

# U.S. Fire Learning Network

## Field Guide

# 2007



# preface

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For more information about the U.S. Fire Learning Network, visit [www.tncfire.org/usfln](http://www.tncfire.org/usfln).

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Cover photo credit: Chris Helzer

An analysis conducted by The Nature Conservancy<sup>1</sup> found that 80% of the forests and rangelands in the lower 48 states are moderately or highly “departed” from their ecological reference conditions. The study also found that the majority of ecosystem types in the lower 48 states naturally have frequent fire regimes (0–35 years). The situation is similar when looking at federally administered lands or at non-federally administered lands.

Our forests and rangelands have been altered by a combination of fire exclusion, land management practices and climate change. Restoring these lands, and maintaining those that are still in good condition, is imperative and will require, first and foremost, engagement and effective collaboration among stakeholders at all levels. The U.S. Fire Learning Network was formed to accelerate the restoration of fire-dependent ecosystems by facilitating collaboration and capturing and sharing the lessons that are being learned by partnerships across the country.

#### This Booklet:

This Guide is a snapshot of the scope of activities of the U.S. Fire Learning Network in early 2007. We asked representatives from each landscape active in the network to summarize their fire-related accomplishments and needs, including funding necessary to implement their collaboratively developed work plans.

Face-to-face workshops and meetings at landscape-, regional- and national scales serve as the foundation of the Network. Participants have a common desire to learn and to also share their own insights related to overcoming the myriad barriers to effective, ecologically sound restoration of fire-dependent ecosystems.

Network members share their digital resources via a web site ([www.tncfire.org/usfln](http://www.tncfire.org/usfln)) and also exchange ideas and information on an archived listserv (<http://groups.conserveonline.org:8080/>).

#### OUR COLLECTIVE IMPACT

- Sixty-three active landscape-scale projects representing more than 70 million acres
- Approximately 500 partners engaged
- Almost 370,000 acres treated
- More than \$10 million raised for implementation since 2002.
- xxxxxxxxxxxx

#### WHO WE ARE

The Network was launched in 2002 and is a joint effort among The Nature Conservancy, Interior Departments and the US Forest Service.

The Network is organized into 10 regional networks spanning from North Carolina to Oregon and from Minnesota to Texas. The regional networks are tackling similar issues. For example, the landscapes enrolled in the Great Plains regional network are focusing on grazing and fire interactions on privately owned prairie ecosystems. Landscapes in the Southeast are working on longleaf pine savanna restoration, and those in the West are looking as strategies to restore ponderosa pine, pinyon juniper woodlands and arid sagebrush shrublands.

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# central platte river, nebraska

Great Plains regional FLN

2.1 million acres

**The Central Platte River landscape** spans more than 2.1 million acres of southcentral Nebraska. The Platte Habitat Partnership project area comprises a 180-mile stretch of the Platte River Valley from Gothenburg to Columbus, Nebraska and covers 12 counties and 565,491 acres.

The primary conservation tool used to reverse grassland/wet meadow loss along the Platte River has been fee-title acquisition by non-profit conservation groups. The conservation organizations own or have protected about 12,000 acres along the Big Bend Reach (BBR) of the river, but the majority is still under private ownership. Conservation groups active along the river include the Conservancy, Platte River Whooping Crane Maintenance Trust (Crane Trust), USFWS, Nebraska Game and Parks Commission, National Audubon Society, Prairie Plains Resource Institute and some other local groups. Collectively, these groups have also restored approximately 2,000 acres of marginal cropland to native grasslands and wet meadows and instituted management changes which have substantially increased species diversity and wildlife benefits.

However, less effort has been directed at restoring cropland to native grass, or improving management of degraded wet meadows and grasslands on lands in private ownership. With over 90% of the BBR in private ownership, it is clear that working with private landowners is the key to successfully restoring and maintaining wet meadow ecosystems along the Platte. Since 2002, approximately 2,500 acres of wet meadows have been burned on private lands.

### Collaborative Vision Statement:

Educate, inform and involve private landowners, public and private agencies, rural fire departments, and private contractors on the benefits of applying fire as a management tool in the Platte Valley landscape. The long-term goal is to maintain a highly diverse and heterogeneous, native grassland system by using a combination of mechanical tree removal, prescribed fire, herbicide treatments, and livestock grazing to promote wildlife and economical sustainability. The secondary long-term goal is to change the public's perception of fire and educate on the use of fire as management tool while fostering awareness to the next generation of land managers and citizens.



Central Platte River, Nebraska. Photo by Chris Helzer.

### Collaborative Objectives:

1. Educate, inform and involve private landowners in safely and effectively applying prescribed fire to their property.
2. Foster the development of private contractors to offer prescribed burning services to private landowners.
3. Educate, inform and involve the rural fire departments in using prescribed fire as an essential grassland management tool.

### Implementation Needs 2007-2009

Task	Year	\$ Needed	Non-Federal Match Available	Federal Match Available
Purchase equipment for mobile fire crew	2007	15,000		2,000
Offer one basic rxfire course for local VFDs	2007	6,000	1,000	500
Offer one basic rxfire course for local VFDs	2008	6,000	1,000	500
Offer one basic rxfire course for local VFDs	2009	6,000	1,000	500

4. Host a fire conference to educate and foster cooperation.
5. Have fire caches containing adequate equipment in each county.
6. Educate, inform and involve public agencies and political leaders on management strategies using prescribed fire on private and public land.



Praying mantis in the central mixed-grass prairie near Aurora, Nebraska. Photo by Chris Helzer.

### Partners:

The Nature Conservancy  
 Central Platte Natural Resource District  
 Nebraska Environmental Trust  
 Nebraska Game and Parks Commission  
 US Fish and Wildlife Service  
 Natural Resources Conservation Service  
 Private landowners

### Most Desired New Partner Key to Achieving FLN Collaborative Objectives:

Nebraska State Volunteer Firefighters Association

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# loess hills, iowa

Great Plains regional FLN

650,000 acres

**T**he Loess Hills landscape participated in the first phase of the FLN in 2002—03, developing a collaborative vision for the Hills with our partners and establishing a prioritized action plan which included the completion of a regional fire management plan. Since then we have focused our efforts on implementing components of the plan (training, education) and running our private lands mobile fire crew, while continuing to share lessons learned through the Great Plains regional network.

Through collaboration, we have leveraged state and federal funding sources to establish fire equipment caches throughout the landform, and completed intensive outreach to over 200 landowners and the media on prescribed fire. Our mobile fire crew has treated more than 1,200 acres and assisted partners with over 3,000 acres of fire. The fire crew project also has 29 on-call crew members representing volunteer fire departments, county and state agencies, the Natural Resources Conservation Service and private landowners. Future plans include expanding our fire capacity in the Hills, integrating livestock grazing and fire management through a pilot grassbank project, establishing a monitoring/measures program, and integrating our regional fire management plan with Iowa's State Wildlife Action Plan.

**Collaborative Vision Statement:**

To restore and maintain viable ecological communities, provide protection from unwanted wildland fire, and improve productivity and value of the land through implementation of a regional fire management plan that is adopted by stakeholders.

**Collaborative Objectives:**

Our goal is to restore the ecological integrity of the prairie and oak woodland communities through the use of prescribed fire, mechanical brush control and planting of prairie using local ecotype seed. Restoration of the prairie and oak woodland communities will also improve the region for livestock production and other sustainable uses. Over the next 25 years, our focus will be primarily on the 12 Special Landscape Areas (SLA's) which capture 80% of the native prairie in the Loess Hills on just under 100,000 acres with secondary emphasis placed on higher quality prairies outside the SLA's. Within the next 25 years, we plan to restore approximately 50,000 acres within the 12 SLA's and 30,500 acres throughout the landform through the use of fire,



Wanamaker fire. Photo by Matt Graeve.

mechanical brush control as well as reconstruction of cropland and cool season pastures to native prairie.

The social acceptance of the tools needed to reach desired future conditions varies by locality and subculture. We hope to develop a community of informed citizens and landowners working to restore and maintain native systems. We can accelerate the acceptance of prescribed fire and grassland restoration by creating jobs in these rural communities (tree shearers, cedar products businesses, fire crews, native seed production), by promoting compatible economic uses such as livestock grazing and native seed production and by increasing citizens' knowledge of their local natural communities. Restoring native grasslands and pastureland, will benefit native species but will also improve the stocking rate for livestock producers. We must engage producers to find compatible activities that will meet the ecological and economic needs of natural areas as well as landowners. Additionally, we want to support a state wide

**Implementation Needs 2007-2009**

Task	Year	\$ Needed	Non-Federal Match Available	Federal Match Available
Fire Management Plan Coordinator	2007	100,000	Pending grant with WCS	2,000
Improved delivery mechanism for fire program (i.e. landowner outreach)	2007	80,000 for 2 more positions	10,000	500
Establish monitoring program	2007	200,000	15,000	500
Cost-share funds for landowners	2008	100,000		500

fire policy to improve the fire training of agency personnel who are conducting prescribed fire.

**Partners:**

- US Fish and Wildlife Service
- National Park Service
- Golden Hills Resource Conservation and Development Council
- Univ. of Nebraska at Omaha
- Pottawattamie County Conservation Board
- Iowa Department of Natural Resources
- Agren, Inc.
- The Nature Conservancy
- Iowa State University
- Natural Resources Conservation Service



Pre-burn review for the Folsom Point burn. Photo by Susanne Hickey.

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# lower cedar, iowa

Great Plains regional FLN

252,000 acres



Sycamore in Muscatine County. Photo by Harold Malde.

## The Lower Cedar River Valley partnership

(LCRV) formally began in 2004. The project area is in the southeast corner of Iowa encompassing 252,000 acres. The partnership's main focus is to facilitate proper conservation management of a rare, biologically diverse landscape where over 70% of reptile and amphibian species of Iowa reside. The main threats to the area are woody encroachment, altered hydrology, and agricultural practices.

The primary strategy for the partnership is to educate landowners about practical management techniques and inform them of the benefits of fire on the landscape, thereby increasing the use of prescribed fire. The barriers that the partnership faces include southeastern Iowa soil fertility which encourages row cropping, development, and the lack of active conservation management.

To date the partnership has sponsored preliminary workshops of basic prescribed fire techniques for more than 80 landowners, held S-130/190 introductory wildland fire courses for interested landowners and partners, and developed a fire cache for landowners and partners to rent. The partnership also received an AmeriCorps NCCC crew of 11 people to help manage a partner's land in order to create demonstration sites. Plans are in place to hold an advanced prescribed burn where landowners can observe prescribed fire operations. The partnership also plans to: develop fire caches throughout the project area for landowners to rent, continue landowner education efforts on the ecological benefits of prescribed fires, and continue working as team to accomplish evolving goals and objectives.

## Implementation Needs 2007-2009

Task	Year	\$ Needed	Non-Federal Match Available	Federal Match Available
Hold basic rxfire workshop	2007	200		
Hold basic rxfire workshop	2008	200		
Hold basic rxfire workshop and alternative management techniques	2008	200		
Create 3 fire caches in the local area	2008	10,000		
Obtain safe prescribed fire equipment for partners	2009	60,000		
Develop demonstration sites for savanna management	2009	60,000		

### Collaborative Vision Statement:

Our approach for each property will involve:

1. Management of prairies, forests and savanna systems based on scientific, historical, and ecological data;
2. Sensitivity to landowner desires;
3. Promotion of practical and economical management techniques; and
4. Ecological sustainability.

### Collaborative Objectives:

1. Improve training and education of willing organizations and landowners.
2. Develop a plan to implement fire on a landscape scale.
3. Create demonstration areas for the public to see the benefits of fire as a management tool and to understand different styles of management.

### Partners:

The Nature Conservancy in Iowa  
 US Fish and Wildlife Service  
 Iowa Department of Natural Resources  
 Natural Resources Conservation Service  
 Geode Resource & Development Council  
 Louisa County Conservation Board  
 Muscatine County Conservation Board  
 Cedar County Conservation Board  
 Transition Ecology  
 Pheasants Forever



Lowland oak savanna. Photo by Robert Fielder

Following these guidelines will help implement mixed-intensity and mixed-frequency fire management across the landscape, as the partnership increases landowner use of fire as a management tool.

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# middle niobrara - sandhills, nebraska

Great Plains regional FLN

13 million acres

**The Middle Niobrara - Sandhills site** has been active in the US Fire Learning Network since 2002. The entire landscape totals 13 million acres, and contains two distinctly different vegetation types presenting radically different fire challenges. The Sandhills are the largest, intact mixed-grass prairie in the United States and are being rapidly invaded by eastern red cedar, partly as a result of fire exclusion. In the Middle Niobrara River portion of the site, the eastern-most occurrence of low-elevation ponderosa pine forest has radically changed as a result of 100 years of fire exclusion. These forests now are in a condition to support catastrophic, stand-destroying wildfires.



Niobrara Valley Preserve, Nebraska. Photo by Harold Malde.

Coping with these diverse challenges by returning fire to the two ecosystems has proven difficult, especially in light of the area's fire-adverse culture. Thus far we have investigated several fairly straightforward options for increasing the application of fire, including the use of contractors or volunteer fire departments. To date, these have proven unfeasible (e.g., there is a complete absence of affordable contractors). As a result, our emphasis has recently shifted to empowering landowner/managers to conduct fire collaboratively, in either formal or informal associations. Assistance has and will take the form of training and other technical assistance, improved access to equipment, and strategic use of cost-share programs to demonstrate positive fire effects and create an initial critical mass of fire practitioners.

This newer shared vision has been widely embraced by local partners, who credit the initial FLN process with moving more quickly from the problem to the solution stage, having arrived at a shared and feasible strategy.

### Collaborative Objectives:

- Reduce woody invasion of grasslands to protect ecological and economic values.
- Reduce wildland fire hazards through the use of prescribed fire and fuels treatments.
- Improve fire department wildfire management through training, adoption of an incident-command system, and improved communications.

### Partners:

- Private landowners
- Cherry County Emergency Management
- Nebraska Game and Parks Commission
- USDA Forest Service
- Natural Resources Conservation Service
- Middle Niobrara Natural Resources District
- Sandhills Task Force
- Nebraska State Forest Service
- USDA Agricultural Research Service
- US Fish and Wildlife Service
- US National Park Service
- The Niobrara Council
- Upper Loup Natural Resources District
- Volunteer fire departments
- The Nature Conservancy

### Most Desired New Partner Key to Achieving FLN Collaborative Objectives:

University of Nebraska Cooperative Extension

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# packsaddle / black kettle, oklahoma

Great Plains regional FLN

670,000 acres

**The Packsaddle / Black Kettle sites** encompass approximately 670,000 acres of prairie and shrubland habitats in the mixed-grass prairie region of western Oklahoma. Local staff of The Nature Conservancy became involved with the Great Plains regional Fire Learning Network to help facilitate the use of prescribed fire as a land management tool and to increase cooperation among private land managers and public agencies. In 2005, the Conservancy received a \$130,000 grant through the US Fish and Wildlife Service's Private Stewardship Grants program to purchase fire equipment at its Four Canyon Preserve and to fund prescribed fire training workshops for private landowners through a local non-profit organization.

### Partners:

- US Fish and Wildlife Service
- Oklahoma State University
- USDA Forest Service
- Oklahoma Wildlife and Prairie Heritage Alliance
- Private landowners

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Upland mixed-grass prairie at the Four Canyon Preserve. Photo by Chris Hise.

### Implementation Needs 2007-2009

Task	Year	\$ Needed	Non-Federal Match Available	Federal Match Available
Prescribed fire implementation at the Four Canyon Preserve and on private lands	2007-2009	50,000		93,000 (through PSG)

# prairie coteau habitat partnership, south dakota

Great Plains regional FLN

2.3 million acres



A representative example of an untilled tract of the Prairie Coteau landscape. Photo by Pete Bauman.

## The Prairie Coteau Habitat Partnership

(PCHP) was formed in 2004 under the direction of the Great Plains Fire Learning Network, and has already garnered more than \$200,000 in federal grants to hire a prescribed fire crew and a monitoring crew to work on private lands across the 2.3-million-acre Prairie Coteau region through 2008-09. PCHP participants also have nearly \$250,000 in grant requests pending to fund research, education and additional landowner outreach.

The Partnership burned portions of five privately owned sites totaling more than 500 acres in 2005. Three more properties were added in 2006, when 431 acres were treated. Thanks to an effective public outreach effort, upwards of 70 livestock producers are now interested in utilizing the new crew to test the effectiveness of prescribed fire on their lands. The Prairie Coteau fire crew will not charge ranchers for their services during the initial stages of what the Partnership expects to be a sustained effort.

Each treatment area will be monitored, and different fire-grazing cycles will be applied, depending upon the condition of the treatment area and the goals of the landowner. The Partnership's overall objectives are to conserve biodiversity, including rare and endangered species, improve management practices on lands that are currently being managed to improve native species habitat, increase the number of private landowners using ecologically sound prescribed fire and grazing, and model appropriate disturbance regimes while exploring new niche markets for participating landowners.

### Collaborative Vision Statement:

To promote a greater appreciation of the value of native tallgrass prairie across the landscape by educating agencies and landowners about the processes that shaped the prairie ecosystems (fire and grazing). Furthermore, it is our goal to work with agencies, landowners, and the public to return a more natural fire and

## Implementation Needs 2007-2009

Task	Year	\$ Needed	Non-Federal Match Available	Federal Match Available
Conduct scientific landowner survey	2007	10,000		
Purchase small equipment and radios for mobile fire crew	2007	15,000		
Purchase large equipment for mobile fire crew	2008	250,000		
Hire PCHP coordinator and fire leader and provide office space	2008-09	150,000 annually		
Produce 3-4 mobile kiosks for prescribed fire/grazing interpretive outreach at private lands sites	2007	20,000		
Expand to 2nd fully staffed and equipped crew on to include MN portion of landscape	2009	350,000		
Establish endowment to fund basic annually PCHP operations in perpetuity	2008	2-3 million		

grazing regime to the region via promotion of economic incentives, conservation programs, VFD partnerships, and education and to return fire to the landscape in a safe, efficient, ecological and socially sensitive manner.

### Collaborative Objectives:

- Promote a greater appreciation for the value of native tallgrass prairie across the landscape by educating agencies and landowners about the fire and grazing processes that shaped the prairie ecosystems.
- Collaborate with agencies, landowners and the public to return a more natural fire and grazing regime to the region through promotion of economic incentives, conservation programs, VFD partnerships and education.
- Return fire to the landscape in a safe, efficient, ecological and socially sensitive manner.



need caption. Photo by xxxxxxxx.

### Partners:

- The Nature Conservancy
- US Fish and Wildlife Service - Waubay National Wildlife Refuge
- US Fish and Wildlife Service - Madison Wetland District
- Northern Prairies Land Trust
- South Dakota Department of Game, Fish, and Parks
- South Dakota State University
- Natural Resources Conservation Service
- Pheasants Forever
- South Dakota Wildland Fire Suppression (South Dakota Department of Agriculture)
- Day County Conservation District
- South Dakota Grasslands Coalition
- Private landowners

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# refugio goliad prairie, texas

Great Plains regional FLN

50,000 acres



Chris Lindquist (TNC) igniting prescribed fire on private lands in Refugio-Goliad Prairie. Photo by Chris David.

**The 50,000-acre Refugio-Goliad Prairie** contains one of the largest and highest-quality expanses of coastal tallgrass prairie remaining in Texas. Until the early 1990's, the area supported one of the last known wild populations of the endangered Attwater's prairie chicken, and is generally considered to be the best location for future reintroductions. The Coastal Prairie Conservation Initiative (CPCI), a partnership among private landowners, the Grazing Lands Conservation Initiative, the U.S. Fish and Wildlife Service, the Texas Parks and Wildlife Department and the Natural Resources Conservation Service, was formed to restore coastal prairie habitat.

This region was historically a fire-dependent ecosystem; however, fire has been largely removed from the landscape for a century or more. Removal of fire has resulted in woody plant encroachment on the prairie. Habitat for many grassland-dependent wildlife species such as Attwater's prairie chicken is greatly reduced by woody plant invasion. Four years ago, The Nature Conservancy staffed and equipped a prescribed fire module to assist landown-

ers in implementing prescribed fire. The fire module has assisted more than 20 landowners by applying prescribed fire on 42,629 acres within the Refugio-Goliad conservation area over a three-year period.

**Partners:**

Coastal Bend Prescribed Burn Association  
Coastal Prairie Conservation Initiative (Grazing Lands Conservation Initiative, Texas Parks and Wildlife, US Fish & Wildlife Service, Natural Resource Conservation Service)

## Implementation Needs 2007-2009

Task	Year	\$ Needed	Non-Federal Match Available	Federal Match Available
Maintain fully staffed, equipped fire module	2007	300,000		100,000
Assist Coastal Bend Prescribed Burn Association with workshops, training	2007	15,000		
Conduct biological monitoring and support academic research tied to prescribed fire treatments	2007	200,000		70,000



On the fireline in coastal Texas. Photo by Alphonso Porras.

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# grouse creek / raft river, utah

Intermountain West regional FLN

1.3 million acres



Wildcat Creek in the Raft River Mountains. Photo by Elaine York.

**With \$80,000 of support** from the Utah Partners for Conservation and Development in 2007, we will quantitatively model the cumulative impacts of land management scenarios on the integrity of ecological systems of the Grouse Creek Mountains-Raft River Mountains in north-west Utah. Ecological systems are mostly represented by sagebrush shrublands; salt desert scrub; woodlands of aspen, pinyon and juniper, mountain mahogany, and montane conifers; and wet meadows associated with montane riparian systems. The proposed measure of landscape-scale integrity will be the natural range of variability, which has been defined by LANDFIRE Biophysical Settings. Secondary and project-level measures of ecological integrity will also be defined.

Objectives and modeling will be developed cooperatively with partners during workshops. The Conservancy will be responsible for the compilation of partner GIS data layers (land ownership, fuels and vegetative treatments, type/seasons of uses, etc.) and the development of non-spatial and spatial models (VDDT models and TELSAs spatial models). Ultimately, these models will provide partners with comparisons among various land manage-

ment scenarios and against the natural range of variability. Partners will explore scenarios for future projects that could differ from past management styles.

#### Partners:

Bureau of Land Management  
Natural Resources Conservation Service  
Sawtooth National Forest  
Utah Association of Conservation Districts  
Utah Division of Wildlife Resources  
Utah Partners for Conservation and Development  
Private landowners

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# snake range-great basin natl. park, nv

Intermountain West regional FLN

71,000 acres

**G**reat Basin National Park and the Conservancy's Snake Range site harbor globally significant biodiversity. The landscape is home to several rare species of plants and animals, some that are found nowhere else in the world, and the park protects ancient bristlecone pine forests that are considered biological legacies. Moreover, aspen stands, which are declining throughout the western U.S., are an important but threatened community type in the park. The fire regime in many shrublands and woodlands may be outside the range of natural variability due to past land management practices. Current management practices include restoration of natural fire regimes and domestic sheep grazing on allotments situated on the western slope of the park, an area also frequented by Rocky Mountain bighorn sheep.

Park and Nature Conservancy staff have reinterpreted the park's soil survey to LANDFIRE Biophysical Settings (BpS) and adapted LANDFIRE BpS models to the local ecology and calculated their natural ranges of variability. Great Basin National Park and the Conservancy are proposing to use remote sensing to map fire regime condition class and quantitatively model the effects of alternative land management methods on the integrity of important species and ecological systems of concern, including Rocky Mountain bighorn sheep habitat.

#### Collaborative Vision Statement:

Restoration of natural fire regimes and riparian systems to pre-settlement or naturally functioning condition.

#### Collaborative Objectives:

1. Newly defined natural range of variability per Biophysical Setting.
2. Pending funding, partners will develop collaborative objectives by quantitatively modeling the effects of alternative land management methods on the integrity of important species and ecological systems of concern.



Spring Mountains National Recreation Area of southern Nevada. Photo by Louis Provencher.

#### Most Desired New Partner Key to Achieving FLN Collaborative Objectives:

Ely BLM and USFS.

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# juniper mountain, idaho

Intermountain West regional FLN

>1 million acres



Wyoming big sagebrush steppe sloping towards the Owyhee River Canyon, Idaho. Photo by Louis Provencher.

**The Juniper Mountain landscape** includes Idaho and Oregon and four field offices in the Owyhee Uplands and focuses on multi-scale landscape restoration and monitoring. Bureau of Land Management is the primary land manager. Sagebrush shrublands and juniper woodlands dominate the landscape. FLN activities have focused on the development of technology tools to help the Bureau of Land Management identify candidate restoration areas. The main tool is image-object analysis using established software applied to inexpensive and readily available aerial imagery such as that from the National Agriculture Imagery Program (NAIP). Image-object analysis can be used to map sagebrush canopy cover. Next steps include promoting the concept "landscape-oriented" prioritization in field offices and implementation of fuels management projects put on hold after recent litigation.

**Collaborative Vision Statement:**

Restoration of natural fire regimes in the context on multiple use land management.

**Collaborative Objectives:**

Field offices adopt a landscape-oriented prioritization of fuels management projects as opposed to more project-level prioritization.

**Partners:**

Bureau of Land Management  
The Nature Conservancy

**Most Desired New Partner Key to Achieving FLN Collaborative Objectives:**

Environmental advocacy NGOs

## Implementation Needs 2007-2009

Task	Year	\$ Needed	Non-Federal Match Available	Federal Match Available
Create support for landscape-oriented prioritization of fuels management projects by convening workshop to discuss and build trust for concept.	2007	2,000	30%	
Complete Rapid Conservation Action Plan for the greater Owyhee Uplands with the ID, OR, and NV chapters of the Conservancy.	2007	7,500	30%	
Promote implementation of projects prioritized by image-object analysis prior to litigation.	2007	20,000	30%	
Monitor restoration projects before and after implementation.	2008	200,000	30%	



Bureau of Land Management and Nature Conservancy staff discuss fire management of the Owyhee Uplands and Juniper Mountains, southern Idaho. Photo by Louis Provencher.

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# moses coulee, washington

Intermountain West regional FLN

>1 million acres



Deep-soil big sagebrush steppe in TNC's Moses Coulee Preserve, WA. Photo by Louis Provencher.

**The flora and fauna of the Moses Coulee-Beezley Hills landscape** is uniquely defined by coulees, cliffs and talus (formed by the periodically violent outflow of Pleistocene Lake Missoula) and the highly diverse habitats associated with creeks, pools, lakes and groundwater sources. An important focus of the Conservancy's Washington chapter and partners is management and protection of sagebrush obligates and shrublands. This area of north-central Washington supports one of the largest tracts of sagebrush steppe in the northern Columbia Plateau, and provides an important connection between sagebrush habitats to the north and south. Relating soil survey polygons to LANDFIRE biophysical settings confirmed the richness of sagebrush ecological sites and near complete conversion of deep-soil steppe to dryland agriculture.

The Conservancy and partners recently completed a comprehensive Conservation Area Plan for the area. A threat to the viability of remaining sagebrush shrublands and their ability to support

biodiversity is large wildfires. This threat is likely increasing--in part due to the fact that cheatgrass (*Bromus tectorum*), relatively recent to the area (last 7 years), has boomed during the last wet spring. Next steps include defining and implementing long-term monitoring plans to measure condition of conservation targets.

**Collaborative Objectives:**

1. Partners defined objectives from Conservation Area Planning
2. Protection of sensitive wildlife species: Greater sage-grouse, pygmy rabbit, and Washington ground squirrel.
3. Newly defined natural range of variability per Biophysical Setting.

**Partners:**

Bureau of Land Management Wenatchee Resource Area  
 WA Department of Natural Resources  
 WA Dept. Fish and Wildlife  
 The Nature Conservancy

## Implementation Needs 2007-2009

Task	Year	\$ Needed	Non-Federal Match Available	Federal Match Available
Develop comprehensive monitoring design.	2007	5,000	30%	
Implement monitoring design.	2007	100,000		
Implement CAP strategies.	2008	500,000	30%	
Develop strategies to protect remnant sagebrush steppe.	2008	150,000 annually	30%	

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# mount grant, nevada

Intermountain West regional FLN

45,000 acres

**We implemented mid-scale fire regime condition class** (FRCC) mapping, an index of the departure of existing conditions from the natural range of variability, to provide Hawthorne Army Depot in Nevada with data layers to plan fuels restoration projects serving resource management goals on the 18,218-hectare Mount Grant area.

The approach included five primary tasks: (1) map potential natural vegetation types (PNVT) based on interpretation of a soil survey; (2) refine PNVTs based on additional information; (3) model the natural range of variability (NRV) per PNVT; (4) using field verification, calculate and map departure of current distribution of structural vegetation classes interpreted by remote sensing (Ikonos 4-m resolution satellite imagery) from the NRV; and (5) map departed structural vegetation classes.

Pinyon-juniper and mountain mahogany woodlands were found within the NRV (FRCC 1), whereas departure increased from moderate (FRCC 2) for low and big sagebrush PNVTs and mixed desert shrub to high (FRCC 3) for riparian mountain meadow. Several FRCC assignments were close to the class limits. The common recommended action based on the breakdown of ecological departure was to decrease the percentage of late-development closed and cheatgrass-dominant classes, thus increasing the percentage of early and mid-development classes.

### Collaborative Vision Statement:

Support the military mission and, when allowing, restore the natural fire regimes of Mount Grant, including restoration of sagebrush systems to support its greater sage-grouse population.

### Collaborative Objectives:

Assist DoD with the creation of fire management plan. Includes Idaho and Oregon and four field offices in the Owyhee Uplands and focuses on multi-scale landscape restoration and monitoring. Bureau of Land Management is the primary land manager. Sagebrush shrublands and juniper woodlands dominate the landscape. FLN activities have focused on the development of technology tools to help the Bureau of Land Management



Mount Grant seen from mountain big sagebrush and curleaf mountain mahogany plateau, Nevada. Photo by Louis Provencher.

identify candidate restoration areas. The main tool is image-object analysis using established software applied to inexpensive and readily available aerial imagery such as that from the National Agriculture Imagery Program (NAIP). Image-object analysis can be used to map sagebrush canopy cover. Next steps include promoting the concept "landscape-oriented" prioritization in field offices and implementation of fuels management projects put on hold after recent litigation.

### Partners:

Hawthorne Army Depot  
The Nature Conservancy

### Most Desired New Partner Key to Achieving FLN Collaborative Objectives:

Carson City, Bureau of Land Management and USFS

## Implementation Needs 2007-2009

Task	Year	\$ Needed	Non-Federal Match Available	Federal Match Available
Explain the results of FRCC mapping to the new command structure of Hawthorne Army Depot and assist DoD with the development of a fire management plan.	2007	2,000	30%	

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# border lakes, minnesota

Laurentian Mixed Forest regional FLN

5 million acres



Members of the Border Lakes Partnership paddle a Voyageurs canoe to visit the site of a recent prescribed burn in Quetico Provincial Park, northwestern Ontario. Photo by Gerry Racey.

**The Border Lakes project** is research-based and seeks to better understand long-term forest disturbance dynamics within the Border Lakes region, a 5.1-million-acre, lake-studded, forested landscape straddling the Minnesota-Ontario border. The Border Lakes forests represent an ecotone between northern hardwood and southern boreal forests. Extant conditions have been shaped by large natural disturbance events (e.g., fire), the abiotic environment, and more than a century of timber harvest and fire exclusion. The Border Lakes region is ~93% publicly owned, but contains complex patterns of land ownership and resource use, including a system of large conservation reserves that covers roughly 43% of the region. Management of conservation areas, sustainable timber production, long-term forest health, and the use and control of fire are topics of major concern for most land-owners and stakeholders within the region.

The research focus of the Border Lakes Project is guided by members of the Border Lakes Partnership. The Partnership is an interagency team composed of natural resource professionals

from major land-owning agencies and other organizations concerned with the management of the region's resources. The overarching goal of the group is to develop collaborative, cross-boundary strategies for managing forest resources, reducing hazardous fuels, and conserving biodiversity.

**Collaborative Vision Statement:**

The Border Lakes Partnership/Heart of the Continent Coalition seek to sustain the health, beauty, diversity and productivity of the natural resources of the Border Lakes forests and waters through collaboration to meet the needs of present and future generations.

**Collaborative Objectives:**

To develop potential management strategies, and to better understand the region's landscape-level ecology, the Border Lakes forests will be analyzed using LANDIS, a spatially-explicit, forest-dynamics model that simulates succession, seed dispersal, species establishment, and natural and anthropogenic disturbance events. LANDIS is designed to simulate interactions among

## Implementation Needs 2007-2009

Task	Year	\$ Needed	Non-Federal Match Available	Federal Match Available
Continue meeting with implementation team to develop plans for collaborative projects.	2008	80,000		
Implement first high-profile interagency fuel reduction projects on the ground.	2009	250,000		

these processes over large landscapes and long time scales, and it can be used to project sequential changes in forest composition, landscape pattern, and disturbance characteristics as a result of various, user-defined forest management scenarios. Based on input from numerous Border Lakes partners who were involved in key work sessions, conference calls, and meetings, this project will focus on four inter-related research questions that will be analyzed in LANDIS using five model scenarios. Our main objectives are to answer the following four research questions in order to guide collaborative land management activities among the partners:

1. How will natural disturbance events influence future forest conditions over the greater Border Lakes landscape?



Northern hardwood forest. Photo by Harold Malde.

2. How will timber harvest influence future forest conditions?
3. Can logging, prescribed fire and wildland fire be used individually or in concert to restore forest ecosystems and meet desired future conditions?

4. How will various management scenarios specifically influence fire regimes over time?

**Partners:**

USFS Northern Research Station  
 Superior National Forest  
 Minnesota Department of Natural Resources  
 Voyageurs National Park  
 Quetico Provincial Park  
 The Nature Conservancy  
 the Nature Conservancy of Canada  
 Legacy Forest Project (Canada), Canadian Forest Service  
 Ontario Ministry of Natural Resources.

The Partnership also cooperates with other interagency organizations, including the Minnesota Incident Command System and the Minnesota Forest Resources Council.

**Most desired new partner key to achieving FLN collaborative objectives:**

First Nations  
 Canadian Forest Service

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# lake alexander /camp ripley, minnesota

Laurentian Mixed Forest regional FLN

300,000 acres



Jack pine. Photo by Joseph O'Brien.

**The Camp Ripley/Lake Alexander project** encompasses approximately 300,000 acres in central Minnesota. Land ownership in the region is predominately private and divided into small acreages and large timber company holdings of several hundred acres. The landscape includes heavily forested areas, many lakes and agricultural land. Conservation targets include fire-dependent dry pine woodlands, oak-aspen forests and upland grasslands including rare jack pine savanna communities.

Landscape activities to date have focused on public outreach and active prescribed fire management. Lack of fire and inappropriate use of fire are challenges faced. In the last two years more than 15,000 acres have been treated with prescribed fire, with another 1,000 acres mechanically thinned.

As we are nearing the completion of a 3-year National Fire Plan grant, the partners are re-thinking their strategies. Momentum for prescribed fire management in central Minnesota is growing, both to reduce fuels and restore an important ecological process.

**Collaborative Vision Statement:**

To reduce the threat of wildfires to life and property in the dry pine and oak forests of central Minnesota while simultaneously reintroducing fire to these systems as a natural disturbance.

**Collaborative Objectives:**

1. Complete and revise interagency fire management plan and continue cross-partner implementation of both prescribed fire and mechanical disturbance to restore fire-adapted ecosystems.
2. Continue collaborative implementation of ecologically-based burns at Camp Ripley National Guard Base.
3. Continue collaborative wildland fire training that will lead to implementation of ecologically-based prescribed burns at and around Camp Ripley. Two NWCG trainings per year (one intro course, one advanced NWCG training course).

**Implementation Needs 2007-2009**

Task	Year	\$ Needed	Non-Federal Match Available	Federal Match Available
Fall prescribed fire season crew	2007	20,000		5,000
Fire effects monitoring	2007	15,000	2,000-3,000	
Radios	2007	20,000		
New Type VI engine	2007	65,000		
Fire effects monitoring	2008	15,000		
Endowment for Funding future fire crews.	2008-2009	150,000		
Continued training to build/maintain NWCG capacities (travel/class fees)	2008-2009	10,000		
Fire effects monitoring	2009	15,000		
6 x 6 ATV w/ slip-on unit	2009	7,000		

4. Continue baseline monitoring for fuels and vegetation for burn and mechanical treatments. Utilize follow-up data collection for adaptive management strategies related to prescribed fire management.

**Partners:**

Minnesota Department of Natural Resources  
 Camp Ripley National Guard  
 City of Brainerd  
 Brainerd Fire Department

**Most desired new partner key to achieving FLN collaborative objectives:**

New private landowners

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# albany pine bush, new york

Northeastern regional FLN

3,000 acres



Members of the Border Lakes Partnership paddle a Voyageurs canoe to visit the site of a recent prescribed burn in Quetico Provincial Park, northwestern Ontario. Photo by Gerry Racey.

**The Albany Pine Bush preserve** is one of the best remaining examples of inland pitch pine-scrub oak barrens left in the world. Consisting of 3,010 acres, the preserve was created in 1988 by the New York State legislature to protect the 20 rare or endangered species and habitats of the Pine Bush, including the federally endangered Karner blue butterfly. The Albany Pine Bush Preserve is managed by the Albany Pine Bush Preserve Commission, a unique partnership of state and local municipalities, private citizens and The Nature Conservancy. Commission members jointly developed, and are now implementing, a shared vision for the preserve. The Commission also is charged with the management and protection of these resources, while providing educational and recreational opportunities.

The Albany Pine Bush Preserve prescribed fire program was initiated in 1991 and utilizes trained staff and volunteers to carry out its prescribed fire program. Assistance also comes from other Nature Conservancy employees from around the Northeast.

Since 2004, the Preserve has been the recipient of four National Fire Plan/Hazard Mitigation grants, which have allowed the Preserve to contract Student Conservation Association, Fire Management Corps team members. These workers live on site and assist with: burn unit and equipment preparedness, writing burn prescriptions, and species monitoring.

Restoring habitat through active management with fire, control of invasives and planting native species continues to be a priority. These efforts are vital for the continued existence of this globally rare pine barrens habitat in eastern New York.

### Collaborative Vision Statement:

To work with willing landowners to assure the creation and conservation of a viable Preserve that maintains the natural ecological processes that support the long term viability of the pitch pine-scrub oak community, the Karner blue butterfly, and the full range of natural upland and wetland communities (and associated native species) that make up the Pine Bush. The Preserve will

## Implementation Needs 2007-2009

Task	Year	\$ Needed	Non-Federal Match Available	Federal Match Available
Camoplast J-5FFTrack suppression vehicle	2007	115,000		5,000
ATV (4X4)	2007	7,000		
SCA Fire Corps Team	2007	160,000		
Type VI engine	2009	80,000		
SCA Fire Corps Team	2009	170,000		

also protect cultural resources (historic and archaeological sites), accommodate a variety of appropriate recreational uses, and provide educational and outreach opportunities for the public.

### Collaborative Objectives:

1. Protect and manage an ecologically viable pitch pine-scrub oak barrens community. Use prescribed burns and other management techniques to achieve the long-term goal of at least 2,000 fire-manageable acres.
2. Protect and manage linkages that improve Preserve contiguity and enhance species dispersal opportunities.
3. Protect and manage buffer areas, particularly those that facilitate the Commission's fire management program.
4. Protect and manage significant cultural and environmental resources, including Karner blue butterflies, water resources, and historic and archaeological sites.

### Partners:

The Nature Conservancy  
 New York State Department of Environmental Conservation  
 New York State Office of Parks, Recreation and Historic Preservation  
 City of Albany  
 Town of Colonie  
 Town of Guilderland  
 Albany County  
 US Fish and Wildlife Service

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# long island central pine barrens, ny

Northeastern regional FLN

100,000 acres



xxxxxxxx . Photo by xxxxxxx.

**The fire-adapted pitch pine**, scrub oak, and ericaceous, shrub-dominated forests of the Long Island Central Pine Barrens represent an extremely volatile fuel type with a long history of high-intensity and high-severity fires. Successful initial attack and suppression efforts over the last century in the Long Island Central Pine Barrens have resulted in lowering the average acres burned per wildfire. These suppression achievements have led to a corresponding accumulation of forest fuels and the increased potential for high intensity crown fires.

This increase in fuel loading becomes all the more dangerous when coupled with a dense human population and decades of extensive development. Frequent recurring fires have also created a host of unique natural communities, such as the globally rare Dwarf Pine Plains and also Scrub Oak Shrublands that support a great diversity of moths and butterflies, many of which are rare threatened or endangered in New York State.

Since enrolling in the FLN we have:

- Obtained over \$325,000 in grants and anticipate receiving another \$200,000.

- Acquired QuickBird 2.4m resolution multi-spectral imagery and developed land cover type and ecological community type cross boundary GIS data layers.
- Created a non-profit organization, the Foundation for Ecological Research in the Northeast (FERN), to take a comprehensive approach to monitoring and research across the pine barrens.
- Completed a Conservation Action Plan for the Central Pine Barrens, including a 2006 update.
- Created a color fire brochure and media packet.
- Created the "Long Island Fire Atlas" GIS compendium.
- Established the Long Island Fuel Reduction and Ecological Demonstration Site. This designated 350 acre site is a cooperative area where land managers and fire professionals are learning how to implement successful restoration activities.

## Implementation Needs 2007-2009

Task	Year	\$ Needed	Non-Federal Match Available	Federal Match Available
Contract with and supervise Student Conservation Association (SCA) interns (12 months) for monitoring and prescribed fire implementation.	every yr.	150,000/yr.	60,000 50,000 for 2008 pending	12,500
Create landscape wide geospatial database.	2007	30,000		
Equipment for mobile fire crew.	2007	20,000		
Monitoring of fuel samples (Stonybrook University)	2007	12,000		
Create GIS data layers for fire regime and fuel models. Develop "red zone" map of treatment priorities. Update wildfire history map from 1994.	2008	18,000		
Contract mechanical treatments.	every yr.	50,000/yr.		
Implement staff fire training plans.	every yr.	5,000/yr.		
New Type VI engine.	2008	75,000		

### Collaborative Vision Statement:

...protect, preserve and enhance the functional integrity of the Pine Barrens ecosystem and the significant natural resources,

2. Maintain viable populations of all rare plant and animal species now present in the Pine Barrens, and those that may be discovered in the future (i.e., maintain species diversity).
3. Protect public safety by reducing hazards in strategic locations.



Photo Caption

including plant and animal populations and communities..., and to protect and preserve the ecologic and hydrologic functions of the Pine Barrens by ... accommodating specific Pine Barrens management practices, such as prescribed burning, necessary to maintain the special ecology for the preservation area

### Collaborative Objectives:

1. Maintain in perpetuity high quality examples of existing natural Pine Barrens communities (i.e., maintain landscape diversity).

### Partners:

A core project team consisting of TNC and NYS-DEC staff was formed. Over 20 additional partnerships assisted in the planning, implementation, and monitoring of the demonstration site. These included: US Fish and Wildlife Service, Flanders Fire District, US Department of Agriculture, National Weather Service, NY-State Parks, Albany Pine Bush, Americorps, Student Conservation Association (SCA), UMass Amherst / Joint Fire Sciences Program, Central Pine Barrens Commission, Foundation for Ecological Research in the Northeast, SUNY Stony Brook University, private ecological consultants (Batcher, McGuiness, Patterson III), Aeronautical Radio Inc, private contractors (VCS and Trees Unlimited), and multiple volunteers.

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[http://www.umass.edu/nrc/nebarrensfuels/ne\\_barrens/long\\_island/index.html](http://www.umass.edu/nrc/nebarrensfuels/ne_barrens/long_island/index.html)

# northern shawangunk ridge, ny

Northeastern regional FLN

90,000 acres



One of several demonstration and training prescribed burns in the Gunks conducted in old fields at Mohonk Preserve. Rondout River Valley and Catskill Mountains in the background. Photo by Debi Clifford.

Located just 75 miles north of New York City, the 90,000-acre Shawangunk Ridge landscape is home to over 36 rare plant and animal species, including globally rare ridgetop dwarf pitch pine barrens. In 2005, the Shawangunk Ridge Biodiversity Partnership began implementing a series of experimental/demonstration prescribed burns in old fields at Mohonk Preserve. To date, the Partnership has burned approximately 35 acres of fields and will begin burning larger units in chestnut oak and pitch pine forests over the next 1-3 years. We have also worked to educate our local communities and volunteer fire departments, helping the hamlet of Cragmoor become the first Firewise Community/USA in New York State.

In order to broaden the scale of our fire management activities, the Partnership is working to complete a ridgewide Fire Management Plan and initiate the state environmental quality review process in 2007. Over the next several years, the Partnership also plans to expand our public outreach, improve the existing network of historic firebreaks across the Ridge,

develop a comprehensive fire effects monitoring program, build a fire equipment cache and continue to provide advanced training for local staff and partners.

### Collaborative Vision Statement:

The Shawangunk Ridge Biodiversity Partnership will work together and with other interested organizations and landowners to maintain and, where necessary, restore natural communities and native species of the Shawangunk Mountains and the ecological processes on which they depend.

### Collaborative Objectives:

1. Expand public outreach and education programs regarding the importance of preserving biodiversity in the Shawangunk Mountains and the need to reintroduce fire as a critical ecosystem process.
2. Collaborate with partners to implement various fire management activities, including prescribed burning, in the

## Implementation Needs 2007-2009

Task	Year	\$ Needed	Non-Federal Match Available	Federal Match Available
Initiate Fire Management Plan Public Review.	2007	16,000	60,000	12,500
Begin building equipment cache for Rx burning.	2007	15,000	8,000	
Hire fire crew for Rx burning monitoring.	2007	52,000	5,000	
Fire road repair/maintenance.	2007	15,000		
Advanced training for TNC staff and partners.	2007	4,000		
Complete FMP public review.	2008	16,000	8,000	
New Type VI Engine.	2008	65,000		
Hire fire crew for Rx burning/monitoring.	2008	54,000		
Continue to build fire equipment cache.	2008	15,000		
Develop long-term fire effects monitoring program & improve vegetation mapping.	2008	34,000	14,600	
Advanced training for TNC staff and partners.	2008	4,000		
Hire fire crew for Rx burning/monitoring.	2009	56,000		
Experimental mechanical treatments/firebreak network improvement.	2009	30,000		

Shawangunks to maintain and/or restore natural community types and reduce hazardous fuel loads.

3. Increase our fire management capacity within the partnership through basic and advanced firefighter training and participation in prescribed burns in New York and programs in other states/regions.



The Northern Shawangunk Ridge is a complex and diverse landscape that supports a number of fire-influenced forest types including globally rare ridgetop dwarf pine barrens (cliff tops) and large expanses of pitch pine and oak forest (below cliffs). Photo by Gabriel Chapin.

### Partners:

The Nature Conservancy  
 Mohonk Preserve, Inc.  
 NY State Department of Environmental Conservation  
 NY State Office of Parks, Recreation and Historic Preservation  
 Palisades Interstate Park Commission  
 Open Space Institute  
 NY State Museum  
 Friends of the Shawangunks  
 The Cragmoor Association  
 NY Natural Heritage Program  
 Local Municipalities, VFDs

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# Ossipee pine barrens, new hampshire

Northeastern regional FLN

8,600 acres



Wildland-urban interface treatment on the Ossipee Pine Barrens Preserve. Photo by Jeffrey Lougee.

**Ossipee Pine Barrens** contains one of last remaining pitch pine-scrub oak woodlands. Recent accomplishments include:

- Raised more than \$300,000 for implementation of fire management activities at the site;
- Completed a comprehensive ecological and fire management plan, engaging members of the FLN to help build the plan on the best management practices and most up-to-date scientific information;
- Developed and carried out a comprehensive outreach and education program to inform and build support with members of the local communities and key decision makers in the State of New Hampshire; and

- Begun active management of the Ossipee Pine Barrens through mechanical means and prescribed fire.

**Partners:**

USDA Forest Service - White Mountain National Forest  
 State of New Hampshire - Department of Forest and Lands  
 ME and MA Operating Units of the The Nature Conservancy  
 ME Army National Guard  
 Three local municipalities - Ossipee, Freedom, and Madison  
 New Hampshire Audubon  
 University of Massachusetts  
 University of Vermont

## Implementation Needs 2007-2009

Task	Year	\$ Needed	Non-Federal Match Available	Federal Match Available
Outreach and education	2007	3,000	60,000	12,500
Develop a monitoring program	2007	10,000	8,000	
Training	2007	2,000	5,000	
Outreach and education	2008	3,500		
Ecological and fuel reduction monitoring	2008	2,500		
Training	2008	2,000	8,000	
Outreach and education	2009	3,000		
Ecological and fuel reduction monitoring	2009	2,500		
Training	2009	3,000		

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# waterboro barrens, maine

Northeastern regional FLN

8,000 acres



The end of a prescribed fire pulling into the burn unit through scrub oak Photo by Jaan Kolts.

**B**urns with state, federal and local partners have been executed in pitch pine scrub oak (PPSO) systems (Waterboro Barrens, Hollis Barrens and Kennebunk Plains) and sandplain grassland systems (Kennebunk Plains) with the broad goals of maintaining, restoring and improving structural and biological diversity within these systems. In addition, our application of fire and mechanical thinning reduces hazardous fuel loading near neighborhoods next to our preserve, which has alleviated some of the communities' concerns regarding fire management. In the future, we intend to research the implications of using fire to restore oak, hickory, red pine and other matrix forest components.

Prescribed fire and mechanical thinning was applied to Kennebunk Plains WMA, Waterboro Barrens Preserve, Hollis Barrens Training Site and the Ossipee Pine Barrens (TNC NH - test burn) in 2006. Ecological burns totaled 262 acres at these three sites. We also assisted with fire applications on an additional 235 acres of partner lands in Albany, NY, and in southeastern

Massachusetts in Cape Cod, Nantucket, Martha's Vineyard, State Forest land, and with MA ARNG.

**Collaborative Vision Statement:**

The primary goal of this TNC Maine led and US Fish and Wildlife Service (USFWS) funded project is to re-introduce fire into fire-dependent habitats in Southern Maine. Hazardous fuel reduction is a secondary goal as this protects populated neighborhoods from the threat of wild fires. In 2006, we continue to share our methods and crews to assist partners. Funds have made possible strategic thinning, habitat restoration, wildland fire monitoring, training and planning. Annually, since 2003, TNC sponsored conservation\ fire crews have coordinated ecological burns, measured fire behavior, quantified fire effects and fuel reduction, and have noted changes in plant and animal diversity.

**Collaborative Objectives:**

A list of our team-building activities across the region follow. Partners help us build depth and exchange measures of success.

**Implementation Needs 2007-2009**

Task	Year	\$ Needed	Non-Federal Match Available	Federal Match Available
Waterboro Barrens: 250 acres rx-fire 100 acres strategic thinning 1st and 2nd Order Fire Effects Monitoring Capacity Building	every year	25,000/yr.	20,000	
Kennebunk Plains: 100 Acres rx-fire grassland heath maintenance 50 acres rx-fire Pitch Pine Oak woodland 50 Acres strategic thinning 1st and 2nd Order Fire Effects Monitoring Capacity Building	every year	15,000/yr.	10,000	
50 Acre rx-fire Hollis Barrens 1st and 2nd Order Fire Effects Monitoring Capacity Building	every year	10,000/yr.	5,000	

Each partner uses strategic forest treatments and prescribed fire in pitch pine and oak forests to study regeneration and to continue early successional maintenance of grasslands and shrubland thickets in order to:

- Reduce, remove excess fuel loads in Pitch Pine and Pine-Oak and Oak woodlands;
- Maintain and restore grassland and heathland habitat;
- Decrease the chances of uncontrolled wildfire;
- Provide defensible space near our neighbors;
- Showcase prescribed fire as a safe and effective management tool;
- Promote habitat improvement for wildlife;
- Assess the health and regeneration of a range of fire-adaptive plant communities;
- Measure the success and effects of our actions with monitoring;
- Increase structural and biological diversity;
- Use adaptive management techniques gleaned from partners and academic research; and
- Support training opportunities and team building with our partners.

**Partners:**

USFWS, Rachel Carson NWR  
Maine Forest Service  
Hollis Barrens: ME Army Nat. Guard, Hollis, ME  
Maine Dept of Inland Fisheries and Wildlife  
Albany Pine Bush Preserve: Albany, NY  
USFS: Green Mtn. Division  
Camp Edwards: MA Army Nat. Guard, Otis, MA  
The Nature Conservancy: MA and NH Chapters  
Local Volunteer Fire Department

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# tieton forest collaborative, wa

Northwestern regional FLN

200,000 acres



The Tieton—a rugged wildlands on the eastern spine of the Cascade Mountains. Photo by Ken Bevis.

**The original Nature Conservancy Tieton Forest Project** was just completing the final phase of an acquisition and transfer effort on the Naches Ranger District west of Yakima, WA. This resulted in a checkerboard ownership of Forest Service and Washington Department of Fish and Wildlife. Recognizing the need to move to a greater level of engagement with the agency end-owners of the Tieton checkerboard, the Conservancy convened a small group of agency staff to work together to set a course toward forest management collaboration across multiple ownerships. The Conservancy offered the Conservation Action Planning (CAP) framework to structure the discussion of scope, overall project vision, desired ecological outcomes, and clear strategies to accomplish the shared vision. As this work was proceeding, the potential for this small collaboration to accomplish a large undertaking spurred this group to elevate the nature and potential of this partnership to the top levels of each partner organization. The executive management branch of the participating organizations chartered this collaboration work by signing a multi-party MOU. The MOU, authorizing and

enabling staff to work on collaborative strategies defined by the Tieton Forest Collaborative, thus became the first master product coming out of this work group.

The Tieton Forest Collaborative's CAP workbook tool captures the conceptual framework the Conservancy uses globally to conserve biodiversity in socially sustainable contexts. The Tieton Forest Collaborative's workbook is the cornerstone shared planning product. Specific objectives, strategies and action steps are called out for implementation. Project-level work will emerge as the next level of work product coming out of this Network project.

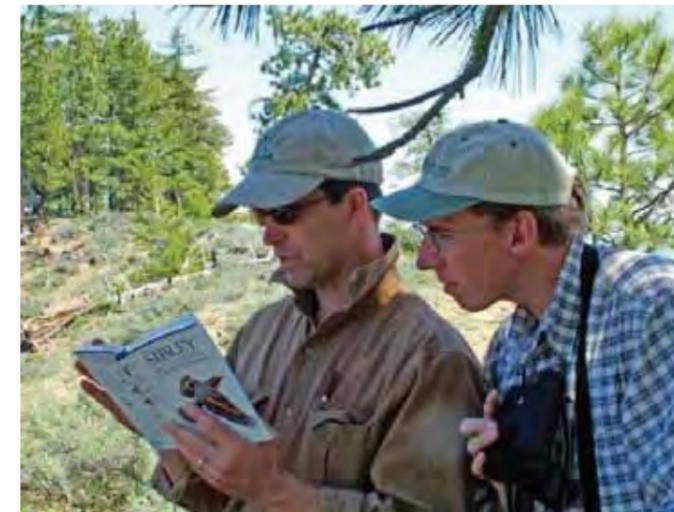
**Collaborative Vision Statement:**

The members of The Tieton Forest Collaborative recognize the underlying ecological unity of the landscape that has been divided into administrative ownership boundaries that currently limit the ability to plan and work at the landscape scale. The Tieton Forest Collaborative members have an interest in working at the land-

## Implementation Needs 2007-2009

Task	Year	\$ Needed	Non-Federal Match Available	Federal Match Available
Early action implementation: cross-boundary underburn prep: fuel load survey	2007	15,000	5,000	
Early action implementation: cross-boundary underburn prep: permitting	2007	4,500	1,000	
Early action implementation: cross-boundary underburn	2007	150,000	15,000	100,000
Biomass utilization-market development	2008	50,000	20,000	
Post-project monitoring	2008	25,000	5,000	

scape scale and across administrative boundaries to achieve their mutual forest-scale goals, including restoration of sustainable fire-adapted systems.



The Tieton is a stronghold for the declining white-headed woodpecker. The Tieton offers important outreach and education focus for the Conservancy. Photo by Lee Trivette.

**Collaborative Objectives:**

The Tieton Forest Collaborative MOU will be used to help achieve mutual goals in the following natural resource related areas. Examples include, but are not limited to:

- Develop strong, effective collaborative planning and implementation processes among the signatories to this MOU as well as interested public agencies and partners.
- Increase shared knowledge within The Tieton Forest Collaborative of affected lands and resources (research,

inventories, assessments and monitoring results).

- Manage recreation use to provide opportunities and experiences compatible with conservation and other natural resource management objectives.
- Identify and manage an efficient and environmentally acceptable transportation system across multiple ownerships.
- Restore the use of fire as a tool for achieving ecological objectives.
- Develop and use science-based management tools, including:
- Forest management, including restoration practices, to sustain seral forest conditions.

**Partners:**

The Nature Conservancy  
 US Forest Service  
 Washington Department of Fish and Wildlife  
 Washington Department of Natural Resources  
 Yakima Tribes

**Most desired new partner key to achieving FLN collaborative objectives:**

Yakima County government

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# upper deschutes basin, oregon

Northwestern regional FLN

2 million acres



Link Lake at Deschutes National Forest, Oregon. Photo by Charlie Ott.

**The Upper Deschutes Basin** is the Northwest Fire Learning Network's 2-million-acre anchor project, where teams in central Oregon are developing new vegetation maps, forest condition maps and action maps prioritizing treatable areas. The Upper Deschutes Basin team wants to develop a common vision or desired condition for the entire Deschutes Basin Landscape utilizing the best available science and incorporating values through collaborative partnerships. The timing is right to integrate community planning efforts (Community Wildfire Protection Plans) with agency and government efforts to generate a collaborative vision for future land management. Our products are timed to feed Deschutes National Forest restoration strategy plans.

Over the next year, the Deschutes team will work collaboratively to complete a vision for desired habitat site conditions and develop a prioritized restoration action map and a communication plan. Over the next five years, we plan to develop and implement on-the-ground demonstrations that highlight restoration and

fuels reduction prescriptions and methodologies that meet multiple objectives. Monitoring plans to assess the success of ongoing treatments are currently underway.

Some of the products we are providing to land managers include: technical explanations of LANDFIRE tools and of maps (products); training in FRCC application for treatment prioritization; and tools to integrate multiple resource values and ongoing efforts.

**Collaborative Vision Statement:**

Accelerating the restoration of fire adapted ecosystems while protecting communities from wildfire.

**Collaborative Objectives:**

- Define issues and scope of problem in fire-adapted systems
- Collaboratively produce Desired Condition Map with ecological, social and economic values

## Implementation Needs 2007-2009

Task	Year	\$ Needed	Non-Federal Match Available	Federal Match
Monitor eight fuels reduction treatments.	2007	10,000		20,000
Offer training for FRCC use by practitioners.	2007	500	100	
Guardschool for TNC and non-fed partners (burn crew).	2008	500		
Monitor eight fuels reduction + re-measurement of 2007 plots.	2008	15,000		20,000
GIS analyses of project alternatives - West Tumbull.	2008	10,000		
Offer Training for FRCC use by practitioners.	2008	250	8,000	
Guardschool for TNC and non-fed partners (burn crew).	2009	500		
Monitor eight fuels reduction + re-measurement of 2008 plots.	2008	15,000		

- Collaboratively produce communication plan for internal and external audiences
- Develop a prioritized action map(s) of treatments to achieve desired condition
- Integrate existing efforts across ownership boundaries

**Partners:**

The Nature Conservancy  
 US Forest Service  
 Bureau of Land Management  
 Central Oregon Fire Management Service  
 US Fish and Wildlife Service  
 Oregon Department of Fish and Wildlife  
 Oregon Department of Forestry  
 Deschutes County  
 Project Wildfire  
 Oregon Wild  
 Central Oregon Intergovernmental Council  
 Community groups  
 Private Landowners



Metolius basin. Photo by Larry Olson

- Develop (ecologically?) "appropriate" actions for implementation - use examples from existing treatments
- Accelerate implementation and monitoring

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# bayou ecosystem restoration proj., ar

Southcentral regional FLN

60,000 acres



An oak woodland restored with periodic prescribed fire and tree thinning in the Bayou Ecosystem Restoration Project. Photo by John Andre.

**The Bayou Ecosystem Restoration Project** started in September 2001 with the release of Forest Service/Nature Conservancy project proposal entitled "Restoring Forest Ecosystem Health in the Wildland/Urban Interface on the Bayou Ranger District." Twelve partners were involved with this 60,000 acre project initially. The project serves as the focal landscape for the South Central Regional FLN.

National Environmental Policy Act decisions are in place for all-season prescribed fire use at 3- to 5-year intervals on the entire project area and for tree thinning treatments on 29,500 acres. Thinning treatments are re-establishing the historical tree density based on 1830s Government Land Office survey records. Over 75,000 acres have been burned, including several private property tracts. Non-commercial thinning has taken place on over 5,400 acres. Commercial thinnings, i.e. timber sales, have included or will include within the next 2 years, about 3,500 acres. A stewardship contract is currently active in the project area. All of these integrated resource management practices are designed to move the ecosystem toward the desired future condi-

tion. Services and products from many of the treatments support the economies of the local communities.

A comprehensive monitoring program is documenting ecosystem responses to prescribed fire and timber cutting treatments. Monitoring includes the overstory, understory and herbaceous plant communities, fuel loads and fire effects on soils, vegetation, breeding and wintering bird communities, white-tailed deer and stream water quality.

Future plans include continuing current prescribed fire and thinning operations in the restoration project area and expanding these treatments into the newly designated Ozark-St. Francis National Forest Land Management Plan management areas dedicated to oak and pine woodland restoration.

**Collaborative Vision Statement:**

- Landscape ecosystem components and processes are maintained within the historic range of variation by periodic fire use and ecologically-based resource management

## Implementation Needs 2007-2009

Task	Year	\$ Needed	Non-Federal Match Available	Federal Match Available
Rx fire - 15,000 acres.	2007	300,000		375,000
Commercial timber sales - 2000 acres.	2007	700,000		700,000
Noncommercial timber thinning - 500 acres.	2007	55,000	5,000	
Rx fire - 15,000 acres.	2008	309,000		309,000
Commercial timber sales - 2000 acres.	2008	525,000	5,000	525,000
Noncommercial timber thinning - 500 acres.	2008	55,000		
Rx fire - 15,000 acres.	2009	318,000		318,000
Commercial timber sales - 2000 acres.	2009	370,000		370,000
Noncommercial timber thinning - 500 acres.	2009	110,000	5,000	

- Landscapes are in fire regime condition class (FRCC) 1, providing healthy watersheds and safety for "communities at risk."
- Ecosystems within the historic range of variation achieve biodiversity goals and provide multiple recreational opportunities.
- Promote and facilitate ecosystem restoration at other sites and develop public support.

**Partners:**

Oak Ecosystem Restoration Team  
 The Nature Conservancy  
 Arkansas Game and Fish Commission  
 Arkansas Natural Heritage Commission  
 Arkansas Audubon Society  
 Arkansas Forestry Commission  
 Arkansas Wildlife Federation  
 National Wild Turkey Federation  
 Quail Unlimited  
 Southwest Fire Use Training Academy  
 Caddo Nation of Oklahoma  
 National Park Service, Buffalo National River  
 Rocky Mountain Elk Foundation  
 U.S. Fish and Wildlife Service  
 Private Land Owners: Watershed Restoration and Enhancement Agreements (Wyden Authority and Stevens Act)



Monitoring the effects of prescribed fire treatments. Photo by John Andre.

**Collaborative Objectives:**

- Re-establish the historic fire return interval to the 60,000-acre project area.
- Develop pine and oak woodlands on 30,000 acres of the project within 10 years.

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# land between the lakes nra, ky

Southcentral regional FLN

8,800 acres



Nature Conservancy / USFS monitoring crew taking a break in the July heat. Photo by Jim McCoy.

**The 5,000-acre Oak/Grassland Restoration Demonstration - Prior Creek project** is located in the central part of Land Between the Lakes National Recreation Area (LBL), straddling the Kentucky/Tennessee boundary. The restoration area was selected during the Land and Resource Management Plan (LRMP) revision for LBL and is a Land Allocation in the newly signed LRMP. The Prior Creek Project Area was selected due to its proximity to existing environmental education facilities and the South Bison Range, which are popular public attractions. The expectation is that the project area will be highly visible to the public which will facilitate environmental education and interpretation (EE&I).

The LBL partnership plans to continue ramping up its program so that the Forest Service can eventually restore and maintain LBL's oak woodlands and savannas at ecologically relevant scales. Crews treated 3,200 acres with prescribed fire this year, and hope to burn at least 5,000 acres next year. They are also proposing mechanical thinning treatments across approximately 2,600 acres.

### Collaborative Vision Statement:

Landscape ecosystem components and processes are maintained within the historic range of variation by periodic fire use and ecologically-based resource management. Landscapes and watersheds are in condition class 1. Ecosystems within the range of variation achieve biodiversity goals and provide for both facility based and dispersed environmental education opportunities and multiple recreational opportunities including hunting and nature watching. Promote and facilitate ecosystem restoration at other sites and develop public support with continuing collaboration.

### Collaborative Objectives:

1. Implement first year monitoring to collect baseline data.
2. Implement the EE&I plan.
3. Implement dormant season fuel reduction prescribed burns on approximately 2,500 acres in the first year and 2,500 acres in year two.

## Implementation Needs 2007-2009

Task	Year	\$ Needed	Non-Federal Match Available	Federal Match Available
Prescribed fire 1,500 acres.	2007	18,000	5,000	13,000
Complete NEPA for other resource activities.	2007	staff time		
Prescribed fire 2,650 acres.	2008	31,800	10,000	
Construct 6-mile driving loop to interpret forest health treatments.	2008	50,000		
Prescribed fire 2,400 acres.	2009	31,200	10,000	
Establish 50 acres of tallgrass prairie and 50 acres of cane.	2009	>50,000		

4. Complete NEPA analysis for commercial and noncommercial woodland restoration treatments.
5. Implement commercial timber sales and noncommercial thinnings on about 2,500 acres of the project area.

able time frame

- Develop pine and oak woodlands on 30,000 acres of the project within 10 years.

### Partners:

Tennessee State Chapter NWTF  
 QU Jackson Purchase Chapter  
 The Nature Conservancy  
 USFWS Frankfort Field Office  
 Central Hardwoods Joint Venture



Aerial view of Land Between the Lakes National Recreation Area. Photo courtesy of Land Between the Lakes NRA.

reduction from approximately 100 trees/acre to approximately 50 trees/acre in patches on dry and xeric sites) Project Rationale: Fire alone is not enough to reach restoration goals in an accept-

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# lower ouachita/warren prairie, ar

Southcentral regional FLN

684,000 acres

**The Warren Prairie Conservation Forestry and Stewardship project** is situated within the 4,087-acre Warren Prairie Conservation Area (WPCA). This is a nested site within the larger (684,296 acres) Lower Ouachita-Bastrop Ridge “megasite.” The WPCA is located in the Upper West Gulf Coastal Plain in Bradley and Drew Counties, Arkansas, within the lower Saline River watershed.

The Lower Ouachita system is still largely forested and undisturbed hydrologically, and ecosystem functions are relatively intact. This landscape complex includes big rivers (the Ouachita and Saline), bottomland hardwood forests, terrace pine-oak flatwood forests and upland matrix pine-oak woodlands, pine-grass savannas, saline soil communities and sand prairies.

The Warren Prairie site was selected by the FLN partners for further study based on fire management and conservation forestry accomplishments, existing partnerships, planned red-cockaded woodpecker reintroduction into the area and current site management planning. At least 10 prescribed burns and one ecological thinning have been performed on the site since 2000. A conservation plan is in place with monitoring implemented. 2100 acres of the site are in the Warren Prairie Natural Area managed by the Arkansas Natural Heritage Commission (ANHC). Of that, 545 acres are owned by Potlatch Forest Holdings and covered by a conservation easement held by ANHC.

Prescribed fire, ecological thinning and monitoring are planned in the next five years to move the site to its desired future condition.

### Collaborative Vision Statement:

Utilize conservation forestry to conserve 4,087-acre nested site by restoring community structure and composition on public and private lands by restoring savanna to 10-30 BA/acre and woodlands at 30-70 BA/acre, maintaining a diverse herbaceous understory, utilizing natural regeneration even-aged / uneven-aged management in long rotation, no bedding, no fertilizers, limited herbicides, and utilizing fire on a 2- to 4-year frequency. Maintain or increase populations of target rare plants and ani-



Saline soil barrens with forested pine flatwoods buffer at Warren Prairie. Photo by Mike Fuhr.

mals. Restore at least four breeding pairs of red-cockaded woodpeckers.

### Collaborative Objectives:

- The complete utilization of conservation forestry practices upon 75% of the total land area of WPCA.
- Acquisition of adjacent timberlands to increase size and create “buffer zones” around at least 50% of WPCA.
- Continue implementation of prescribed burns, timber harvesting, monitoring, and stewardship of the WPCA. Plant community monitoring conducted every three years, prescribed burns on a 2- to 4-year rotation, and thinnings.
- Maintain (or preferably increase) reintroduced Red Cockaded Woodpecker populations by 50% within the first 20 years. Maintain genetic viability of population by establishing corridors and buffer zones between our population and those nearby (i.e. Potlatch, Plum Creek, Casey Jones

WMA), and by possibly trading birds with Ouachita NF and Kisatchie NF.

### Partners:

Arkansas Natural Heritage Commission  
Potlatch Forest Holdings, Inc.  
The Nature Conservancy



Photo Caption

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# gulf coastal plain ecosystem partnership, fl

Southeastern regional FLN

>1 million acres



Marsh at flatwoods, Eglin Air Force Base, Florida. Photo by Harold Malde.

**The Gulf Coastal Plain Ecosystem Partnership** (GCPEP) is a successful collaboration among ten public and private organizations that together operate under a 1996 Memorandum of Understanding. The partners collectively manage more than 1 million acres of land in one of the most biologically significant regions in North America. The GCPEP landscape has the vast majority of the world's remaining old-growth longleaf pine ecosystems, containing some longleaf pine trees that are over 500 years old.

For the past 10 years, GCPEP has served as a national model in landscape-level conservation planning and natural resources management. The strength of the partnership is the respect among 10 partners of differing missions and objectives while acting cooperatively and sharing significant challenges. Through bi-annual Steering Committee Meetings and various subcommittee meetings, mutual land protection efforts, equipment sharing, the recently developed Ecosystem Support Team and the free exchange of ideas among partners, threats to conservation targets

identified in the Conservation Area Plan are being addressed and abated.

Issues related to fire management and land protection have possibly seen the largest improvement since the inception of GCPEP. From the bi-annual meetings of the GCPEP Fire Subcommittee to the coordination of partnership-led prescribed burns to the transfer of a GIS-based burn prioritization model developed on Eglin AFB to the Blackwater River State Forest, GCPEP has played a key role in meeting landscape-level prescribed fire goals in a scientifically rigorous manner.

**Collaborative Vision Statement:**

To develop and implement voluntary and cooperative stewardship strategies in order to sustain the long term viability of native plants and animals, the integrity of ecosystems, the production of commodities and ecosystem services, and the human communities that depend upon them.

**Implementation Needs 2007-2009**

Task	Year	\$ Needed	Non-Federal Match Available	Federal Match Available
Hire at least 1 more additional Team Members for EST.	2007	40,000		
Continue to purchase necessary equipment for EST.	2007	30,000		
Continue to purchase necessary equipment for EST.	2008	30,000		
Further expansion of the EST; both equipment and personnel.	2008			

GCPEP's goal is to conserve and restore the dwindling longleaf pine ecosystem and unique aquatic resources of northwest Florida and southern Alabama.

**Collaborative Objectives:**

One of the highest threats to be identified by the partners was various stages of an altered fire regime landscape causing negative ecological impacts to a majority of the conservation targets. This is largely due to challenges, such as lack of resources including available personnel, which have led to incompatible/inadequate



Orange azalea at Eglin Air Force Base, Florida. Photo by Al Schotz.

fire management issues. These issues include such things as insufficient acreage burned and insufficient return intervals. Therefore, a priority conservation objective identified in the GCPEP CAP is the re-introduction of appropriate fire regimes to protect key ecosystems, embedded communities, and species.

One of the highest priority action items initially identified was to establish a burn team to assist the partners with on-the-ground burning. It was soon noted that this concept of a burn team could be expanded to assist the partners with other identified high priority items such as to perform invasive species management and ecological surveying, mapping, and monitoring for the partners.

The concept of the GCPEP Ecosystem Support Team (EST) was developed.

The objectives of the EST are to:

- Assist partners with fire management;
- Decrease data gaps through ecological surveying, mapping, and monitoring;
- Conduct invasive species management; and
- Further the landscape scale conservation efforts.

**Partners:**

- Department of Defense
- Florida Department of Environmental Protection
- Florida Division of Forestry
- Florida Fish and Wildlife Conservation Commission
- International Paper
- National Park Service
- Nokuse Plantation
- Northwest Florida Water Management District
- The Nature Conservancy
- United States Forest Service

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# Onslow Bight Fire Partnership, NC

Southeastern regional FLN

1.4 million acres



Croatan National Forest — Pine Barren Gentian (*Gentiana autumnalis*). Photo by Milo Pyne.

**The Onslow Bight Fire Partnership** was formed in 2005 to specifically address the lack of appropriate burning identified as a major threat to targets of interest in the Onslow Bight Conservation Design Plan. This plan was developed by the North Carolina Onslow Bight Conservation Forum, a group of 12 parties with an interest in enhancing cooperation and communication regarding regional conservation issues within the Onslow Bight landscape.

Each year, the larger land managing agencies/owners burn approximately 75,000 acres across the landscape. Yet, more fire is required to appropriately address the needs of threatened and endangered species and pyrogenic plants, for maintaining ecotones, unique natural areas and longleaf regeneration. There are also forest and timber management, fuel reduction, and wildland urban interface objectives that need to be addressed.

To develop a better picture of the Onslow Bight landscape and set priorities, partners are mapping vegetation, wildlife-urban interface areas, and species guild richness change for both pre-settlement and present day landscapes. This information can be used as a baseline for future monitoring efforts. At their second

partnership meeting held in November 2006, this mapping effort was utilized by partners to identify three target areas for collaborative restoration.

The partnership is moving forward to develop an MOU that would facilitate implementation, while DOD Cherry Point, USFS Croatan NF, and NC WRC are working out an agreement to put to use an idle DE4 tractor to assist with partner prescribed fires. Efforts are underway to examine the usefulness and feasibility of a Prescribed Fire Training Center crew to increase partnership burning opportunities, and the USFWS is investigating National Fire Plan funding channels and Community Wildfire Protection Plans, which may be beneficial for developing funding opportunities.

**Collaborative Vision Statement:**

Restore and maintain fire adapted ecosystems and processes within the Onslow Bight landscape under a model partnership of interested agencies and organizations which will work to increase the capacity for and reduce obstacles to conducting prescribed burning.

**Implementation Needs 2007-2009**

Task	Year	\$ Needed	Non-Federal Match Available	Federal Match Available
Burn restoration coordinator.	2007	60,000		
Argo tracked vehicle.	2007	20,000		
Five-month seasonal burn crew of five.	2008	80,000		
Fire engine.	2008	60,000		
Helicopter time.	2008	40,000		
Five-month seasonal burn crew of five.	2009	80,000		
Fire engine.	2009	60,000		
Helicopter time	2009	40,000		

**Collaborative Objectives:**

- Formalize a Fire Partnership by entering into a Memorandum of Understanding among all interested governmental and private agencies, organizations, corporations and individuals, which facilitates sharing resources for fire management and restoration activities in the expanded Onslow Bight FLN landscape.
- Identify and map current vegetation conditions, desired future vegetation conditions and appropriate fire regimes, in order to provide an ecological context for setting treatment priorities across the fire-maintained landscape.

- Identify obstacles to implementing fire goals, and develop strategies to overcome them
- Seek additional funding to support prescribed burning within the landscape.
- Develop a private landowner outreach program, in conjunction with existing public initiatives, that encourages the use of prescribed fire on private lands by reducing hurdles and creating incentives.
- Develop cooperative relationships with local governments to build support for the partnership's goals.



Croatan National Forest — Longleaf pine wiregrass community. Photo by Milo Pyne.

- Identify additional land conservation and protection needs that will complement landscape burn goals, and communicate with appropriate land protection individuals within the partners.

**Partners:**

- Department of Defense
- NatureServe
- NC Department of Agriculture and Consumer Services
- NC State University
- NC Wildlife Resources Commission
- North Carolina Dept. of Environment and Natural Resources
- Southeast GAP Analysis Project
- The Nature Conservancy
- US DOI National Park Service
- US Fish and Wildlife Service
- US Forest Service - Croatan National Forest

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# culebra range comm. coalition, co

Southwestern regional FLN

> 1 million acres



Evergreen and deciduous mixed forest frame this winter view of the snow-capped, Turkey Roost mountain, located in the Culebra mountain range and photographed at the Duling ranch in southeast Colorado. Photo by Harold E. Malde.

**The Culebra Range Community Coalition** has made significant progress over the past few years. Below is a list of our most notable achievements related to fire and forest health:

- Raised over \$45,000 to inventory forest resources in the area to help attract businesses that can use the timber.
- Held three annual forest health education workshops to educate the general public and policy makers about forest health issues.
- Attracted a business that uses small diameter timber to the area.
- Completed a fire history study for ponderosa pine to understand the natural role of fire in the forests.
- Initiated on-the-ground prescribed fire projects.

In the future, we intend to:

- Continue to increase the amount of prescribed fire used for restoration.
- Continue to work to attract businesses that will facilitate the restoration of our forests.
- Work to develop watershed restoration and protection plans.

**Collaborative Vision Statement:**

A diverse and sustainable forest ecosystem providing quality wildlife habitat, healthy watersheds and forests to protect our communities from wildfire and support the quality of life in the southern Sangre de Cristo Mountains including the Purgatory watershed.

**Collaborative Objectives:**

- To improve and restore local forests to a healthier more natural structure.

**Implementation Needs 2007-2009**

Task	Year	\$ Needed	Non-Federal Match Available	Federal Match Available
Equip a prescribed fire crew.	2007	250,000		

- To protect and enhance water quality in the Purgatory watershed.
- To provide educational opportunities for the local community relating to forest and watershed health issues.
- To sustain existing infrastructure and integrate the necessary components for forest and watershed restoration.
- To make our communities safer from wildfire by using and promoting the appropriate fuel treatment techniques.
- To improve wildlife habitat with appropriate thinning and fire treatments.

**Partners:**

Bar NI Ranch  
 USDA Forest Service  
 SEC Inc.  
 Colorado State Forest Service  
 CO Division of Wildlife  
 Stonewall Fire Department  
 Vermejo Park Ranch  
 Numerous Private Landowners  
 Robinson Sawmill  
 Jacobson's Timberland Mgmt  
 Rocky Mountain Elk Foundation  
 USDA Natural Resources Conservation Service  
 Spanish Peaks-Purgatoire River Conservation District  
 The Nature Conservancy



Forest health workshop participants. Photo by Anya Byers.

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# centennial valley, montana

*Independent landscape*

*400,000 acres*



The sandhills portion of the Centennial Valley landscape. Photo by Nathan Korb.

**The Centennial Valley** of southwest Montana has been identified as a hotspot of biological diversity and the last large undeveloped low elevation valley in the Greater Yellowstone Ecosystem (GYE) (Figure 1). The long-term viability of several ecological systems in the Centennial Valley depends upon fire. As in most of the West, a century of fire exclusion and altered fire regimes has substantially altered these systems, threatening the viability of a number of species, as well as the systems themselves.

The Centennial Valley Conservation Action Plan (CAP) identified seven conservation targets. Of these targets, fire exclusion was a high-ranked threat for four targets: sandhills, aspen, mid-elevation conifer forests, and west-slope cutthroat trout. Other

targets negatively impacted by fire exclusion or altered fire regimes include sagebrush grasslands and Red Rock aquatics.

#### **Collaborative Vision Statement:**

Restore the ecologically important role of fire to systems across the Centennial Valley whose structure or function has been impaired by a century of altered fire regimes.

#### **Collaborative Objectives:**

To initiate a landscape-scale fire restoration program in the GYE region through a focused, multi-agency effort in a landscape where past ecological studies are available to guide management actions. The project would be the first of its kind in the region and the lessons learned could facilitate and accelerate similar efforts throughout southwest Montana and eastern Idaho.



Aspen stands provide important habitat for wildlife. Photo by Nathan Korb.

#### **Partners:**

Bureau of Land Management, Dillon Field Office  
 Red Rock Lakes National Wildlife Refuge, USFWS  
 Montana Department of Natural Resources and Conservation,  
 Southwest Montana  
 Beaverhead-Deerlodge National Forest  
 The Nature Conservancy  
 Montana Natural Heritage Program  
 Centennial Landowners Association  
 American Wildlands  
 Montana Wilderness Association

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# hayfork basin, california

*Independent landscape*

????????????? acres



A typical view of the hayfork basin landscape, depicting public and private forestlands. Photo by Roger Jaegel.

**T**he Hayfork Basin landscape of xxxxx

**Partners:**

- Watershed Research and Training Center
- The Nature Conservancy
- North Coast Unified Air Quality
- Humboldt State University
- US Forest Service
- Trinity County RCD
- Virginia Tech University
- Bureau of Land Management

**Implementation Needs 2007-2009**

Task	Year	\$ Needed	Non-Federal Match Available	Federal Match Available
Implementation funds for Hayfork South Fuel Break.	2007	60,000		
Implementation funds for "fuels, fire and fish" base-line monitoring.	2007	75,000		50,000
Funds for RX fire course for local VFDs and partners of five.	2007	2,000		4,000
NEPA planning for Hayfork West stewardship project.	2008	150,000		25,000
Implementation funds for Bramlett/Kingsbury prescribed wildlife burns.	2008	30,000		
Implementation funds for Post Mountain prescribed burning.	2008	50,000		
NEPA planning for Big Creek Watershed.	2009	200,000		100,000
Implementation funds for Post Mountain prescribed burning	2009	50,000		
Funds for RX fire course for local VFDs and partners.	2009	6,000		

Photo Caption

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# huachuca area fire partners, arizona

*Independent landscape*

*70,000 acres*



Miller Peak, Huachuca Mountains, Arizona. Photo by Adriel Heisey

**The Huachuca Area Fire Partners** (HAFP) have completed a fire management plan and continued to carry out ecological and fuel-reduction treatments across the greater Huachuca landscape. Projects include conventional thinning (cutting and pile burning) in wooded WUI areas, mastication of manzanita, and prescribed burning in oak woodland/savannah and mesquite grassland. Over the last few years, these projects have treated about 10,000 acres. Fort Huachuca and the Coronado National Forest are the key players, working separately and together on these projects. The Nature Conservancy has thinned two dozen acres on Ramsey Canyon Preserve and organized and carried out a prescribed fire at Rancho Los Fresnos in Sonora in November 2005.

At present the Coronado National Forest has engaged an internal Forest Service enterprise team to conduct fire management compliance activities for the Sierra Vista Ranger District portions of the HAFP landscape, possibly Coronado National Memorial, and parts of Fort Huachuca already managed by the Forest Service.

This work represents a major investment (>\$200K) in this landscape. However, the scale of this exercise is narrower than what would be ideal under a truly collaborative scenario. The importation of "consultants" relieves the overworked locals, but we now have a process led by people who have neither experienced the factors that drove the partners to collaborate nor the motivation to keep a collaborative process as a high priority in their work.

Thus, partners are currently in a regrouping mode, with the Conservancy trying to lead a discussion about how to continue a productive collaboration. Individual or small groups of partners are continuing to implement projects.

### **Collaborative Vision Statement/Objectives:**

Excerpt from the FMP:

Historically, fire burned frequently in the grasslands and woodlands of southeastern Arizona. Regular fire keeps shrubs out of grasslands, thins forests to remove fire-intolerant trees, increases streamflows, and renews wildlife habitat. Fire also prevents

## Implementation Needs 2007-2009

The desired scenario would be for the Conservancy to have money to bring to the table as agency projects are laid out. This money could be used to do extra paperwork or help with implementation of projects that fulfill collaborative goals. Because approval processes are arduous, personnel turnover is constant, and being in prescription iffy, the agencies find it simpler to stick to projects on their own lands. With a little extra coaxing and funding, we could help expand project boundaries across jurisdictions and get our partners

to consider unconventional/complex/creative projects.

If we had \$100,000, we could spend \$20,000 a year on project "improvement" for five years.

unwanted fire. Burning and other treatments can minimize potential for wildfires by reducing overall quantities of fuels and breaking up contiguous vegetation. The fire partnership aims to work together to let natural fires burn when feasible, suppress unwanted wildfires, conduct prescribed burns, and use non-fire

- Widespread improvement in ecosystem function, and
- Economical execution of fire activities.

The collaboration also focuses on efficient communication about fire, responsible protection of sensitive resources, and U.S.-Mexico border issues. The HAFP intend to regularly update the fire management plan.

### **Partners:**

#### **Land Managers**

Appleton-Whittell Research Ranch, National Audubon Society  
Arizona State Land Department  
Babocomari Ranch  
Coronado National Memorial, National Park Service  
Fort Huachuca, U.S. Army  
San Pedro Riparian National Conservation Area, Bureau of Land Management  
San Rafael Ranch  
San Rafael Ranch State Park, Arizona State Parks  
Sierra Vista Ranger District, Coronado National Forest, USDA Forest Service  
The Nature Conservancy



Yarrow's spiny lizard (*Sceloporus jarrovi*) on dead tree branch in The Nature Conservancy's Ramsey Canyon Preserve. Photo by Mark Godfrey.

means to reduce fuels around developed areas. HAFP projects will cross political boundaries to manage fire along natural features and roadways.

The benefits of managing for fire on a broad landscape scale such as the greater Huachuca area are numerous. Foremost are:

- Increased public and fire crew safety,

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project

sub

# U.S. Fire Learning Network Field Guide 2007

