



Fire Learning Network Notes from the Field

Central Appalachians FLN 2017 Year in Review

In 2017, partners in the Central Appalachians FLN made meaningful strides in relationship and capacity building, supported a wealth of shared learning, and treated the Central Appalachians landscape with more than 21,000 acres of controlled burning.

SHARING LEARNING

Gathering to learn together—in landscape- or topic-based groups—is central to the success of FLN partnerships. Partnerships old and new met and worked throughout the year, and across the network.

A January workshop kicked off the work of the Potomac Headwaters landscape. This new Central Appalachians FLN landscape serves as a key connector, stitching together the northern and southern portions of the regional network, which now spans nearly 19 million acres. It also leverages the regional network's collaboration goals with new partnerships and expertise. About 60 people—landscape partners in Maryland and West Virginia, along with FLN colleagues from Pennsylvania and Virginia—took part in the workshop. New partners provided excellent feedback with requests for follow-up meetings. The Nature Conservancy's Maryland chapter has since met with state Wildlife and Forest Service staff as the group moves forward with planning collaborative burns in this landscape.

In February, about 215 people from six states took part in the two-day annual Pennsylvania Prescribed Fire Council meeting held in State College. Held jointly with the Consortium of Appalachian Fire Managers and Scientists and the North Atlantic Fire Science Exchange, the workshop theme

was "Burning Issue: Sparking Effective Communication About Fire."

In June, the new Grassland Working Group of the Central Appalachians FLN held a field day led by staff from the Virginia Department of Conservation and Recreation Natural Heritage Program and the Department of Game and Inland Fisheries. Twelve people from five agencies took part, visiting grassland restorations at Lake Shenandoah and Cowbane Prairie Natural Area Preserve to learn firsthand about successful grassland restoration strategies, and to improve their grassland plant identification skills. The working group is developing a strategy to promote seed collection and sharing, with an emphasis on local ecotypes.

Later in the summer, 15 partners in the Cumberland River FLN landscape explored the Little Lick, Big Lick and Heath Ridge areas of the Pine Creek watershed on a field tour. Discussions centered on desired conditions developed for the Daniel Boone National Forest Land and Resource Management Plan and the Pine Creek Integrated Resource Management Strategy. There was constructive dialogue and synergy around strategies to move towards those conditions, and the collaborative provided a set of recommendations to the Forest Service for the proposed project.



Sam Lindblom and Laurel Schablein took part in the national FLN workshop that was hosted by the Western Klamath Mountains FLN in May. Over the course of three days, FLN leads from across the country reflected on 15 years of FLN accomplishments and lessons learned, then worked on plans for continued success and increased cross-network collaboration.

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The Grasslands Working Group took their workshop into the field in June.

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Partners in the Cumberland River FLN landscape explored areas of the Pine Creek watershed.

© TNC (Chris Minor)



The FLN team discussed input to the Pine Creek Integrated Resource Management Strategy.
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As the year drew to a close, partners from across the regional network met in Harrisonburg, Virginia, for the Central Appalachians FLN's annual workshop. As in past years, the workshop was well attended, with 76 people from 23 different organizations and agency units. The group focused on welcoming new partners into the collaborative and strategizing to address workforce and capacity limitations, a frequently identified barrier for getting more good fire on the landscape. The Shenandoah National Park hosted the field tour, during which participants reflected on the 2016 Rocky Mount Wildfire and discussed operations, fire effects monitoring and messaging.



Participants in the annual Central Appalachians FLN regional workshop in November braved the chill to discuss the operations, effects and post-fire monitoring of the 2016 Rocky Mount Wildfire.
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The Consortium of Appalachian Fire Managers and Scientists (CAFMS) hosted an Avenza PDF Maps Shared Learning Event just before the annual workshop. Participants got comprehensive hands-on training in the mobile app, and were invited to share suggestions for adapting the software to meet needs of fire practitioners. Avenza developers took suggestion to heart and incorporated ICS symbols to be used in maps for the mobile platform. A recording of Jason Hattersley's presentation on using the Avenza Map System as a tool in the field for wildfires and controlled burns is available at <http://www.appalachianfire.org/>.



At a learning session hosted by CAFMS just before the FLN annual workshop, participants learned how to use the Avenza PDF Maps app, and were able to provide feedback to make the tool more useful in the field.
© TNC (Laurel Schablein)



Two women from the Central Appalachians FLN took part in the Women in Fire TREX, based near Yosemite National Park. Participants hiked in to Mariposa Grove to scout a burn unit.
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BUILDING ENABLING CONDITIONS

FLN partners also worked on addressing barriers to getting more restorative fire on the landscape, and on strengthening other enabling conditions for fire and restoration. These efforts included developing workforce capacity to conduct burns, securing funding to support the work, and outreach to ensure ongoing public support for fire use.

Limited prescribed fire capacity is a frequent barrier to controlled burning. To address this, for the third year in a row, the Conservancy contracted with Wildland Restoration International (WRI) to provide a four-person wildland fire crew to work with partners across the network. Over the three month season the WRI crew assisted with 4,400 acres of prescribed burning on Conservancy, George Washington National Forest, Department of Conservation and Recreation, and Virginia Department of Game and Inland Fisheries lands. They also responded to two wildfires, and completed 28 days of burn prep. As a measure of its success, a larger six-person crew will return for 2018.

FLN partners Laurel Schablein and Nikole Simmons also traveled to California to participate in fire training and leadership opportunities. The second annual Women in Fire Prescribed Fire Training Exchange (WTREX) brought together 52 women and men to advance formal fire qualifications and to explore the need for diversity in the fire management workforce. At this TREX, the Empire Fire in Yosemite National Park provided a unique setting in which to learn about managing wildfire for safety and resource benefit. Knowledge and skill building continued back at camp with presentations and workshops on topics from ignition patterns to gender issues.



A four-person crew from Wildland Restoration International assisted on a collaborative burn at Mount Joy Ponds Natural Area Preserve. This preserve, managed by the Virginia Department of Conservation and Recreation, is the site of a biologically sensitive sinkhole pond. Over the course of a three-month season, the WRI contract crew assisted with more than 4,000 acres of burning, prepared other units for later burning, and responded to two wildfires. © TNC (Nikole Simmons)

In fiscal year 2017 the USDA Joint Chiefs' Landscape Restoration Partnership awarded \$523,984 to the Lower Cowpasture Restoration Project on the George Washington and Jefferson National Forests (and have announced they will continue funding into 2018 with an additional \$449,000). This project—which spans federal, state and private lands—seeks to improve the health and resiliency of forest ecosystems in the Heart of the Appalachians FLN landscape. Accomplishments in 2017 include completing 428 acres of prescribed fire, 112 acres of non-native invasive species treatments, 344 acres of timber stand improvement, 44 acres of mowing for habitat improvement and 3 stream crossing restorations, as well as planting 600 American chestnut seedlings and establishing 27 acres of pollinator habitat.

Public engagement—through interpretive signage and the media—is an ongoing effort. A media highlight from 2017 was the publication of “Holy Smoke! Sometimes a Fire Is Just What a Forest Needs” in the Bay Journal. Partners in the Central Appalachians FLN are working to restore healthy forests and improve wildlife habitat in the headwater forests of the Chesapeake Bay. This article reached people around the Bay, an audience somewhat removed from where the FLN works, and placed that work in the context of the larger watershed.

Five new interpretive signs were developed for the Bear Loop Trail on Warm Springs Mountain Preserve in the Heart of the Appalachians. Hikers can learn the how and why behind controlled burning while they explore the effects from a fourth-entry burn in the landscape around them.

MONITORING A SCIENCE-BASED APPROACH

Several monitoring efforts under way in the Central Appalachians are being used to assess the effects of fire and other treatments, and to inform management to move the landscape toward a more resilient condition.

In June, the Forest Structure and Composition Monitoring Working Group held its fifth annual Plant Identification and Protocol Refresher workshop at Douhat State Park. The 21 participants from six partnering agencies learned distinguishing characteristics of plant species, tested their identification skills, practiced installing plots and completed mock plot visits, and planned the upcoming field season. In addition to building field skills and standardizing data collection across nearly 400 plots throughout Virginia, these annual work-

Bringing Fire Back to the Mountains

Teams of skilled fire experts are safely reintroducing fire to these forests. Burns take place only when weather conditions are ideal for controlling smoke and fire so as not to endanger the fire team or place nearby residents and private property at risk.

Prior to lighting the burn, crews construct and dig down firebreaks to contain the fire and to leave the burn area. Firebreaks are corridors around the burn where vegetation has been removed. Roads, trails and streams also make good firebreaks.

Ignition is often done by hand using drip torches. For larger burns used to maximize the safety of ground crews, a helicopter is used for aerial ignition which disperses small plastic balls that have a delayed chemical reaction, producing flames when they reach the ground.

After each burn, wildlife biologists, botanists and fire managers monitor how the plants and animals respond. Their evaluations will guide the timing and intensity of future burns.

FLN The Nature Conservancy

How Fire Helps Animals

Animals may be temporarily displaced following a controlled burn, but most easily avoid burns. Deer run, birds fly, and mice, beavers, snakes and salamanders burrow underground or beneath rocks as fire approaches.

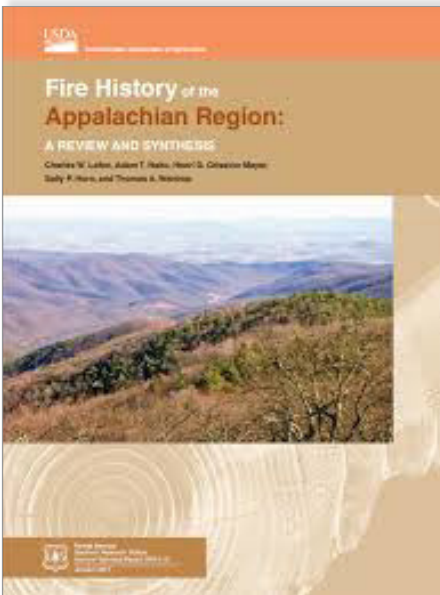
It may seem strange, but the absence of fire can harm wildlife. If a natural area is not allowed to burn, the habitat begins to change. Animals are affected by these changes and may not be able to find food or reproduce.

Acorns, blackberries and blackberries are important sources of food for white-tailed deer, wild turkeys, black bears, songbirds and many other wildlife. Fire increases fruit production in some plants and helps improve seed germination for others.

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Partners in the new Potomac Headwaters FLN landscape started the year with their kick-off workshop in January, and closed the year with a cooperative burn at the Sideling Hill Creek Preserve in November. © TNC (Matt Kane)



The long-anticipated *Fire History of the Appalachian Region: A Review and Synthesis* (Charles LaFon, Adam Naito, Henry Grissino-Mayer, Sally Horn and Tom Waldrop) was released as a USFS Southern Research Station General Technical Report in January. The report is available at https://www.srs.fs.usda.gov/pubs/gtr/gtr_srs219.pdf. A webinar presentation by Charles LaFon also addressed how fires shaped Appalachian forests before the fire exclusion era; the recording is available at https://www.youtube.com/watch?v=PDO_52tQHno.

shops strengthen relationships among agencies. (The recording of a February 2018 webinar about this monitoring program is at <https://www.conservationgateway.org/ConservationPractices/FireLandscapes/FireLearningNetwork/NetworkProducts/Pages/CApps-Webinar-Decade-Interagency-Monitoring-2018.aspx>.)

The Heart of the Appalachians Monitoring Working Group worked on collecting, analyzing and sharing data in 2017. The monitoring results were used in an National Environmental Policy Act (NEPA) analysis for the first time, and provided stakeholders with information about fire effects on the George Washington and Jefferson

National Forests. Monitoring results were presented to Forest Service Fire Management Officers at a November meeting, and at a Virginia Prescribed Fire Council meeting and the Central Appalachians FLN annual workshop.

A seventh season of avian monitoring in the 18,000-acre Warm Springs Mountain Restoration Project area (in the Lower Cowpasture Restoration Project) was completed, and a summary report was compiled. FLN partners have conducted nearly 7,400 acres of controlled burns in this Heart of the Appalachians landscape since 2008, and another 800 acres were burned by a managed wildfire. Preliminary results show that in spite of fluctuations before and after a prescribed fire, focal species remain resilient across both space and time.

Scientists from the Conservancy, George Washington and Jefferson National Forests and the USFS Northern Research Station are also collaborating on research to describe the effects of past prescribed fire throughout the George Washington and Jefferson National Forests. Using a GIS-based methodology, the researchers hope to shed light on any large-scale changes to forest structure that follow burning. The publication should be available in 2018.



A seventh season of avian monitoring on the Warm Springs Mountain Restoration Project area was completed in the summer of 2017. The black-and-white warbler (*inset*) is one of seven focal species in this long-term project.

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GOOD FIRE

Toward the end of the year, the Heart of the Appalachians was graced with a generous late fall burn window that allowed for over 2,500 acres of prescribed fire. Practitioners burned into the dark and into the snow in the Warm Springs Mountain Restoration Project in two units that have a decade of fire effects monitoring data. The Bear Loop unit will be the first in a data set of nearly 400 plots to monitor changes from pre-burn to a fourth-entry burn.

The Potomac Headwaters landscape conducted a cooperative burn at Sideling Hill Creek Preserve in western Maryland. Earlier in the year, this burn unit has been featured in planning exercises and a field trip at the landscape's first workshop. Thanks in part to the workshop, assistance from many key partners—including the Maryland Forest Service, Maryland Department of Natural Resources Natural Heritage Program and Maryland Conservation Corps—made the burn possible.

For more on the Central Appalachians regional FLN:

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The Fire Learning Network is 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. For more information about PERFECT, contact Lynn Decker: ldecker@tnc.org or (801) 320-0524.



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