



# Restoring Resiliency of the Interior Highlands and Coastal Plain of Arkansas

Ozark-St. Francis National Forests



## Proposal Overview

The proposed project includes areas within two large physiographic ecoregions: the Interior Highlands and the Coastal Plain. The Interior Highlands' ecosystem of oak forests, woodland, savannas, and related communities forms the largest contiguous remnant of this ecosystem type. The project area supports diverse botanical, wildlife, and fisheries populations, including those of over 200 species unique to the Interior Highlands ecoregion. This historically open landscape was shaped and maintained over 12,000 years by frequent, low-intensity fires.

The St. Francis National Forest (STFNF) occurs within the Mississippi Alluvial Plain and Crowley's Ridge along the St. Francis and Mississippi Rivers in the Coastal Plain physiographic ecoregion. Two major forest communities, the loess slope forest community and the bottomland and floodplain forest community, occupy 81 and 12 percent, respectively, of the Forest's landscape. Though only a small portion of the project area, the STFNF represents a crucial contiguous area in the highly fragmented Coastal Plain ecosystem surrounded by agricultural lands.

The Ozark Ouachita Interior Highlands Collaborative's (the Collaborative) initial 2012 Collaborative Forest Landscape Restoration Program (CFLRP) project titled *Ozark Highlands Ecosystem Restoration* has demonstrated the feasibility of restoring ecosystem characteristics within targeted priority areas at the landscape scale through collaboration. With the help of new and existing partners, we would expand the scope and scale of this restoration effort to include multiple jurisdictions across a much larger landscape. Abundant information and experience exists to support restoring these priority ecosystems.

## Project Map

The project area is comprised of approximately 1,160,304 total acres of National Forest System (NFS) lands of the Ozark-St. Francis National Forests' (OSFNFs) six ranger districts (Big Piney, Boston Mountain, Mount Magazine, Pleasant Hill, St. Francis, and Sylamore). Proposed core restoration treatments including prescribed fire, mechanical thinning, road and trail improvement, aquatic organism passage improvement and control of invasive plant species would be implemented on approximately 856,258 acres. High priority would be given to restoring rare and declining ecosystems as identified by the Revised Land and Resource Management Plan (Forest Plan) for the OSFNF (USDA FS 2005). See Table 1 for ownership acreages within the project area. For project area location, please see detailed map in Attachment A or on the Webmap

<https://usfs.maps.arcgis.com/apps/webappviewer/index.html?id=79923c635b354eb2a07396224ab33cc2>.

Table 1. Ownership within Project Boundary

Boundary Description	Acres
2020 CFLRP Project Boundary	2,283,387
Ownership within OSFNs Boundary	
■ Forest Service	1,160,304
■ State	1,114
■ Private	371,569
Ownership outside OSFNs Boundary	
State Owned Wildlife Management Areas (WMAs) Within Project Boundary	45,312
The Nature Conservancy (TNC) Project Areas within Project Boundary	5,577
Arkansas Natural Heritage Commission (ANHC) Project Areas within Project Boundary	3,311
National Park Service (NPS) Buffalo National River	93,731
Priority Areas/Initiatives within Project Area	
Arkansas Game and Fish Commission (AGFC) Quail Focal Landscape	1,448,930
Priority Watershed	29,406

### Landscape Boundaries

Landscape scale conservation and management ensures quality habitat and abundant food resources for wide-ranging wildlife populations and genetic diversity within species, which is often correlated with geography, elevation, and habitat diversity. Similarly, working in large landscapes provides a measure of resiliency, which is provided by geographical breadth as well as topographic and microhabitat diversity (Anderson et al. 2016).

Threats posed by non-native invasive species and pathogens cross jurisdictions and ownership boundaries. To be successfully addressed, these threats must be confronted at the landscape level and in a timely manner. The project area includes public and private lands being treated under an ongoing Joint Chiefs’ project that is restoring open glade and woodland habitats. Within and adjacent to the OSFNs, many of our partners and private landowners are utilizing a variety of management practices to confront threats posed by non-native invasive species and pathogens, increase biological diversity and improve ecosystem health. These practices include silvicultural treatments, prescribed fire, non-native invasive species control, and maintenance and improvement of unpaved roads. This proposal would implement similar practices to drive this shared-stewardship mission further toward connecting restoration work across all lands.

### Economic, Social and Ecological Context

The project area supports two major economies, both rely on the health and sustainability of the forested environment. The more heavily populated, urban areas are predominately located within Benton and Washington Counties where corporate headquarters for Wal-Mart, Tyson Foods, Inc., and J.B. Hunt and the University of Arkansas’s main campus are located. The forest provides recreational opportunities for those living in the urban areas, helping to support

tourism and recreation based businesses. The remainder of the project area is primarily rural and more sparsely populated. The forest supports economies of smaller rural communities which rely largely on forestry-related jobs and the sustainable production of forest products. Markets for small diameter hardwood trees (<13”) within the project area are currently limited, but there is growing demand in populated areas for green energy and green buildings.

Management to improve the resiliency and ecological integrity of our forest and woodland ecosystems is necessary to ensure the benefits provided can be sustained into the future, but it does change scenery and can affect the user experience for some. The need for increased media and public outreach has been identified as a priority by all within the collaborative. Failing to address forest health issues now will lead to changes in composition over the long term, affecting the economies of urban and rural populations.

Looking at the Southern Wildfire Risk Assessment (<https://www.southernwildfirerisk.com/>) the OSFNs fit mostly in the low to moderate fire intensity scale with a few scattered areas in the high category. If we prioritize treatments and follow the natural fire regime, we can move significantly closer to our desired condition. Without active fire management, our fire danger will increase over time potentially adding to our national epidemic of increasing smoke emissions from wildfires and increased threats to public health. If restored areas are left unmaintained, the historic vegetation composition would shift to a less diverse, less resilient, shade tolerant species composition with increased fuel loading.

Vegetation within the project area is primarily within the shortleaf pine-oak forest and the woodland group consisting of species such as shortleaf pine, oaks, and hickories. Much of the oak-hickory and oak-pine woodland ecosystems are in a highly altered condition with overly dense canopy, midstory, and woody understory, due to extensive forest clearing followed by prolonged fire suppression (Guyette et. al. 2006, Nowacki and Abrams 2008). The herbaceous understory in upland woodlands is suppressed by shade and accumulated leaf litter reducing nectar, fruit, seed, biomass, and herbaceous cover (Van Leer and Harlow 2002).

Natural communities of conservation concern in the forest include a number of grassland and grassland-influenced communities that need restoration and periodic management to remain viable. These communities include several types of glades and barrens (sandstone, limestone, dolomite, and shale) and a variety of upland woodlands on these same substrates. Over the past decade, approximately 5,000 acres of glades have been restored or moved toward a restored condition within the project area; however, mapping of encroached glades indicates that functioning open glade habitat is still highly underrepresented on the landscape (Dejong and Zollner 2017). Glades are generally encroached by eastern red cedar (*Juniperus virginiana*) and other woody vegetation. Many are being damaged by feral hogs. Other small patch communities occur within this broader matrix of upland woodland and include seeps, springs, bluffs and ledges, and depression wetlands. Many of the large river floodplains historically were composed of large canebrakes, but currently, cane is sparse and scattered under a canopy of mature hardwood trees on most sites as disturbance from fire is required to remove woody competition and promote the reproductive capability of giant cane (Marsh 1977). Cane is prevalent within the upland draws of Crowley’s Ridge, where it provides important nesting

habitat for Swainson's warbler and stabilizes fragile loess soils. Collectively, these habitats support 413 species of state conservation concern and 42 Regional Forester's Sensitive Species (RFSS) within the project area (ANHC 2019). Proposed management activities will benefit these species by restoring and maintaining optimal habitat conditions.

Significant issues facing our wildlife populations include declining health of oak and shortleaf pine ecological systems and scarcity of open habitats. Based upon modeling developed by the Arkansas Missouri Pine Oak Woodland Partnership, 60% of the proposal area should be characterized by woodland condition. The Arkansas Wildlife Action Plan (Fowler 2015) states that the Ozark Mountain ecoregion is the top-priority ecoregion for restoration action, and the Boston Mountain ecoregion was the fourth-ranked ecoregion for restoration. Sixty-eight percent of the terrestrial species of viability concern from the proposal area are associated with open canopy habitat along with 15 birds of conservation concern within the Central Hardwoods Bird Conservation Region (USDI 2008).

Habitat conditions beneficial to quail, collared lizards, bats, American burying beetle and many other species dependent upon oak savanna, oak woodland, and glade habitats, which were historically maintained through periodic fire, have become degraded. The current density of overstory and mid-story vegetation hinders bats from foraging within the interior of forest stands by obstructing flight corridors and reducing access to small ponds, and reducing insect diversity. Open forests with a well-developed herbaceous layer containing host and nectar plants for declining pollinators are scarce on the Forest's landscape. An objective of the Arkansas Monarch and Pollinator Conservation Plan is to "restore, create, enhance, and manage 500,000 acres of native habitats that support monarchs and pollinators on public lands by 2023." Habitat restoration efforts within the proposal area will support this national effort and will make progress in restoring and maintaining open, disturbance-dependent habitats.

Healthy streams and watersheds are critical to the recovery of many at-risk species within the proposal boundary. The Ozark ecoregion has spring fed streams and karst features, such as caves, sink-holes, and springs and associated groundwater-dependent ecosystems. In the Boston Mountains, there is a diverse assemblage of darters, sunfish, and minnows. Although there are few federally listed threatened and endangered (T&E) mussels on the Forests, the headwater processes are highly influential in the health of those downstream species. Numerous stream crossings and other small dams have affected aquatic connectivity in the proposal area. During the 2011 Watershed Condition Framework Assessment, 68% of the watersheds were found to be properly functioning, while 32% were functioning at risk. Past disturbance history has resulted in incised stream channels that are often lacking in large woody structure (Mitchell et al. 2012). Riparian roads and total open road density contribute to sediment input in streams, which has modified the hydrological conditions and the rates of sedimentation of streams.

Insects, disease, and non-native invasive species have negative impacts on economic and environmental health. A number of non-native invasive species are present in the area. All of these are becoming increasingly common along disturbance corridors and in light gaps in the

forests, which creates a bigger need to control these as management activities begin to open the forest canopy. The most significant non-native invasive animal is the feral hog which is altering and degrading certain habitats, including glades and wetlands, on a landscape scale. White-nose syndrome has decimated populations of some bat species and impacted several more, making the importance of quality foraging and roosting habitat critical to maintain these species.

## Landscape Strategy and Proposed Treatments

The Southern Region has developed a Regional Restoration Action Team Draft Report (USDA FS 2019) outlining landscape restoration initiatives. The following initiatives fall within the project area and will be given priority for restoration actions:

*Shortleaf Pine Initiative:* The area of southern forests dominated by shortleaf pine forest types has declined significantly. With the collaboration of partners, the *Shortleaf Pine Restoration Plan: Restoring an American Forest Legacy* was launched to stop this decline and restore over 500,000 acres throughout the interior highlands. The plan set goals for the interior highlands region which houses the OSFNs, one goal being to remove off-site species and work toward a desired condition of species in their native range. Multiple districts on the OSFNs have a proposed action to remove off-site loblolly pine and return shortleaf pine and mixed hardwood species to these sites as appropriate to improve long term resiliency of the Forests. Restoration efforts have already been implemented on both public and private land across the interior highlands region and will continue to be successful with the help of the Collaborative. See map in [Appendix 1](#).

*Eastern Elk Initiative:* The Rocky Mountain Elk Foundation (RMEF) identifies four steps of elk restoration in the eastern United States that include: Step 1: Rebuilding numbers to 17,000 in the Eastern population; Step 2: Enhancing habitat by bringing back early successional habitat through prescribed fire, plantings, and mechanical treatment while contributing to local economies; Step 3: Protecting land across six eastern states through conservation easements, land exchanges, and land acquisitions for strategic parcels of private land; and Step 4: Honoring the hunt by protecting hunting in six Eastern states, including Arkansas.

<http://www.rmef.org/Conservation/Initiatives/EasternElkInitiative.aspx>

*Fire Learning Network (FLN):* The FLN engages dozens of multi-agency, community-based projects to accelerate the restoration of landscapes that depend on fire to sustain native plant and animal communities. By restoring this balance, the ecological, economic and social values of the landscapes can be maintained, and the threat of catastrophic wildfire can be reduced. Collaborative planning, implementation, adaptive management and the sharing of lessons learned are at the core of the FLN

<https://www.conservationgateway.org/ConservationPractices/FireLandscapes/FireLearningNetwork/Pages/fire-learning-network.aspx> (Conservation Gateway). See map in [Appendix 2](#).

*Migratory Bird Joint Ventures*: The Migratory Bird Joint Ventures are voluntary, cooperative, regional partnerships of private industry and private landowners working alongside federal, state, and provincial agencies, non-profit organizations, tribes, academia, and other partners. Joint Venture partners work together to build and sustain a healthy world for birds, other wildlife, and people. See map in [Appendix 3](#).

*National Bobwhite Conservation Initiative (NBCI)*: The unified strategic effort of 25 state fish and wildlife agencies and various conservation organizations—all under the umbrella of the National Bobwhite Technical Committee—to restore wild populations of bobwhite quail in this country to levels comparable to 1980. See map in [Appendix 4](#).

*National Wild Turkey Federation's (NWTf) Big Six*: The NWTf has taken a more strategic approach to conservation delivery with the introduction of the Big Six. NWTf conservation experts identified regions across the country with similar ecosystems and conservation issues. Six areas of concern were established to help identify the most urgent needs and better monitor conservation objectives. The areas of distinction within the Big Six include 738 million acres of identified focal landscapes. Four of the six are in Region 8. These are America's Mid-South Rebirth, America's Southern Piney Woods, America's Colonial Forests and America's Great Open Spaces. Each of these focal areas have attributes that are ecologically unique. The project area is within the America's Mid-South Rebirth area of concern. See map in [Appendix 5](#).

### Desired Conditions and Strategy

Desired ecological condition parameters for each plant community were developed in 2002 based on the baseline monitoring protocol installed at that time. The desired future condition would be a mosaic in terms of age, composition, and structure. Stands on drier sites would be open and grassy with greatly reduced stem density. The canopy would be dominated by fire tolerant species such as post and white oaks with a diverse understory of herbaceous plant species. Woody species occur in the understory, but they would be dominated by the same fire tolerant species found in the canopy. On a mesic site, tree stems per acre would be higher with more shade tolerant species found in the understory. On the lower slopes and riparian areas, the desired condition would not vary greatly from what is found today, with the exception of more rivercane being found in the understory.

- The restored landscape is composed of 15% closed canopy oak hickory forest, 39% oak pine woodland/savanna, 35% oak hickory woodland, 10% shortleaf pine woodland/savanna, and 1% glade/prairie.
- The density and diversity of overstory and understory woody species are within (and representative of) the historic range of variation as described in each plant community conservation target description.
- Regeneration of site-appropriate overstory tree species is sufficient to maintain forest type. The restored landscape, with site-appropriate species, is more resilient to disturbances incited by climatic changes.

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- Understory native herbaceous community diversity and coverage are within (and representative of) the historic range of variation as described in each plant community conservation target description.
- Non-native species comprise less than 10% of any plant community and non-native community types comprise less than 2% of the project area.
- Populations of focal bird species (northern bobwhite, prairie warbler, yellow-breasted chat, and brown-headed nuthatch) requiring woodland or early seral habitats are comparable to historic baselines.
- Wood is abundant in streams, at 75 to 200 pieces per mile and 7 to 20 pieces of large size class (5m long by 55 cm diameter).
- Except where useful dams have been constructed or natural barriers exist, aquatic ecosystems are well-connected, allowing the movement of fish and natural transport of sediment and water.
- Actively managing the ecological communities across the Forests will reduce the hazard to oak decline events and reduce the risk of pine bark beetle infestations within shortleaf pine communities (<https://www.fs.fed.us/foresthealth/applied-sciences/mapping-reporting/national-risk-maps.shtml>).
- Roads and trails within the project area are maintained to standard as natural events and influences occur in coordination with ongoing restoration and timber harvest activities. Many water crossings along Forest Service roads within the project area have been replaced to eliminate fish passage barriers and enhance natural water flow.

Management toward a desired future condition will lead to a landscape that is more resilient to emergent threats. The red oak borer and its associated oak decline event on the Forest between 1999 and 2003 was an example of an emergent threat. Red oak borer was a contributing factor to oak decline; it is theorized that drought, overcrowding, old age and carbon starvation weakened the susceptible oak populations (Haavik et al. 2015). It is possible that future decline events may involve unexpected insect or disease outbreaks. Recently, several abnormal insect defoliation events are raising concern, such as the damage caused by jumping oak gall, a tiny gall-making wasp in the genus *Neuroterus*. Since 2015, this insect has annually affected white oak, *Quercus alba*, on public and private land in Arkansas. Reduction of overcrowded white oak and diversification of dominant species may lessen the susceptibility of these forests to jumping oak gall and any unforeseen contributing factors to decline.

Maintaining and decommissioning roads within the project area as work progresses would meet the goals of the travel management rule, and would support restoring the ecological conditions of project areas in multiple places. Specific project work on trails and routes would focus on eliminating illegal trail and route uses by Off-Highway Vehicles (OHVs) and shifting these uses to better designed trails and routes that do not cross through stream channels or cause additional erosion and sediment sources to watersheds throughout the project area. A specific example is the Mountain Creek area, which is in the watershed of the Mulberry River, one of the six nationally designated Wild and Scenic Rivers within the project area. This area has been heavily impacted by illegal OHV use, and needs specific project work done to establish

sustainable routes and discourage illegal use in the area in order to align with the 2020 Sustainable Recreation Strategy. This will have far-reaching positive impacts to soils and water quality throughout impacted watersheds in the project area and to Wild and Scenic Rivers throughout the Forests. These efforts will involve additional public engagement, education and outreach for OHV users and groups to support sustainable recreation efforts.

### Wildfire Risk Reduction

Prior to European settlement, the historic fire return interval of the Ozarks ranged between 4 to 16 years (Guyette and Spetich 2003). Departure from open woodland conditions to dense closed canopy forests is primarily attributed to fire suppression efforts of the previous century. The project area is a mosaic of wildland and private inholdings interspersed with man-made structures and developments. These features require that most unplanned fires be controlled and that purposeful, well-planned prescribed burning be used to restore fire's natural role to the Forest's ecosystems.

Approximately 2,500 acres of private land within the project area are being burned annually through agreements with the Arkansas Department of Agriculture - Forestry Division. Available funding is a limiting factor on the number of acres which can be treated. Mechanical treatments between NFS lands and private inholdings have been applied in some areas to modify fuel structure and fire behavior.

Landscape-scale prescribed burning has only been implemented on the Forest for the last 20 years. On average, prescribed fire is applied annually to 3 to 4 percent, or 40,000 acres managed by the OSFNs. Though much of the majority of the Forest is in Fire Regime Condition Class 2 (FRCC2), heavy fuels are present across all ownerships due to widespread damage from heavy ice accumulations in 2009 and red oak borer outbreaks from 1999-2003. Harvests, mechanical treatments, prescribed fire, and non-native invasive plant treatments are moving some portions of the project area closer to FRCC1.

### Benefits to Local Communities

Many communities near or within the project area are communities that have experienced financial hardship. Arkansas has a slightly lower unemployment rate of 3.5% when compared to 3.7% for the rest of the Nation. The poverty level in Arkansas is 18.1%. This project would benefit individuals working in the forestry and logging industry.

Smaller communities depend on forestry and logging jobs for their economic development. An economic study completed by Dr. Matthew Pelkki with the University of Arkansas at Monticello (UAM) concluded that the local direct spending and timber produced from the Ozark Highlands CFLRP project sustained 139 jobs in the Ozark Highlands Region, added \$7.2 million to the region (gross domestic product), returned \$1.1 in the local economy for every \$1 spent locally, and returned \$2.1 in the national economy for every \$1 invested in the project. We expect to have an even greater positive impact to the economy through this project proposal, since it covers a larger area and involves more funding.

There exists an opportunity to link progressive ecological values found in the developed portions of the region with market-funded ecological restoration. Progressive communities in Benton and Washington counties are seeking green energy and green buildings. They want to source agriculture and forest products locally and are interested in circular, low-waste producing economies. Increasing the demand for mass timber, wood interior design, and wood energy on building- and industrial-scales would enhance markets that could lower the cost of ecosystem restoration efforts.

Key metrics include:

- Maintain or increase number of workers employed by the project area each month, season, or year
- Maintain or increase number and/or type of trainings related to restoration completed by project work
- Maintain or increase the number and diversity of wood products that can be processed locally
- Maintain or increase the number and/or size of contracts offered each year to do restoration work
- Maintain or increase the percentage of contracts awarded that go to local contractors
- Maintain or increase acceptance of frequent, low intensity wildfire or prescribed fire
- Maintain or increase the number of jobs/shifts/amount paid to workers
- Maintain or increase availability and/or access to medicine, food, heating, or building materials
- Maintain or increase extent to which different perspectives are represented
- Maintain or increase the quality and timeliness of communication among all project partners
- Maintain or increase the partner contributions (in kind time and funding) committed to shared project goals
- Maintain or increase perceived benefits of restoration activities

## Utilization of Forest Restoration Byproducts

Existing woody biomass markets are extremely limited in the region with one cogeneration facility at the Green Bay Packaging paper mill in Morrilton, Arkansas. Ample solid wood production for both hardwood and softwood lumber is present in the region. Information provided by UAM suggests that hardwood capacity is approximately 1.4 million tons in the region, but mills are currently processing about a million tons. That leaves 400,000 tons of unused capacity. In softwoods, processing is relatively at capacity with perhaps another 50,000 to 100,000 tons of pine annually that could be milled. It was recently announced that Structurlam Mass Timber Corporation, the leading mass timber manufacturer in North America, will expand its operations by adding a plant in Conway, Arkansas. The plant is set to open in mid-2021. They plan to source softwood lumber from Arkansas-grown southern pine trees which could create a substantial benefit to the local economy and this project.

<https://www.kark.com/news/local-news/130-jobs-for-conway-as-structurlam-selects-city-for-its-first-u-s-plant/>

The City of Fayetteville has a 50% carbon reduction goal by 2050, and the University of Arkansas has a zero carbon footprint goal by 2040. In addition, Wal-Mart, Nabholz Construction, and the University of Arkansas have announced new mass timber construction projects and have pledged to use Arkansas-sourced wood in these projects. We plan to leverage this interest in green buildings and energy in the region for the development of new wood markets.

The University of Arkansas Fay Jones School of Architecture and Design (FJSAD) will be a partner in promoting green building designs that utilize mass timbers for structural aspects, and low-quality hardwood lumber for interior design elements. The FJSAD is constructing a new wood-design building that will incorporate these elements and seek to have this building utilize heating and cooling systems that use woody biomass. Demonstration of building systems that support circular, low-waste economies will provide proof of concept and development construction and design capabilities in the region that will lead to the greater use of low-quality wood in buildings.

The cost of wood-based energy will be more expensive than solar- and wind-generated energy. We hope to utilize the strategy that wood-based energy provides local jobs and enhances ecosystem values in the region's forests. For this strategy to work, we will work with corporate, university, and local governments to implement a step-wise strategy for increased wood use. Crucial to this strategy is establishing the link between increased wood use and the promotion of healthy, resilient, sustainable forests.

The project will work to develop new woody biomass markets that provide heat, cooling, and electrical production on building-level and community-level scales. This ties right into the wood product modernization movement and will also create industry and employment. In February of 2019, Dr. Pelkki of UAM researched the woody biomass market on the OSFNFs and concluded that 138,183 tons of in-forest residues (green weight) suitable for electrical generation are produced annually on the OSFNFs.

### Collaboration (2002-Present)

The OSFNFs have been implementing an all-lands approach with multiparty collaboration for almost two decades. The current state of declining forest health throughout the Interior Highlands and Coastal Plain clearly demonstrates a need for ecosystem restoration projects with a collaborative partnership approach. The ecosystem restoration project outlined in this proposal has received support from a team of organizations.

*The Oak Ecosystem Team* – The Oak Ecosystem Team was formed in 2002. The team includes representatives from the Arkansas Wildlife Federation, AGFC, Arkansas Department of Agriculture - Forestry Division, ANHC, University of Arkansas Cooperative Extension Service, TNC, US Fish and Wildlife Service, USDA Forest Service, USDA Forest Service – Southern Research Station (SRS), and Ouachita Timber Purchasers Group. The group uses peer review scientific consensus to make decisions. The Team's vision is: "To enhance the understanding of restoration and management needed in the upland oak ecosystem to maintain its health,

sustainability, and diversity through public awareness, research, demonstration, and education.”

In the fall of 2002, the team hosted a conference in Fayetteville, Arkansas titled “Upland Oak Ecology: History, Current Conditions and Sustainability.” The goal of the conference was to examine the scientific understanding of the causes of oak mortality and discuss the need for ecosystem restoration. Over 350 professionals and researchers attended. The proceedings have been published by the USDA Forest Service SRS. From the conference presentations and discussion, there was a clear need for collaborative ecosystem restoration projects. The team consulted with the Ouachita Timber Purchasers Group to determine biomass removal and use feasibility. The meeting was open to all entities that displayed interest. Finally, all the conservation groups in Arkansas were contacted and engaged in tours of restoration areas to discuss vision, objectives, and proposed treatments.

The Oak Ecosystem Team developed five core strategies to restore the ecosystem: (1) Develop a suite of large landscape scale multi-ownership demonstration projects across the region, (2) develop a multi-level information and media campaign utilizing the demonstration sites to solidify broad-based public support for ecological restoration (hazardous fuel reduction, forest health enhancement), (3) identify and address state and federal policy barriers to extensive ecological restoration, (4) develop an ecological monitoring program that measures progress in abating the threat of altered fire regimes to the conservation of biodiversity, and (5) secure adequate funding for oak ecosystem restoration on public, private, and state lands throughout the region.

This project embodies the strategies outlined very early on by the Oak Ecosystem Team for ecosystem restoration in the Interior Highlands. The Ozark Highlands Ecosystem Restoration Project has participated in the Fire Learning Network (FLN) and this project will continue that participation. The FLN is a National collaborative project between the U.S. Forest Service, Department of the Interior, and TNC. The FLN promotes the development and testing of creative, adaptive, multi-ownership fire management strategies that are compatible with the National Fire Plan goals and the conservation goals of TNC. The network strives to achieve tangible, lasting results at landscape and ecoregional scales. At the regional level, the FLN promotes collaborative efforts between state, federal and private groups.

*South Central Fire Learning Network (FLN)* – The Interior Highlands Shortleaf Pine Oak Regional Fire Learning Network (FLN) has been a catalyst for restoration through the development of scientific knowledge exchanges, monitoring protocols, and the development of current and desired ecological conditions across the region. This network has a long-term diverse coalition as a “community of practice” where restoration practitioners, scientists, policy makers, and on-the-ground managers are restoring and managing lands with prescribed fire and timber management techniques for climate resilient and carbon neutral landscapes with the long-term health of the lands for wildlife and water quality benefits being key priorities. The Interior Highlands Shortleaf Pine Oak Regional Fire Learning Network has secured implementation funding from State Wildlife Grants, non-profits, private foundations, and state and federal

institutions for restoration and management on multi-ownership lands (federal, state, and private lands) throughout the region.

This collaborative partnership is represented by the following agencies/partners: Arkansas Department of Agriculture - Forestry Division, AGFC, ANHC, NWTF, Quail Unlimited, RMEF, TNC, Southwest Fire Use Academy, private landowners, National Park Service, U. S. Fish and Wildlife Service, U. S. Geological Survey, and USDA Forest Service. The South Central FLN vision is *“Ecosystem conditions, within the historic range of variation, are maintained and restored with management actions that maintain and promote natural process and native plant and animal communities, based on best available scientific and historical information,”* and *“to increase public support, recreational use, consumptive and non-consumptive uses and educational materials that promote wildlife habitat management activities.”*

The group uses peer review scientific consensus to make decisions. This National level network meets annually at a workshop to exchange knowledge across regions.

*Ozark Ouachita Interior Highlands Collaborative* – This collaborative includes organizations, tribes, and state and federal agencies that was formed to support forest and woodland restoration throughout the Interior Highlands of Arkansas. Partners include the Arkansas Wildlife Federation, AGFC, Arkansas Departments of Agriculture – Forestry Division, ANHC, US Fish and Wildlife Service, University of Arkansas Cooperative Extension Service, TNC, US Forest Service, and US Forest Service – SRS, NPS, NWTF, Quail Forever, Osage Nation, Arkansas Department of Transportation, Native Expeditions, Natural Resources Conservation Service (NRCS), and Arkansas Forestry Association. The Team meets quarterly and participation is a priority for all partners.

*The Collaborative’s vision is: “To promote the understanding of restoration and management in pine and oak woodland ecosystems that enhances wildlife habitat and species diversity and maintains the long-term health and resiliency of this unique ecosystem, through management, science, policy, and public engagement.”*

#### Accomplishments

The OSFNFs have been developing a partner base for many years. The partnerships formed through this collaborative effort have improved relationships with typically adversarial groups, expanded our knowledge and expertise base, and obtained funding, equipment, and personnel to accomplish restoration activities on the ground. Partners have helped the Forests complete ecological models for the landscape, spatially explicit maps of current and desired future conditions, alternative management scenarios for oak and pine woodland restoration, and develop specific management activities and monitoring programs to track progress of desired future conditions for projects. Since 2001 and the creation of the Oak Ecosystem Team, over \$20.5M in federal funding has been awarded to this collaborative partnership for ecosystem restoration on the OSFNFs and the Ouachita National Forest. The majority of the funds were utilized for the 60,000 acre Woodland Ecosystem Project (WEP), the 80,000 acre Bearcat Hollow Project on the Big Piney Ranger District, and the 80,000 acre Happy Bat Project on the Sylamore

Ranger District of the OSFNs. All of the restoration projects are “*Demonstration Sites*” at the national scale and continue to be a model for landscape-scale ecosystem restoration.

NWTF has a longstanding history of stewardship on the OSFNs. Non-federal stewardship dollars are coming from NWTF, AGFC, and RMEF. Also, these partners along with the Arkansas Wildlife Federation, Quail Forever, Arkansas Canoe Club, Local Chapters of NWTF, Arkansas Audubon Society, and TNC are working on obtaining matching funds for projects on the OSFNs.

## Multi-party Monitoring

The purpose of monitoring is to ensure that the work is being completed as proposed, having the intended consequences, and moving the treatment areas and landscape closer to the desired conditions. The collaborative team is committed to an adaptive and data-driven culture and understands that techniques and priorities should change based on monitoring results.

The monitoring will focus on five key components:

- Vegetation conditions at both the landscape scale and forest-stand scale;
- Terrestrial habitat conditions;
- Stream and watershed physical and biological conditions;
- Forest fuel and wildfire risk conditions; and
- Economic conditions at local and regional scales.

A monitoring working group will be formed to develop the monitoring plan. The monitoring committee will be composed of a diverse group of partners from the collaborative including TNC, ANHC, Arkansas Audubon Society (AAS), AGFC, Arkansas Tech University (ATU), UAM, and FS (both OSFNs and SRS staff), and the opportunity for participation will be open to all collaborative stakeholders. This committee will be tasked with developing specific questions associated with measurable indicators, which will be used to determine if the project is achieving or moving toward desired ecological conditions. We anticipate continuing many of our existing long-term monitoring strategies that have datasets with extensive baseline and trend information. Continuation of prior efforts will allow analysis of the long-term ecological implications of the types and methods of restoration work supported by the collaborative effort. The monitoring committee will be encouraged to utilize on-going efforts and monitoring projects that accomplish multiple goals, such as those required for Forest Plan monitoring and evaluation. However, the committee will be empowered to propose changes and additions to ensure a balanced but efficient monitoring plan that can address the different ecological factors influenced by the restoration work. The following past and on-going efforts would be available for the monitoring plan development:

1. Plant community monitoring quantifying the structure, diversity, regeneration of plant communities including native and non-native species (TNC/ANHC/SRS/FS/UAM);
2. Breeding bird point counts of forest bird populations including 238 R8 Bird points, an additional 19 Bearcat Hollow points, supplemented by Breeding Bird Survey routes, Christmas Bird Counts, and other regional bird monitoring efforts (FS/AAS);

3. Stream condition monitoring including habitat components (bedload, large wood, and aquatic habitat), fish communities, and macroinvertebrate communities (FS/SRS/UCA)
4. Fire regime condition class monitoring to track attainment of the historic fire regime;
5. Post-burn assessments to determine individual unit coverage and post burn severity;
6. Photo-monitoring to qualitatively document and communicate restoration progress (FS/TNC);
7. Economic impact analysis (UAM).

Established and well-documented sampling methodology and protocols will be used to provide population estimates. Whenever possible, replicates of treatment units and longitudinal data will be used. Data for each component will be made available to collaborative members and analyzed by a diverse group of partners, each of which bring unique perspectives to the project.

The monitoring plan will be ratified by the collaborative team and the Forest Leadership Team within the first calendar year of the project initiation. Interim results will be presented annually at the collaborative meeting; monitoring summary reports will be completed every five years and will include specific management recommendations. The results of the monitoring will be shared at a larger scale with the Shortleaf Pine Restoration Initiative, the Fire Learning Network, and the National CFLRP monitoring network for feedback on methods and comparison of results.

## Readiness to Implement Strategy

Broad areas within the project area are National Environmental Policy Act (NEPA) ready for many proposed activities. For example, almost all of the project area is considered NEPA ready for non-native invasive plant treatments. See Table 2 for specific acreages. All of these areas have NEPA coverage and either have National Historic Preservation Act (NHPA) compliance completed or are planned for phased NHPA compliance as ground disturbing activities are planned and executed in the project area. All of these projects include Best Management Practices and design criteria established by the Forest Plan to protect important resources and conditions across the Forests.

*Table 2. NEPA Readiness over the Project Area by General Activity Type.*

Type of Treatments	Total Acres
Non-Native Invasive Plant Species Treatments	41,600 acres per year over total of approximately 975,000 acres
Vegetation Management (Timber harvest, TSI, WSI, thinning, shelterwood, road maintenance/decommissioning,	262,535 acres
Prescribed Burning	286,988 acres
Planned NEPA to be completed in FY20 within project area	49,240 acres

The Forests are also planning on initiating a comprehensive Vegetation Management Environmental Assessment (EA) to cover various vegetation treatments, prescribed fire activities, and road maintenance and decommissioning as necessary to support these activities

across the entire Forest landscape. This comprehensive EA would utilize data relating to effects of vegetation management activities on the ground to establish conditions and potential treatments that could be used to restore ecological functions. A Forest-level EA analysis for these types of activities would allow more flexibility in applying treatments and allow planning of treatments to reduce environmental impacts across the landscape. This approach also ensures that management activities are conducted in a way that meets the Forest Plan requirements to reach desired future conditions. This EA is scheduled for completion in late 2021 or early 2022.

The suite of implementation tools for project accomplishments will include off-forest detailers, Stevens Agreements, Indefinite Delivery/Indefinite Quantity (IDIQ) contracts, Good Neighbor Agreements (GNAs), Stewardship Agreements, Multiple Award Task Order Contracts (MATOCs), Challenge Cost Share Agreements (CCS), Participating Agreements (PA), etc. More information about how these tools will be used can be found in the [Unit Capacity](#) section on page 16.

### Unit Capacity and Project Funding

The OSFNs have extensive experience in utilizing and managing CFLR funding. The Forests have a proven track record of utilizing this funding to increase capacity of work on public lands. The Forests have several strategies for increasing the efficiency and effectiveness of completing additional work associated with CFLRP funding. It is anticipated that detailers will be brought to the Forests to assist with increased prescribed fire outputs. Stevens Agreements through the Arkansas Department of Agriculture - Forestry Division assist in accomplishing approximately 4,000 acres per year of prescribed fire on private lands while easing the burden of creating firelines in difficult terrain on the Forest. The Forests will make use of an existing IDIQ contract to efficiently issue task orders to complete project work. Agreements in place with AGFC, AFC, TNC, and NWTf will be utilized to increase the Forests' capacity to complete additional management. The Forests fully expect to utilize retained receipts and service work from Stewardship to facilitate increased performance in public lands management.

The Pleasant Hill Ranger District is requesting authorization to purchase a masticating head to be utilized in wildlife habitat restoration, forest stand improvement, reforestation and revegetation and rangeland vegetation improvement. Analysis of equipment costs has revealed it is cost effective to purchase this piece of equipment and use it in conjunction with a rental skid steer. Purchase of this piece of equipment and associated rental of equipment will increase this Districts capacity to complete work in the project area, while not increasing Forest fixed costs. Estimates for this masticating head are approximately \$25,000. This piece of equipment is proposed for purchase in fiscal year 2020. The Pleasant Hill Ranger District is also requesting authorization to purchase a Kubota RTV 1100 (UTV) to be utilized in treatment of non-native invasive plants, wildlife habitat restoration, rangeland vegetation improvement and fuels reduction prescribed fire. This UTV will utilize a bed-mounted herbicide/water sprayer and broadcast seeder. Purchase of this piece of equipment will increase capacity to complete work in the project area. Estimates for this UTV range from \$20,000 to \$25,000. This piece of equipment is proposed for purchase in fiscal year 2020.

The Forests have a valid exit strategy from CFLRP either at fiscal year 2023 or in 2029. Our goal is to not dramatically increase fixed costs on the Forests, but instead rely upon contracting, partnerships, stewardship and rental of equipment to increase output. At the end of the term of CFLRP funding, the Forests anticipate entering a maintenance mode for core treatments which were accomplished with CFLRP funding. Cost for maintenance is expected to be less than the initiation of core treatments in the CFLRP area. Continued monitoring will be planned and executed through agreements in which funding can be allocated near the final years of the project in five year agreements.

See **Attachment A through G** for more information on the project map, planned treatments, utilization of forest restoration byproducts, collaborative membership, letter of commitment, project funding, and Forest Supervisor letter.

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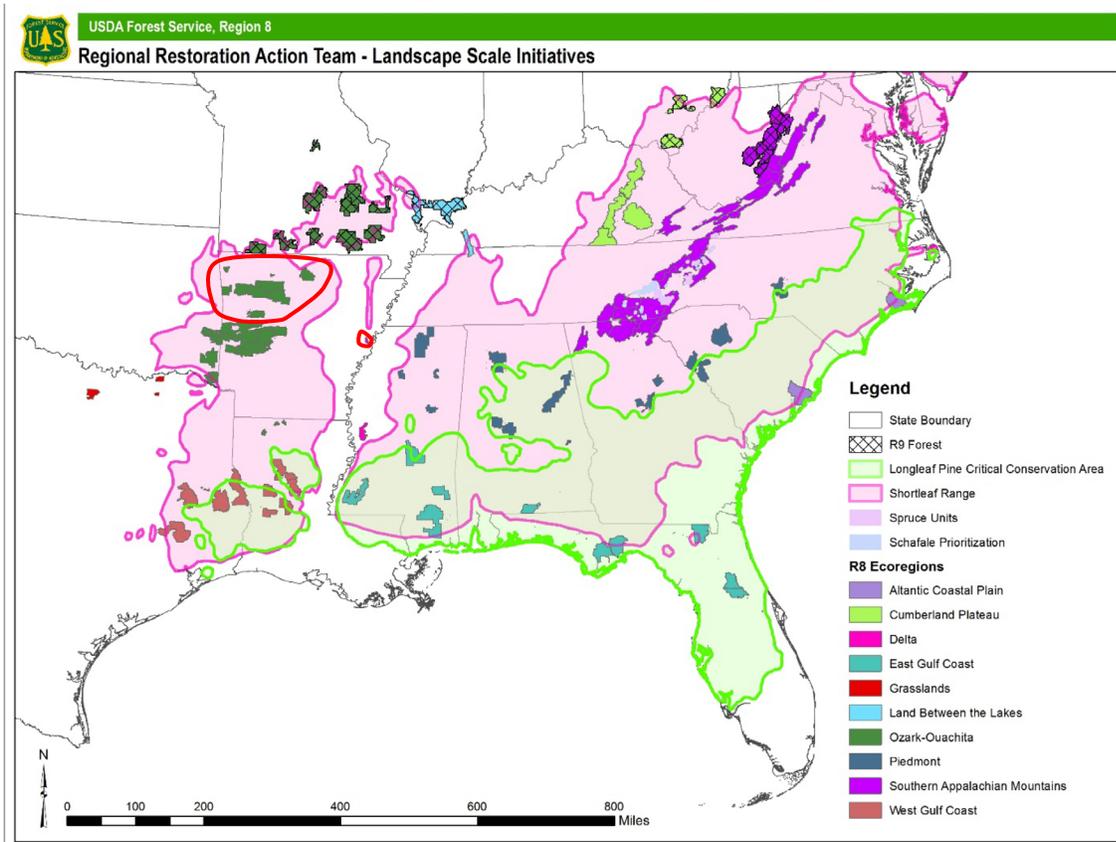
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## Appendices

\*Red circled areas on each map below depict the OSFNs where project work would take place.

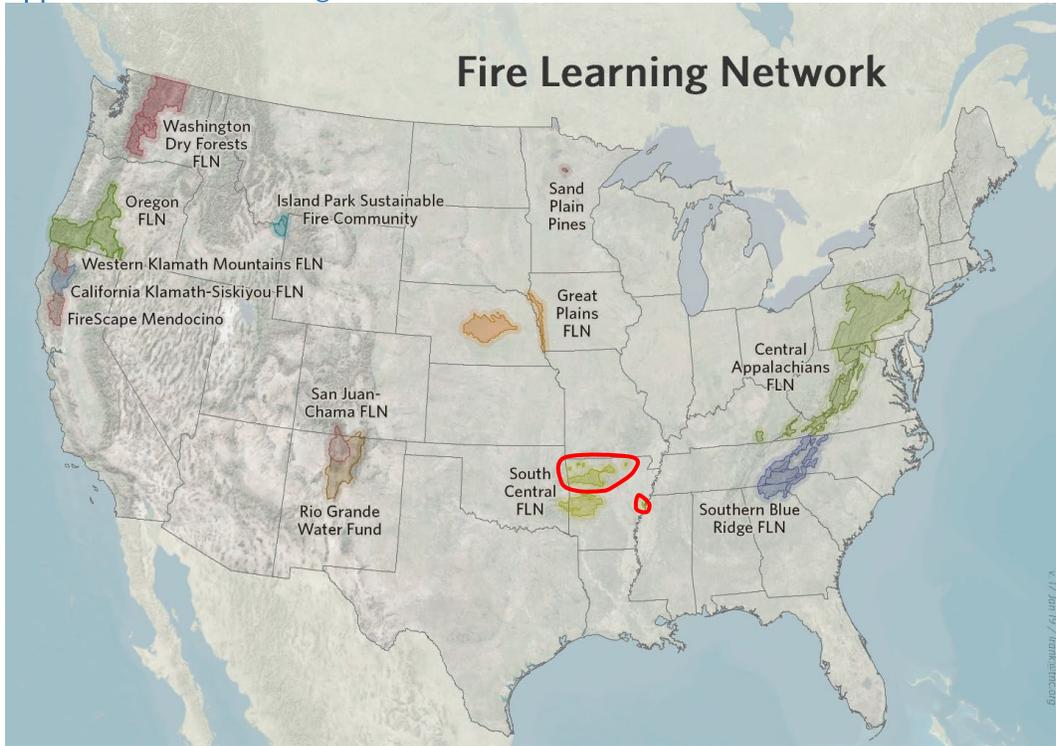
# Restoring Resiliency of the Interior Highlands and Coastal Plain of Arkansas

## Appendix 1: Shortleaf Pine Initiative Map

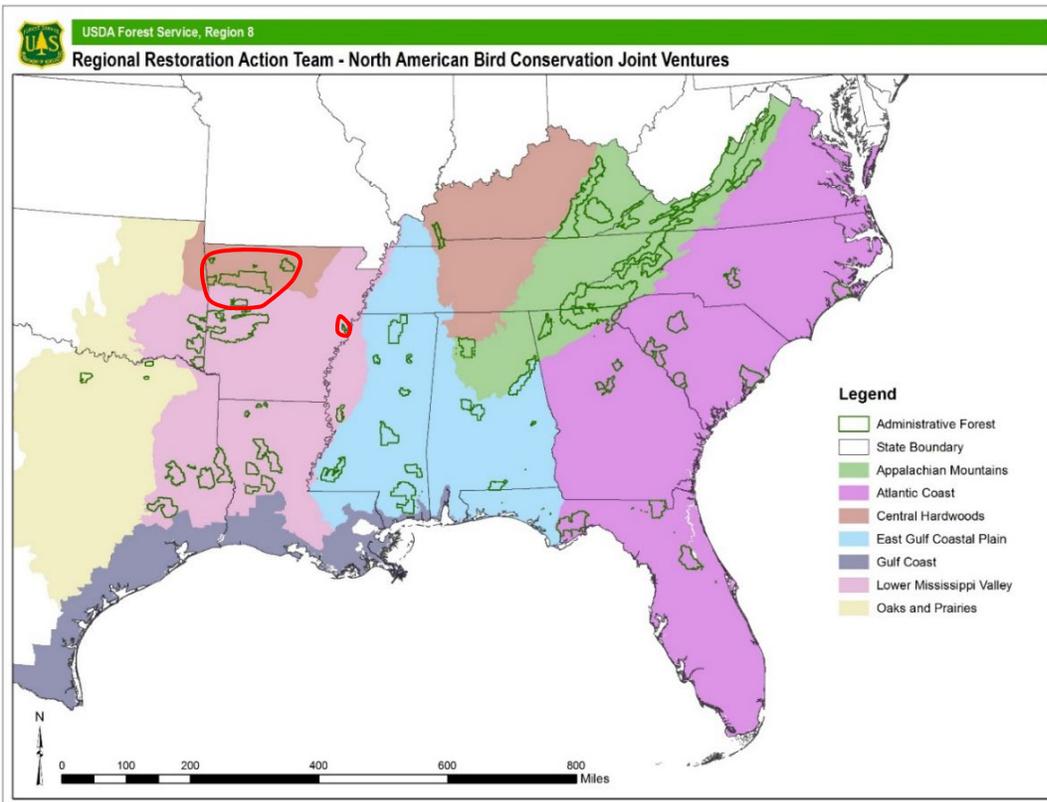


# Restoring Resiliency of the Interior Highlands and Coastal Plain of Arkansas

## Appendix 2: Fire Learning Network Areas

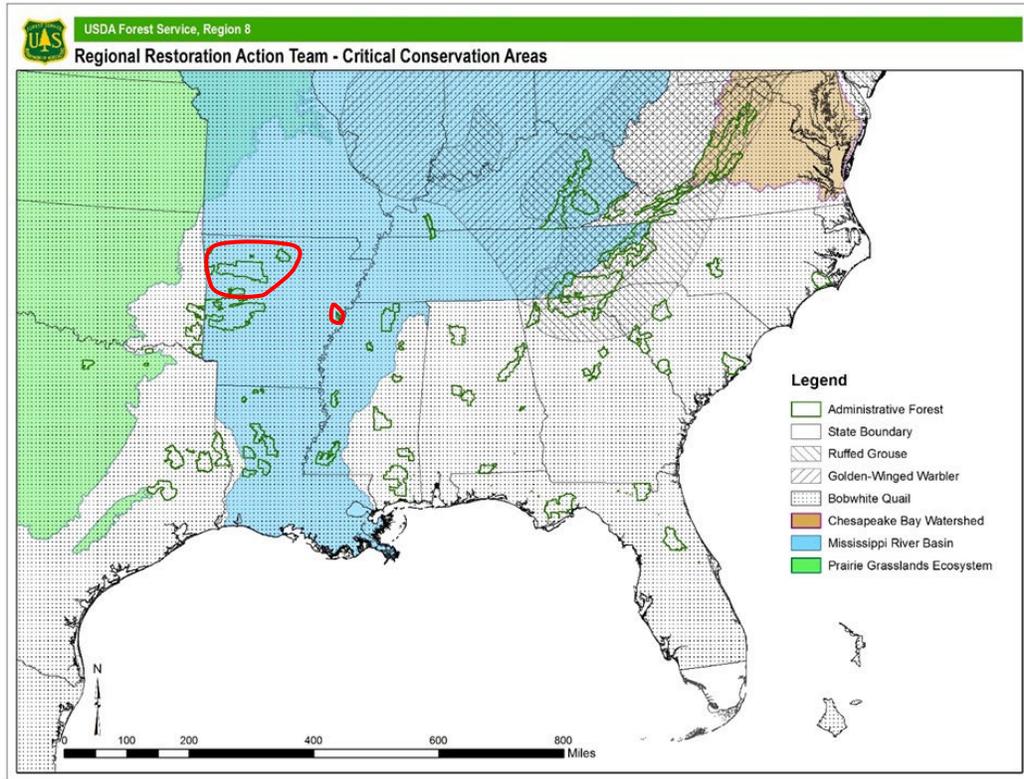


## Appendix 3: Migratory Bird Joint Venture Map

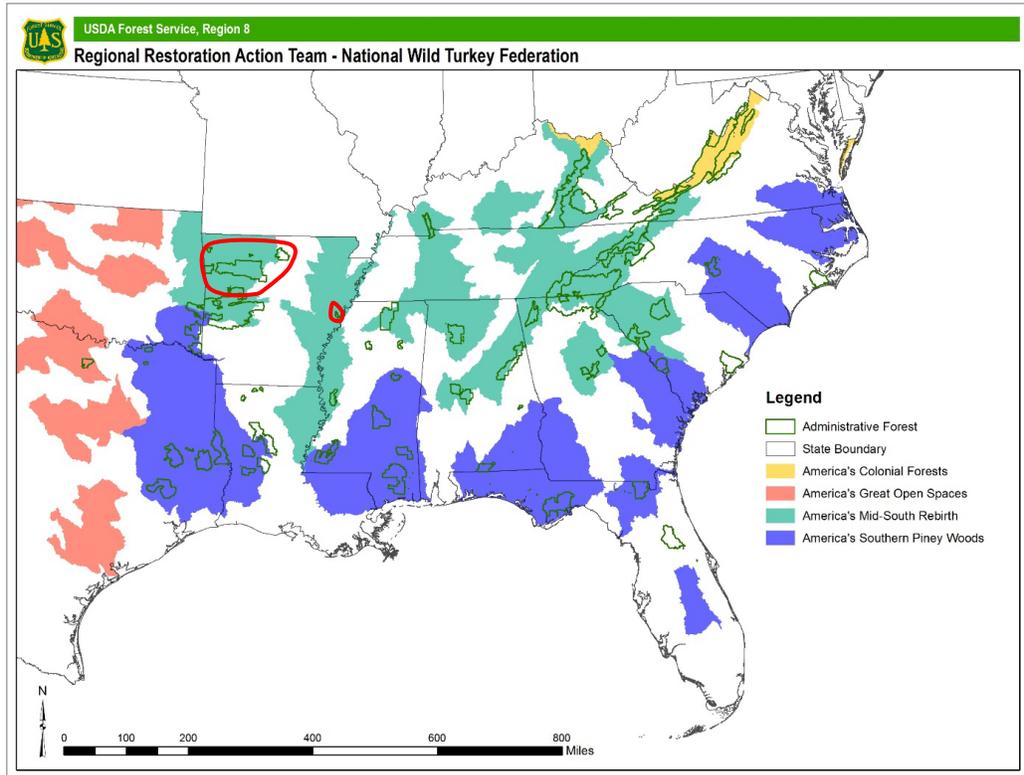


# Restoring Resiliency of the Interior Highlands and Coastal Plain of Arkansas

## Appendix 4: National Bobwhite Conservation Initiative



## Appendix 5: National Wild Turkey Federation's Big Six Areas of Concern



# Ozark-St. Francis National Forest

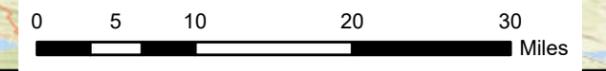
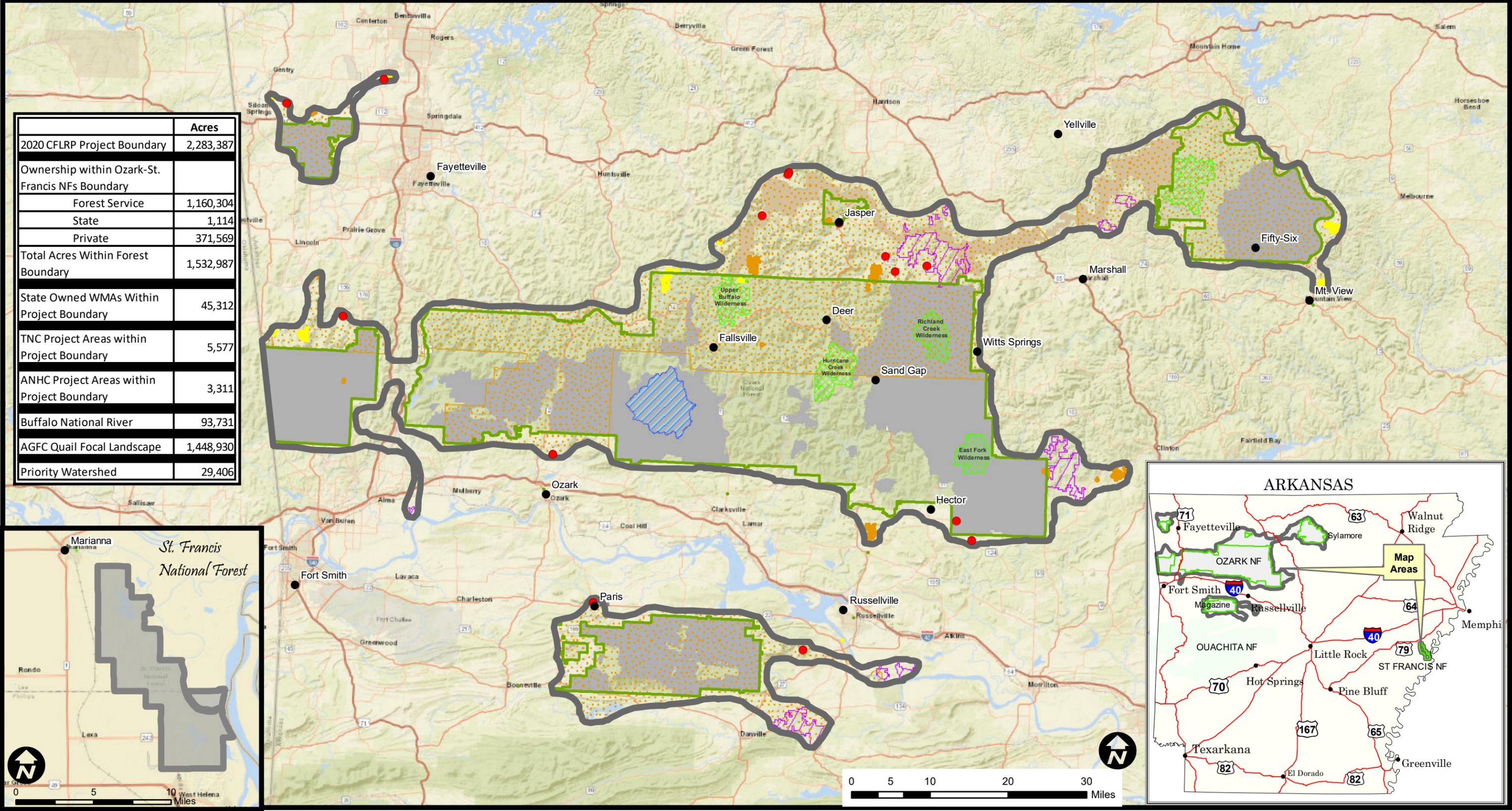
Collaborative Forest Landscape Restoration Program (CFLRP)  
 Restoring Resiliency of the Interior Highlands and Coastal Plain of Arkansas  
**Planned Activity Areas**



- 2020 CFLR Proposed Area
- Planned Activity Areas
- TNC Project Areas
- ANHC Project Areas
- AGFC Quail Focal Landscape CFLR Area
- Priority Watershed
- State Wildlife Management Areas
- Buffalo National River
- Wilderness
- Forest Administrative Boundary
- Towns
- Firewise Active Communities



	Acres
2020 CFLRP Project Boundary	2,283,387
Ownership within Ozark-St. Francis NFs Boundary	
Forest Service	1,160,304
State	1,114
Private	371,569
Total Acres Within Forest Boundary	1,532,987
State Owned WMAs Within Project Boundary	45,312
TNC Project Areas within Project Boundary	5,577
ANHC Project Areas within Project Boundary	3,311
Buffalo National River	93,731
AGFC Quail Focal Landscape	1,448,930
Priority Watershed	29,406



CFLRP proposals are not expected to include ALL of the core treatment types below in their strategy - highlight those treatments that are core to your stated treatment objectives. Note that there are options to use "other" in this table.

Restoring Resiliency of the Interior Highlands and Coastal Plain of Arkansas

Estimated treatments should include all planned treatments in the proposed CFLR landscape, regardless of landownership type.

Provide an estimate of the % you expect to occur on NFS lands in column J, and list the other landownership types where you

Core Restoration Treatment Types	Please briefly fill in additional background information for the prompts below	Year 1*	Year 2	Year 3	Year 4	Years 5-10	TOTAL	Key treatment objectives	Estimated % accomplished on NFS lands (across all ten years)	Other landownership types (other federal, tribal, state, private, etc.) where treatments will occur
Hazardous Fuels Reduction (acres)		22,600	16,100	34,226	35,765	111,517	220,208		98	Private lands in coordination with AFC
<i>Mechanical Thinning (acres)</i>	mastication	100	200	200	200	1,200	1,900		100	
<i>Prescribed Fire (acres)</i>		22,500	15,900	34,026	35,565	110,317	218,308	Reduce fuel loading and move area towards desired future condition class		
<i>Other (acres)</i>							-			
<i>Wildfire Risk Mitigation Outcomes - Acres treated to mitigate wildfire risk</i>							-			
<i>Wildfire Risk Mitigation Outcomes - WUI acres</i>	spatial data layer	13,560	9,660	20,535	21,460	66,910	132,125	Reduce fuel loading in the WUI	98	AFC
Invasive Species Management (acres)	combined plant and animal treatments	2,450	23,500	25,600	25,650	142,787	219,987	Reduce competition from non native invasive species	100	
Native Pest Management (acres)							-			
Road Decommissioning (miles)		1	4	4	4	20	33	Reduce sedimentation and soil erosion.	100	
Road Maintenance and Improvement (miles)		320	330	335	335	1,980	3,300	Reduce sedimentation and soil erosion.	90	County Co-op Roads, Johnson, Franklin, Madison, Newton Counties
Road Reconstruction (miles)		18	18	18	18	108	180	Watershed Improvement and erosion control		
Trail Reconstruction (miles)		5	8	14	14	62	103	Watershed Improvement and erosion control	100	
Wildlife Habitat Restoration (acres)		2,629	4,054	4,149	3,904	21,086	35,822	Restoration of woodland and glade habitats.	100	
Crossing Improvements (number)			1	1	1	3	6	Fish passages to reduce barriers to aquatic biota.		
In-Stream Fisheries Improvement (miles)		3	4	5	5	14	31		100	
Lake Habitat Improvement (acres)		140	150	150	150	828	1,418		32	State (AGFC) managed lake.
Riparian Area Improvements (acres)							-			
Soil and Watershed resources enhanced or maintained (acres)		16	21	21	20	120	198	Decrease soil erosion and sedimentation. Increasing public safety.	100	
Priority watersheds moved to improved condition class (number)							-			
Stand Improvement (acres)	TSI/release and weed	3,510	4,060	4,050	4,280	30,167	46,067	Improve light & nutrient levels for oaks and Shortleaf Pine release trees.	100	
Reforestation and revegetation (acres)		878	1,058	1,280	1,368	9,238	13,822	Site Preparation and reforestation after natural disasters and regeneration failures. Shortleaf pine restoration.	100	
Timber Harvest (acres)**	100% ground based	5,420	6,950	6,070	4,670	20,514	43,624	Provide for forest health and resiliency	100	
Rangeland Vegetation Improvement (acres)		100	100	100	100	600	1,000			
Abandoned Mine Reclamation/Remediation							-			
Other	pollinator habitat improvement	183	147	172	179	1,336	2,017	Enhancing pollinator and quail habitat through Mechanical/ Chemical/ Fire site preparation		
Other							-			

\*Assume funding requested for Year 1 will be allocated in February 2020 at the earliest

\*\*Note that timber volume produced from the treatment is estimated in a separate attachment - Attachment C.

**CFRLP Proposal Attachment C: Utilization of Forest Restoration Byproducts**

\*Note that acres treated includes all acres treated within the CFLRP boundary. However, the projected annual harvested volume is only for NFS lands

Fiscal Year	Estimate of acres awarded annually that will generate restoration byproducts	Total projected annual harvested volume (ccf) from NFS lands	Expected percentage commercially utilized* from NFS lands
2020	5420	60000	100
2021	6950	73000	100
2022	6070	76000	100
2023	4670	68900	100
2024	3538	61550	100
2025	3538	61549	100
2026	3538	61548	100
2027	3300	60000	100
2028	3300	60000	100
2029	3300	60000	100
<b>TOTALS:</b>	43624	642547	100
	<i>Estimated % of TOTAL acres accomplished on NFS lands:</i>	100%	100%
	<i>Estimated % of TOTAL acres accomplished on other landownerships within the CFLRP boundary:</i>	0	0

\*Commercially utilized refers to the volume you expect to sell across all product classes (sawtimber, biomass, firewood, etc.)

**Forest Service staff representative(s) working with collaborative:** (Please provide list of key staff):

Jessica Hawkins	CFLR coordinator
Matthew Anderson	Forest biologist
Gregg Vickers	Forest silviculturist
Rick Monk	Forest hydrologist
Joshua Graham	Forest FMO
Jimmie Dixon	Integrated resources team lead
Patti Turpin	Ecosystems staff officer
Timothy Jones	District ranger
James McCoy	District ranger
Jason Engle	District ranger
Clark Reames	Deputy district ranger
Allen Smith	District ranger

<b>Collaborative Member/Partner Name</b>	<b>Organizational Affiliation (if applicable)</b>	<b>Was this person involved in proposal development?</b>	<b>Primary Issue Category</b>	<b>Second Issue Category</b>	<b>Third Issue Category</b>	<b>If "other," briefly describe</b>
Scott Simon	The Nature Conservancy	No	Environmental	Fire Ecology	Research	
Chandler Barton	Arkansas Department of Agriculture	Yes	State	Environmental	Research	Insects and Disease
Matthew Pelkki	University of Arkansas at Monticello	Yes	College/University	Forest Products	Research	Economics
Mark Hutchings	Arkansas Game and Fish Commission	Yes	State	Wildlife	Environmental	
Ryan Diener	Quail Forever	Yes	Wildlife			

Jeremy Everitts	National Wild Turkey Federation	Yes	Wildlife			
Joe Fox	Arkansas Department of Agriculture	No	State	Forest Products		
Jorista Garrie	Arkansas Tech University	Yes	College/University	Wildlife	Research	
Bill Holimon	Arkansas Natural Heritage Commission	Yes	State	Environmental		
Jennifer Ogle	University of Arkansas Extension	Yes	College/University			
Melvin Tobin	US Fish and Wildlife Service	No	Federal			
Robin Gregory	Native Expeditions	No	Youth			
Max Braswell	Arkansas Forestry Association	No	Forest Products	Environmental		
Charles Buckner	Arkansas Wildlife Federation	No	Wildlife	Environmental		
Dave Leisure	Arkansas Master Naturalists	No	Environmental			
Connie Oslica	Enable Midstream Partners	No	Utility			
Kayti Ewing	Arkansas Department of Transportation	No	State	Utility		
Don Bragg	Southern Research Station	No	Federal	Environmental		
Andrea Hunter	Osage Nation	No	Tribal			
Jason Brown	West Fraser	No	Forest Products	Other		timber purchaser

**Project Name: Restoring Resiliency of the Interior Highlands and Coastal Plain of Arkansas CFLRP Project, Ozark-St. Francis National Forests (OSFNFs)**

*Introduction*

The proposed project involves areas within two physiographic ecoregions: the Interior Highlands and the Coastal Plain. The Interior Highland's ecosystem of oak forests, woodland, savannas, and related communities forms the largest contiguous remnant of this ecosystem type. The ecosystem also supports a wood products industry. The area is a center of biodiversity, supporting diverse upland wildlife populations, fisheries, and over 200 species of animals and plants only found in the Interior Highlands. For over 12,000 years, this historically open landscape has been shaped and maintained by frequent, low intensity fires.

The St. Francis National Forest occurs within the Mississippi Alluvial Plain and Crowley's Ridge along the St. Francis and Mississippi River in the Coastal Plain physiographic ecoregion. Two major forest communities dominate the Forest's landscape; the loess slope forest community occupies approximately 81 percent and the bottomland and floodplain forest community covers approximately 12 percent of the Forest. Although the St. Francis National Forest is not a large part of the total area covered by the proposed project, this landscape represents a crucial area in the highly fragmented Coastal Plain ecosystem.

As part of a national fire suppression effort, the fire regime of the region changed, which significantly impacted the structure and diversity of the oak ecosystem over the last 100 years. The oak forests, woodlands, and savannas became much denser, with many more trees per acre. This increased density has caused stress on the ecosystem, leaving it vulnerable to outbreaks of insect pests. These outbreaks have killed a majority of the oak trees on over a million acres, shifting the communities to a different forest type. There is great concern that the shift in forest type will cause declines in wildlife populations and rare species dependent on the oak ecosystem, in addition to the loss of wood products available to local communities. Our initial 2012 CFLRP project has demonstrated the feasibility of restoring ecosystem desired conditions within targeted priority areas on the landscape and with this project proposal, we hope to expand the scope of that restoration to a much larger scale. Abundant information and experience exists to support restoring these priority ecosystems.

The St. Francis National Forest occurs in the southeastern region of the United States where it is projected that within the next 40 to 60 years the climate will be hotter and drier with warmer winters and longer growing seasons. With any increase in temperatures, increased rates of evaporation, transpiration and soil moisture loss would occur; therefore, naturally occurring droughts would be more intense, and less water would be available. This effect would be exacerbated in eastern Arkansas where there is existing water stress due to irrigation to support the state's agricultural industry.

### *Project partnership*

The OSFNFs have been implementing an all lands approach with multiparty collaboration for almost two decades. The current state of declining forest health throughout the Interior Highlands and Coastal Plain clearly demonstrates a need for ecosystem restoration projects with a collaborative partnership approach. The ecosystem restoration project outlined in this proposal has received support from a team of organizations.

This project embodies the strategies outlined very early on by the Oak Ecosystem Team for ecosystem restoration in the Interior Highlands. The Oak Ecosystem Team was a partnership formed in 2002 with the vision “To enhance the understanding of restoration and management needed in the upland oak ecosystem to maintain its health, sustainability, and diversity through public awareness, research, demonstration, and education.” The Ozark Highlands Ecosystem Restoration CFLRP Project has also participated in the Fire Learning Network (FLN), and this project will continue that participation. The FLN promotes the development and testing of creative, adaptive, multi-ownership fire management strategies that are compatible with the National Fire Plan goals and the conservation goals of The Nature Conservancy (TNC).

These early partnerships grew, and with the 2012 Ozark Highlands Ecosystem Restoration CFLRP project, the Ozark Ouachita Interior Highlands Collaborative was formed.

The ***Ozark Ouachita Interior Highlands Collaborative (the Collaborative)*** is a group of organizations and state and federal agencies that work to support forest and woodland restoration throughout the Interior Highlands of Arkansas. Partners include the Arkansas Wildlife Federation, Arkansas Game and Fish Commission, Arkansas Department of Agriculture – Forestry Division, Arkansas Natural Heritage Commission, US Fish and Wildlife Service, University of Arkansas Cooperative Extension Service, University of Arkansas at Monticello, Arkansas Tech University, The Nature Conservancy, US Forest Service, US Forest Service – Southern Research Station, Buffalo National River, National Wild Turkey Federation, Quail Forever, Osage Nation, Arkansas Department of Transportation, Native Expeditions, Natural Resources Conservation Service (NRCS), and Arkansas Forestry Association.

The Collaborative’s vision is: ***“To promote the understanding of restoration and management in pine and oak woodland ecosystems that enhances wildlife habitat and species diversity and maintains the long-term health and resiliency of this unique ecosystem, through management, science, policy, and public engagement.”***

The Collaborative is continually growing and recruiting new partners including state, federal, non-profit, and tribal representatives.

### *Geographic focus*

The project’s geographic focus is the OSFNFs in northwest and east central Arkansas. The project activities will be carried out across all ranger districts (Sylamore, Big Piney, Boston Mountain, Pleasant Hill, Mount Magazine, and St. Francis).

Restoring Resiliency of the Interior Highlands and Coastal Plain of Arkansas

*Project objectives*

The project strategy is composed of five components each with a 10-year goal included in the strategy and specific two-year outcomes or objectives. The strategy components are:

1. Ecological Restoration
2. Economic benefits
3. Biomass utilization
4. Monitoring
5. Public awareness

We, representatives of the Collaborative, commit to support the landscape restoration efforts described in the proposal. This commitment is not financially binding. Most of the organizations listed already commit financially with the USDA Forest Service through MOUs and other agreements. We will support restoration efforts by continuing management practices, providing knowledge, and monitoring to promote Interior Highlands and Coastal Plain ecosystem resilience.

 Forest Supervisor  
Ozark-St. Francis National Forests

 State Forester  
Arkansas Dept. of Agriculture - Forestry Division

 WMD Assistant Chief  
Arkansas Game and Fish Commission

 (Bill Holiman, Director)  
Arkansas Natural Heritage Commission

 President  
Arkansas Wildlife Federation

 Environmental Division  
Arkansas Department of Transportation

Restoring Resiliency of the Interior Highlands and Coastal Plain of Arkansas

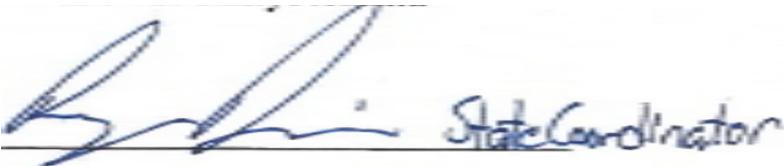
Max Braswell – Executive Vice President  
Arkansas Forestry Association

Dr. Jorista Garrie – Assistant Prof. of Wildlife Sciences  
Arkansas Tech University

Matthew Pelkki, Professor and Associate Director (Research)  
Arkansas Forest Resources Center, University of Arkansas Division of Agriculture and  
College of Forestry, Agriculture and Natural Resources, University of Arkansas at Monticello



National Wild Turkey Federation  
Kurt W. Dyroff, Chief Business and Finance Officer



Quail Forever



Arkansas Director

The Nature Conservancy

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U.S. Fish and Wildlife Service



Chief Executive Officer

Native Expeditions

Complete the table below and respond to the question at the bottom of the tab.

For 2010 Project extensions, fill in the annual funding request for the number of years requested for the extension (up to 10)

<b>Fiscal Year 1*</b>	<b>Funding Planned/Requested</b>
Partner fund contributions on NFS lands	\$33,000
Partner in-kind contributions on NFS lands	\$91,000
Goods for Services or Revenue from GNA to be applied within CFLRP landscape	\$400,000
USFS Appropriated, Perm, and Trust fund contributions on NFS lands	\$2,857,851
<b>Total non-CFLRP funding for NFS lands</b>	<b>\$3,381,851</b>
CFLRP Funding Request	\$2,917,706
<b>Total CFLRP funding for NFS lands</b>	<b>\$2,917,706</b>
Partner fund contributions on non-NFS lands	\$0
Partner in-kind contributions on non-NFS lands	\$202,162
USFS Appropriated, Perm, and Trust fund contributions on non-NFS lands	\$202,162
<b>Total non-CFLRP funding for non-NFS lands</b>	<b>\$202,162</b>

**\*Assume funding requested for Year 1 will be allocated in February 2020 at the earliest**

<b>Fiscal Year 2</b>	<b>Funding Planned/Requested</b>
Partner fund contributions on NFS lands	\$33,000
Partner in-kind contributions on NFS lands	\$91,000
Goods for Services or Revenue from GNA to be applied within CFLRP landscape	\$400,000
USFS Appropriated, Perm, and Trust fund contributions on NFS lands	\$3,857,851
<b>Total non-CFLRP funding for NFS lands</b>	<b>\$4,381,851</b>
CFLRP Funding Request	\$3,644,406
<b>Total CFLRP funding for NFS lands</b>	<b>\$3,644,406</b>
Partner fund contributions on non-NFS lands	\$0
Partner in-kind contributions on non-NFS lands	\$202,162
USFS Appropriated, Perm, and Trust fund contributions on non-NFS lands	\$0
<b>Total non-CFLRP funding for non-NFS lands</b>	<b>\$202,162</b>

<b>Fiscal Year 3</b>	<b>Funding Planned/Requested</b>
Partner fund contributions on NFS lands	\$33,000
Partner in-kind contributions on NFS lands	\$91,000
Goods for Services or Revenue from GNA to be applied within CFLRP landscape	\$400,000
USFS Appropriated, Perm, and Trust fund contributions on NFS lands	\$3,857,851
<b>Total non-CFLRP funding for NFS lands</b>	<b>\$4,381,851</b>
CFLRP Funding Request	\$3,605,896
<b>Total CFLRP funding for NFS lands</b>	<b>\$3,605,896</b>
Partner fund contributions on non-NFS lands	\$0
Partner in-kind contributions on non-NFS lands	\$202,162

USFS Appropriated, Perm, and Trust fund contributions on non-NFS lands	\$0
<b>Total non-CFLRP funding for non-NFS lands</b>	<b>\$202,162</b>

<b>Fiscal Year 4</b>	<b>Funding Planned/Requested</b>
Partner fund contributions on NFS lands	\$33,000
Partner in-kind contributions on NFS lands	\$91,000
Goods for Services or Revenue from GNA to be applied within CFLRP landscape	\$400,000
USFS Appropriated, Perm, and Trust fund contributions on NFS lands	\$3,857,851
<b>Total non-CFLRP funding for NFS lands</b>	<b>\$4,381,851</b>
CFLRP Funding Request	\$3,781,602
<b>Total CFLRP funding for NFS lands</b>	<b>\$3,781,602</b>
Partner fund contributions on non-NFS lands	\$0
Partner in-kind contributions on non-NFS lands	\$202,162
USFS Appropriated, Perm, and Trust fund contributions on non-NFS lands	\$0
<b>Total non-CFLRP funding for non-NFS lands</b>	<b>\$202,162</b>

<b>Fiscal Years 5-10</b>	<b>Funding Planned/Requested</b>
Partner fund contributions on NFS lands	\$198,000
Partner in-kind contributions on NFS lands	\$546,000
Goods for Services or Revenue from GNA to be applied within CFLRP landscape	\$2,400,000
USFS Appropriated, Perm, and Trust fund contributions on NFS lands	\$22,147,106
<b>Total non-CFLRP funding for NFS lands</b>	<b>\$25,291,106</b>
CFLRP Funding Request	\$23,367,617
<b>Total CFLRP funding for NFS lands</b>	<b>\$23,367,617</b>
Partner fund contributions on non-NFS lands	\$0
Partner in-kind contributions on non-NFS lands	\$1,212,972
USFS Appropriated, Perm, and Trust fund contributions on non-NFS lands	\$0
<b>Total non-CFLRP funding for non-NFS lands</b>	<b>\$1,212,972</b>

Please provide an **estimate of any funding needed for NEPA and environmental compliance** in support of the CFLRP Project. You may copy/paste the response to the Tier 1 template and/or elaborate with additional details as needed. *NOTE: CFLN can only be used for implementation and monitoring (not planning).*

None needed

ATTACHMENT G – Forest Leadership Letter of Commitment  
Restoring Resiliency of the Interior Highlands and Coastal Plain of Arkansas

The signature below on the Restoring Resiliency of the Interior Highlands and Coastal Plain of Arkansas proposal reflects the Forest Supervisor’s awareness of the eligibility, implementation, and monitoring requirements for the Collaborative Forest Landscape Restoration Program (CFLRP). Prior CFLRP evaluations have highlighted the importance of leadership intent and support for CFLRP strategy implementation and a commitment to continued collaboration through project implementation and monitoring. The signature below is taken to reflect the unit’s support for and commitment to the CFLRP project as outlined in the proposal.

**Please see Attachment E – Letter of Commitment** for more specific project information and a detailed description of leadership and partner support. The Forest Supervisor for the Ozark-St. Francis National Forests is in full support of the project titled *Restoring Resiliency of the Interior Highlands and Coastal Plain of Arkansas*.

Forest Supervisor name: Lori Wood

Unit name: Ozark-St. Francis National Forests

**Forest Supervisor Signature**

A handwritten signature in blue ink that reads "Lori Wood". The signature is written in a cursive, flowing style with a large initial "L" and "W".