation Condition after Wildfire (RAVG) imagery and the Composite Burn Index (CBI) to better understand burn severity and translate those results to meaningful

explanations of fire effects for interested stakeholders. The Conservancy and the George Washington and Jefferson National Forests also started characterizing burn severity, specifically canopy gaps, using National Agriculture Imagery Program (NAIP) aerial photography for a number of large burns conducted over the past 5-10 years.

### Education & Outreach

In the Heart of the Appalachians landscape, partners developed a set of four interpretive signs that have been placed at Douthat State Park, Warm Springs Mountain Preserve and the Hidden Valley Dispersed Recreation Area in the George Washington National Forest to help interpret sites with various histories of controlled burns.



The signs convey messages about the historic role of fire in the Appalachians, fire history research, the benefits of controlled burns for plants and wildlife, fuel reduction benefits of controlled burns, the work of fire teams, and safety. The messages, many of which are repeated across sites, were refined from those in the Conservancy's 2012 Fire Communications Kit, with some locally-adapted messages and

content—such as fire history—unique to the location or systems in which they were installed. The messages and graphics also closely mirror content used in the *Controlled Burning for Healthy Forest Management in the Appalachians* brochure that was revised and reprinted earlier in 2014. A small team of partners developed the content, then contracted with a graphic designer for refinement. The signs are 24"x36" fiberglass-embedded panels with low-profile traditional "T" style aluminum bases. The total cost for design, labor and bases was about \$1000 per sign.



Interns from the Conservancy's Leaders in Environmental Action for the Future (LEAF) program installed the signs in late summer. *Photo: TNC/Jen Dalke*



Steve Croy (USFS) spoke to a university "Ecology of Place" class at the Big Wilson South Burn on May 8. *Photo: TNC/Marek Smith*



Thirty-six people from nine states took part in the Virginia TREX, with a multi-agency crew operating under the Incident Command System throughout the training. *Photo: TNC/Sam Lindblom*

## TREX—Boosting Staff Capacity and Specialized Qualifications

The first TREX—Prescribed Fire Training Exchange—offered in the eastern U.S. took place in Virginia in the spring of 2014. Participants completed about 1,200 acres of prescribed burning, including some in support of conservation of the endangered red-cockaded woodpecker at the Conservancy's Piney Grove Preserve near Essex, in the Coastal Plain region. Participants spent the second week based out of Stokesville, near Shenandoah Mountain, where they were able to experience quite different fuel types and terrain. The burns conducted in the mountains showcased ecological management at popular destinations for national forest visitors.



TREX burn *Photo: TNC/Robert B. Clontz*

## Annual Meeting

More than 80 participants from 14 agencies and organizations took part in the annual meeting of the Central Appalachians FLN in November. Morgan Varner (Virginia Tech) kicked off the meeting with a keynote presentation, "Past, Present, and Future of Fire in the Eastern United States." Subsequent presentations included updates from the Consortium of Appalachian Fire Managers and Scientists, a summary of recent fire-oak literature, an analysis of the effects of prescribed fire on forest overstory, and a report on dendrochronological studies on North Fork Mountain in West Virginia. There were also updates from the Monitoring and Communications & Outreach Working Groups, along with an interactive panel discussion that provided a forecast for prescribed fire from federal, state and private perspectives.



The annual workshop included a damp but productive field tour. *Photo: TNC/Marek Smith*

The Fire Learning Network (FLN), Scaling-up to Promote Ecosystem Resiliency (SPER) and Prescribed Fire Training Exchanges (TREX) are part of *Promoting Ecosystem Resilience and Fire Adapted Communities Together*, a cooperative agreement between The Nature Conservancy, USDA Forest Service and agencies of the Department of the Interior.

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Links to products of the Central Appalachians FLN, including reports, posters, interpretive signs and brochure and other materials can be found on the network's Conservation Gateway page at:

<http://www.conservationgateway.org/ConservationPractices/FireLandscapes/FireLearningNetwork/RegionalNetworks/Pages/CentralApps.aspx>



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v. 4 Mar 2015/Laurel Schablein