

History of the Central Appalachians Fire Learning Network: Collaborating for Landscape Resiliency

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What is the Fire Learning Network?





What is Promoting Ecosystem Resilience and Fire Adapted Communities Together (PERFACT)?











Cooperative agreement which funds:

- the Fire Learning Network (FLN), fostering collaboration for restoration and integrated fire management in landscapes across the country;
- the Fire Adapted Communities (FAC) Learning Network, which is doing the same with communities adapting to wildfire;
- prescribed fire training exchanges (TREX), experiential training opportunities that integrate a range of people, places and aspects of fire;
- targeted restoration action under Scaling-up to Promote Ecosystem Resiliency (SPER); and
- communication and public outreach about fire, restoration, and the collaborative work being done on them.



What is Promoting Ecosystem Resilience and Fire Adapted Communities Together (PERFACT)?





National Cohesive Strategy and Resilient Landscapes

The National Cohesive Wildland Fire Management Strategy is a strategic push to work collaboratively among all stakeholders and across all landscapes, using best science, to make meaningful progress towards the three goals:

- 1. Resilient Landscapes
- 2. Fire Adapted Communities
- 3. Safe and Effective Wildfire Response

Resilience -- the capacity for renewal in a dynamic environment; the ability to recover from change or disturbance.

- 1) Increase species diversity,
- 2) Increase structural diversity,
- 3) Increase age-class diversity, and
- 4) Increase landscape-level diversity



The National Strategy

The Final Phase in the Development of the National Cohesive Wildland Fire Management Strategy



April 2014



How the Network Functions





Central Appalachians FLN Current Landscapes





Prepared by Marek Smith/TNC; February 9, 2014

Note: Partners other than TNC may start their visualization with a different set of smaller "dolls," but at some point, they get stacked into the same larger "dolls."



Washington

lands

landscape National Forest

Heart of the Appalachians Landscape

4

FL

Expanded landscape to include all three national forests (2.7 million acres alone) in WV and VA and numerous state and private conservation lands

Central Appalachians Fire Learning Network (VA/WV/PA/KY)

5

Regional network includes VA/WV landscape, Cumberland River landscape in KY, and Keystone Appalachians landscape in PA



US Fire

Learning

Network

6



Initial Scoping Meeting to Form Appalachian Regional FLN July 18-19, 2006





Other Workshops 2007-2016





CAFMS Fire History and Central Appalachians FLN Fall Workshop 2015





A Typical Landscape-level Collaboration in the FLN

- •Geography:
- •Participants:
- •People:
- •Mood:
- •Energy:
- •Approach:

½ to 2 million acres in extent 100 people from 25 – 30 organizations and interested citizens

- Care deeply about their landscape and its people Unsatisfied with the current and future fire situation
- Ready to work in new ways to change their future.
- Implementation based on shared values, goals, learning
- 1. Participation is voluntary
- 2. Nobody tells the others what to do
- 3. Everyone works no one watches
- 4. Everyone gets fed





Understanding the Historic Fire Regime





Fire-adapted Ecological Systems

Pine-Oak Heath





Successional Class and Ecological Models



CENTRAL APPALACHIANS

FLNS

Fire Literature Bibliography

Fire history from three species on a central Appalachian ridgetop

Amy E. Hessl, Tom Saladyga, Thomas Schuler, Peter Clark, and Joshua Wixon

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Received 18 May 2011. Accepted 9 July 2011. Published	d at www.arcresearchpress.com/c	jfr on 4 October 2011.
A.E. Hessl, T. Saladyga, P. Clark, and J. Witson. Wes Morpanowa, WV 26366, USA. T. Schuler, Fernow Experimental Forest, US Forest Serv	t Virginia University, Departmer rice, Parsons, WV 26287-0404, 1	n of Geology and Geography, P.O. Box 6300, 38A.
Corresponding atthort Any E. Hess (e-mail anyhese	arounal.wol.edu).	
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USD/

United States Department of Agriculture Forest Service Norther Research Station General Technical Paport NRS-101

Melissa A. Thomas-Van Gundy and Michael P. Strager

European Settlement-Era Vegetation of the

Monongahela National Forest, West Virginia





Ecological Zones Modeling and Mapping





Fire-adapted Vegetation Assessment Tool (aka Burn Unit Prioritization)





Burn Severity Assessments

Easter Complex **Rich Hole Fire** CBI **CBI** Survey 2012 The Nature RAVG **MTBS** 23 **FLN** Legend CBI Plots **Rich Hole Fire; CBI** Unburned/Very Low Low Moderate 0.5 Hiah 2 Miles 02/2



Canopy Gap Analysis and Characterization





Fire Effects Monitoring and Adaptive Management





Avian Monitoring Program



Avian Monitoring in the Allegheny Highlands The fifth year of avian monitoring within the 18,000acre 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



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

prescribed fire or managed wildfire.

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 oneminute intervals for ten minutes. Birds are identified by either sight or sound within a 100-meter fixed

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				



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

radius.





Education and Outreach



The Central Appalachians Fire Learning Network engages federal, state and private land management agencies, acadomic institutions, and usen profit mamittalions in a collaborative effort to enhance capacity to implement ecological fire management. Burtners in Wrignian and West Wrignia instable: USDA Lorest Service, The Nature Conservancy, Wignia



Controlled Burnin

for Healthy Forest Management in the Appalachians



Why Use Controlled Burns?

In the right place at the right time, fire is management tool that can offer numerou to people and wildlife. Many plants and ; rely on the rejuvenating role that fire can avivonment. Vet lire can also have dame on people, homes and neighborhoods, an be left numagened. Tesms of skilled fire use controlled burns to safely restore the process that our forests need to be health reducing leaf litter and downed limbs the wildfire intensity, controlled burns also is safer.



After a significant period suppressing fires, controlled burning is now recognized as a valuable tool. It removes layers of dead grass, leaf litter, and duff that inhibit the germination and growth of native grasses, widflowers and trees. Controlled burns can thin crowded forests, resulting in less severe disease and insect pest outbreaks.



The application of prescribed fire (above) is well planned and performed to enhance native plant speckes, such as indian grass (top right) and little bluestern (bottom night) Marsh Creek Pine Savanna is dominated by pine trees, grasses, and wildflowers. This valuable habitat is being maintained using controlled burning, in addition to mechanical thinning, and mowing.

habitat for animals and plants. A walk along roat \$280 (the loop into the interior) will take you the

Prescribed Burning • Restoring a Fire Adapted Landscape





Game animals, including deer and turkey (top left), benefit from prescribed fire and mechanical land management practices. Acoms and blackberries are important food sources for many wildlife species. Fire increases fruiting in some plants and improves seed germination for others.

Songbird habitat is also favored by active management. Pictured above (from left to right) are just some of the species that benefit: red headed woodpecker, Eastern bluebird, yellow breasted chat, and Eastern towhee.







MOUs and Agreements

CHALLENGE COST SHARE AGREEMENT Between The VIRGINIA DEPARTMENT OF CONSERVATION AND RECREATION And The USDA, FOREST SERVICE GEORGE WASHINGTON AND JEFFERSON NATIONAL FORESTS

In VA, agreements between TNC , USFS, DCR and DGIF

This CHALLENGE COST SHARE AGREEMENT is hereby made and entered into by and between the Virginia Department of Conservation and Recreation, hereinafter referred to as "DCR," and the USDA, Forest Service, George Washington and Jefferson National Forests hereinafter referred to as the "U.S. Forest Service," under the authority: (1) Department of

Cooperative Agreement between the DGIF and TNC, Page 1

Other significant agreements between TNC and Bethlehem Authority, Pennsylvania Power and Light (PPL), and Pennsylvania State University

MEMORANDUM OF UNDERSTANDING

BETWEEN

DEPARTMENT OF GAME AND INLAND FISHERIES

And

THE NATURE CONSERVANCY Virginia Chapter









Scaling-up to Promote Ecosystem Resiliency 2011-2015







Highland WMA

VA DGIF

Prescribed Burn Implementation

Warm Springs Mtn Preserve

VA TNC

Big Wilson

VA TNC/GWNF

•36,000 acres in 2014 •27,800 acres in 2015

Scotia Barrens PA Game Commission

Douthat State Park VA DCR Cowbane Prairie/South River Preserve VA DCR/VA TNC



National FLN Survey

FLN Survey Results: What did the FLN do for you?

- 72% Improved group process and collaboration
- 59% MOUs/Agreements signed to create efficiencies for action
- 52% Appropriate fire restored to landscape
- 48% Significant cost savings resulted
- 41% Public acceptance of fire and restoration improved
- 34% Fire management practices changed for the better
- 14% Policy change resulted

Conservation	Shared methods. Smarter conservation		Home	Library	TNC's Priorities	Science Chronicles
GATEWAY						Go » Advanced Search
The Nature Conservancy 🔇	Conservation Planning 👻	Conservation	Practio	es 👻	Conservat	tion By Geography 👻

Conservation Practices



22 Marine



Fire & Landscapes

Ecosystem Service

People & Conservation



Central Appalachians Fire Learning Network

Conservation Gateway . Conservation Practices . Fire & Landscapes . Fire Learning Network . Regional Networks

The Central Appalachians FLN engages federal, state and private land managers in a collaborative effort to enhance capacity to implement ecological fire management in the Central Appalachian Forest, Western Allegheny Plateau, and Cumberlands and Southern Ridge and Valley ecoregions. The landscapes include rolling and mountainous terrain, hardwood and mixed-pine hardwood forests, pine-oak-heath shrublands and woodlands, small-patch grasslands including hillside prairies and cedar glades and high levels of species endemism.

Within this biological diverse region, the FLN seeks to:

- collaborate with stakeholders to strengthen the scientific basis for landscape-scale fire management, and develop landscape-scale desired future condition and fire management objectives;
- transfer knowledge and lessons learned to facilitate ecological objective setting, effective stakeholder engagement, efficient compliance with regulator requirements, and funding of ecological fire management projects; and
- identif critical barriers to implementing restoration of fire adapted ecos stems, and develop strategies to overcome these barriers;

in order to achieve tangible and measurable progress in restoration of fire adapted ecosystems at demonstration sites throughout the network. For more information, see the **Central Appalachians FLN fact sheet**.

Selected publications and products:

Monitoring protocol & forms: Forest Structure and Composition Monitoring in the Alleghen / Highlands (December 2013)

Reports & appendixes: Mapping ecological zones in Virginia and West Virginia (for George Washington NF (2011) and Jefferson NF (2014))

Report "Avian Monitoring in the Alleghen Highlands" (2013)

Brochure: "Controlled Burning for Health / Forest Management in the Appalachians" (2014)

Virginia" (2013 Fire

www.conservationgateway.org

Notes from the Field: Spring 2014 updates

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VALUES

NATURE'S

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