



# LEARNING NETWORKS FIELD GUIDE

Fire Learning Network

Fire Adapted Communities Learning Network

Prescribed Fire Training Exchanges

Scaling-up to Promote Ecosystem Resiliency

January 2015





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The Fire Learning Network is part of the “Promoting Ecosystem Resilience and Fire Adapted Communities Together: Collaborative Engagement, Collective Action and Co-Ownership of Fire” cooperative agreement among The Nature Conservancy, USDA Forest Service and agencies of the Department of the Interior (Bureau of Indian Affairs, Bureau of Land Management, Fish & Wildlife Service, National Park Service). In addition to the network of landscape collaboratives, it includes prescribed fire training exchanges and targeted treatments under Scaling-up to Promote Ecosystem Resiliency.

For more information, please visit [www.conservationgateway.org/fln](http://www.conservationgateway.org/fln)

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#### Photo Credits

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Liz Rank/TNC (2), Guy Duffner/TNC.



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# A Brief Introduction to the Fire Learning Network

**The Fire Learning Network** and its related programs are part of “Promoting Ecosystem Resilience and Fire Adapted Communities Together” (PERFACT), a cooperative agreement between The Nature Conservancy, USDA Forest Service and agencies of the Department of the Interior. The partnership works in particular places with individual people, and also at regional and national scales; it also makes the connections between those scales.

Key aspects of this work are:

- 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.

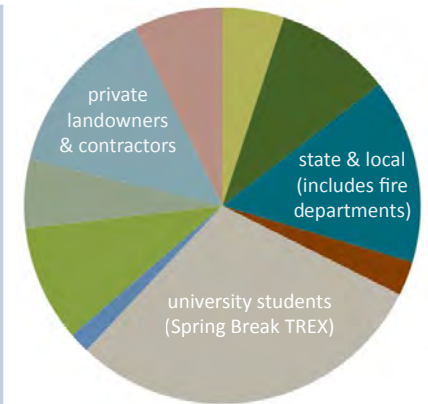
All of these aspects are interconnected, making all parts more effective at promoting healthy ecosystems and fire-adapted human communities. than they would be on their own. In many of the places where the FLN works, it is becoming difficult to tell where the FLN leaves off and other programs begin—which is as it should be.



A crew works on the Tshanik and Nix units burns during the October 2014 Klamath River prescribed fire training exchange. More than 50 people took part in this TREX, which treated numerous parcels on private lands to support fire adapted communities goals along the river. *Photo: Thomas Dunklin*

## By the Numbers (2014)

- > 30 **FLN landscapes**
- 9 regional networks
- > 250 partners
- 66.4 million acres
- 20 states
- 18 **FAC Net hubs**
- 50 communities
- 425 partners
- 8 **prescribed fire training exchanges**
- 345 participants
- > 9,000 acres of prescribed fire
- 1,570 acres of thinning, fire & other treatments by **SPER landscape projects** (SPER: January-June total)



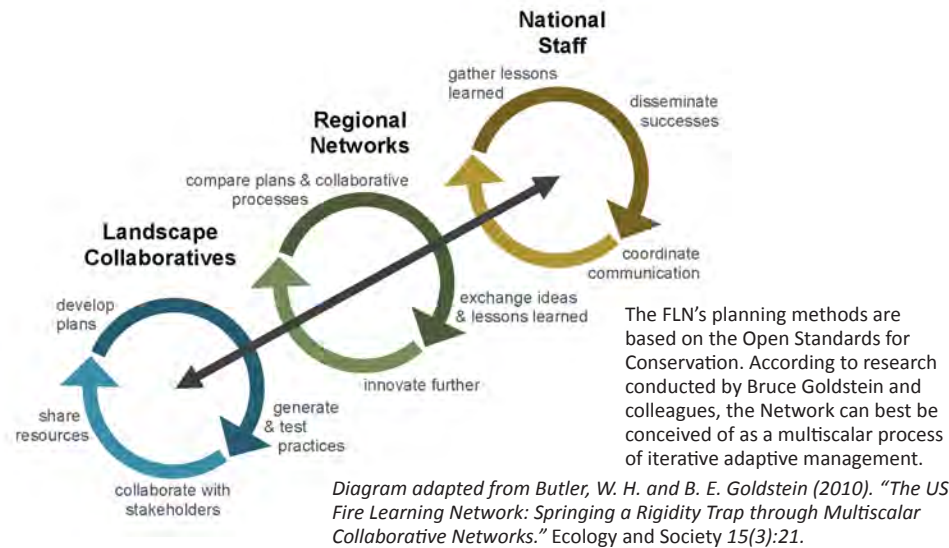
**Prescribed Fire Training Exchange Participant Affiliations—Spring 2014**

- Dept. of the Interior
- Forest Service
- TNC
- state & local gov'ts
- tribal members
- private
- university students
- Dept. of Defense
- international

## The Fire Learning Network

More than thirty landscapes—most working as part of regional networks—are now active in the FLN. In addition to long-established partnerships, collaborative groups in the early stages of their FLN work are being developed in California, Colorado and Idaho. The FLNs under development generally focus on a collaborative planning process that brings stakeholders together to work through where they want to go and how they can get there. The more established FLNs, having done this planning work, are now engaged in a diversity of place-specific activities.

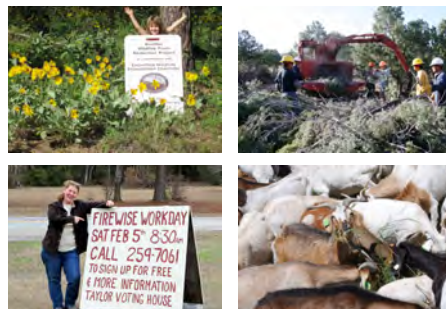
These include hosting workshops to share knowledge and develop local tools, as well as those that support the work of landscape-scale projects and statewide prescribed fire councils; they nurture the development of fire adapted communities, host prescribed fire training exchanges, monitor fire effects on bird populations, develop interpretive signage, and publish restoration resources. In doing so, they engage hundreds of diverse partners, from state and federal agencies to private landowners and researchers, and from coast to coast.



## The Fire Adapted Communities Learning Network

Modeled after the FLN, the FAC Learning Network was launched in April 2013 with a workshop for stakeholders from eight pilot communities; in March 2014, another ten communities joined the network. Collaborative teams from these communities receive financial, technical and peer network support to implement and innovate fire adapted community concepts and best practices, and to share them within the network and beyond. So far, communities have worked on projects as diverse as updating CWPPs and county-wide integrated fire plans, securing funding for mitigation projects, and gathering and sharing the lessons learned from first-hand experiences with wildfires. The network communicates regularly through an online workspace (Podio), and public blog (<http://facnetwork.org/>), as well as quarterly peer-learning webinars and an annual workshop.

Staff and network members are working with researchers Sarah McCaffrey (USFS Northern Research Station) and Bruce Goldstein (University of Colorado), to increase the rigor of network operations and activities, and investigate how networks and the FAC approach contribute to growing community resilience. This will help the network make the greatest possible impact on the development of fire adapted communities nationwide.



Novel means of assisting and enabling communities to complete fuel treatments are among the strategies used by FAC network hubs.

*Photos: Andrew Holm; Forest Guild; Florida Division of Forestry; Jerry McAdams/Boise FD*

## Prescribed Fire Training Exchanges

Training events combining experiential learning and principles of integrated fire management are now being held in numerous locations each spring and fall. The integration of professional wildland firefighters with less-traditional training partners at these events expands both the capacity of the fire community and its breadth of knowledge. It strengthens the ability to conduct controlled burning effectively and with full social license, and develops connections that are helping wildfires



Spring Break TRES has grown rapidly; the March 2014 TRES provided hands-on fire experience for 50 students from 7 universities. *Photo: Anu Kramer*

be managed with sensitivity to local plans and concerns. TRES also actively engage local, regional and national media, and help participants communicate key messages with skill.

Since 2008, 33 events have served nearly 1,100 practitioners and treated more than 78,000 acres. The earliest exchanges were in FLN grasslands, but they are now offered in forested landscapes and quite frequently in wildland-urban interface (WUI) areas, in support of fire adapted community efforts as well as landscape-scale ecological restoration. The TRES program is now at an important growth point—

it has almost simultaneously moved toward larger crew sizes, spread into new geographic areas (and habitats), become more closely tied to fire adapted communities efforts, and become more locally based. Numerous participants have attended multiple events, and are becoming sources of leadership and support. Staff support is now shifting from running the events to mentoring others. Efforts are shifting toward helping this model—and this integrated way of viewing fire management and doing prescribed fire—become adaptable, self-sustaining, and ever more widespread.



In spring 2014, the Central Appalachians FLN and partners in Virginia hosted the first TRES offered east of the Mississippi. *Photo: TNC/Sam Lindblom*

## Scaling-up to Promote Ecosystem Resiliency

Modest amounts of implementation funding are targeted to either fill gaps in a landscape, or provide a catalyst to accelerate work. Prescribed fire, thinning, helicopter logging and invasive species management treatments are conducted under SPER, mainly on relatively small, strategically-placed parcels that leverage and connect existing or planned treatments on federal lands. In the first phase, six projects proposed to complete 19,767 acres of treatments to restore ecosystem resiliency and help protect municipal



watersheds and communities. In spite of drought, flooding, a state-wide ban on prescribed fire, the banning of fire on proposed plots to protect sage grouse and a variety of other obstacles, by adaptive planning and relying on long-standing partnerships, the six projects together completed 20,625 acres of treatments, about 5 percent more than proposed. In several cases, this funding also spurred the completion of other nearby projects with other funding sources.

The second phase of SPER is now underway. Five landscape-based projects, similar to the first six, are working on about 3,000 acres of treatments in support of fire adapted communities through the FAC Learning Network or FLN. In addition, SPER is supporting several prescribed fire training events aimed at building local capacity while conducting treatments near at-risk communities.



Top: Eastern redcedar was removed from this site as part of a program of glade restoration across Arkansas landscapes. Photo: TNC/McRee Anderson  
Bottom: A multi-agency crew briefs before the Blue Suck Burn, conducted to improve forest health on Virginia State Parks land. Photo: TNC/Marek Smith

## Integrated Outreach

Communication efforts are woven through much of the work conducted by the FLN and related programs. This serves to disseminate lessons learned and success stories that can help other projects, and to offer a more nuanced—and empowering—view of wildfire and fire management than is often seen in news accounts. Highlighting fire adapted communities efforts and other successes also opens a larger space for the important work that can be done.

A recent example of success occurred in the fall of 2013 in the small town of Angel Fire, NM, where a headline just before a prescribed fire training exchange read “Residents Brace for Sept. 30 Burn Near Angel Fire.” By the end of the event, the headline “Prescribed Burn Near Angel Fire Wraps up at 105 Acres” ran over a story that included an excellent, calming video in which a TREC leader explained all the precautions taken to ensure that the burns were being conducted safely, and for the benefit of the community and the forest.

## Working Together

In June 2014, about 100 participants in the FLN and FAC Learning Network met, along with staff and national-level partners, at a workshop that provided numerous opportunities for sharing information within and between the networks (and other programs), as well as cementing the relationships that are central to any network’s success. Participants also reflected on the work of recent years and engaged in strategic discussions for moving forward together in the coming years, meeting the challenges and seizing the opportunities for restoring resiliency and health to our natural systems and the communities in them.



At a pair of overlapping workshops in June 2014, members of the Fire Adapted Communities Learning Network and the Fire Learning Network held discussions specific to each network, but also met jointly for a poster session and field tour of treatment sites. These joint events fostered the sharing of information between the two networks, and helped strengthen their ties as well.

Photos: TNC/Liz Rank

## More Online

### Fire Learning Network

<http://www.conservationgateway.org/fln>

### Prescribed fire training exchanges

<http://www.conservationgateway.org/content/fire-training>

### Fire Adapted Communities

<http://facnetwork.org/>

### FLN Networker (biweekly newsletter)

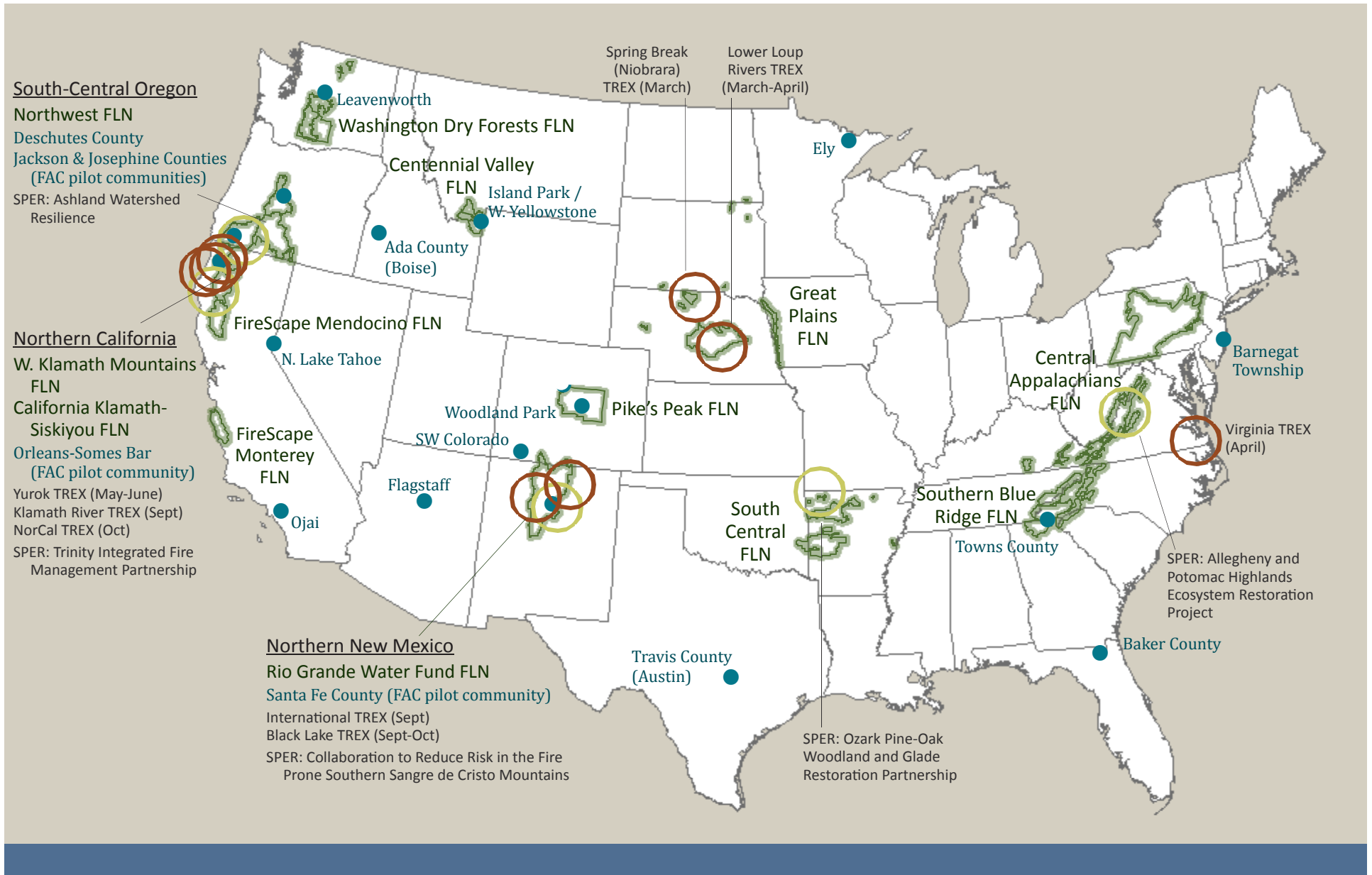
<http://www.conservationgateway.org/ConservationPractices/FireLandscapes/FireLearningNetwork/FLNNetworker/Pages/fln-networker.aspx>



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# Where We Work

-  Fire Learning Network landscapes
-  Fire Adapted Communities Learning Network pilots
-  Scaling-up to Promote Ecosystem Resiliency
-  Prescribed Fire Training Exchanges (2014)





# Fire Learning Network Regional Networks & Landscape Collaboratives

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*In FLN leaders' own words:*

The FLN supports “a grassroots and formative dialog among unconventional partners about how to restore healthy fires to some of the most remote landscapes in the West. I see ranchers, tribal representatives, environmentalists and local governments realizing that through this collaborative they can and will effect meaningful change on public land-use planning.”

“New partners energize the network with new ideas and enthusiasm. Time and time again, partners emphasize the value of sharing information—what works and what doesn’t—as well as having the opportunity to deepen relationships with neighbors.”

“As a mature learning network, regional and national partners are aware of our partnerships and seek out our learning and experience....The continued use of field tours showing different stages of restoration is critical, as is having developed complete species lists for restoration sites that serve as a guide for other sites as they move down the road toward ‘What and when is it restored?’”



# California Klamath-Siskiyou Fire Learning Network



**Partners in the Trinity Mountains** are focusing on the synergy created between the Fire Learning Network (FLN) and the Trinity Integrated Fire Management Partnership's (TIFMP) implementation work. In addition to having local prescribed burning to ground our learning, we have a formal collaborative group that acts in an advisory capacity to the county board of supervisors and federal land management agencies. With this forum, and the Trinity County Fire Safe Council, we are able to link learning about fire to the planning, implementation and monitoring processes. Being able to tie together all of the parts of the adaptive management cycle is critical if we want to impact systems and achieve necessary shifts in our management approach.

**Regional partnerships** that we've invested in over the years continue to be a focus of the CKS FLN. Through support of the Northern California Prescribed Fire Council, the network directly reaches over 200 people every year, bringing together practitioners and scientists and facilitating important movement in the policies and practice of prescribed fire in the region.

**Another regional effort**, co-hosting events with the Joint Fire Science Program, allows us to bring a science-



*Top:* A smoke plume rises from a prescribed fire training exchange (TREF) operation at Bar 717 Ranch. Communities in Trinity County are tucked among the mountains, separated by narrow winding roads. This geographic isolation makes investing in local fire management capacity particularly important. The TIFMP is working with volunteer fire departments around the county to offer training and collaborate on larger projects.

*Center:* The fall 2013 TREF also served as an opportunity to engage the media in prescribed fire issues, as when a local TV reporter interviewed a National Park Service employee about the burning conducted at Redwood National Park.

© Lenya Quinn-Davidson/NCPFC

*Bottom:* TIFMP has completed prescribed burns on private property in Hayfork and Hyampom. Each burn is planned with landowners to meet their management objectives while furthering community wildfire protection goals and ecosystem restoration.

© Josh Smith/WRTC

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based approach to regional management and the dialogue at the events helps inform our landscape level work, as well as bringing a management perspective to the scientists involved.

**Prescribed fire training exchanges (TREF)** bring together many aspects of work in this landscape. They enable participants to experience fire interacting with a variety of communities and ecosystem types, and help build local capacity to manage fire. And the treatments conducted during a TREF help make both the forests and human communities more resilient to wildfire.

## Landscape Partners

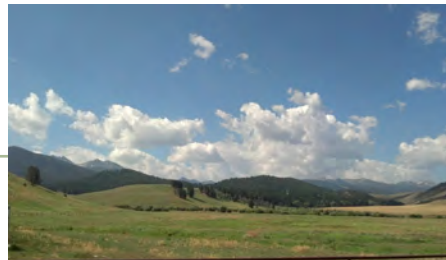
Bureau of Land Management—  
Redding Field Office  
CAL FIRE  
Humboldt State University  
Hyampom Volunteer Fire  
Department and Fire Safe Council  
Local landowners and residents  
Northern California Prescribed Fire  
Council  
Trinity County Collaborative  
Trinity County Fire Safe Council  
Trinity County RCD  
University of California Extension  
USDA Forest Service—Pacific South-  
west Research Station  
USDA Forest Service—Province  
Ecologist  
USDA Forest Service—Shasta-Trinity  
National Forest (Forest Supervisor's  
Office, Weaverville Ranger District,  
Hayfork Ranger District)  
USDA Forest Service—Six Rivers  
National Forest  
USDA Natural Resources  
Conservation Service  
Weaverville Volunteer Fire  
Department



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# Centennial Fire Learning Network



A key goal of the Centennial FLN is to prepare the landscape—both natural and human—so that fire can once again roam and fill its ecological role. To this end, the Lakeview Community Protection Project has completed thinning in nearly all the private forests in the area, and the BLM and U.S. Fish & Wildlife Service are developing complementary projects on lands around the town. This will allow managers to let natural fires in the nearby wilderness to burn safely, and will lower the risk to fire workers if extreme fire conditions warrant fire suppression. The FLN is also working with the Fire Adapted Communities Learning Network hub on the other side of the Centennial Mountains, in Island Park, Idaho. The groups have a mutual interest in developing coordinated plans to manage fire safely, cost-effectively, efficiently, wisely, and for the greatest benefit.

**Protecting threatened species.** To improve critical sage grouse habitat, a half dozen FLN partners are implementing a coordinated multi-year grazing plan across over 45,000 acres; the plan will improve the health of the rangeland for livestock as well as wildlife, so partners hope to spark the interest of other landowners in the Sage Grouse Initiative. With researchers from Montana State University, the effects of management and grazing on sage grouse are also being measured, and this study

## Landscapes

Centennial Valley  
Gravelly Landscape  
Henry's Lake / Island Park

will help to guide land management decisions for sage grouse habitat. In the sandhills, open sand blowouts are being conserved for rare plants and tiger beetles, and monitoring of vegetation and bird communities, as well as the effects of a 2008 prescribed burn, is ongoing. Managers are also experimenting with using hand tools and volunteer labor to remove sagebrush and grasses to restore blowout habitat with fewer negative consequences than burning.

**Planning for climate change.** Through monitoring and adaptive management, partners are preparing for unexpected consequences of a changing climate. A novel water vulnerability assessment conducted by Conservancy scientists and a University of New Mexico graduate student is illuminating the effects of climate change on headwater streams in the Centennial and other valleys in southwest Montana. Preliminary results indicate that flows from north-aspect basins are more resilient to climate changes, which has important ramifications for where limited restoration and land protection resources should be invested; the results are being incorporated into state and federal fisheries planning.

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**Building connectivity.** FLN partners are working to restore wetland connectivity and riparian areas by changing grazing, replacing culverts and planting willows. These changes create habitat for beaver, and recent studies have shown that beavers improve late-season flows and thus will likely protect watersheds under predicted climate change scenarios.



**Providing leadership.** The FLN provides leadership locally and regionally on forest management priorities, for example, partnering with the Greater Yellowstone Coalition and the Wildlife Conservation Society to guide management of 450,000 acres in the Gravelly. And, looking to the future, for the last several years, high school student volunteers have assisted with forestry and fencing projects, putting in hundreds of hours each summer, and Conservancy interns from urban high schools have worked on stream monitoring and other projects. These programs are engaging a new generation of scientists and citizen naturalists in on-the-ground conservation work, and providing them with experience to embark on science careers of their own.



## Landscape Partners

Bureau of Land Management—Dillon Field Office  
Greater Yellowstone Coalition  
Montana Department of Natural Resources and Conservation—Dillon Resource Area  
Montana Fish, Wildlife and Parks—Region 3  
Private ranch operations  
Trout Unlimited  
U.S. Fish & Wildlife Service—Red Rock Lakes NWR  
University of Montana Western  
USDA Forest Service—Beaverhead-Deerlodge NF (Madison RD)  
USDA Natural Resources Conservation Service—Dillon Office  
Wildlife Conservation Society



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# Central Appalachians Fire Learning Network



Over its eight-year history, growth in both the diversity and partnership strength in the Central Appalachians FLN 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 four or more partners regardless of land ownership. Memoranda of understanding between founding and new partners have enabled treatments to expand into additional geographies and directed significant funding towards our restoration efforts.

Significant progress has been made in implementing effectiveness monitoring in all FLN landscapes. Members of the Monitoring Working Group in the Heart of the Appalachians landscape revised their monitoring protocol and data forms and developed standardized data entry templates to facilitate more user-friendly data entry into an integrated database. As a result, most of the information from pre- and post-burn visits to the 333 macroplots monitored by TNC and the George Washington and Jefferson NFs are now entered into a single database. On the Daniel Boone NF, the Stearns and London Ranger Districts installed 40 new vegetative monitoring plots across their landscape. And in Pennsylvania, TNC and the Pennsylvania

Game Commission contracted with Arcadia University to provide fire effects monitoring for their growing program. Ground-based protocols and remote sensing tools developed by TNC and the George Washington and Jefferson NFs have been shared with the Cherokee National Forest Landscape Restoration Initiative (CNFLRI) as its steering committee considers recommendations for a fire effects monitoring program. Interestingly, it was lessons learned from the CNFLRI's own ecological departure analysis that lead us to employ these methods for a project-level analysis on the GWNF.

Increasing staff capacity and specialized qualifications have long been objectives of this FLN. To help address this, in March 2014 we hosted the first eastern U.S. prescribed fire training exchange (TRESX). Participants from a wide range of organizations and states got valuable experience while helping Virginia partners complete moderate



Top: Setting up a monitoring plot on Big Wilson burn unit, 2013; Bottom: A briefing at the 2014 TRESX

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## Network Partners

Arcadia University  
Consortium of Appalachian Fire Managers and Scientists  
Kentucky Department of Fish & Wildlife Resources  
Kentucky Division of Forestry  
National Park Service—Shenandoah NP, New River Gorge National Recreation Area  
National Weather Service  
National Wild Turkey Federation  
Pennsylvania Department of Military and Veterans Affairs at Fort Indiantown Gap  
Pennsylvania Game Commission  
Radford University  
The Nature Conservancy—Kentucky, Maryland, Pennsylvania, Virginia, West Virginia  
University of Kentucky—Forestry  
University of Maryland  
University of Tennessee  
U.S. Geological Survey—Virginia Cooperative Fish and Wildlife Research Unit  
USDA Forest Service—Daniel Boone NF, George Washington and Jefferson NFs, Monongahela NF; Northern Research Station



USDA Natural Resources Conservation Service  
Virginia Department of Conservation and Recreation—Natural Heritage, State Parks  
Virginia Department of Forestry  
Virginia Department of Game and Inland Fisheries  
Virginia Tech  
Virginia Forestry and Wildlife Group  
West Virginia Division of Forestry  
West Virginia Division of Natural Resources  
West Virginia University

complexity controlled burns in southeastern pine savannas and Appalachian hardwood forests.

Funding from the Forest Service/Natural Resources Conservation Service (NRCS) Chiefs' Joint Landscape Restoration Partnership was recently awarded to the Monongahela and Daniel Boone NFs, in part due to established FLN partnerships. This funding will help restore historic fire regimes through the use of controlled burns, complete fuel reduction treatments in priority wildland-urban interface, and engage landowners in creating fire

resilient communities. The initiative also brings the NRCS—a key player—into the FLN partnership, which will help facilitate increased collaboration with private landowners and speed progress towards an all-lands conservation approach.



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# FireScope Mendocino

## Fire Learning Network



**FireScope Mendocino** is one of the newest landscapes in the FLN, having hosted its first workshop in November 2013. The group hopes to develop a stakeholder-based approach to fire management of the Mendocino National Forest and the surrounding area.

**The group** is using the Open Standards for the Practice of Conservation for its foundational planning. This is being supported by field trips, historical photos, GIS-based fire risk assessment, traditional ecological knowledge and other tools. To date, the group has identified its geographic scope, landscape vision and a suite of enduring



Field tours are an important part of learning during workshops. *Above:* Stakeholders examine a shaded fuel break on private timberland. *Top of page:* A Forest Service archaeologist and elder of a pioneer family discuss grazing to reduce fuels on sacred sites, like this oak woodland.

*Photos: TNC/Wendy Fulks, USFS/Rick Mowery*

landscape values—ecological, cultural and economic—which form the basis for working together.

In late 2014, the group's shared values were identified as:

- Quality recreation opportunities
- Cultural heritage—past, present and future
- Fire adapted human communities
- Healthy terrestrial systems—structure, function and species
- Healthy riparian and aquatic systems—structure, function and species
- Diverse landscape-based economic opportunities

**Moving forward**, the group is forming working teams to implement the strategies they have developed, which are designed to improve the viability of those values. Key strategies include:

- building local capacity for fire adapted communities,
- expanding proactive fire management as part of integrated vegetation management,
- adjusting air quality policy to support prescribed burning,
- increasing tribal involvement in public land management, and
- ensuring that late successional forest areas are resilient to future temperature and moisture regimes.

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*Top:* At the group's fourth planning workshop in September 2014, a commercial forester, local resident and Forest Service ecosystem management staff officer use Google Earth to explore possible treatment approaches. *Bottom:* Participants work on revising the situation diagram.

*Photos: TNC/Mary Huffman*



### Landscape Partners

Blue Ribbon Coalition  
 Bureau of Land Management  
 CAL FIRE  
 California Wilderness Coalition  
 Environment Now  
 Environmental Protection Information Center (EPIC)  
 Lake County Fire Safe Council  
 Mendocino Redwood Company and Humboldt Redwood Company  
 Office of Congressman Jared Huffman  
 Round Valley Confederated Indian Tribes—Yuki Tribe

Tehama County Resource Conservation District  
 Tuleyome/Yolo Audubon Society  
 USDA Forest Service—Mendocino National Forest  
 USDA Natural Resources Conservation Service



The Fire Learning Network is supported by *Promoting Ecosystem Resilience and Fire Adapted Communities Together (PERFACT)*, a cooperative agreement between The Nature Conservancy, the USDA Forest Service and agencies of the Department of the Interior. For more information, contact Lynn Decker (ldecker@tnc.org).



# FireScape Monterey

## Fire Learning Network



**FireScape Monterey** completed its Open Standards planning process in 2012, and members emerged from the process re-energized, informed and ready to take action. Since then, the group's core team—made up of property owners and representatives from wilderness groups, federal and state agencies and the University of California—holds regular conference calls to update one another on the progress of various fire-related projects throughout Monterey County. **A project** of particular focus is the U.S. Forest Service Strategic Community Fuelbreak Improvement Project, which concept was derived from the Open Standards process. This project is located on the northern portion of the Monterey Ranger District of the Los Padres National Forest. It is designed to enhance community protection from wildfire within the wildland-urban interface threat zone. The project includes improving and maintaining strategic historically-used firelines to function as fuelbreaks. In total, the project proposes work on about 24 miles of fuelbreaks, as well as a key 64-acre unit, for a total of 544 acres. A variety of treatment types are proposed, including machine and hand thinning, piling and burning or chipping, and mastication. The notice of intent to

prepare an environmental impact statement for the Strategic Community Fuelbreak Improvement Project was posted on December 28, 2012, and the Forest Service is currently undertaking the NEPA process.

**Volunteer fire departments**—the Mid Coast Fire Brigade and Cachagua Fire Prevention District—are working to increase local fire suppression capacity to meet community protection needs. This year, both received Forest Service grants for work such as on fuel-breaks and road improvement to facilitate suppression crew access.

**Other work** in this landscape includes research on sudden oak death (SOD) led by faculty from the University of California at Davis. Related to this, some partners are working to remove symptomatic bay trees near healthy oak trees along a shared roadway; this will both mitigate the effects of SOD, and reduce fuels and widen the road for better firefighting vehicle access.



Partners discuss landscape issues at Botcher's Gap during a 2012 workshop  
Jeff Kwasny/USFS

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### Landscape Partners

Big Sur Land Trust  
 Bishop Grading and Forestry Services  
 Bureau of Land Management  
 Cachagua Fire Prevention District  
 CAL FIRE  
 California Native Plant Society  
 California State Parks  
 California State University at Monterey Bay  
 California Wilderness Project  
 Carmel Highland Fire Protection District  
 Coast Property Owners Association  
 El Sur Ranch  
 Esselen Tribe of Monterey County  
 Fire Safe Council for Monterey County  
 Galante Vineyards  
 Jamesburg-Cachagua Neighbors United  
 Los Padres Forest Watch  
 Mal Paso Creek Property Association  
 Mid-Coast Fire Brigade  
 Monterey Bay National Marine Sanctuary  
 Monterey County Water Resources Agency  
 Monterey FireSafe Council  
 Monterey Institute of Research & Astronomy  
 Monterey San Benito Range Improvement Association  
 USDA Forest Service—Los Padres NF  
 USDA Natural Resources Conservation Service  
 Resource Conservation District of Monterey County



Santa Lucia Conservancy  
 Sierra Club—Ventana Chapter  
 Tassajara Zen Mountain Center  
 University of California, Davis—Plant Pathology  
 University of California, Santa Cruz—Big Creek Preserve  
 U.S. Fish & Wildlife Service  
 U.S. House of Representatives—Office of Sam Farr (Congressional District 20)  
 Ventana Wilderness Alliance



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Top photo: View from the Prewitt Ridge fire break  
© Mike Splain/Ventana Wilderness Society

# Great Plains Fire Learning Network



**The Great Plains Fire Learning Network** is focused on building and supporting a strong network of fire practitioners in the region, sharing lessons learned and making connections outside the region with fire practitioners that need hands-on fire training. One of our biggest accomplishments to date in the Great Plains has been the successful training exchanges that are held primarily in Nebraska along the Niobrara River and in the grasslands surrounding the Loup Rivers. These exchanges have hosted more than 200 participants over the last three years, prioritizing Student Association for Fire Ecology participation. In addition, cooperative training burns have enabled the Loess Hills landscape partners in Iowa to accomplish larger burns and share techniques and equipment ideas. Building on the successful training exchanges and the age-old spirit of “neighbors helping neighbors,” our approach for the next several years is to expand and enhance the network of training exchanges and cooperative burning in the region by engaging new partners and supporting partners in hosting training exchanges on their own.

**With much of the land** in private ownership we need to continue to emphasize strategies that can be transferred to private landowners, but we also need to ensure that local, state



## Network Landscapes

Loess Hills  
Lower Loup Rivers  
Middle Niobrara River Valley  
U.S. Fish & Wildlife Service  
Refuges of Nebraska and South Dakota

and federal agencies and NGOs have the capacity to get fire management accomplished. In Nebraska, landowner burn associations have offered a positive means for landowners to share equipment and labor, and these models are being adopted in other parts of the region. Volunteer fire departments also play a role in supporting fire management, both offering prescribed fire services to community members, as is occurring in parts of the Loess Hills, and as permitting agencies and support to prescribed fire operations in Nebraska.

**To achieve success** we will expand our capacity through training exchanges and cooperative burning to overcome the barriers associated with fire qualifications and standards that differ among groups. And by working closely with the Great Plains Fire Science Exchange, we will have an opportunity to reach an audience beyond our landscapes; this also provides a means for the Exchange to transfer knowledge to land managers at the local level.

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Top of page: Sand table exercise in the field at the 2014 Spring Break TREX in the Niobrara Valley.  
Right: Lighting a 730-acre unit to reduce invasion by eastern redcedar during the Lower Loup TREX.

Photos: Jose Luis Duce, Jeremy Bailey

## Regional Partners

Great Plains Fire Science Exchange  
Pheasants Forever  
Private landowners  
Student Association for Fire Ecology (SAFE)  
The Nature Conservancy—Arkansas, Colorado, Iowa, Minnesota / North Dakota / South Dakota, Nebraska  
U.S. Fish & Wildlife Service



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# Northwest Fire Learning Network

**Across the three landscapes** of the Northwest FLN we are working to integrate ecological, economic and social values into collaborative dry forest restoration. This is only possible by engaging diverse partners with an interest in Oregon's dry forests and all the community benefits they provide. We are working with federal, state and local organizations to develop a shared vision of restored dry, frequent-fire forests across the region and the benefits a more resilient forest landscape can provide. We are using innovative collaborative approaches and cutting-edge research and analysis to reach a broader segment of the community, reconnect people with the forest, and facilitate a science-based conversation about fire-adapted forests and the implications of living in and around these dynamic, fire-prone landscapes.

**Recent examples** of this work include a statewide analysis of restoration need in dry, frequent-fire forest systems; the community learning exchanges; the Ashland Forest Resiliency "Fire for Water" video; and the publication of *Restoration of Dry Forests in Eastern Oregon: A Field Guide*, developed in partnership with Dr. Jerry Franklin and Dr. Norm Johnson.

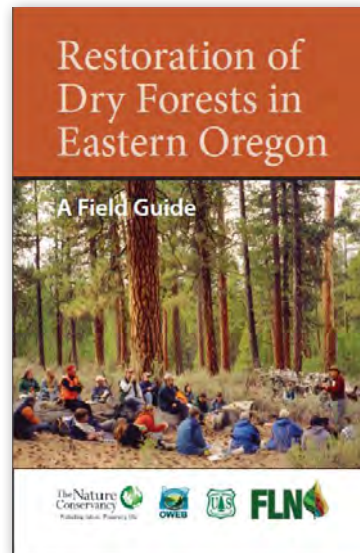
**As a trusted partner** to a diverse range of interests, we use tools like these to foster dialogue, stronger relationships and trust within the



Members of the public and agency staff tour the site of the Pole Creek Fire together during a 2013 learning exchange. *Photo: Marika Yuma*

## Network Landscapes

Rogue Basin  
Upper Deschutes Basin  
Lakeview Stewardship Unit /  
Fremont-Winema NF



The restoration field guide is the product of a collaboration among numerous partners, including the NW FLN. It is available electronically at <http://nature.iv/dryforests>

communities where we work. By pairing this with a strong scientific rationale, we are helping forge a path through decades of conflict, bringing together local community interests and federal land managers to implement this shared vision on the ground, at a pace and scale commensurate with the ecological need.

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## Network & Landscape Partners

American Forest Resource Council  
Applegate Partnership  
Black Oak Forest Restoration  
Bureau of Land Management—  
Medford District  
Central Oregon Intergovernmental  
Council  
Central Oregon Fire Management  
Service  
City of Ashland  
City of Bend  
City of Sisters  
Deschutes County  
Josephine County Stewardship Group  
Klamath Tribes  
Klamath-Siskiyou Wildlands Center  
Lake County Resource Initiative and  
members within  
Lomakatsi Restoration Project  
Northern Arizona University—  
Ecological Restoration Institute  
Oregon Department of Fish and  
Wildlife  
Oregon Department of Forestry  
Oregon State University Extension  
Oregon Wild  
Project Wildfire  
Sierra Club  
Southern Oregon Forest Restoration  
Collaborative  
Southern Oregon University  
The Nature Conservancy—Oregon  
The Wilderness Society  
U.S. Fish & Wildlife Service  
Upper Deschutes River Coalition



USDA Forest Service—Deschutes,  
Fremont-Winema and Rogue River-  
Siskiyou National Forests  
USDA Forest Service—Forest Health  
Protection  
USDA Forest Service—Pacific South-  
west Research Station  
USDA Forest Service—Region 6  
Warm Springs Confederated Tribes



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# Pike's Peak Fire Learning Network



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The Pike's Peak FLN is a new collaborative initiative focused on

- increasing public understanding of and support for the use of fire in forest management,
- expanding local forest and fire management capacity, and
- demonstrating the safe and effective use of fire in high priority landscapes.

**Pike's Peak area partners** are using the FLN to leverage and expand on the great work already being implemented by other local organizations, including the Woodland Park Fire Adapted Communities Learning Network hub. FLN activities will include building an effective stakeholder network, hosting public workshops on fire ecology and the use of fire for management, facilitating training opportunities for fire practitioners, and implementing at least one prescribed burn in the coming year. The FLN's work will build

Above, and bottom right: The Conservancy's Southern Rockies Wildland Fire Module at work on the Little Sand Fire in southwest Colorado in July 2012.

Photos: TNC/Jeff Crandall

on the accomplishments of the Upper Fountain Creek Watershed Restoration Initiative (which was supported by Scaling-up to Promote Ecosystem Resilience (SPER)) and will contribute to the goals of the Front Range Collaborative Forest Landscape Restoration Program (CFLRP) project, Colorado Prescribed Fire Council and Southern Rockies Fire Science Network.



The Conservancy's Colorado chapter recently delivered a report to the U.S. Forest Service with a set of collaboratively-developed, science-based management recommendations for the 67,000-acre Upper Monument Creek landscape, which is in the FLN core area. *Left:* Webster Park in the Upper Monument Creek project area; *Right:* Field tour to the project area

Photos: Peter M. Brown; TNC/Rob Addington

## Landscape Partners

City of Colorado Springs  
Coalition for the Upper South Platte  
Colorado Division of Fire Prevention and Control  
Colorado Parks and Wildlife  
Colorado Prescribed Fire Council  
Colorado Springs Utilities  
El Paso County

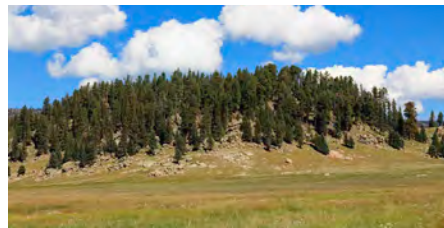
Pike's Peak Wildfire Prevention Partners  
Southern Rockies Fire Science Network  
Teller-Park Conservation District  
The Nature Conservancy—Colorado  
U.S. Air Force Academy  
USDA Forest Service  
USDA Natural Resources Conservation Service  
U.S. Geological Survey



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# Rio Grande Water Fund



In New Mexico, the FLN is now a key part of a water source protection fund program for the northern Rio Grande. Our vision is to provide a reliable supply of high-quality Rio Grande water and healthy forests for the benefit of New Mexico's communities. Our goal is to scale up forest thinning and prescribed fire treatments from about 6,000 acres per year to 30,000 acres per year in northern New Mexico. We will do this by developing a sustainable source of funding from water users, government, investors and donors, and facilitating payments to upstream land managers to help them reduce wildfire and debris flow risk in high priority areas and to maintain those areas for the long-term.

The seven-million acre Rio Grande landscape includes 1.7 million acres of forest, of which 600,000 acres are treatable. FLN supported activities include engaging with the Fire Adapted Communities Learning Network, and working with on-the-ground federal, state, tribal and private land managers to accelerate fire and thinning treat-

ments that build forest resilience. The FLN is also addressing the post-fire impacts where uncharacteristically large and severe fires have damaged watersheds.

**Improving the health** of headwater forests is a critical climate change adaptation strategy in a warming Southwest, where fire seasons have become longer and more severe, and water security is a primary concern for all communities.

## Read More

The Rio Grande Water Fund Comprehensive Plan:

[http://www.nmconservation.org/RGWF/RGWF\\_CompPlan\\_Exec.pdf](http://www.nmconservation.org/RGWF/RGWF_CompPlan_Exec.pdf)

From The Nature Conservancy's New Mexico chapter:

<http://www.nature.org/ourinitiatives/regions/northamerica/unitedstates/new-mexico/new-mexico-rio-grande-water-fund.xml>

Fire Adapted Communities: [www.fireadaptednewmexico.org](http://www.fireadaptednewmexico.org)

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## Fire Learning Network Partners

- Forest Guild
- National Park Service—Bandelier National Monument
- New Mexico Association of Conservation Districts
- New Mexico Department of Game & Fish
- New Mexico Division of Forestry
- New Mexico Forest and Watershed Health Institute
- New Mexico Forest Industry Association
- Northern Arizona University
- Pueblo of Jemez
- Pueblo of Santa Clara
- Southwest Fire Science Consortium

- The Nature Conservancy—Colorado, New Mexico
- University of Washington—Conservation Canines Program
- University of Arizona—Laboratory of Tree-Ring Research
- U.S. Fish & Wildlife Service
- U.S. Geological Survey
- USDA Forest Service—Cibola National Forest
- USDA Forest Service—Santa Fe National Forest
- Valles Caldera Trust



Photos: Wetlands (top) and hillock (center) at Valles Caldera National Preserve in the heart of the Water Fund landscape; a properly-thinned stand of ponderosa pine (bottom) is more resilient to wildfire.

© 2013 Alan W. Eckert for The Nature Conservancy

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# South Central Fire Learning Network



**The South Central** Regional Fire Learning Network (FLN) has long been a catalyst for restoration, supporting scientific knowledge exchanges and developing monitoring protocols and definitions of current and desired ecological conditions across the region. This network is a long-term, diverse coalition functioning as a robust community of practice of restoration practitioners, scientists, policy makers and on-the-ground managers. Together, they are restoring and managing lands with prescribed fire and timber management techniques for the long-term health of the lands for wildlife and water quality benefits. The South Central FLN has secured implementation funding from state wildlife grants, non-profits, private foundations, and state and federal institutions for restoration and management on a portfolio of multi-ownership (federal, state and private) lands throughout the region. **Since 2001**, over \$8.5 million in federal funding has been awarded to this collaborative partnership for ecosystem management across the Interior Highlands, starting with the 60,000-acre Woodland Ecosystem Project (WEP), which continues to be a model for landscape-scale restoration. Both funding and the scale of work have grown since then, with partners now working on two CFLRP projects (over 1 million acres) and the 80,000-acre Happy Bat Project on the Sylamore



## Current Projects

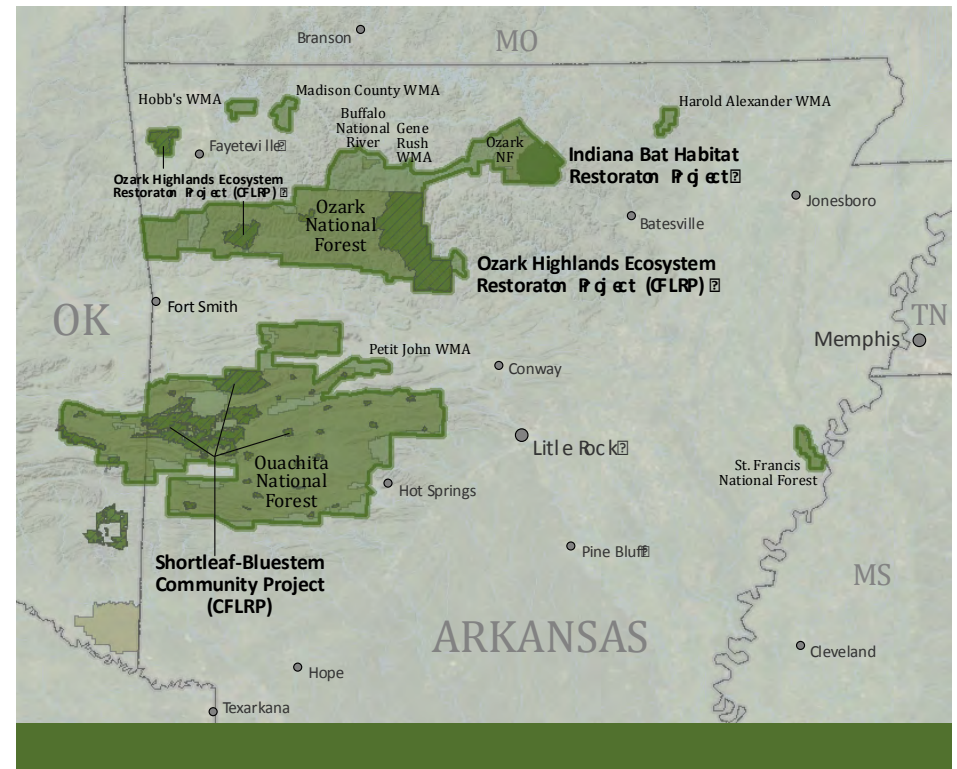
- Indiana Bat Habitat Restoration Project
- Ozark Highlands Ecosystem Restoration Project (CFLRP)
- Shortleaf-Bluestem Community Project (CFLRP)

Ranger District of the Ozark-St. Francis National Forest.

**In addition** to this on-the-ground work, the region is the epicenter of the shortleaf pine (*Pinus echinata*) range, and the FLN has been chosen to lead a new Shortleaf Pine Initiative to address the steep decline of this species and its associated fire-adapted communities. This initiative will develop a range-wide conservation plan covering the 23 three states where shortleaf pine is found.

**This FLN** also continues to bring partners together for field trips, workshops and project proposal development for large, collaboratively-based woodland and glade restoration projects, such as those being done under the “Scaling-up to Promote Ecosystem Resiliency” program. Finally, the FLN assists partners with institutionalizing restoration programs and developing public demonstration areas throughout the region.

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## Network Partners

- Arkansas Audubon Society
- Arkansas Forestry Commission
- Arkansas Game and Fish Commission
- Wildlife Management Areas
- Arkansas Natural Heritage Commission
- Arkansas Wildlife Federation
- National Forest Foundation
- National Park Service—Buffalo National River
- National Wild Turkey Federation
- Ouachita Timber Purchasers Group
- The Nature Conservancy—Arkansas
- U.S. Fish & Wildlife Service—Arkansas Field Office

- University of Missouri, Columbia
- USDA Forest Service—Ouachita NF, Ozark-St. Francis NF (Big Piney Ranger District), Mark Twain NF; Southern Research Station



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# Southern Blue Ridge Fire Learning Network



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## Network Landscapes

Central Blue Ridge Escarpment  
Georgia Blue Ridge Mountains  
Great Smoky & Unaka Mountains  
Nantahala & Balsam Mountains  
New River Headwaters  
Northern Escarpment  
South Mountains  
Southern Blue Ridge Escarpment

forests—which are changing, due to almost a century of fire suppression—is also being used to build wider support for the use of controlled fire.

**Partnership burns** across multiple ownerships have become quite common in most landscapes, and more are planned for the coming year. Partly as a result of the last SBR regional workshop, state agencies in North and South Carolina are discussing collaborative burning for the first time.

**A network of monitoring** plots established by Forest Stewards enables partners to track the effectiveness of management actions. Consistent, long-term monitoring is essential, since it can take years—and multiple treatments—for the full impact of fire in hardwoods to become evident. The first comprehensive assessment using these data was recently completed, and will be used to inform planning for future burns and other restoration work.

**This network** helped build the foundation of the Joint Fire Science Program’s Consortium of Appalachian Fire Managers

**Partners** in the Southern Blue Ridge FLN (SBR FLN) collaborate to develop, share and apply the best available science to restore fire across a vast, diverse region. Partners and stakeholders work in teams in the network’s eight landscapes to set and achieve restoration goals in their fire-adapted pine and oak forests.

**Vegetation maps, models and tools** developed by partners help build a cohesive vision and description of restoration needs. Landscape teams have adapted a regional treatment prioritization tool and applied it locally, with each learning from other landscapes’ work. The SBR FLN has also collaborated with the Cherokee National Forest Landscape Restoration Initiative, Central Appalachians FLN and LANDFIRE to adapt LANDFIRE models to this region. The models, along with a LiDAR-based forest structure analysis and the vegetation maps, have been used to estimate the departure of current vegetation from historic conditions across the National Forests of North Carolina. This information is informing forest planning and National Environmental Policy Analysis (NEPA) projects in several landscapes.

**Fire history research** on three SBR FLN landscapes is shaping prescribed fire regimes. Evidence that fire historically played a role in maintaining these

and Scientists, and continues to play a key role in providing opportunities for networking among scientists, managers and practitioners. This accelerates transfer of knowledge and feedback that supports adaptive management.

**Well-attended workshops**, collaborative projects, and tools shared by webinar and other means have helped the SBR FLN build strong working partnerships. These in turn support the steady growth of the network, most recently with the addition of the Georgia Blue Ridge Mountains landscape. This landscape brings a new dimension to the SBR FLN, as it includes Towns County, a Fire Adapted Communities (FAC) Learning Network pilot community.

## Network Partners

Consortium of Appalachian Fire Managers and Scientists  
Forest Stewards  
Georgia Department of Natural Resources—State Parks; Wildlife Resources Division (Game, Nongame)  
Georgia Forest Watch  
Greenville Water  
Land Trust for the Little Tennessee River  
National Park Service—Blue Ridge Parkway; Great Smoky Mountains NP  
North Carolina Division of Parks and Recreation  
North Carolina Forest Service  
North Carolina Wildlife Resources Commission  
South Carolina Division of Natural Resources



South Carolina Forestry Commission  
South Carolina State Parks  
The Nature Conservancy—Georgia, North Carolina, South Carolina, Tennessee  
Towns County (Fire Adapted Communities Learning Network)  
USDA Forest Service—Chattahoochee-Oconee NF (Blue Ridge RD, Chattooga River RD, Conasauga RD); Cherokee NF (Unaka RD); National Forests in North Carolina: Nantahala NF (Cheoah RD, Tusquittee RD, Nantahala RD); Pisgah NF (Grandfather RD); Region 8 Fire & Aviation  
USDA Forest Service—Southern Research Station  
Western North Carolina Alliance



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# Washington Dry Forests Fire Learning Network



More than three million acres of dry forests in central and eastern Washington need active restoration. Intensifying wildfires threaten wildlife habitat, clean water, recreation and local livelihoods. These fires also cost taxpayers increasingly large sums to suppress. Our network provides leadership in the North Central Washington Forest Collaborative, the Tapash Sustainable Forest Collaborative and the Washington Prescribed Fire Council, all of which work to identify and employ strategies that increase the pace and scale of active restoration and increase community resiliency.

Two complementary tools can be used to restore forests and reduce the social, ecological and economic costs of wildfires: mechanical thinning and controlled burning. The key barrier to the use of fire to meet economic, social and ecological restoration goals is cultural. There is a historically strong cultural bias against fire in the

## Network Landscapes

Tapash Sustainable Forest

Collaborative & fire adapted community

Sinlahekin & Methow Ecosystem Restoration Demonstration Landscape

Evergreen State—birthplace of the “Big Burn” of 1910. Many see fire as being too risky or as bad for people, wildlife, air and water; others view fire as wasteful, using up resources that could otherwise be harvested. And since the 1970s, increasing concerns about air quality have led to regulations that originally only restricted the burning of logging slash in western Washington to be applied statewide.

## Prescribed Fire Council

In 2010, to initiate a shift in this culture, this network took a lead role in expanding the efforts of the North Central Prescribed Fire Council to a statewide organization, developing its capacity to “protect, conserve, and expand the safe and responsible use of prescribed fire on the Washington landscape to meet both public and private management objectives.” The Council now brings together a diverse set of people from federal and state agencies, industry, and NGOs, representing clean air, homeowner, industry, policy and land management perspectives. The Council is now working to identify policy barriers and recommend changes to expand the safe use of controlled burning.

## Fire Adapted Communities

The FLN is also using a new approach,

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integrating social and ecological aspects of wildland fire by engaging a broader network of fire professionals and community members through the framework of Fire Adapted Communities (FAC)—working with those living with, and those responsible for management of, fire in the wildland-urban interface. We are working closely with the Leavenworth FAC Learning Network pilot community in the Tapash landscape as they test approaches for mobilizing community members in their various roles. The network is also helping to start a FAC pilot community in the Tapash landscape, where we have long worked on cross-ownership controlled burning and the Tapash Collaborative Forest Landscape Restoration Project. Two FAC workshops in early 2014 brought community members together to learn

## Landscape Partners

Bureau of Land Management  
Center for Natural Lands Management  
Chumstick Wildfire Stewardship Coalition  
Conservation Northwest  
Kittitas County Conservation District  
South Central Washington Resource Conservation & Development Council  
The Nature Conservancy  
USDA Forest Service—Okanogan-Wenatchee NF (Supervisors Office; Cle Elum RD, Naches RD)  
USDA Forest Service—Region 6  
Washington Department of Fish and Wildlife (L.T. Murray, Methow, Oak Creek and Sinlahekin Wildlife Areas)  
Washington Department of Fish and Wildlife (prescribed burn team)  
Yakima County Fire  
WUI homeowners

about FAC concepts and share ideas for taking action. We see FAC as a fruitful new approach to engaging community members, which provides a means to discuss land management options and make proactive choices that benefit the landscape and people living there.



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# Western Klamath Mountains Fire Learning Network



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**The Western Klamath Restoration Partnership** is a diverse working group representing nearly all major stakeholders in the region. This partnership has shown support for focused point resource protection that will allow greater use of wildfires on the edges of fire season to achieve landscape-scale fuels reduction and ecosystem restoration goals. Our network is currently focusing on bringing participants in the Western Klamath Restoration Partnership from agreement in principle on manual, mechanical and prescribed burning treatments to agreement in practice through collaboratively developed prescriptions.

**We are building local capacity** to implement treatments that will affect fire management options at the landscape scale.

**We are developing** management strategies that rely on the large-scale use of prescribed fire to protect rural communities, restore cultural resources, and rejuvenate habitats for plants and animal species that have been negatively impacted by over a century of effective fire suppression.

**We are implementing** prescribed fire training exchanges with a diverse array of tribal, local, state and federal partners, and building mechanisms for local and tribal community members



*Top:* The Butler and Salmon River Complex Fires burned over 25,000 acres near the towns of Forks of Salmon and Sawyers Bar during the summer of 2013. The scope of high severity burns is visible as red patches where tree mortality was high in plantations following salvage logging after the 1977 Hog Fire. © Thomas B. Dunklin

*Bottom:* A landowner celebrates a burn on his property during the Fall 2013 Northern California Prescribed Fire Training Exchange. Burns like this are helping communities become better adapted to fire in this landscape. © TNC/Mary Huffman

to participate in implementing prescribed burns for community protection and resource benefits.

**We are educating** at the local, regional and national levels through videos, articles and presentations that highlight innovative ways of managing fire in the Mediterranean climates of the western United States.

**FLN leads** are also on the steering committee for the California Fire

## SEE MORE

“**Catching Fire: Prescribed Burning in Northern California**,” highlights work by the prescribed fire council, the Karuk Tribe and the Orleans/Somes Bar Fire Safe Council. <http://www.youtube.com/watch?v=LWriDpfZnXQ>

“**Fall Burning in Orleans 2013**,” filmed during the prescribed fire training exchange highlights a burn near Orleans, a Fire Adapted Communities Learning Network pilot community. <https://www.youtube.com/watch?v=cgSBqr2kgaA>

“**Lifestyles of the Rural & Fire Safe**” visits five landowners using various treatments to protect their properties. <http://www.youtube.com/watch?v=0hmFABXAojA>



Science Consortium, committed to reducing the gap between fire science and fire management across northern California; work with the Intertribal Timber Council; and have been involved in the development of the Western Region Strategy Committee’s Phase II Report and Action Plan. This FLN also works closely with the Northern California Prescribed Fire Council.

## Landscape Partners

California Environmental Protection Agency—State Water Resources Control Board

Deer Creek GIS

Happy Camp Coordinating Committee

Happy Camp Fire Safe Council

Karuk Tribe—Department of Emergency Services; Department of Natural Resources

Mid Klamath Watershed Council

National Oceanic and Atmospheric Administration—Fisheries

Northern California Prescribed Fire Council

Orleans Volunteer Fire Department

Orleans-Somes Bar Fire Safe Council

Salmon River Fire Safe Council

Salmon River Restoration Council

Salmon River Volunteer Fire and Rescue University of California, Berkeley

U.S. Environmental Protection Agency

U.S. Fish & Wildlife Service

USDA Forest Service—Klamath National Forest; Six Rivers National Forest

USDA Forest Service—Pacific Southwest Research Station

USDA Natural Resources Conservation Service—Fortuna Service Center; Yreka Service Center



The Fire Learning Network is supported by *Promoting Ecosystem Resilience and Fire Adapted Communities Together* (PERFACT), a cooperative agreement between The Nature Conservancy, the USDA Forest Service and agencies of the Department of the Interior. For more information, contact Lynn Decker (ldecker@tnc.org).



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# Fire Adapted Communities Learning Network

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# Fire Adapted Communities Learning Network

## Networking to Build Community Resilience to Wildfires

**Launched in 2013**, the Fire Adapted Communities Learning Network is stewarded by the Watershed Research and Training Center and The Nature Conservancy. Together with the USDA Forest Service and the Department of the Interior, we share a vision to accelerate the adoption of fire adapted community (FAC) concepts across the nation using a tested learning network approach.

**The FAC Learning Network** is modeled after—and integrated with—the Fire Learning Network, which has been focusing on restoring fire-adapted landscapes since 2002. Learning networks are ideal vehicles for addressing complex issues such as wildland fire adaptation. The FAC Learning Network connects people and projects to avoid “reinventing the wheel,” and encourages the development and sharing of innovations.

**In just a few years** we have created a community of FAC practitioners that includes non-profit groups, fire departments, Fire Safe Councils, Resource Conservation and Development Councils, Firewise Communities boards, community collaboratives and others. Everyone in the network knows that they can call on their peers for advice, feedback and resources. Participants

routinely take tactics that others are using to help communities live with fire and adapt them for their own circumstances. Across the country, interest in the network is high.

**Although creating fire adapted communities is itself one of the three broad goals of the National Cohesive Wildland Fire Management Strategy**, in reality helping communities live with fire involves all three goals:

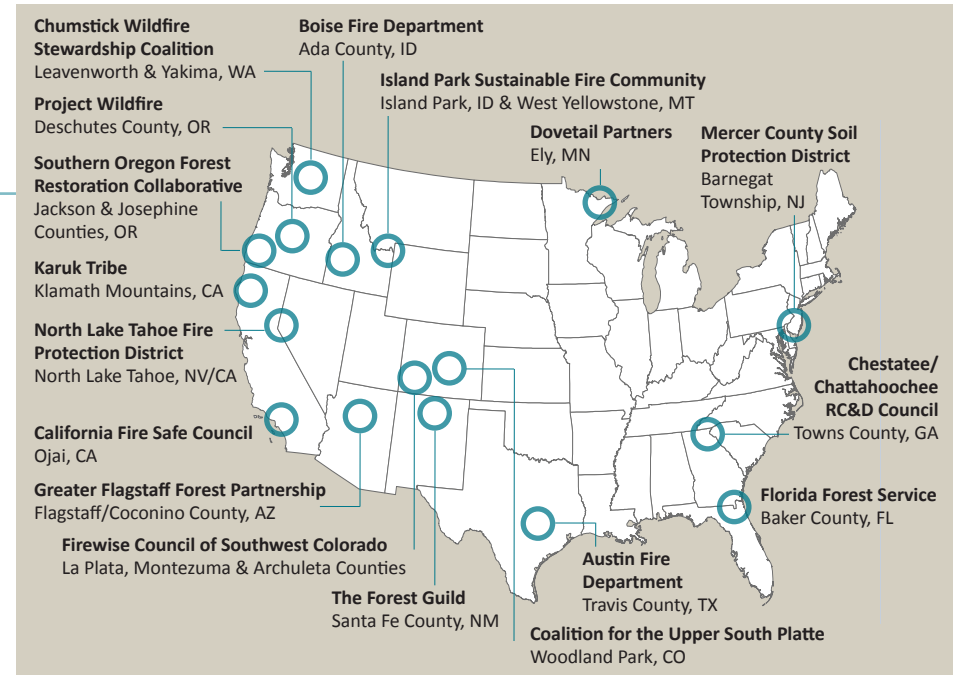
- Restore and maintain resilient landscapes in all jurisdictions;
- Prepare communities so they can live with and withstand a wildfire without loss of life and property; and
- Safely, efficiently and effectively respond to wildfires when they happen.

### A Sampling of Projects Supported by the Network

Network participants are helping their communities become more resilient by taking action before, during and after wildfires. Some examples are:

- Creating and distributing an After the Fire Toolkit (Washington state)
- Developing and beta-testing a Fire Adapted Communities Self-Assessment Tool (national network)
- Holding a Citizen’s Fire Academy and Firewise Networking Day (Bend, Oregon)
- Hosting Forestry Field Days (Towns County, Georgia)
- Collaborating to complete the Travis County Community Wildfire Protection Plan (Texas)

As well as FAC outreach at community wildfire preparedness and Earth Day events, public demonstrations of defensible space and fuel treatments, and awareness campaigns through websites and social media—in communities across the country.



**Seventeen pilot communities** are currently active in the FAC Learning Network, with plans to continue expansion. Each community is building capacity and raising awareness about wildfire resilience through a host of preparedness, mitigation and recovery activities.



Learning together and working together: Field tours like the one near Orleans, CA (top), bring together residents, NGOs and agencies to learn from recent wildfires. Community work days, like the one near Woodland Park, CO (bottom), let “many hands make light work” while strengthening community ties.

Photos: WRTC; Coalition for the Upper South Platte



## Fire Adapted Communities Learning Network Values

- Adaptation is critical to a positive future.
- Collaboration and partnerships are keys to successful adaptation.
- Investment in local-level capacity, partnerships and responsibility yields the best outcomes.
- Supporting the coordinating function within communities is essential to leveraging the range of resources, institutions and individuals necessary to build fire adapted communities.
- Investing in learning across communities and geographies is a strategy that works at multiple scales, including:
  - Facilitating the adoption of best practices and innovations;
  - Building a community-of-practice to fuel inspiration and innovation;
  - Aggregating lessons learned to advise the design of programs and policies in support of fire adapted communities; and
  - Leveraging lessons learned to inform policy and resource allocation, as appropriate.



## How Does the Fire Adapted Communities Learning Network Work?

**Most of the 17 organizations** leading community efforts in the FAC Learning Network receive modest funding from the program to support local FAC work and promote the expansion of FAC to new communities. A core team of “netweavers” and coordinators works directly with the network participants to foster connections among them. Network participants also meet in person annually, and quarterly through webinars. On a day-to-day basis, members use an invitation-only online workspace to share successes and resources, and to pose questions and engage in conversations.

**In addition to netweaving**, core team members support the deployment of a variety of local FAC tactics and strategies, and harvest learning from them. Capturing the network’s learning, they



In 2014, the Network met in Colorado Springs for several days of presentations, discussions, a field tour with the Fire Learning Network—and plenty of one-on-one networking. *Photo: TNC/Liz Rank*

produce quick guides, communications resources, and reports such as an annual State of Practice Report.

**We reach out** to a broader audience through our website and blog, where we share important resources and post regularly about key FAC issues and best practices, pilot community successes, resources and other topics of interest. Core team members and

other network participants also attend conferences and give presentations about FAC and the FAC Learning Network.

**We are connected** to the larger FAC community through the Fire Adapted Communities Coalition, which includes the Forest Service, U.S. Department of the Interior, Insurance Institute for Business and Home Safety, International Association of Fire Chiefs, National Association of State Foresters, National Fire Protection Association, National Volunteer Fire Council, U.S. Fire Administration, NWCG WUI Mitigation Committee, the Watershed Research and Training Center, and The Nature Conservancy. Together we are helping homeowners, communities and land managers in fire-prone areas to prepare for and recover from inevitable fires—to “live with fire” safely.

[www.FACNetwork.org](http://www.FACNetwork.org)

*Top row:* Communities from coast to coast are threatened by wildfires. *From left:* one of the many 2008 fires, as seen from Hayfork (CA) High School; 2011 Los Conchas Fire in Santa Fe National Forest, NM; 2007 Warren Grove Fire near Barnegat Township, NJ. *Photos: WRTC; International Space Station; NJ Forest Fire Service.*

*Bottom row:* Communities in the FAC Learning Network work at many different scales to mitigate wildfire risk, from promoting individual and neighborhood action to addressing landscape resilience and fire-related policies. At the very local scale, we have learned that demonstration sites can be a powerful tool for convincing homeowners to take action. *From left:* pilot community demonstration sites in Barnegat Township, NJ, Leavenworth, WA and Island Park, ID. *Photos: TNC/Wendy Fulks; Andrew Holm; TNC/Guy Duffner*



The Fire Adapted Communities Learning Network is supported by *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 through a subaward to the Watershed Research and Training Center. For more information, contact Nick Goulette ([nickg@hayfork.net](mailto:nickg@hayfork.net)).

# Fire Adapted Communities

## LEARNING NETWORK

**No summer** has illustrated the need for resilient and prepared communities better than 2014. Throughout the state of Washington, more residents were on some level of evacuation notice than at any other time in the past 20 years. More structures—over 320 homes—were lost than in any previous Washington wildfire. Many people did not know what to do in the event of an evacuation or how to prepare their homes for wildfire. Businesses in eastern Washington were heavily impacted by highway closures. These events confirmed the need to develop evacuation and pre-attack plans to prepare our community for future wildfire incidents. CWSC will be working with local and Fire Learning Network partners to develop these plans.

**In response to the 2014 fires**, CWSC took action by creating an “After the Fire Toolkit.” This toolkit enables information on post-fire impacts to be disseminated during an incident, rather than later when the “teachable moment” afforded by the fire has closed. A National Weather Service representative distributed the trifold brochure from the toolkit at the first public meeting during the Mills Canyon fire. The willingness of the Washington Incident Management Team to create space for this important messaging was critical to its successful distribution. Post-fire impacts were highlighted in



Treatment demonstration projects to prepare for wildfires and a toolkit of resources to mitigate wildfire after-effects are among the projects helping make north-central Washington more resilient to wildfire. *Photo: Andrew Holm*

news releases from the incident, and the incident management team used parts of the social media element of the tool. In addition, “After the Fire” door hangers were given to the local fire district for distribution.

**By participating** in the FAC Learning Network, our communities and organizations have the ability to join forces, link resources and learn from the experiences of our network partners—all invaluable opportunities. We believe that mutual learning is critical to healthy collaboration and we strive to incorporate a strong learning component into all of our activities. As communities begin to adapt and respond to fire—and by changing the way we view fire—we have a chance to share lessons learned with communities across the nation. Lessons learned by others across the country benefit our programs, organizational capacity and constituency; our own lessons shared broaden the impact of the CWSC beyond the Chumstick.

**In 2015 we will be working to:**

- Enhance community resiliency through a series of wildfire preparedness workshops and meetings

# Chumstick Wildfire Stewardship Coalition

## HUB ORGANIZATION



**Working in LEAVENWORTH, PLAIN and YAKIMA, Washington**

- with a wide array of local and regional stakeholders;
- Collaborate with stakeholders during on-the-ground fuel reduction and forest restoration work; and
- Coordinate biomass utilization projects and regional wildfire education.

### WILDFIRE VISION

The Chumstick Coalition envisions progress toward a resilient community living with wildfire. Fire is a natural part of north-central Washington, but the 2014 wildfires changed the environmental, economic and social contexts in which we view fire. These changes present both tremendous challenges and tremendous opportunities. We are working to leverage these opportunities to create resilient governments, businesses and residents, all connected and collaborating to change the way we live and work in fire country.

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(509) 630-2836

### KEY PARTNERS

- American Red Cross—Apple Valley Chapter
- Bavarian Village Business Association
- Cascade School District
- Cascadia Conservation District
- Central Washington Interagency Communication Center
- Chelan County Fire District 3
- Chelan County—Department of Emergency Management, Public Utility District, Public Works, Sherriff
- City of Leavenworth
- Leavenworth Chamber of Commerce
- National Weather Service
- South Central Washington Resource & Conservation District
- USDA Forest Service—Okanogan-Wenatchee National Forest
- Washington State Department of Natural Resources
- Washington State University—Extension Forestry
- Wenatchee Valley Humane Society and local residents & landowners



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The Nature Conservancy, USDA Forest Service and agencies of the Department of the Interior through a subaward to the Watershed Research and Training Center. For more information, contact Nick Goulette (nickg@hayfork.net).



# Fire Adapted Communities

## LEARNING NETWORK

Project Wildfire's flagship program, FireFree, experienced a surge in participation in both the spring and fall 2014 events, breaking its previous records. The greater participation in the spring event suggests an increase in residents preparing for fire season before there is smoke on the horizon. The sharp increase in attendance at the fall event indicates that messages shared during the teachable moments of fire season did not fall on deaf ears.

Oregon State University's Extension Service debuted a new program, the Citizen's Fire Academy, that is helping to build local capacity in Deschutes County. Project Wildfire has been supporting this effort by aiding in the planning and facilitation of the curriculum. Residents who are enrolled in this program can act as liaisons for their neighborhood or formally volunteer with local agencies.

Many local Firewise stakeholders met at a Firewise Networking Day. This event produced great synergy among neighborhood "spark plugs"—highly-



FireFree volunteers at the Fryrear Transfer Station were part of a May 2014 work day that helped remove excess fuels to protect their communities.

Photo: Terri Cairns

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Community members discuss critical wildfire issues during a World Café session at the November 2014 Firewise Networking Day. Photo: Alison Green

engaged community members—that will lead to improved communication between Firewise communities and those working toward this recognition. Project Wildfire is also collaborating with the Ready, Set, Go! program to develop an Oregon-specific guide.

Looking ahead, the Forest Service and The Nature Conservancy are working on a prescribed fire training exchange (TRES) that will make its Deschutes County debut this spring. TRES will be an excellent tool to increase the conversation locally about prescribed fire, communicate with the public about the need for forest restoration, and further the conversation around smoke management.

The amount of knowledge that the FAC Learning Network has generated for Deschutes County is more than Project Wildfire could have hoped for. Ideas for CWPP revisions, how to document home assessments, a successful networking day agenda, and other guides developed by FAC partners and shared through the network have given Project Wildfire motivation to

# Project Wildfire

## HUB ORGANIZATION



### Working in DESCHUTES COUNTY, Oregon

#### including 7 CWPP areas

Bend / East & West Deschutes County / La Pine / Redmond / Sisters / Sunriver / Upper Deschutes River Coalition

#### and 16 Firewise Communities

Aspen Lakes / Awbrey Glen / Caldera Springs / Cascade Meadows Ranch / Crosswater / Deschutes River Woods / Fall River Estates / Ponderosa Pines / Rimrock West / River Meadows / Spring River / Sunriver / Sunset View Estates / The Ridge at Eagle Crest / Tollgate / Wild River

implement similar ideas in Deschutes County. Project Wildfire is hoping to capitalize on the open communication within the network to increase awareness of fire adapted community concepts in the county. There are already some local residents working towards becoming more fire adapted without being aware of it. Being able to give those efforts a name, and to support them with ideas shared in the FAC Learning Network will provide lasting benefits in Deschutes County.

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(541) 322-7129

### KEY PARTNERS

Bend Fire Department / Brooks Resources / Brown & Brown Insurance / Bureau of Land Management / Deschutes Collaborative Forest Project / Deschutes County—Board of Commissioners, Community Development, Emergency Manager, County Forester / Deschutes River Woods / Deschutes Rural Fire Protection District #2 / International Association of Fire Chiefs / National Fire Protection Association / North Rim HOA / Oregon Department of Forestry / Oregon State University—Extension / Ponderosa Pines Property Owners Association / Rimrock West HOA / River Meadows HOA / Shevlin Commons / Singletree Enterprises LLC / Sisters Fire Department / Sunriver HOA / Sunset View Estates HOA / The Highlands at Broken Top / The Nature Conservancy / Tollgate HOA / Upper Deschutes River Coalition / USDA Forest Service / Western Region Cohesive Strategy—Chair, Committee Coordinator



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The Nature Conservancy, USDA Forest Service and agencies of the Department of the Interior through a subaward to the Watershed Research and Training Center. For more information, contact Nick Goulette (nickg@hayfork.net).



# Fire Adapted Communities

## LEARNING NETWORK

The Southern Oregon Forest Restoration Collaborative (SOFRC) works to build support and strategies for cohesive forest restoration across the dry forests of southwest Oregon. Our goal is to create resilient forests and communities, support coordinated forest planning, and maintain a vibrant forest management and utilization infrastructure. While our focus is on federal lands, the checkerboard landscape of the region encourages an all-lands approach to achieve integrated forest restoration goals.

Our recently-completed Illinois Valley Timber Sustainability Assessment identified an available, cost-effective, restoration-based federal timber supply that helped leverage state and national investments to enable the retooling and reopening of a local mill, which will provide 70 jobs to the rural community. The assessment worked within current federal forest management guidelines and land allocations, and received support from the U.S. Fish & Wildlife Service in its effort to conserve northern spotted owl habitat.

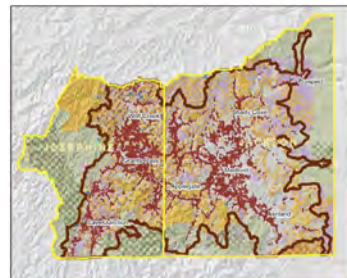
Working in the context of the Western Action Plan of the National Wildfire Cohesive Strategy, SOFRC is working with two counties to complete county-based integrated fire plans. This process encourages coordination in local efforts to integrate the three Cohesive Strategy goals—resilient



About 15 miles east of Ashland, a plume rises from the Oregon Gulch Fire, which burned about 35,000 acres in summer 2014. Photo: George McKinley

forests, fire adapted communities and coordinated wildfire planning and suppression activity. Integrated risk assessments are key to the county plans, and will help determine priority needs and opportunities across the region. The year 2015 will be a benchmark for vetting the plans for community and agency support, as well as advancing associated action plans.

SOFRC has also completed a climate adaptation action plan for the Rogue Basin. This plan will help guide future forest restoration planning and



# Southern Oregon Forest Restoration Collaborative

## HUB ORGANIZATION



Working in JACKSON and JOSEPHINE COUNTIES, Oregon

implementation, given the expectation of shifting precipitation patterns and increased wildfire activity. It will also help inform discussions of the expected impacts of climate change in the region.

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 collaborative@jeffnet.org  
 www.forestrestorationcollaborative.org

## KEY PARTNERS

- Applegate Fire Plan
- Bureau of Land Management—Medford District
- City of Ashland
- City of Grants Pass
- Jackson County
- Josephine County
- Lomakatsi Restoration Project
- Oregon Department of Forestry
- Oregon State University—Extension Service
- The Nature Conservancy
- U.S. Fish & Wildlife Service
- USDA Forest Service—Rogue River-Siskiyou National Forest

## KEY RESTORATION PRINCIPLES

- Management recommendations based on historic fire return intervals and site productivity
- Reliance on a fine-grained approach for our fine-grained landscape
- Use of both fire and mechanical harvest to achieve and maintain ecological and economic goals
- Support for fire adapted community efforts
- Advocate long-term viability of critical habitats and species

A map of Josephine and Jackson Counties (outlined in yellow) shows the extent of WUI (outlined in red) within the counties. Also evident is the large area occupied by communities considered at risk from wildfire (red areas); these include Grants Pass in Josephine County and Ashland and Medford in Jackson County. In the background, the checkerboard pattern of ownership can be seen.

Map: SOFRC



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# Fire Adapted Communities

## LEARNING NETWORK

**Recent accomplishments** in this landscape include the establishment of the Western Klamath Restoration Partnership (WKRPP), a collaborative that is working to improve forest resiliency and community safety. As part of the Fire Learning Network, this partnership has held a series of eight facilitated three-day workgroup sessions, and has reached agreement in principle for projects at the landscape scale.

**Our current focus** is on convening partners to ramp up the scope and scale of our planning and implementation capacities. We are improving mechanisms to obligate funds from the Forest Service to the Bureau of Indian Affairs for the tribe to systematically progress our WKRPP collaborative endeavors as a Cohesive Strategy Demonstration Area. More than \$1.1 million in funding was obligated in 2014 for NEPA planning and for completing NEPA-ready projects. Among the year's highlights was the fall Klamath River Prescribed Fire Training Exchange, where 53 participants built their fire skills while treating 240 acres with fire. Our integrated approach to fire management has been highlighted in the Western Region Strategy Committee newsletter, the Cohesive Wildland Fire Management Strategy Facebook page, and in many newspaper articles.

**Collaborative leadership** in a large, complex system presents challenges.



Smoke rising from low-intensity burns on the Nix unit during the October 2014 Klamath River TREX. Photo: Thomas B. Dunklin via Facebook



From left: Fire rejuvenating a patch of bear grass, a basket woven from materials that depend on fire, acorns. Prescribed fire in this landscape supports cultural values as well as community safety and forest resilience. Photos: Bill Tripp; USFS/Frank Lake

But we are progressing in a manner that we believe will produce tangible results for the long term. Seed money from the FAC Learning Network has been instrumental in convening the discussions needed to help our vision start to become a reality.

**Our long-term goals** include bringing fire back to the people in Karuk Territory. Fire as an ecological process is not currently fulfilling its functional role in this landscape. People have not been serving in their capacity as responsible stewards within ecological

# Karuk Tribe

## HUB ORGANIZATION



**Working in CECILVILLE, FORKS OF SALMON, HAPPY CAMP, ORLEANS, SAWYERS BAR, SEIAD and SOMES BAR, and with the KARUK PEOPLE in northern California**

systems. We are trying to reverse that trend and revitalize the human-fire relationship so we can once again thrive as a people of place in our original homelands.

**To help reach these goals**, we are planning on gaining administrative access to the Incident Qualifications and Certification System (IQCS) and Resource Ordering Status System (ROSS) in the coming year. This will enable us to manage the qualifications of tribal, NGO and community volunteer personnel so the workforce that we are growing locally for the restoration and maintenance of fire resilient landscapes will also be able to respond to wildfires in a safe, effective, and consistent manner.

**FAC Contact:**

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### KEY PARTNERS

Bureau of Indian Affairs  
California Fire Science Consortium  
Deer Creek GIS  
Happy Camp Coordinating Committee  
Happy Camp Fire Safe Council  
Hayfork Watershed Research and Training Center  
Inter-Tribal Timber Council  
Karuk Tribe—Community Development Corporation, Dept. of Natural Resources, Emergency Preparedness Department  
Klamath Forest Alliance  
Mid Klamath Watershed Council  
National Oceanic and Atmospheric Administration—Fisheries  
Northern California Prescribed Fire Council  
Orleans Volunteer Fire Department  
Orleans-Somes Bar Fire Safe Council  
Salmon River Fire Safe Council  
Salmon River Restoration Council  
Salmon River Volunteer Fire and Rescue  
U.S. Environmental Protection Agency  
U.S. Fish & Wildlife Service  
University of California, Berkeley  
USDA Forest Service—Klamath NF, Shasta-Trinity NF, Six Rivers NF; Pacific Southwest Research Station  
USDA Natural Resources Conservation Service—Fortuna Service Center, Yreka Service Center  
Western Klamath Restoration Partnership  
Western Region Strategy Committee



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# Fire Adapted Communities

## LEARNING NETWORK

With seven fire districts, five counties, and two states the Lake Tahoe Basin presents unique challenges for coordinating FAC activities. Since joining the FAC Learning Network, fire, land management, and regulatory agencies have strengthened partnerships by formalizing the role each plays in creating a Fire Adapted Community. The association of 15 organizations, called the Tahoe Fire and Fuels Team, recently completed the Multi-Jurisdictional Fuel Reduction and Wildfire Prevention Strategy. This strategy creates a framework for information exchange, resource sharing, and coordinated education and outreach across jurisdictional boundaries.

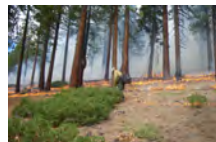
Until 2011, a non-profit organization provided substantial support to Lake Tahoe communities working to reduce fire risk. When the non-profit went bankrupt, it left communities without support and financial assistance. The Tahoe Fire and Fuels Team is focused on rebuilding support functions for the public, and increasing their involvement in basin-wide decision making processes. Key to rebuilding is a



Senator Dianne Feinstein presents a proclamation honoring the release of the Multi-Jurisdictional Fuel Reduction and Wildfire Prevention Strategy to the forest supervisor and fire protection district chief. Photo: USFS/Lisa Herron

project to review the factors that lead to a neighborhood's continued success, difficulty, or eventual disinterest. The process will identify the organizational strategies that the Tahoe Fire and Fuels Team will promote in the future.

**Failure gains value** when participating in a learning network. Lake Tahoe organizations have shared their successes and challenges, and in turn have learned from others throughout the nation. Methods for sharing and collaborating are being adapted from the national program for use in regional networks. Participation in the FAC Network has helped build a culture where organizations are encouraged to take calculated risks that can lead to important breakthroughs and innovations in becoming fire adapted.



Actions from community work days to information tables at block parties, and from chipper days to conducting prescribed burns, are being offered to help communities prepare to live safely in a landscape with inevitable wildfires.

Photos: Tahoe Douglas FPD (left), North Lake Tahoe FPD (others)

# North Lake Tahoe Fire Protection District

## HUB ORGANIZATION



Working in LAKE TAHOE BASIN communities in Washoe and Douglas Counties in Nevada and El Dorado and Placer Counties in California

**Wildfire is inevitable** in the Lake Tahoe Basin, but catastrophic fire is preventable. Through FAC programs, the character of the community and the landscape is gradually shifting to become more fire-adapted. To continue the transition, the team is striving for an effective partnership of agencies and the public that can be sustained without the need for outside funding.

**To provide cost-effective** maintenance of fuels reduction treatments, Basin agencies seek to increase the use of prescribed fire, especially on private and local government land. The land is often adjacent to homes and businesses, and the understory burns are technically difficult to implement.

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## KEY PARTNERS

California Department of Forestry and Fire Protection / California State Parks / California Tahoe Conservancy / City of South Lake Tahoe Fire Department / Fallen Leaf Lake Fire Department / Fire Public Information Team / Lake Valley Fire Protection District / Meeks Bay Fire Protection District / Nevada Division of Forestry / Nevada Division of State Lands / Nevada Network of Fire Adapted Communities / Nevada Tahoe Conservation District / North Lake Tahoe Fire Protection District / Tahoe Douglas Fire Protection District / Tahoe Fire and Fuels Team / Tahoe Regional Planning Agency / University of Nevada—Cooperative Extension / USDA Forest Service—Lake Tahoe Basin Management Unit

Increased burning will be facilitated by: exchanging resources, knowledge, and training to build the skill base in the Basin; increasing structure and landscaping ignition resistance to allow understory fire to be safely applied nearby; and developing agreements and processes for burns that span federal, state, local and private ownerships.



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# Fire Adapted Communities

## LEARNING NETWORK

**The California Fire Safe Council (CFSC)** is a state-wide nonprofit that provides wildfire education and outreach support and capacity-building assistance to organizations in California that are engaged in fire preparedness. This wide-reaching influence and support of local community groups makes us especially well positioned to spread innovative ideas from local California Fire Safe Councils and Firewise Communities through the FAC Learning Network, and to bring innovations back to our California partners.

**For more than 20 years**, CFSC has been a leader in California's fight to reduce the impact of wildfire. CFSC is recognized by state and federal fire agencies as a vital link to communities. Private corporations, including insurance and utility companies, have shown generous support for CFSC's work.

**CFSC offers workshops** and one-day conferences on fire and disaster prevention topics several times each year in locations throughout the state. Fire Safe Councils communicate regularly with CFSC to share information about local events and successful projects and outreach programs. In turn, CFSC offers networking and training opportunities that help the local groups continue their critical work in wildfire prevention and preparedness.

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Homeowners participate in home ignition zone assessment training organized by California Fire Safe Council. *Photo: CFSC/Katie Martel*

**A key area of focus** as part of the FAC Learning Network this year is to increase wildfire preparedness among residents in the wildland-urban interface (WUI) through development of an innovative mobile application. We will be expanding the Ojai Valley FSC's online home safety survey to create a mobile app assessment tool for Fire Safe Councils and Firewise Communities to use with homeowners. This tool will apply current technology to make the assessment process more convenient for in-field implementation and allow for easy communication of assessment findings to the homeowner.

**We continue** to advance networking among local Fire Safe Councils and Firewise Communities in California. In addition to the workshops and conferences, the CFSC website will be expanded. New website content will highlight successes of local FSCs and Firewise Communities, and an online

# California Fire Safe Council

## HUB ORGANIZATION



Working throughout the state of California



California Fire Safe Council staff manage a grants clearinghouse for the state, and work with applicants to ensure their success and help them meet their responsibilities as grantees. CFSC is also the state liaison for the Firewise Communities program.

forum will allow FSCs, Firewise Communities, grantee organizations and community groups to share tips, lessons learned and best practices.



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## KEY PARTNERS

CAL FIRE  
National Fire Protection Association—  
Firewise  
Ojai Valley Fire Safe Council  
USDA Forest Service



Attendees visit exhibitors at the 2014 Fire Summit, which was hosted by the Southern California Regional Area Taskforce and sponsored by California Fire Safe Council. *Photos: CFSC*

## CALIFORNIA FIRE SAFE COUNCIL MISSION

Mobilizing Californians to protect their homes, communities and environment from wildfires

# Fire Adapted Communities

## LEARNING NETWORK

**The Greater Flagstaff Forests Partnership (GFFP)** is a long-standing collaborative representing numerous academic, environmental and private organizations as well as municipal, county, state and federal agencies. Since 1998, GFFP has endeavored to increase community protection through research and demonstration of various approaches to restore natural ecosystem structure, function and composition in the ponderosa pine forests surrounding Flagstaff, Arizona. GFFP has helped lead a shift in public understanding and support for proactive forest management designed to promote the safety and sustainability of our community and forests.

**In 2012**, City residents chose not to be helpless victims in the face of inevitable wildfire, but instead voted with overwhelming support (74 percent) to spend municipal bond money to fund forest treatments on state and federal land that would reduce risks of severe wildfires and minimize post-fire impacts such as flooding. GFFP's work to advance the goals of the Flagstaff Watershed Protection Project (FWPP) is well aligned with FAC and the Cohesive Strategy.

**GFFP hosted** and participated in numerous events in 2014 promoting the common goals of FAC, the FWPP and the Partnership. Events included numerous community meetings, open



City of Flagstaff viewed from the steep, rocky slopes of the Dry Lake Hills. Photo: FWPP/Mark Brehl

houses and activities associated with the annual Flagstaff Festival of Science, including the Science in the Park Festival, Forest Fires & Floods Hike into the Dry Lake Hills and a Brown Bag Lunch detailing the history of our local forest ecosystems and the current and future efforts being planned to create sustainable communities and resilient forests.

**GFFP recently collaborated** with the Arizona Rural Policy Institute, City of Flagstaff and Ecological Restoration Institute on the FWPP Cost Avoidance Study. The study conservatively estimates the FWPP's proactive funding of \$10 million was a sound investment considering it will avoid between \$552 million and \$1.2 billion in potential damages; not to mention the scenic and spiritual loss the community would endure.

**Helping initiate discussions**, planning efforts and permitting with the Navajo Nation, GFFP facilitated the Flagstaff Fire Department's Wildland Fire Management Division meadow restoration project, eliminating pine encroachment

# Greater Flagstaff Forests Partnership

## HUB ORGANIZATION



### Working in the GREATER FLAGSTAFF AREA COMMUNITY of northern Arizona

on a 140-acre tribal in-holding in the middle of the Dry Lake Hills (FWPP) area that is surrounded by the Coconino National Forest. A two-panel log kiosk was built and installed on the property to host project details, parcel history and forest/fire management information.

**In 2015** we will continue to promote FAC at various community events, host field trips and produce videos related to prescribed fire and smoke management. We are also working on signs recognizing property owners working proactively to reduce wildfire risk, and

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### KEY PARTNERS

Arizona Game and Fish Department  
Arizona Prescribed Fire Council  
Arizona State Forestry Division  
Centennial Forest  
City of Flagstaff  
Coconino County  
Coconino County Conservation District  
Flagstaff Fire Department  
Friends of Northern Arizona Forests  
Northern Arizona University—  
Ecological Restoration Institute  
Northern Arizona University—School  
of Forestry  
Ponderosa Fire Advisory Council  
Southwest Fire Science Consortium  
The Nature Conservancy

a community wildfire preparedness contest to be held in conjunction with the 2015 National Wildfire Community Preparedness Day.

### MORE INFORMATION

**Greater Flagstaff Forests Partnership** <http://www.gffp.org/>  
**Flagstaff FD Wildland Fire Management Division** <http://www.flagstaff.az.gov/wildlandfire>  
**Coconino National Forest** <http://www.fs.usda.gov/COCONINO>  
**Flagstaff Watershed Protection Project** <http://www.flagstaffwatershedprotection.org/>



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# Fire Adapted Communities

## LEARNING NETWORK

**Public and stakeholder** engagement is a high priority for this partnership, as is building capacity to implement FAC projects in northern New Mexico. In 2014 we made tremendous strides on both fronts.

**The Forest Guild** joined the New Mexico Wildland Urban Interface Summit planning team in the spring and helped plan the three-day event around the theme of fire adapted communities. The summit drew more than 110 people from around the state. Throughout the year, the FACLN continued to work with the City of Santa Fe FAC Coalition and the budding Wildfire Network. The Nature Conservancy invested in local FAC efforts to expand impact by convening two peer learning workshops in the Rio Grande Water Fund region. In October, the first workshop brought together participants from northern New Mexico and



Kids gather around a matchstick “forest fire” demonstration at an Earth Day outreach event in Santa Fe. *Photo: Forest Guild*



A prescribed fire training exchange (TRES) in October helped build local capacity while treating fuels on 255 acres near Black Lake

*Photo: NMSLO/Mark Meyers*

a FAC leader from southwest Colorado to bring a fresh outside perspective.

**Other outreach efforts** have included:

- overhauling the [www.fireadapted-newmexico.org](http://www.fireadapted-newmexico.org) website based on feedback from FAC partners;
- discussing FAC issues on the local radio program Radio Café;
- giving FAC presentations at the Southwest Fire Science Consortium Forest Resiliency conference—interviews here resulted in three articles in major media outlets mentioning FAC concepts—and “Wildland Smoke in the Air—What Does it Mean to ME?” workshop;
- presenting the webinar “Working Across Fence Lines: Multijurisdictional Planning and Prescribed Fire,” which shared experiences from two Forest Guild projects in northern New Mexico.

Combining outreach and implementation, 55 rural youth worked in eight crews across six districts on three national forests on FAC and conservation projects like fuels reduction and prescribed fire line construction.

**To expand and leverage** FACLN investments, the Guild secured three

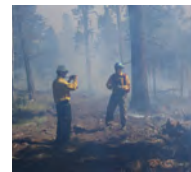
# The Forest Guild

## HUB ORGANIZATION



**Working in SANTA FE COUNTY and MCKINLEY COUNTY, New Mexico**

**and the communities** of Angel Fire / Black Lake / Breadsprings / Dixon / La Cueva / Penasco / Santa Fe / Timber Lake Ranches



The fall TRES combined training, treatments and outreach: a local reporter conducted a video interview with the NM State Lands Forester during ignitions.

*Photo: NMSF/Mary Stuever*

new funding sources in 2014. A three-year FAC-targeted implementation project supported by the Forest Service Collaborative Forest Restoration Program will restore forests and improve watershed conditions across 350-450 acres in the Rio Trampas watershed. Implementation of the new FAC self-assessment tool is part of this project and is already underway. A home risk reduction grant from the New Mexico Association of Counties will be used to

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## KEY PARTNERS

Angel Fire—Fire Department  
Black Lake—Fire Department  
Chris’s Tree Service  
City of Santa Fe—Fire Department  
Fire Services Support, LLC  
La Cueva Road  
McKinley County  
New Mexico Association of Counties  
New Mexico State Forestry  
New Mexico State Land Office  
Santa Fe County  
Santa Fe County Commissioners  
The Nature Conservancy—New Mexico  
USDA Forest Service—Santa Fe National Forest (Pecos/Las Vegas Ranger District)

implement actions recommended in the 2013 McKinley County CWPP; this cost-share grant will help 30-40 homeowners reduce their risk. And FAC partner Fire Service Support is working on a project for the New Mexico Association of Counties that will expand the tablet-based home-site risk assessment program in Santa Fe County into the high-risk community of Turquoise Trail by training volunteer firefighters to do assessments.



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# Fire Adapted Communities

## LEARNING NETWORK

Since joining the FAC Network, FireWise of Southwest Colorado has hosted and participated in numerous stakeholder events to discuss, plan and implement activities across its three-county area. These included taking part in public meetings hosted by La Plata County to support new driveway standards and a meeting with the county to discuss revising its CWPP; hosting a wildfire forum in Montezuma County (where 30 people discussed opportunities for increasing wildfire preparedness); and a workshop on FAC and wildfire preparedness for realtors, insurance agents and residents. There were also follow-up meetings for two working groups that emerged from a wildfire collaboration conference in May: The Regional Council Working Group met to discuss creating a group to recommend priority areas for treatment, guide grant applications and address regional issues. The Regional Biomass Working Group is addressing opportunities for developing a biomass industry in the region. In September, FireWise of Southwest Colorado's executive director took part in a New Mexico FAC peer-learning workshop, sharing learning between the regions.

**Other recent accomplishments** include the addition of a new Firewise Community, bringing the area's total to eight. FireWise has also been working with the landfill and other partners in



Southwest Open High School students sport the FireWise Helping Hands t-shirts they got for volunteering at a low-income pilot project work day. They helped install screening below decks, lay weed-barrier fabric and gravel near homes, plant fire-resistant shrubs and de-construct a carport. *Photo: Rita Strammel*

Archuleta County to make three slash depot locations into sustainable operations. FireWise has also championed many other FAC-related projects that support regional wildfire risk reduction. These include:

- development of a *Best Practices for Homeowners* directory,
- a low-income pilot project in Montezuma County that included creation of a fuel break to protect a 96-unit mobile home park and fuels reduction and hardening of homes on four individual properties,
- a new partnership with the La Plata County GIS Department to map fuels-reduction efforts across the region, and
- a collaborative effort that conducts fuels mitigation work on conservation easements near communities with CWPPs or FireWise Ambassadors.

**Plans are underway** for wildfire preparedness events in all three counties in 2015. FireWise will also host a wildfire collaboration conference, and is working with the San Juan National Forest to highlight a 1,100-acre prescribed burn conducted adjacent to a Firewise Community. The FAC Learning Network's self-assessment tool will also be introduced in all three counties.

# FireWise of Southwest Colorado

## HUB ORGANIZATION



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**Working in Montezuma, La Plata, and Archuleta Counties in southwest Colorado**

### REGIONAL PARTNERS

American Red Cross / BLM—Southwest District Field Office / Colorado Division of Fire Prevention and Control / Colorado Division of Homeland Security / Colorado State Forest Service / Farmers Insurance / Mountain Studies Institute / NRG Consulting / San Juan Citizens Alliance / San Juan Mountains Association / Short Forestry / Southern Rockies Fire Science Network / Southwest Conservation Corps / State Farm Insurance / University of Colorado, Boulder—Institute of Behavioral Sciences / USDA Forest Service—Rocky Mountain Research Station, San Juan NF / Wildfire Mitigation Professionals' Association

**ARCHULETA COUNTY PARTNERS** Archuleta County— Administrator, Board of County Commissioners, County Landfill, OEM / BIA—Southern Ute Agency / Colorado State University—Archuleta County Extension Office / Los Pinos FPD / Pagosa Area Water and Sanitation District / Pagosa FPD / Pagosa Springs High School / San Juan Headwaters Forest Health Partnership / Stollsteimer Watershed Group / USDA Forest Service—San Juan NF (Pagosa RD) / USDA Natural Resources Conservation Service

**LA PLATA COUNTY PARTNERS** BIA—Southern Ute Agency / City of Durango / Durango & Silverton Narrow Gauge Railroad / Durango FPD / Fort Lewis Mesa FPD / La Plata Conservation District / La Plata County— Board of County Commissioners, OEM, Planning and GIS Depts. / La Plata Electric Association / La Plata Open Space Conservancy / Los Pinos FPD / San Juan RC&D / Upper Pine River FPD / USDA Forest Service—San Juan NF (Columbine RD)

**MONTEZUMA COUNTY PARTNERS** BIA—Ute Mountain Ute Agency / Colorado Division of Parks and Wildlife / Cortez FPD / Cortez Open Learning High School / Dolores County OEM / Empire Electric Association / Four Corners Bar Association / Four Corners Home Builders Association / K&N Fuels Management / Lewis-Arriola FPD / Mancos FPD / Montelores Habitat Partnership Program / Montezuma County— Administrator, Board of County Commissioners, County Landfill, OEM / National Park Service—Mesa Verde National Park (Fire Management) / Pleasant View FPD / Tri-State Generation and Transmission Cooperative / USDA Forest Service—Dolores Public Lands Office / Ute Mountain Ute Fire and Rescue / Western Area Power Administration

*Left:* The 2014 FireWise chipper rebate program provided almost \$20K in rebates to 91 residents and HOAs, who matched with \$107K and 4,065 hours of work. *Photo: P. Wilson*  
*Right:* A 2014 tour of the 2012 Weber Fire. Due to education, mitigation and evacuation planning laid out in their CWPP, no homes were damaged in the 10,000-acre fire and all residents were evacuated safely.

*Photo: Cortez Journal/Jim Mimiaga*



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# Fire Adapted Communities

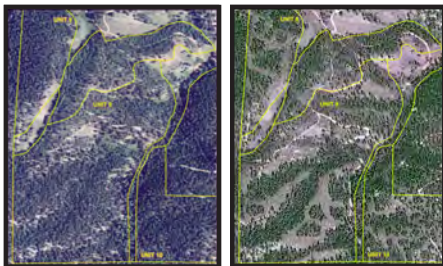
## LEARNING NETWORK

To successfully implement the Front Range Fire Adapted Communities Program, the Coalition for the Upper South Platte (CUSP) focuses on areas of high to extreme fire risk and critical infrastructure.

In the Upper South Platte watershed, CUSP works to tie together completed and planned forest management in the watershed to increase the overall impact on ecosystem resilience and wildfire risk reduction. This program of work includes

- implementing Community Wildfire Protection Plan and landscape-scale activities that reduce hazardous fuels;
- increasing forest resiliency;
- raising community awareness, preparedness and ownership; and
- building local capacity for both biomass utilization and project management and implementation.

CUSP works in areas adjacent to projects that are planned, already



Before and after forest restoration work completed in the Woodland Park area. *Photos: CUSP*

v. 16 Jan 15



Logs from a thinning project are stacked for sale. Whenever possible, CUSP sells logs to local businesses to offset treatment costs. *Photo: CUSP*

underway, or have been recently completed on federal, state and local lands, utilities lands and private properties. This coordinated work increases the overall impact on ecosystem resilience, wildfire risk reduction and watershed protection.

**Projects in at-risk** wildland-urban interface (WUI) zones along the Colorado Front Range are also a priority. Having completed over 2000 acres in 2014, CUSP has begun to expand its area of influence, and has begun mentoring several other non-profit organizations facing the same challenges. CUSP's biomass facility, located in Fairplay, is now fully operational, providing wood chips from fuel management projects to heat the Fairplay School.



Knowing that the only way to protect our communities is by working together, CUSP volunteers lend a hand. *Photo: CUSP*

# Coalition for the Upper South Platte

## HUB ORGANIZATION



### Working in WOODLAND PARK and along the Colorado Front Range

In 2015 CUSP will undertake several prescribed burns, focusing efforts in the northern watershed. With a skilled staff of 25 and several new pieces of equipment, CUSP is well positioned to even more effectively implement forest management projects. Participation in the FAC network affords staff opportunities to discuss with others in the fire and land management field both challenges and new approaches to creating more resilient communities. The FAC network has also raised the organization's national visibility, extending its impact.

**Looking ahead**, CUSP will be focusing on risk reduction in the home ignition zone, influencing policy and tax code related to the WUI, identifying and securing sustainable long-term funding sources, and increasing awareness of the Front Range FAC program.



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### KEY PARTNERS

Black Forest Together / City of Woodland Park / Collaborative Forest Landscape Restoration Program / Colorado Department of Natural Resources / Colorado Parks and Wildlife / Colorado Springs Utilities / Colorado State Forest Service / Florissant Fire Protection District / Front Range Fuels Treatment Partnership / Help the Needy / Home Owners Associations / Mile High Youth Corps / Northeast Teller County Fire Protection District / Palmer Land Trust / Park County / Pikes Peak Wildfire Prevention Partners / Teller County / The Nature Conservancy / U.S. Air Force Academy / USDA Forest Service / USDA Natural Resources Conservation Service / Wood Ministry



A CUSP crew burns piled slash in the snow, to remove excess fuels from the forest when the risk of wildfire is at its lowest. *Photo: CUSP*



# Fire Adapted Communities

## LEARNING NETWORK

The Boise Fire Department is engaged in many FAC activities supported by a variety of grants and through its participation in the FAC Learning Network. Most work directly tied to the FAC Learning Network will begin in 2015.

In the meantime, the Boise Fire Department has been busy with many wildfire mitigation projects, including managing numerous projects supported by its partner, the Southwest Idaho RC&D. These include creating fuel breaks through sagebrush thinning, goat grazing, herbicide applications and re-seeding, and a small ancillary erosion control project. Another project funded by the RC&D is the acquisition and installation of a Remote Automatic Weather Station (RAWS) in the Boise Front, which includes a VHF radio that can alert firefighters in real time to changing weather conditions during wildland firefighting operations. City of Boise Neighborhood Reinvestment Grant funding has supported chipping of hazardous fuels for homeowners in targeted neighborhoods throughout the Boise wildland-urban interface. In late 2014 the Boise Fire Department learned that it will probably get partial funding, through a Western States Fire Grant, to acquire remote sensing (LiDAR) data to improve assessment and planning.

Sharing what has been learned is also important to the department and



Goat grazing is one of the treatments being used to reduce fuels. Above, before and after grazing on a slope in the Oregon Trail area.

Photo: Boise Fire Dept./M. Beaudoin

its partners. For example, a tour for the Public Lands Foundation examined an area where a fatal wildland fire occurred, and where several years of phased wildfire mitigation work have taken place to reduce future risks. A similar, more in-depth version of this tour will be part of the IAWF International Wildland Fire Safety Summit and Human Dimensions of Wildland Fire Conference taking place in April 2015 in Boise. The Boise Fire Department also shares its expertise in classes at the National Interagency Fire Center and at Boise Fire Headquarters, teaching segments on FAC, Ready, Set, Go!, Firewise and local wildfire mitigation activities to professional firefighters.

Through participation in the 2014 FAC Learning Network workshop in Colorado Springs, the Boise Fire Department made new contacts and learned a great deal about wildfire mitigation initiatives around the country. The department has found that using FAC concepts and messaging helps more efficiently streamline and tailor mitigation and public outreach

# Boise Fire Department

## HUB ORGANIZATION

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### Working in ADA COUNTY, Idaho

City of Boise communities  
Boise Heights NA / Collister NA / Cove East / Dallas Harris Estates / East End NA / Harris Ranch NA / Highland NA / Homestead Rim / Hulls Grove / Oregon Trail Heights / River Heights / Surprise Valley

Firewise Communities  
Briarhill / Central Foothills / Columbia Village / Morning-side Heights / Quail Ridge / Warm Springs Mesa

City of Eagle  
Hidden Springs Town Association



Participants in Public Lands Foundation tour of the Oregon Trail pause at an interpretive point. Signage with take-home flyers is used to share information about mitigation projects and increase communication about fire adapted communities concepts.

Photo: Boise Fire Dept./C. Colwell

activities, and provides opportunities to share experiences with others. The Boise Fire Department's long-term FAC goal is to bring in additional partners

and provide consistent, effective countywide public outreach, in addition to ongoing boots-on-the-ground wildfire mitigation activities.



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# Fire Adapted Communities

## LEARNING NETWORK

**The Island Park Sustainable Fire Community (IPSFC)** is a collaborative group consisting of concerned citizens as well as representatives from private businesses; non-profit organizations; and local, state and federal government agencies. The IPSFC is working hard to help make Island Park and West Yellowstone fire adapted communities. We are committed to developing strong social and ecological communities.

**Our activities** have included completing risk evaluations for homeowners, four fuels reduction demonstration projects, hosting tours of the projects, giving presentations at homeowners' association meetings and other events, launching a website and Facebook page, hiring a full-time project coordinator, and scheduling slash pickup days in the Yale Creek and Stonegate subdivisions. We also mailed postcards for home evaluations to homeowners, created and distributed a brochure, and hired two part-time outreach representatives to contact homeowners.

**Wildfire Awareness Week** reached approximately 300 people. Discussion topics included insurance coverage for homes and property in the event of a wildfire, firefighting responsibilities of each agency, disaster preparedness, and wildfire risk to homes. Activities included games and prizes for kids, meeting Smokey Bear, and demonstrations by the Island Park volunteer



Smokey Bear was a popular visitor at Island Park's first Wildfire Awareness Week  
*Photo: Jessica Simpson*

fire department and the Community Emergency Response Team.

**Our outreach representatives** contacted approximately 200 people in 2014, handing out informational brochures and informing property owners about our organization as well as the risk evaluations, Wildfire Awareness Week, and slash pickup days. As a result of the outreach representatives' work and the postcards, we have received requests from 87 property owners to complete risk evaluations on their properties. The majority of these evaluations have been completed or are scheduled to be completed in 2015.

**To conclude our summer** activities, we hosted our very first slash pickup days in September. Homeowners placed slash by the side of the road for IPSFC to pick up in both Yale Creek and Stonegate subdivisions. One-hundred seventy-four piles (approximately 45 tons) were collected between the two subdivisions over the course of three days.

# Island Park Sustainable Fire Community

## HUB ORGANIZATION



**Working in ISLAND PARK, Idaho and WEST YELLOWSTONE, Montana**

### OUR VISION

Human and ecological communities of Island Park and West Yellowstone are resilient to fire, insect and disease through awareness, outreach and action.

Website: [www.islandparksustainablefirecommunity.com](http://www.islandparksustainablefirecommunity.com)

Facebook: <https://www.facebook.com/IslandParkSustainableFireCommunity>



Fuels were cut and ready for removal at one of the four defensible space demonstration projects completed by the Island Park collaborative in 2014.  
*Photo: Jessica Simpson*

**In the coming year** we hope to maintain or improve all of these programs and activities, including completing six more demonstration properties so that more residents can see what a properly mitigated home/lot looks like.

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### KEY PARTNERS

Farm Bureau Insurance  
Fire Safe Landscaping, LLC  
Fremont County  
High Country RC&D  
Idaho Bureau of Homeland Security  
Idaho Department of Lands  
Idaho State Fire Marshall—  
Department of Insurance  
Island Park volunteer Fire District  
Local homeowners  
The Nature Conservancy—Idaho (Flat Ranch)  
USDA Forest Service—Caribou-Targhee National Forest (Ashton and Dubois Ranger Districts)



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# Fire Adapted Communities

## LEARNING NETWORK

**Ely, Minnesota** is a community within hiking distance of the Canadian border and about a 4-hour drive north of the Twin Cities. With a population of about 3,400, Ely is in the middle of a complex landscape. Forests in this region have regrown from the heyday of railroad logging and Paul Bunyan more than 100 years ago. Ely also provides a gateway to the Boundary Waters Canoe Area Wilderness (BWCAW), drawing residents and visitors from all over the world.

**Ely is on the frontlines** of wildfire risk for many reasons. The area has beautiful forests, but the forests are thick with balsam fir which burns like paper when green and is almost as bad as a box of matches when it is dead and dry. The balsam fir and other understory growth in the forests around Ely can act as ladder fuel and



A FAC and Firewise presentation held at the Morse/Fall Lake Fire Department was aimed at raising awareness about the need for homeowners in the Ely region to create defensible space.  
*Photo: Gloria Erickson*



The owners of this lake resort have worked with the Firewise program in Lake County and the Forest Service to mitigate wildfire risk on their property.  
*Photo: Lake County*

increases the risk of destructive crown fires, including the May 2012 Highway 1 wildfire.

**This past summer**, local Ely FAC partners came together to implement a “chipper day” fuels reduction project. This event has sparked the interest of more neighborhoods, residents and lake associations. Additional chipper days are being planned, and local leadership and capacity are developing.

**Partners are also in the early stages** of developing an Ely Area Fire Safe Council. The goal of the Council will be to engage and encourage community partnerships to establish a wildfire resilient landscape for Ely and the surrounding wildland-urban interface. Our main objectives are to: (1) provide education and demonstrations of Firewise best practices, and (2) continue to identify and implement fuels

# Dovetail Partners

## HUB ORGANIZATION



### Working in ELY, Minnesota

#### FIRE SAFE COUNCIL VISION

To engage and encourage community partnerships to establish a wildfire resilient landscape for Ely and the surrounding wildland-urban interface.

reduction projects using our CWPPs as a baseline.

**We will also continue** to work with the Ely Emergency Preparedness Committee to establish evacuation strategies for Ely residents. And we hope to work with County Emergency managers on much-needed evacuation plans/routes in the surrounding wildland-urban interface.

**For Ely, being fire adapted** requires balancing recreation needs, resource utilization and public safety. That’s not always an easy balance to strike, but we are making progress.



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#### KEY PARTNERS

Ely Emergency Preparedness Committee  
Firewise—Northeast Regional Specialist Lake County  
Minnesota Department of Natural Resources  
Morse/Fall Lake Township  
USDA Forest Service  
Vermilion Community College



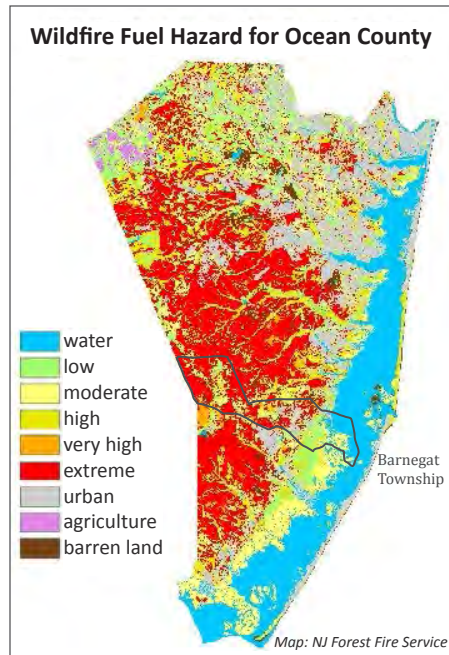
Ely’s first annual Chipper Day was sponsored by local FAC partners in the summer of 2014.  
*Photos: Gloria Erickson*



# Fire Adapted Communities LEARNING NETWORK

**Barnegat Township** is “ground zero” for wildland-urban interface (WUI) in New Jersey, located in the heart of the New Jersey Pine Barrens, an extremely flammable ecosystem. The area has become popular with retirees, who are mainly new to the area and have little or no understanding of their fire risk.

**Our fire adapted communities** work has been at two scales. At the local level, the Barnegat Fire Company has been conducting workshops with Barnegat Township communities to keep



There are 56 retirement communities with 125,000 residents in Ocean County, including 5 communities (7,400 people) in Barnegat Township.



Above: The 2007 Warren Grove Wildfire burns behind businesses on County Route 72 in Barnegat Township. Photo: NJ Forest Fire Service/Kevin Burke

Below: That fire burned right to the brink of the mobile home Community of Brighton at Barnegat. The FAC Learning Network has resulted in new relationships with residents and the owner of the community, with an emphasis on the Firewise and Ready, Set, Go! programs and on wildfire resiliency. Photo: NJ Forest Fire Service



them informed of the risk reduction efforts being made. Two Firewise Communities—Horizons and Mirage—have talented, motivated liaisons that keep their communities informed and productive in reducing risk through mechanical fuel reduction projects. They have also begun spreading the FAC word to other WUI communities in Barnegat Township and beyond. Our top priorities in Barnegat Township are to continue to promote Firewise and Ready, Set, Go! in the most vulnerable neighborhoods, and to create additional evacuation routes for one of our largest WUI communities.

# Mercer County Soil Conservation District

## HUB ORGANIZATION



### Working in BARNEGAT TOWNSHIP, New Jersey

**At the state level** we are working with the environmental community to promote wildland fire resiliency through the Sustainable Jersey Program. This involves developing a suite of emergency preparedness actions tied to the Sustainable Jersey Program. To reduce their risk and be certified as “sustainable” under that program, communities implement wildfire preparedness programs and other actions. These may include the Firewise and Ready, Set, Go! programs, developing Community Wildfire Protection Plans (CWPPs) and Community Forestry Management Plans, and instituting a Fire Safe Council to coordinate efforts at the municipal level. We have worked with Sustainable Jersey to define this suite of emergency preparedness actions, and have drafted a model municipal ordinance that municipalities can adapt to initiate their own Fire Safe Councils.

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### KEY PARTNERS

- Barnegat Fire Company
- Barnegat Township
- Horizons at Barnegat
- Mirage at Barnegat
- New Jersey Forest Fire Service
- New Jersey Forest Service
- Sustainable Jersey

**Being part of the FAC Learning Network** has been very beneficial for Barnegat. We have learned about the value and potential for Fire Safe Councils at both the local and statewide levels, and as a result hope to form and support as many local councils as are needed to benefit New Jersey’s WUI residents.

**Our long-term goals** are to create a network of fire resilient municipalities using existing fire prevention and mitigation programs, and to coordinate those efforts through a statewide Fire Safe Council that trains local members and targets funding to motivated and educated councils where the prevention efforts provide the best return on investment. In this way we hope to bring additional state and federal resources to New Jersey’s FAC efforts.



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# Fire Adapted Communities

## LEARNING NETWORK

During its first year in the FAC Learning Network, Towns County FAC increased the number of Firewise communities from three to ten. Another ten communities are in the process of completing their plans, holding their work days, and submitting the paperwork needed to be recognized as Firewise communities.

Wildfire calls in Towns County have been reduced by 75 percent since starting the FAC/Firewise program. At a time when two neighboring counties had 57 and 33 wildfires, Towns County had only seven. This is attributed to the constant messages from the FAC group about wildfire safety and risk reduction around homes. Our success is due largely to the formation of a FAC Citizens Coalition, which is made up of six local citizens and representatives from three fire agencies (the U.S. Forest Service, Georgia Forestry Commission and Towns County Fire). This coalition gives ownership to local citizens, while FAC hub leaders can begin spreading the concept to other counties in the area. As a result, new FAC programs have recently been started in White and Lumpkin Counties in northeast Georgia, and more counties are inquiring about starting their own FAC programs.

The current focus for this FAC group is to develop more Firewise communities in the area, in order to further



Volunteers at Leisure Woods Retirement Park—Towns County's second designated Firewise Community—marking the first neighborhood chipper day. Photo: Frank Riley

reduce wildfire calls. The group will continue to focus on homeowner education by all methods available, and will work on private lands hazard mitigation where possible. Most of the wildland-urban interface is connected to national forest land, which has limited opportunities for fuel reduction. However, the Forest Service is planning more prescribed burns in the future, which will help achieve the risk reduction that communities would like to see.

The long-term goal for this FAC Learning Network hub is to continue to actively spread the FAC concept among all of the 13 northeast Georgia counties served by the Chestatee-Chattahoochee RC&D, and to help facilitate its spread across the Southeast through the learning network process. The team's ultimate goal is to help make citizens' homes and property safer from wildfire and to minimize losses, thus boosting the economies and quality of life of communities all across the region.

# Chestatee-Chattahoochee RC&D Council

## HUB ORGANIZATION



### Working in TOWNS COUNTY, Georgia

including the communities and subdivisions of Admirals Point / Ashland Cove / Brasstown Creek Estates / Campbell Terrace / Cedar Cliff / Deerfield Estates / Frog Pond / Harris Ridge / Hi River Country / Hiawassee Overlook / Lake Forest / Leisure Woods / Long View / Nantahala Bay / Pine Crest / Plantation Villas / Posey Road / Riverstone / Scarlets Way / Shallow Creek / Sherwood Forest / Soapstone / Tate City / Twiggs Road / Woodcrest / Young Harris College

### and expanding into WHITE COUNTY and LUMPKIN COUNTY

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**REGIONAL PARTNERS** Blue Ridge Mountain Soil & Water Conservation District / Broad River Soil & Water Conservation District / Georgia Department of Agriculture / Georgia Department of Natural Resources / Georgia Forestry Commission / Georgia Mountain Regional Commission / Hall County Soil & Water Conservation District / Stephens County Soil & Water Conservation District / The Nature Conservancy / Upper Chattahoochee River Soil & Water Conservation District / USDA Forest Service—Chattahoochee/Oconee National Forest / USDA Natural Resources Conservation Service

**COMMUNITY PARTNERS** Blue Ridge Mountain Electric Membership Corporation / City of Hiawassee / City of Young Harris / Hiawassee River Watershed Coalition / Towns County 911 Mapping / Towns County Chamber of Commerce / Towns County Commissioner / Towns County Emergency Management Services / Towns County FAC Citizens Coalition / Towns County Fire Corps / Towns County Fire Rescue / Towns County Home Owners Association & individual community HOAs / Towns County Schools / Young Harris College

**NEW COUNTY PARTNERS** Lumpkin County CERT / Lumpkin County Commissioners / Lumpkin County Emergency Management / Lumpkin County Fire Department / Lumpkin County Homeowners Association / White County CERT / White County Commissioners / White County Emergency Management / White County Fire Rescue / White County Homeowners Association

Left: Towns County celebrated Wildfire Community Preparedness Day with open houses at all six county fire stations.

Right: Educational outreach to schools—such as visits from Smokey Bear and volunteer firefighters—are an important part of community engagement strategies in the county.

Photo: Frank Riley



The Fire Adapted Communities Learning Network is supported by *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 through a subaward to the Watershed Research and Training Center. For more information, contact Nick Goulette (nickg@hayfork.net).

# Fire Adapted Communities

## LEARNING NETWORK

**Baker County embraces** a vision of safely living with wildland fire, and brings this with it to the FAC Learning Network. The county has a long history of wildfire activity, which makes FAC a logical and needed next step. The concepts of FAC align well with existing local efforts, including the Local Mitigation Strategy (LMS), Community Wildfire Protection Plans and Action Plans, and Firewise Communities. The Florida Forest Service (FFS) also actively partners with the Osceola National Forest, Baker County Fire Department and other local coordinators to successfully implement mitigation efforts, such as annual cleanup days, continued work on the control line around Taylor Firewise Community, and prescribed fire assistance on private, state and federal lands.

**As part of their participation** in the FAC Learning Network, FFS works with new and existing partners in Baker County to undertake FAC activities that address mitigation challenges and opportunities. A significant kickoff event in October 2014 brought community leaders and stakeholders together to learn about FAC and its importance to Baker County and surrounding communities. The event also showcased a number of planned FAC activities

*Right:* At a Taylor Firewise Community work day, neighbors work and then play together to help prepare the community for wildfire.



A forest ranger from the Florida Forest Service blows leaves from a roof as part of wildfire mitigation efforts. *All photos: FFS*

highlighting the county as a FAC Learning Network pilot community. These activities fall broadly into the following categories: wildland fuel management, community outreach and education, Firewise Communities engagement through building retrofits and landscaping, policy and regulatory recommendations, and wildland fire response improvements.

**Examples of FAC activities** planned for 2015 include conducting a mechanical treatments and prescribed fire demonstration for the public; updating the county CWPP in coordination with county planning officials and the LMS work group; holding a Taylor Firewise Day; engaging Fire Prevention Teams to assist with countywide support for



# Florida Forest Service

## HUB ORGANIZATION



### Working in BAKER COUNTY, Florida

FAC; engaging residents in the Ready, Set, Go! program through county fire department and law enforcement efforts to educate residents about preparing for wildfire, developing situational awareness, and planning for evacuation; using the new Southern Wildfire Risk Assessment Portal (SouthWRAP) to perform data and program updates; and highlighting the Taylor Firewise Community as a model to adjacent communities to showcase how residents can apply defensible space and fuel reduction and attain recognition. Many of these activities are delineated in the Baker County CWPP.

**The Florida Forest Service** and local Baker County cooperators rely on partnerships to help coordinate FAC

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### KEY PARTNERS

Baker County  
Baker County Fire Department  
Citizens Corp  
City of MacClenny  
Florida Division of Emergency Management  
Florida Forest Service  
Greater Okefenokee Association of Landowners  
North Florida Prescribed Fire Council  
Northeast Florida Chapter American Red Cross  
Plum Creek Timber Company  
Taylor Firewise USA Community  
The Longleaf Alliance  
The Nature Conservancy  
U.S. Fish & Wildlife Service—  
Okefenokee National Wildlife Refuge  
USDA Forest Service

activities. As future efforts unfold, they will also look to reconvene existing collaboratives; recruit new partners; and build relationships with planning, zoning, and building code development and enforcement staff.



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The Nature Conservancy, USDA Forest Service and agencies of the Department of the Interior through a subaward to the Watershed Research and Training Center. For more information, contact Nick Goulette (nickg@hayfork.net).



# Fire Adapted Communities

## LEARNING NETWORK

In September 2013, before joining the FAC Learning Network, the City of Austin hosted the state's first Fire Adapted Communities Symposium in an effort to build buy-in and consensus around the FAC concept. The workshop provided a common operating picture of how cooperators could leverage the concept into action.

The most critical action identified was the completion of the Community Wildfire Protection Plan (CWPP) for an area that only recently realized that wildfire was a part of their new reality. The plan development and review process lasted almost two years as the Austin Travis County Wildfire Coalition—a multijurisdictional taskforce—worked to find common ground in a novel environment. The plan was unanimously approved by the Austin City Council and Travis County Commissioners Court along with the Texas A&M Forest Service in November 2014.



The recently-adopted Austin Travis County Community Wildfire Protection Plan was celebrated by stakeholders and the public during a signing ceremony on November 14, 2014.

Photo: Austin Fire Department

On adoption of the plan, a CWPP taskforce member from the city Watershed Protection Department said that they are “passionate about serving the community and are excited that, together, we can accomplish collaboration in a way that has never been done before.” Her comment also reflected how fire and water interests have aligned for a common purpose, with transparency and commitment to find areas of agreement. In the end, there was much more agreement than had been imagined possible—the 940-page plan reflects a cultural shift that started with apprehension and ended with cohesion. The CWPP will be leveraged to implement a local cohesive strategy that connects to the FAC Learning Network by sharing lessons learned and embracing innovations.

Building on this monumental effort, the City of Austin's Fire Department has several other key FAC goals:

- Leverage the CWPP taskforce into a permanent standing wildfire cooperative, whose focus will be implementing the cohesive strategy at the local level using the newly adopted CWPP as the springboard.
- Engage the public by effecting a cultural shift from feeling at risk to becoming empowered to act. During the CWPP recognition ceremony and subsequent workshop, the overarching theme was an interest from communities at risk across Travis county to recognize their role in wildfire preparedness. Austin Fire

# Austin Travis County Wildfire Cooperative

## HUB ORGANIZATION



Working in the CITY OF AUSTIN and 21 communities at risk in TRAVIS COUNTY, Texas

Department hopes to accomplish a cultural shift by sharing with others what we have learned: that wildfire is everyone's fight—and that fight starts with understanding your role.

Future FAC efforts will include the integration of WUI considerations into land management planning, development of a local prescribed fire network that includes organizations with prescribed burning responsibilities to ensure coordination across the county, pre-incident planning for both communities and natural areas, and the development of a functional evacuation model.

Being a part of the FAC Learning Network is facilitating benchmarking with other communities at risk, increasing exposure to novel research and subject matter experts, and providing a better

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## KEY PARTNERS

Travis County—  
Office of Emergency Management  
Transportation and Natural Resources

City of Austin—  
Austin Water Utility  
Fire Department  
Office of Homeland Security and  
Emergency Management  
Planning and Development Review  
Department  
Watershed Protection

Capital Area Fire Chiefs Association  
Small Cities Alliance of Travis County  
Texas A&M Forest Service

Wildfire is everyone's fight—  
and that fight starts with  
understanding your role.

understanding of the power of collaboration. The Austin Fire Department hopes to learn from the successes and challenges that other communities have experienced, and to develop a model for wildfire preparedness that other large municipalities and counties can use to rapidly implement a local cohesive strategy.



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# Prescribed Fire Training Exchanges

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**TREX**





# Prescribed Fire Training Exchange

## Niobrara River Valley Nebraska March 2014

**Spring break** prescribed fire training exchanges have become annual events in and around The Nature Conservancy Niobrara Valley Preserve. This training is designed to integrate a diverse group of fire practitioners, including, as the name suggests, a large contingent of students from several universities, along with municipal, state, federal and contract firefighters, and other natural resource managers, scientists and researchers.

**The 2014 Spring Break** TREX ran from March 9-22, with two overlapping waves of students taking part. At its peak, there were more than 90 people on site, making this by far the largest TREX to date. As with all TREX, this was organized as an incident, using the Incident Command System, with participants serving in both qualified and trainee firefighting positions on a prescribed fire team. At this TREX, participants took part in preparation, scouting, igniting, holding, mop-up and patrol on eight prescribed fires, treating 3,885 acres. On other days, they completed pre- and post-fire monitoring, trained with equipment, practiced leadership skills and learned about fire in the context of the Great Plains. In addition to NWCG courses S131 (Firefighter Type 1) and S133 (Look



Photos: Jeffrey Kane

Up, Look Down, Look Around), topics addressed included:

- Delivering effective briefings
- Interviewing and the media
- Fire weather and fire effects reporting
- Firing/ignitions
- Wetline operations
- Great Plains grassland conservation
- Risk management
- Orienteering/land navigation
- Fire adapted communities

### TREX Highlights

A total of 102 people attended this training exchange, completing 3,885 acres of prescribed fire treatments on private and state grasslands. The event was covered by several local papers and radio stations, as well as the regional publication *Prairie Fire* (<http://www.prairiefirenewspaper.com/2014/05/igniting-flames-sparking-change-fire-trainees-leave-nebraska-with-new-skills-perspectives>)



### Organizing Partners & Hosts

Fire Learning Network / Great Plains Fire Science Consortium / Nebraska Game & Parks / Nebraska Natural Legacy Project / Pheasants Forever / The Nature Conservancy—Nebraska / The Nebraska Environmental Trust

### Participants' Organizations

Center for Natural Lands Management / Colorado State University / Doane College / Estes Valley (CO) Fire Department / Firestorm / Glenwood (IA) Fire Department / Hardin County (IA) Conservation Board / Joint Base Lewis-McChord / Key Peninsula (WA) Fire Department / National Park Service / Nebraska Forest Service / Northern Prairie Land Trust / Private contractors / Ranchers / Stephen F. Austin University / The Nature Conservancy / U.S. Fish & Wildlife Service / University of California, Berkeley / University of Idaho / USDA Forest Service / Utah Department of Natural Resources / Wildlands Restoration Institute



Prescribed fire training exchanges (TREX) are supported by *Promoting Ecosystem Resilience and Fire Adapted Communities Together* (PERFACT), a cooperative agreement between The Nature Conservancy, the USDA Forest Service and agencies of the Department of the Interior. For more information about TREX, contact Jeremy Bailey ([jeremy\\_bailey@tnc.org](mailto:jeremy_bailey@tnc.org)).

# Prescribed Fire Training Exchange

## Lower Loup Valley Nebraska March/April 2014



**Partners from the Loess Hills FLN** and Pheasants Forever took the lead in hosting this TREX in Howard and Greeley counties in Nebraska. From March 24 through April 2, a group of 24 practitioners that included several municipal firefighters and a large contingent from fire agencies in Spain completed 3,182 acres of controlled burning during this training. They also got some unexpected wildfire experience: as participants were engaged in non-burning learning exercises on a day that was too windy to burn, they saw smoke. Their offer to assist local responders was accepted, and so they proceeded to help contain what became a 7,000-acre grass fire.

**Several months** after the burns, Pheasants Forever surveyed landowners whose properties were part of this TREX to assess treatment effectiveness. The three landowners who owned most



Among the participants in this TREX were four biologists from Pheasants Forever who worked on their FFT1 (basic firefighter) task books and got experience in grassland burning.

*Photo: Jeremy Bailey*

of the property in the burn complex reported that they were “very satisfied” with the quality of the crews that treated their land. They also reported satisfaction with eastern redcedar mortality from the burning, as well as grass response. The three respondents also estimated that the TREX crew’s treatments would result in savings of at least \$45,000 over five years—and, although they had not used fire on most these lands before, they would like to conduct another prescribed burn within the next 5 to 10 years.

**The survey** has allowed TREX organizers to get a better view of the impact of the program in this region, and will help inform planning to further increase its effectiveness.



### Organizing Partners & Hosts

Fire Learning Network / Loess Hills FLN / Pheasants Forever

### Participants’ Organizations

Colorado Springs Fire Department / Doane College / Hanford (WA) Fire Department / Milpitas (CA) Fire Department / Ministry of the Environment (Spain) / Pheasants Forever / The Nature Conservancy / Torija (Spain) Regional Fire Agency / USDA Forest Service / Villares de Jdraque (Spain) Regional Fire Agency



Successful eastern redcedar mortality. Survey respondents reported being “very satisfied” (the highest category) with mortality of tress less than a foot tall, and “moderately” or “very satisfied” with mortality in all larger size classes.

*Photo: Jeremy Bailey*



Prescribed fire training exchanges (TREX) are supported by *Promoting Ecosystem Resilience and Fire Adapted Communities Together* (PERFACT), a cooperative agreement between The Nature Conservancy, the USDA Forest Service and agencies of the Department of the Interior. For more information about TREX, contact Jeremy Bailey ([jeremy\\_bailey@tnc.org](mailto:jeremy_bailey@tnc.org)).

### Event Highlights

Twenty-four participants completed 3,182 acres of prescribed burning during this TREX, and assisted local responders with a 7,000-acre wildfire. Media coverage included a TV story from the wildfire assist (<http://www.khastv.com/story/learning-through-fire-20140328>) and a longer story by Nebraska Public Radio (<http://netnebraska.org/article/news/911117/firefighters-make-fire-work-them-prescribed-burn>) that shared some good messages about prescribed fire.



# Prescribed Fire Training Exchange

Virginia March/April 2014

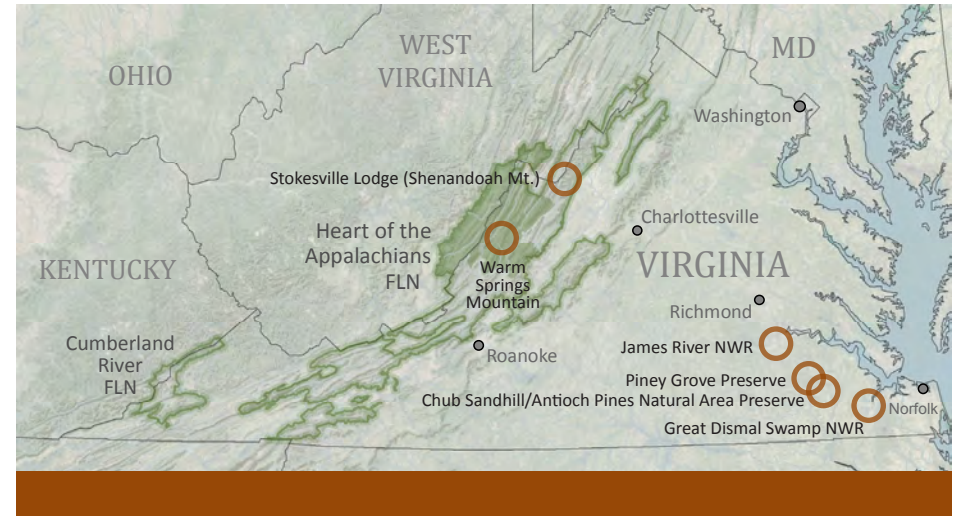
Spearheaded by partners in the Central Appalachians FLN, the first TREX held east of the Mississippi River spent its first week in the coastal plain burning at the Conservancy's Piney Grove Preserve and other partner sites, and the second week in the uplands, at the base of Shenandoah Mountain.



Burning at the Piney Grove Preserve:  
 Left: A participant from the Hiawatha NF (Michigan) led the burn, gaining experience as a burn boss.  
 Above (top to bottom): Briefing; checking the effects of a section that was just lit; and walking in the black after the fire has passed through the area.  
 Photos: TNC/Robert Clontz



The crew at Stokesville Lodge (in the background), a partner in the Allegheny Highlands, just after completing the second of two demonstration burns at the campground. The burns will help improve forest health and showcase ecological management at a very popular destination/basecamp for thousands of National Forest visitors every year.  
 Photo: TNC/Sam Lindblom



## Organizing Partners & Hosts

Fire Learning Network / National Park Service / The Nature Conservancy / U.S. Fish & Wildlife Service / USDA Forest Service / Virginia Department of Conservation & Recreation / Virginia Department of Game & Inland Fisheries

## Participants' Organizations

Department of Defense (USMC Camp Lejeune) / Doane College / National Park Service (Shenandoah NP) / Shenandoah Mountain Touring / The Nature Conservancy (North Carolina, Ohio, Virginia) / U.S. Fish & Wildlife Service (Maryland, Virginia, West Virginia) / USDA Forest Service (George Washington & Jefferson NFs, Hiawatha NF, Apache-Sitgreaves NF, NFs in Alabama, NFs in North Carolina) / Virginia Department of Conservation & Recreation (Natural Heritage) / Virginia Department of Game & Inland Fisheries

## Event Highlights

Thirty-six people from nine states took part in the first TREX offered in the eastern U.S. They completed about 1,200 acres of prescribed fire, including some in support of conservation of the endangered red-cockaded woodpecker. A story in the Richmond *Times-Dispatch* was picked up by the Associated Press and reprinted in numerous papers across the species' range, sharing the story of how fire can be a valuable tool for conservation.



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# Prescribed Fire Training Exchange

## Yurok TRES May/June 2014

The Yurok have managed culturally important plants with fire for millennia. This training exchange is part of an effort to ensure that these traditions are not lost, and that appropriate fire will continue to be an important cultural and ecological force in this landscape. Long known for their basketry skills, the Yurok use numerous native plants found along the Klamath River to construct and color their baskets. Burn units were selected so that, once burned, quality basket-making materials would be produced on the rejuvenated land.

Local context is always critical to training exchanges. In addition to scouting the potential burn units, the



Photo: TNC/Jeremy Bailey

training management team spent a day with tribal leaders learning about management and cultural practices of the tribe. The training exchange itself started with a boat ride down river along the Klamath, where resource managers identified different vegetation communities, discussed observed changes since the removal of fire from the landscape and pointed out village sites and places where traditional dances and other important ceremonies still occur.

**Fire practitioners** from federal and state agencies and NGOs as well as the the tribe's fire crew took part in this exchange. Together they heard from local scientists, ecologists and private land owners as well as tribal elders. And they got that all-important fire back into hazel patches and prairie land to do its work.

A prescribed fire training exchange focuses on the "why" of burning as well as the "how."

Photos: Jose Luis Duce (left)  
TNC/Jeremy Bailey (right)

### Organizing Partners & Hosts

Cultural Fire Management Council /  
Fire Learning Network / Firestorm /  
USDA Forest Service / Yurok Tribe

### Participants' Organizations

Cultural Fire Management Council /  
Firestorm / Humboldt State  
University—Schatz Energy Research  
Center / Northern California Indian  
Development Council / Private land-  
owners / Spain—Ministry of Agri-  
culture, Food and the Environment  
/ The Nature Conservancy / USDA  
Forest Service—Caribou-Targhee  
National Forest / USDA Forest  
Service—Redmond Smokejumpers  
/ Watershed Research and Training  
Center / Yurok Tribe—Forestry



### Event Highlights

Twenty-three people, many from the immediate vicinity, took part in the first TRES hosted with tribal organization partners. In spite of a serious ongoing drought, participants completed 37 acres of prescribed fire, an important step in the return of cultural burning to this landscape. An article in *Yurok Today* ("Fire Council Ignites Long Term Burn Plan") describes the larger efforts that this training helped support. The article is available at [http://www.yuroktribe.org/documents/june\\_2014\\_YUROK\\_web.pdf](http://www.yuroktribe.org/documents/june_2014_YUROK_web.pdf)



Prescribed fire training exchanges (TRES) are supported by *Promoting Ecosystem Resilience and Fire Adapted Communities Together* (PERFACT), a cooperative agreement between The Nature Conservancy, the USDA Forest Service and agencies of the Department of the Interior. For more information about TRES, contact Jeremy Bailey ([jeremy\\_bailey@tnc.org](mailto:jeremy_bailey@tnc.org)).



# Prescribed Fire Training Exchange

## International TREN

New Mexico September 2014

The fourth international TREN brought together 26 participants from six foreign countries—Andorra, Argentina, Costa Rica, Mexico, Portugal and Spain—along with several U.S. states and Puerto Rico to burn and learn together. As in all training exchanges, the days were full: There were presentations from local land managers and scientists, tours to explore the effects of recent large wildfires and visit agency facilities, and, of course, days of applying prescribed fire in the field. Each evening participants gathered after dinner for presentations from their peers that shared the challenges, opportunities and solutions they face in their home counties and various fire organizations.

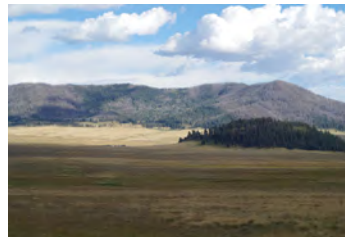
At the end of two weeks, international participants and hosts alike returned home with new ideas, broader perspectives, and a much wider network of peers in the fire community.



Burning on the Santa Fe National Forest.  
Photos: TNC/Liz Rank; Elyssa Duran

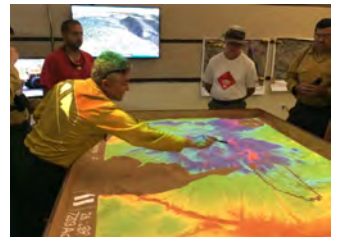
### Event Highlights

Twenty-six participants completed 225 acres of prescribed burning during this TREN, assisting local agency crews with two key units strategically placed to help protect several communities from the next big wildfire. New Mexico is a bilingual state, and so provides a great place to bring together Spanish-speaking fire and forest workers with a wide range of backgrounds to share knowledge and learn from each other.



In addition to preparing for and conducting prescribed burns, participants took field tours to sites of recent wildfires (including to the Valles Caldera (left), at the edge of the 2011 Las Conchas Fire) and to several agency facilities (including the Simtable at Valles Caldera Preserve, where they discussed a simulation of that 156,000-acre fire (far right)).

Group photo (left): Veronica Quintanilla



Photos: TNC/Liz Rank; Karla Sartor



### Organizing Partners & Hosts

Fire Learning Network / Santa Fe National Forest / Valles Caldera Trust

### Participants' Organizations

Agentes de Protección de la Naturaleza (Aragon, Spain) / Chiapas Biomasa (Mexico) / Comisión Nacional Forestal (Mexico) / Consorcio Provincial de Fuegos (Cordoba, Spain) / Forestaciones Operativas de México / Principado de Andorra / Sistema Nacional de Áreas de Conservación—Área de Conservación La Amistad-Pacífico (Costa Rica) / The Nature Conservancy / U.S. Fish & Wildlife Service / University of New Mexico / USDA Forest Service—Santa Fe NF



The mess tent became a classroom each evening, as participants and local practitioners took turns at sharing their knowledge with peers.

Photo: Karla Sartor



Prescribed fire training exchanges (TREN) are supported by *Promoting Ecosystem Resilience and Fire Adapted Communities Together* (PERFACT), a cooperative agreement between The Nature Conservancy, the USDA Forest Service and agencies of the Department of the Interior. For more information about TREN, contact Jeremy Bailey (jeremy\_bailey@tnc.org).



# Prescribed Fire Training Exchange

## Black Lake, New Mexico September/October 2014

The second Black Lake TREX built on the foundation of the previous year's event, further supporting local prescribed fire capacity and social acceptance. The treatments were part of Forest Service Collaborative Forest Restoration Program (CFRP) work in this landscape, with participants implementing strategically-placed fuel reduction to protect the greater Angel Fire wildland-urban interface.

The first Black Lake TREX met with some skepticism from residents, who were anxious about the use of fire after recent wildfire experiences. The success and safety of that TREX made people more comfortable with this year's burning. Acceptance—and even welcoming—of the use of prescribed fire was also helped by a robust outreach program before, during and



Photo: Forest Guild

after the burning. Public meetings before the TREX let people know what to expect and to address concerns. On burn days, public information officers and volunteers conducted “trap lining” in the community, circulating through gathering areas, answering questions, and letting key community members (such as owners of convenience stores frequented by hunters) know what was happening that day, as well as the long-term benefits expected from the burns. After the burn, a public tour of the site allowed community members to see and discuss the effects of the treatments.

### Event Highlights

Fifty-eight participants completed 255 acres of prescribed burning during this TREX. The training gave a good boost to local prescribed fire capacity, with the vast majority of people coming from within the state. This training gave 20 new fire personnel a start, and gave many others advanced experience, including one participant who was able to complete the requirements to be qualified as a burn boss as result.

Information about the training—including public meeting announcements and notes, and links to media coverage—is collected on a page of the Forest Guild's website (<http://www.forestguild.org/BlackLake>).

### Organizing Partners & Hosts

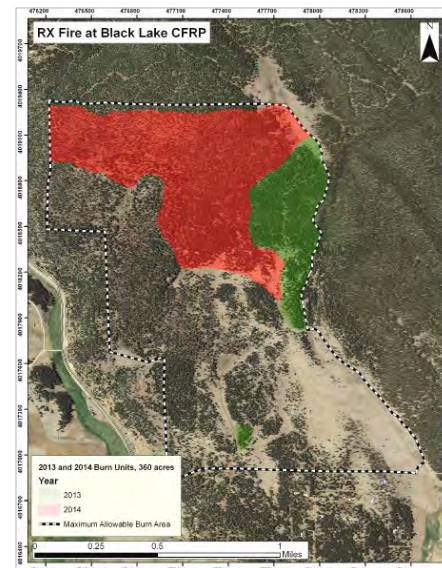
Bureau of Land Management—Taos Field Office / Collaborative Forest Restoration Program (Carson NF) / Fire Learning Network / Forest Guild / Moreno Valley Fire Department / New Mexico State Land Office / Village of Angel Fire

### Participants' Organizations

Angel Fire Fire Department / Bureau of Land Management / City of Santa Fe Fire Department—Wildland Fire / Colfax County / Forest Guild / Glacier Technologies / Moreno Valley Fire Department—Black Lake Station / New Mexico Energy, Minerals and Natural Resources Department—State Forestry Division / New Mexico Game and Fish / New Mexico Highlands University / New Mexico Land Conservancy / New Mexico State Land Office / NRG Consulting / Rocky Mountain Youth Corps / Taos County / Vigil Small Products



Photo: Forest Guild



Prescribed fire training exchanges (TREX) are supported by *Promoting Ecosystem Resilience and Fire Adapted Communities Together* (PERFACT), a cooperative agreement between The Nature Conservancy, the USDA Forest Service and agencies of the Department of the Interior. For more information about TREX, contact Jeremy Bailey ([jeremy\\_bailey@tnc.org](mailto:jeremy_bailey@tnc.org)).



# Prescribed Fire Training Exchange

## Klamath River TRES October 2014

**Led by long-time** Fire Learning Network partners—who are now also leaders of Fire Adapted Communities Learning Network efforts in the area—this training exchange was the first to engage with the local community through social media in near-real time during the event. Over the course of two very active wildfire summers the community had come to share news and hold discussions on two Facebook pages (one hosted by the Mid Klamath Watershed Center and another started for a 2013 set of fires). Organizers of this TRES took advantage of this existing information channel and posted almost daily as crews put smoke in the air, burning numerous strategically-placed small units, many of which were very near homes. Posts combined updates on what was being done with pictures and stories about the people—many local—who were doing the burning, and why. Comments on the pages were overwhelming positive.



When safe to do so, landowners checked burn progress. Their stories were also shared on Facebook.



**In addition** to making communities safer, one of the goals of this TRES was to help build local fire capacity. In this it was successful, with 19 of the participants getting their first experience conducting fire under NWCG protocols.



The people—some local, and all enthusiastic proponents of “good fire”—were central to the story of this TRES.

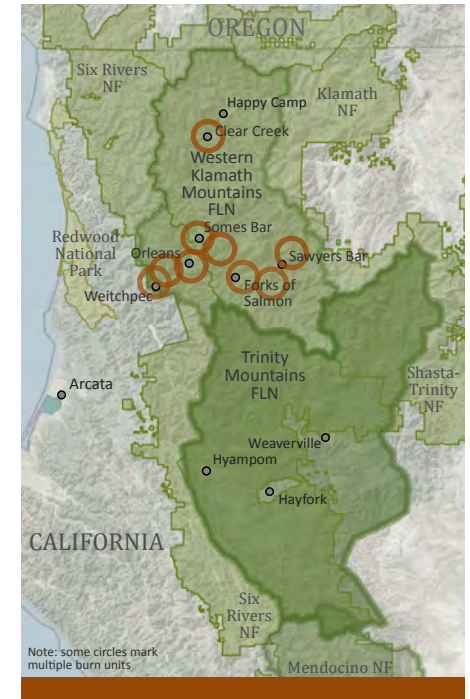
### Organizing Partners & Hosts

Western Klamath Mountains Fire Learning Network and CAL FIRE / Cultural Fire Management Council / Firestorm / Karuk Tribe / Mid Klamath Watershed Center / Northern California Prescribed Fire Council / Orleans-Somes Bar Fire Safe Council / Salmon River Restoration Council / USDA Forest Service

### Participants’ Organizations

Bureau of Indian Affairs / California State Parks / Deer Creek Resources, LLC / Firestorm / Humboldt State University / Karuk Tribe / Local landowners / Mid Klamath Watershed Center / Patterson Ranch / Salmon River Restoration Council / Schatz Energy Research Center / The Nature Conservancy / University of California, Berkeley— School of Public Health / University of California, Davis / USDA Forest Service—Klamath NF, Uinta-Wasatch-Cache NF; Redmond Smokejumpers / Wildland Restoration International / Wildtenders / Yurok Tribe

All photos: MKWC Facebook page



### Event Highlights

Fifty-three people, many from the Klamath region, took part in the first of what organizers plan to be an annual TRES at sites along the Klamath River. In ten days of burning, they treated 240 acres in 32 units on 17 properties, helping to make both the forest and communities more resilient to wildfire.

An in-depth article about this TRES appeared in the Two Rivers Tribune (<http://www.tworivertribune.com/2014/10/learning-to-burn-again/>)



Prescribed fire training exchanges (TRES) are supported by *Promoting Ecosystem Resilience and Fire Adapted Communities Together* (PERFACT), a cooperative agreement between The Nature Conservancy, the USDA Forest Service and agencies of the Department of the Interior. For more information about TRES, contact Jeremy Bailey ([jeremy\\_bailey@tnc.org](mailto:jeremy_bailey@tnc.org)).



# Prescribed Fire Training Exchange

## Northern California October 2014

The Northern California Prescribed Fire Council spearheaded the offering of the first NorCal TREX in the fall of 2013. An immediate success, planning began shortly afterwards to repeat the event in 2014.

Although the 2014 TREX began inauspiciously, with a shelter deployment with minor injuries on the first day of burning, organizers and participants persevered. The incident was thoroughly explored in after action reviews and proved to be a valuable learning experience for participants, and for the TREX program.

Participants in this TREX conducted burns in a variety of locations and fuel types with a variety of goals. Burning in Redwood National Park, for example, was primarily for ecological purposes,

### Event Highlights

Thirty-four people treated about 364 acres with fire to maintain grasslands, improve forest resiliency and promote community safety. With about two-thirds of the participants coming from northern California, this TREX also contributed to long-term prescribed fire capacity in the region.



Above: Learning to communicate about fire and prescribed burning is a key component of TREX. A reporter and photographer from the Redding Record Searchlight gave participants some great media training opportunities during a day of pile burning with the BLM.

Below: Grassland burning at Redwood NP.  
Photos: Northern California Prescribed Fire Council/  
Lenya Quinn-Davidson



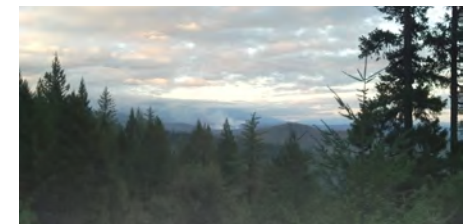
while burns in wildland-urban interface areas focused on fuel reduction for community safety and broader landscape resilience, in support of local Scaling-up to Promote Ecosystem Resiliency (SPER) work.

### Organizing Partners & Hosts

Northern California Prescribed Fire Council, and Bureau of Land Management—Redding Field Office / California Fire Science Consortium / Fire Learning Network / Firestorm Wildland Fire Suppression, Inc. / Humboldt State University—Wildland Fire Laboratory / Milpitas Fire Department / National Park Service—Redwood National Park, Whiskeytown National Recreation Area / University of California—Cooperative Extension / Watershed Research and Training Center

### Participants' Organizations

Bureau of Land Management—Eagle Lake Field Office, Redding Field Office, Roseburg District Office, Surprise Field Office / CAL FIRE—Nevada-Yuba-Placer Unit / Center for Natural Lands Management / City of San Rafael / Department of Defense—Joint Base Lewis McChord (Fish and Wildlife) / Firestorm Wildland Fire Suppression, Inc. / Milpitas Fire Department / National Park Service—Whiskeytown National Recreation Area / Northern California Prescribed Fire Council / Occidental Arts and Ecology Center / Oregon Military Department—Fire & Emergency Services / San Francisco State University / The Nature Conservancy / University of California, Berkeley—Fire Science Lab / University of Nevada, Reno / USDA Forest Service—Klamath National Forest, Manti-La Sal National Forest, Plumas National Forest, Santa Fe National Forest, Uinta-Wasatch-Cache National Forest



In the distance, two burns take place on either side of Weaverville. Photo: TNC/Jeremy Bailey



Prescribed fire training exchanges (TREX) are supported by *Promoting Ecosystem Resilience and Fire Adapted Communities Together* (PERFACT), a cooperative agreement between The Nature Conservancy, the USDA Forest Service and agencies of the Department of the Interior. For more information about TREX, contact Jeremy Bailey (jeremy\_bailey@tnc.org).



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# Scaling-up to Promote Ecosystem Resiliency

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**SPER**





# Scaling-up to Promote Ecosystem Resiliency (SPER)



*Left:* Thinning along a Santa Fe County road to allow wildland fire engines to pass; slash was laid down to combat erosion and promote understory regeneration. *Center:* Glade restoration in the Ozarks. *Right:* Briefing for a prescribed burn in Douthat State Park in Virginia.

**Collaborative partnerships** form the foundation for SPER fire and forest restoration projects. Treatments are part of long-term plans, and leverage work on adjacent federal lands. The current, second round of SPER, begun in late 2013, builds on earlier SPER work and on that of the Fire Learning Network, the Fire Adapted Communities Learning Network and Prescribed Fire Training Exchanges. The treatments improve system health and resiliency and contribute to longer term progress by strengthening partnerships and increasing workforce capacity.

**All SPER projects** target treatments to key areas that help restore and maintain resilient landscapes. They specifically treat state and private lands that support, leverage or fill gaps in existing or planned federal projects, bringing them to landscape scale. The projects in California, New Mexico and Oregon focus treatments on sites that also provide critical support to fire adapted communities in those landscapes. And in a variety of ways, all of these projects also support improved response to wildfire—by bringing diverse partners to work together, by increasing contact between fire practitioners and communities, and by augmenting the fire workforce.

**SPER projects** are on-the-ground embodiments of a broad-based, integrated approach to fire management.

## Ashland Forest Resilience Partnership

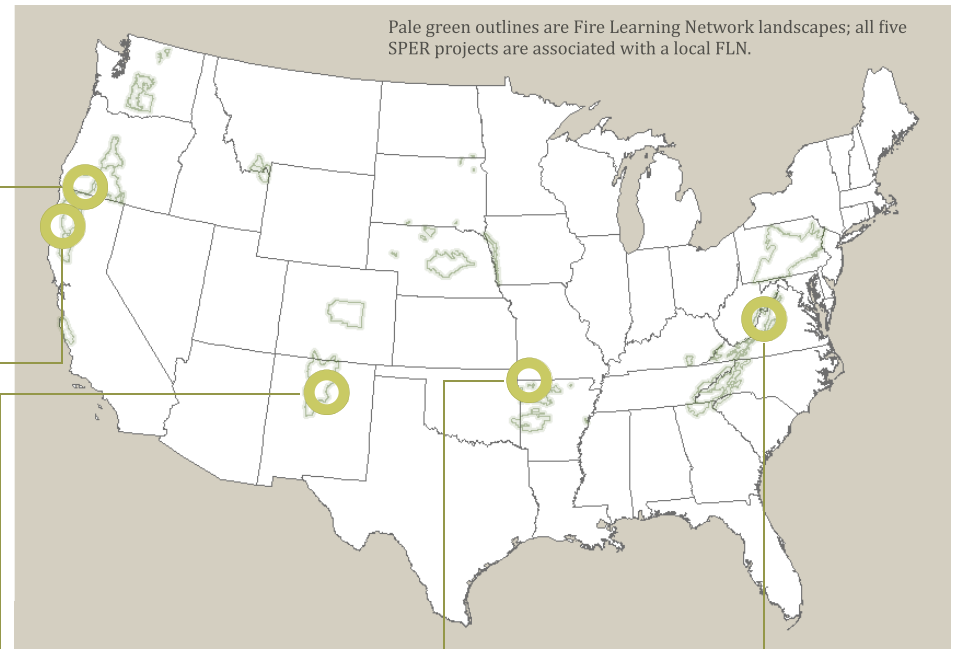
The Nature Conservancy, City of Ashland, Lomakatsi Restoration, Rogue River-Siskiyou National Forest, Oregon Department of Forestry and U.S. Fish & Wildlife Service are conducting the prioritization, planning, landowner recruitment and coordination of 50 acres of treatments that will help protect the city's watershed.

## Trinity Integrated Fire Management Partnership

The Watershed Center, Northern California Prescribed Fire Council, Trinity Fire Safe Council, CAL FIRE, Weaverville Volunteer Fire Department, Shasta-Trinity and Six Rivers National Forests, Natural Resources Conservation Service, Bureau of Land Management, Firestorm and private landowners are building on the partnerships and training implemented as part of the first SPER program to complete two more landscape-scale burn plans, conduct a training course and treat 100 acres in Trinity County with prescribed fire.

## Collaboration to Reduce Risk in the Fire Prone Southern Sangre de Cristo Mountains

The Nature Conservancy, Forest Guild, Santa Fe County, New Mexico State Forestry, Santa Fe National Forest, City of Santa Fe and local companies and landowners are working together to thin and burn 50 high-priority acres of private land in a landowner cost-share effort. The project is also providing training opportunities for local and regional firefighters and managers to increase their qualifications and capacity to promote and deliver future controlled burns.



## Ozark Pine Woodlands & Glade Restoration Project

The Arkansas Natural Heritage Commission, Arkansas Game and Fish Commission, Ozark-St. Francis National Forest, Buffalo National River and The Nature Conservancy will implement 50 acres of invasive species treatments and 1,000 acres of prescribed burns. Sites include calcareous glade-woodland complexes, old fields, stream corridors and roadsides on state land and adjoining private property. These lands are integrated as an active partners on large landscape-scale woodland and glade restoration efforts on the Buffalo National River and Ozark-St. Francis National Forest.

## Allegheny & Potomac Highlands Restoration Project

The Monongahela National Forest, Northern Research Station, Virginia Department of Conservation and Recreation, West Virginia Department of Agriculture, West Virginia Division of Natural Resources, West Virginia Rivers Coalition, U.S. Fish & Wildlife Service Partners Program and The Nature Conservancy are implementing 2097 acres of prescribed fire on state, federal and private lands. They are also conducting invasive plant treatments on state, federal and private lands, and offering stakeholders, neighbors and the general public field tours and opportunities to observe active and completed controlled burns.

# Fire Learning Network Indexes

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# Partner Types

Organization and agency types of the key partners listed by the FLNs. Groups typically work with many other partners as well, so this table is by no means exhaustive.

	CA Klamath-Siskiyou	Centennial	Central Appalachians	FireScope Mendocino	FireScope Monterey	Great Plains	Northwest	Pike's Peak	Rio Grande Waterfund	South Central	Southern Blue Ridge	WA Dry Forests	Western Klamath Mts
<b>FEDERAL AGENCIES</b>													
USDA Forest Service	■	■	■	■	■		■	■	■	■	■	■	■
Bureau of Land Management	■	■		■	■		■					■	
National Park Service			■			■			■	■	■		
U.S. Fish & Wildlife Service	■	■			■	■	■		■	■			■
USDA Natural Resources Conservation Service	■	■	■	■				■					■
Department of Defense								■					
other federal			■	■	■			■	■				■
<b>OTHER GOVERNMENTS</b>													
state agencies & departments	■	■	■	■	■	■	■	■	■	■	■	■	■
local government agencies & departments	■				■	■	■	■			■	■	
volunteer fire departments	■				■	■							■
resource conservation districts	■			■	■			■	■			■	
tribal agencies & departments				■	■		■		■				■
<b>NON-PROFIT ORGANIZATIONS</b>													
The Nature Conservancy		■	■			■	■	■	■	■	■	■	
other conservation NGOs	■	■	■	■	■	■	■	■	■	■	■	■	■
other NGOs				■				■					
FireSafe Councils	■			■	■								■
prescribed fire councils	■							■					■
JFSP science consortia	■		■			■		■	■		■		
university extension services	■										■		
university researchers, faculty, students	■	■	■		■	■	■		■	■	■		■
<b>PRIVATE &amp; COMMERCIAL PARTNERS</b>													
private landowners & homeowners	■			■		■						■	
homeowner associations / neighborhood groups					■			■					■
contractors	■		■		■	■							■
timber, ranching or agriculture	■	■		■	■	■							
professional associations					■		■		■	■			



# Areas of Focus & Expertise

	CA Klamath-Siskiyou	Centennial	Central Appalachians	FireScope Mendocino	FireScope Monterey	Great Plains	Northwest	Pike's Peak	Rio Grande Waterfund	South Central	Southern Blue Ridge	WA Dry Forests	Western Klamath Mts
<b>HABITAT TYPES</b>													
grasslands		■	■			■				■			
native prairie		■	■			■				■			
forests, eastern deciduous			■			■				■	■		
forests, eastern mixed			■							■	■		
oak woodlands / savannas	■		■	■		■				■	■		■
oak barrens			■										
shortleaf pine			■							■	■		
longleaf pine													
ponderosa pine	■			■		■	■	■	■			■	■
forests, other western conifer	■	■		■	■		■	■	■			■	■
forests, other western	■	■		■			■	■				■	■
pinyon-juniper								■	■				
sagebrush		■										■	
wetlands, riparian zones	■	■		■	■		■				■	■	■
arid lands													
sandhills													
old growth	■			■									■
<b>COMMUNITY CONTEXT</b>													
WUI (wildland-urban interface)	■	■	■	■	■		■	■		■	■	■	■
near major population center(s)			■				■	■		■	■	■	
FAC Learning Network pilot site / hub ties		■					■	■	■		■	■	■
FireWise communities nearby	■	■	■				■	■	■	■	■	■	■
CWPPs nearby	■			■	■		■	■			■	■	■
smoke issues	■		■	■	■		■	■	■	■	■	■	■

# Focus & Expertise

	CA Klamath-Siskiyou	Centennial	Central Appalachians	FireScope Mendocino	FireScope Monterey	Great Plains	Northwest	Pike's Peak	Rio Grande Waterfund	South Central	Southern Blue Ridge	WA Dry Forests	Western Klamath Mts
<b>OTHER LANDSCAPE CONTEXT</b>													
recent wildfires nearby	■		■	■	■		■	■	■		■	■	■
prescribed fire used in landscape	■	■	■	■		■	■	■	■	■	■	■	■
high ownership fragmentation			■			■	■	■		■	■	■	
high % federal ownership	■		■	■				■		■	■		■
wilderness	■	■	■	■	■		■	■		■	■	■	■
natural resource-based economy	■		■										■
timber	■	■	■	■		■	■			■	■	■	■
grazing	■	■				■							■
OHV recreation			■	■				■				■	
<b>POLICY, PROCESSES, SKILLS</b>													
facilitating collaboration	■	■	■	■	■	■	■	■	■	■	■	■	■
cross-boundary implementation	■	■	■	■		■	■	■	■	■	■	■	■
multi-agency implementation	■	■	■			■	■	■		■	■	■	■
MOUs	■	■	■			■	■	■		■	■	■	■
forest planning	■	■	■	■						■	■		■
NEPA	■	■	■	■			■		■	■	■	■	■
stewardship contracting	■			■			■					■	■
monitoring protocols		■	■	■			■	■		■	■	■	■
using volunteers	■	■	■		■						■		■
media experience	■		■			■	■		■	■	■	■	■
public opinion information							■			■		■	■
ties to JFSP consortia	■		■			■	■	■	■	■	■		■
ties to prescribed fire council	■		■	■	■		■	■		■	■	■	■
modeling			■	■							■	■	
indigenous fire management practices				■									■

# Managing in Landscapes with Threatened & Endangered Species

Many FLNs work in landscapes where species of conservation concern occur. In some cases the FLNs work directly in the management of such species—for example, as part of the Indiana Bat Project in the South Central FLN. In other cases, the work is less direct, or the presence of listed species affects the kinds of actions that are possible.



The Indiana bat, northern spotted owl, Jemez Mountains salamander and fisher are among the species and subspecies of conservation concern that FLNs manage for in their landscapes.

Photos: USFWS/Ann Froschauer, Rick McEwan, TNC/Anne Bradley, USFS/Dave Clayton

	CA Klamath-Siskiyou	Centennial	Central Appalachians	FireScape Mendocino	FireScape Monterey	Great Plains	Northwest	Pike's Peak	Rio Grande Waterfund	South Central	Southern Blue Ridge	WA Dry Forests	Western Klamath Mts
<b>plants</b>													
bladderpod, Missouri ( <i>Physaria filiformis</i> )										■			
blazing star, Heller's ( <i>Liatris helleri</i> )											■		
checker-mallow, Keck's ( <i>Sidalcea keckii</i> )				■									
clover, running buffalo ( <i>Trifolium stoloniferum</i> )										■			
coneflower, smooth purple ( <i>Echinacea laevigata</i> )			■							■			
geocarpon ( <i>Geocarpon minimum</i> )										■			
golden-heather, mountain ( <i>Hudsonia montana</i> )											■		
howellia, water ( <i>Howellia aquatilis</i> )				■									
mallow, Peter's Mountain ( <i>Iliamna corei</i> )			■										
pondberry ( <i>Lindera melissifolia</i> )										■			
rock cress, shale barren ( <i>Boechera serotina</i> )			■										
trillium, persistent wake-robin ( <i>Trillium persistens</i> )											■		



# Threatened & Endangered Species

	CA Klamath-Siskiyou	Centennial	Central Appalachians	FireScope Mendocino	FireScope Monterey	Great Plains	Northwest	Pike's Peak	Rio Grande Waterfund	South Central	Southern Blue Ridge	WA Dry Forests	Western Klamath Mts
<b>birds</b>													
condor, California ( <i>Gymnogyps californianus</i> )					■								
eagle, bald ( <i>Haliaeetus leucocephalus</i> )	■									■	■		■
falcon, peregrine ( <i>Falco peregrinus</i> )											■		
goshawk, northern ( <i>Accipiter gentilis</i> )									■			■	■
grouse, sage ( <i>Centrocercus urophasianus</i> )		■											
owl, Mexican spotted ( <i>Strix occidentalis caurina</i> )								■	■				
owl, northern spotted ( <i>Strix occidentalis caurina</i> )	■			■			■					■	■
woodpecker, ivory-billed ( <i>Campephilus principalis</i> )											?		
woodpecker, red-cockaded ( <i>Picoides borealis</i> )										■			
<b>mammals</b>													
bat, big-eared ( <i>Corynorhinus townsendii</i> , var. ssp.)										■	■		
bat, gray ( <i>Myotis grisescens</i> )										■	■		
bat, Indiana ( <i>Myotis sodalis</i> )			■							■	■		
bear, grizzly ( <i>Ursus arctos</i> )		■											
fisher ( <i>Martes pennanti</i> )	■			■			■						■
lynx ( <i>Lynx canadensis</i> )		■										■	?
mouse, Preble's meadow jumping ( <i>Zapus hudsonius preblei</i> )								■					
wolf ( <i>Canis lupus</i> )		■										■	■
wolverine ( <i>Gulo gulo</i> )		■										■	
<b>reptiles &amp; amphibians</b>													
frog, Oregon spotted ( <i>Rana pretiosa</i> )							■						
frog, red legged ( <i>Rana draytonii</i> )					■								
rattlesnake, timber ( <i>Crotalus horridus</i> )			■								■		
salamander, Jemez Mts. ( <i>Plethodon neomexicanus</i> )									■				

# Threatened & Endangered Species

	CA Klamath-Siskiyou	Centennial	Central Appalachians	FireScape Mendocino	FireScape Monterey	Great Plains	Northwest	Pike's Peak	Rio Grande Waterfund	South Central	Southern Blue Ridge	WA Dry Forests	Western Klamath Mts
<b>insects</b>													
beetle, American burying ( <i>Nicrophorus americanus</i> )										■			
beetle, valley elderberry longhorn ( <i>Desmocerus californicus dimorphus</i> )				■									?
skipper, Pawnee montane ( <i>Hesperia leonardus montana</i> )								■					
<b>fish</b>													
arctic grayling ( <i>Thymallus arcticus</i> )		■											
salmon, chinook ( <i>Oncorhynchus tshawytscha</i> )	■			■			■						■
salmon, coho ( <i>Oncorhynchus kisutch</i> )	■												■
salmon, steelhead ( <i>Oncorhynchus mykiss</i> )	■			■	■		■						■
trout, bull ( <i>Salvelinus confluentus</i> )							■						■
trout, cutthroat ( <i>Oncorhynchus clarki</i> , var. ssp.)		■						■					
<b>molluscs</b>													
Magazine Mountain shagreen (snail) ( <i>Mesodon magazinensis</i> )										■			
rock pocketbook, Ouachita ( <i>Arkansia wheeleri</i> )										■			

# Managing Invasive Species

Many FLNs manage for one or more invasive plant species. In some cases, this is independent of their fire-related work, but in many cases, fire and invasive species are intricately related, each affecting the other in complex ways.



Prescribed fire training exchanges in the Great Plains help keep eastern redcedar from encroaching on grasslands in the north-central Nebraska's Niobrara Valley (left) and in the Loess Hills of Iowa (right).

	CA Klamath-Siskiyou	Centennial	Central Appalachians	FireScope Mendocino	FireScope Monterey	Great Plains	Northwest	Pike's Peak	Rio Grande Waterfund	South Central	Southern Blue Ridge	WA Dry Forests	Western Klamath Mts
<b>grasses</b>													
cheatgrass ( <i>Bromus tectorum</i> )							■						
fescue, tall ( <i>Schedonorus arundinaceus</i> )										■			
Johnson grass ( <i>Sorghum halepense</i> )										■			
medusahead rye ( <i>Taeniatherum caput-medusae</i> )				■			■						
reed canarygrass ( <i>Phalaris arundinacea</i> )							■						
silvergrass, Chinese ( <i>Miscanthus sinensis</i> )											■		
<b>trees</b>													
eastern redcedar ( <i>Juniperus virginiana</i> )						■				■			
mimosa ( <i>Albizia julibrissin</i> )										■			
olive, autumn ( <i>Elaeagnus umbellata</i> )			■										
princess tree ( <i>Paulownia tomentosa</i> )										■	■		
tamarisk ( <i>Tamarix ramosissima</i> )				■									
tree of heaven ( <i>Ailanthus altissima</i> )	■		■	■		■				■	■		■



# Invasive Species

	CA Klamath-Siskiyou	Centennial	Central Appalachians	FireScape Mendocino	FireScape Monterey	Great Plains	Northwest	Pike's Peak	Rio Grande Waterfund	South Central	Southern Blue Ridge	WA Dry Forests	Western Klamath Mts
<b>forbs, shrubs, etc.</b>													
barberry, Japanese ( <i>Berberis thunbergii</i> )			■										
bittersweet, Oriental ( <i>Celastrus orbiculatus</i> )			■								■		
blackberry ( <i>Rubus pascuus</i> )	■									■			■
broom, French ( <i>Genista monspessulana</i> )	■			■									■
broom, Scotch ( <i>Cytisus scoparius</i> )	■			■									■
coltsfoot ( <i>Tussilago farfara</i> )											■		
hemlock, poison ( <i>Conium maculatum</i> )										■			
houndstongue ( <i>Cynoglossum officinale</i> )		■											
hawkweed, orange ( <i>Hieracium aurantiacum</i> )							■						
knapweed, diffuse ( <i>Centaurea diffusa</i> )							■						■
knapweed, spotted ( <i>Centaurea maculosa</i> )	■	■					■						■
knotweed, Japanese ( <i>Reynoutria cuspidatum</i> )											■		
mustard, garlic ( <i>Alliaria petiolata</i> )			■			■					■		
mustard, marlahan ( <i>Isatis tinctoria</i> )													■
rose, multiflora ( <i>Rosa multiflora</i> )										■	■		
sericea lespedeza ( <i>Lespedeza cuneata</i> )										■	■		
spurge, leafy ( <i>Euphorbia esula</i> )													■
St. John's wort ( <i>Hypericum perforatum</i> )							■						■
tansy, common ( <i>Tanacetum vulgare</i> )		■											
thistle, Canadian ( <i>Cirsium arvense</i> )	■												
thistle, musk ( <i>Carduus nutans</i> )										■			
thistle, star ( <i>Centaurea solstitialis</i> )	■			■									■
toadflax, Dalmation ( <i>Linaria dalmatica</i> )							■						
toadflax, yellow ( <i>Linaria vulgaris</i> )		■											
vetch, crown ( <i>Coronilla varia</i> )						■							
yam, Chinese ( <i>Dioscorea polystachya</i> )											■		

# Fire Adapted Communities Learning Network Indexes

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# Actions Taken by FAC Learning Network Hubs to Address Values at Risk



state:	TX	ID	CA	GA	WA	CO	MN	CO	FL	NM	AZ	ID/MT	CA	NJ	NV/CA	OR	OR
	Austin Fire Department	Boise Fire Department	CA Fire Safe Council	Chestatee/Chattahoochee RC&D Council	Chumstick Wildfire Stewardship Coalition	Coalition for the Upper South Platte	Dovetail Partners	FireWise Council of SW Colorado	Florida Forest Service	The Forest Guild	Greater Flagstaff Forest Partnership	Island Park Sustainable Fire Community	Karuk Tribe	Mercer County Soil Conservation District	North Lake Tahoe Fire Protection District	Project Wildfire	Southern Oregon Forest Restoration Collaborative
<b>WILDFIRE HAZARD AND RESPONSE</b>	WUI training for fire depts	E	E		S		E	E	S		S		E	S	S		
	wildfire evacuation plan	N	N		N		N		S		S	N	S	E	S	S	N
	community preplanning and utilization of ICS	N	E		E		N		S*	S	S		E	E	S*		N
	local area incident management team	E	E		N		E	E	S		S	E	E	E			
	cross-trained local crews	N	E		E		N	E	E	E	S	E	E	E	S		
	mutual aid agreements	S	E		S		E	E	E	S	S	S	E*	S	S	S	
<b>COMMUNITY VALUES AT RISK (Non-Residential)</b>	risk mapping	N	N		N		E	S	S	S*	S	E	E	S		E	S
	watershed management	N			S			E	S	S*	N	S	E	S	S		S
	community assessments	E	N	E	E	E	N	E	E	S	S	N	E	S	E	E	S
<b>RESIDENTIAL VALUES AT RISK</b>	home ignition zone (HIZ) assessments & apps	E*	N	E	E	E	N	E	E	S*	S			S	E*	E	S
	engagement with HOAs	S	S		E	S	N	S*	E	S	S	E		E	S	E	N

## KEY

- S = stable
- E = expanding
- N = new
- \* = special expertise



Prescribed fire training exchanges in northern NM help train local fire personnel. *Photos: M. Meyers/NMSLO; Forest Guild*



Many FAC hubs provide or assist with home assessments as well as defensible space projects. *Photos: North Lake Tahoe FPD*





# FAC Learning Network Hubs' Resources & Strategies



state:	TX	ID	CA	GA	WA	CO	MN	CO	FL	NM	AZ	ID/MT	CA	NJ	NV/CA	OR	OR
	Austin Fire Department	Boise Fire Department	CA Fire Safe Council	Chestatee/Chattahoochee RC&D Council	Chumstick Wildfire Stewardship Coalition	Coalition for the Upper South Platte	Dovetail Partners	FireWise Council of SW Colorado	Florida Forest Service	The Forest Guild	Greater Flagstaff Forest Partnership	Island Park Sustainable Fire Community	Karuk Tribe	Mercer County Soil Conservation District	North Lake Tahoe Fire Protection District	Project Wildfire	Southern Oregon Forest Restoration Collaborative

	TX	ID	CA	GA	WA	CO	MN	CO	FL	NM	AZ	ID/MT	CA	NJ	NV/CA	OR	OR	
PLANS AND REGULATIONS	CWPPs	N	E		S	S	E	S	S*	S*	S	S	S	E*	E*	S	S	
	hazard mitigation action plan	S	E		S		S	E	S	S		S	N	S	N	S	S	
	CCRs, codes, ordinances	E	E		S						S*			E	S	E	N	
	comp plans/ other plans	E	N		S				E		S		E	S	S		S	
WILDFIRE MITIGATION RISK REDUCTION PROGRAMS	Ready, Set, Go!	E	E		E		S	N/E	E					E	N	E	N	
	Firewise	S	S	S*	E	S*	S	E	S	E	N	S	E	S	E	E	N	
	Fire Safe Councils			S*		S*		N			S		S	E	N		N	
	chipping program		S		E		S	E	S*		S			S	S	S		
	awareness day/ week	N	N	E	E	N	S	N	S*	E	E	S	N	S	S	S	S	
	trainings	E	E	S	S	N	S	E	S	S	S*	S	N	E	E		E	
	prescribed fire & smoke	E			E		E	S/E		E	S	S		E	N	S*	E	N
	other fuel management	N	S		S		E	S/E		E	S	S	N	E	S*	S*	S	N
RESOURCES	local WUI tax or fee											N*		N	S			
	vegetation disposal	E			S		E	N	E		N	S		S			S*	
	grant & funding directory			S*	S	S*		N		S		N		S		S		
	dedicated FAC staff	S	S		E		E	E				N	E	S	S		S	

## KEY

- S = stable
- E = expanding
- N = new
- \* = special expertise



Chipper days are held in communities across the country.



Photos: Pamella Wilson (FireWise of SW CO), Gloria Erickson (MN), Frank Riley (GA)



FAC Learning Network works with many Firewise communities  
Photos: Florida Forest Service

# FAC Learning Network Hubs' Public Outreach & Partnerships



state:		TX	ID	CA	GA	WA	CO	MN	CO	FL	NM	AZ	ID/MT	CA	NJ	NV/CA	OR	OR
		Austin Fire Department	Boise Fire Department	CA Fire Safe Council	Chestatee/Chattahoochee RC&D Council	Chumstick Wildfire Stewardship Coalition	Coalition for the Upper South Platte	Dovetail Partners	FireWise Council of SW Colorado	Florida Forest Service	The Forest Guild	Greater Flagstaff Forest Partnership	Island Park Sustainable Fire Community	Karuk Tribe	Mercer County Soil Conservation District	North Lake Tahoe Fire Protection District	Project Wildfire	Southern Oregon Forest Restoration Collaborative
PUBLIC OUTREACH AND INPUT	FAC regional workshops	E	N	E	S	E		E	E	E	E	N	?	N	S	N	S	E
	community / public meetings	N	E	E	E	E	S	E	S	S	S	S		S	E	E	S	E
	public demos / learning sites	E	E		S		S	N	S	E	S	N	E	E	E	S	S	
	FAC brochures	N	E		E			N	N	N	N	N	N		S	E*	E	N
	PSAs, videos	N	N		S			N	E			N		E	E			
	FAC website / blog	N	N		E		E	N		N	S	N	N	N	S		E	N
	social media	E	E		E	E	E	E	S	S	S	E	N	E	S	E	E	N
	outreach plan	N	N		N			N/E	E					E		E	S	E
	volunteer groups, citizen coalition	N	N		E		E	N/E	S*		N		E	S	E	N	E*	
PARTNERS	FAC LN self-assessment tool	N	N		N		E	N	N	N	N	N	N	N		N	N	E
	FAC steering committee	E	E		E		S	N		N		N						S
	partner learning exchanges	E	N		E		E	N/E			N	N	N	E	S			
	state partnerships	E	E	S	S	S	S	N		E	S	S	E	N	E		S	S
	regional partnerships	N	E	S	S			N/E	E	E	S	S	E	E	E		S	S
	national partnerships	N	E	S	S	S		N/E					E	E	E		S	S

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Field tours, volunteer work groups and peer-learning workshops all play a role in outreach, public engagement and partnership-building in the FAC Learning Network.  
 Photos: Boise Fire Dept. (ID), CUSP (CO), Forest Guild (NM)





