

*2016 Arkansas State Wildlife Grant Pre-proposal*  
**Southwest Arkansas Blackland Prairie and Pine-Oak Woodland Habitat Restoration**

Blackland communities of the Coastal Plain, as well as calcareous prairie and pine-oak woodlands and savanna, will be restored through the application of prescribed fire, reduction of woody vegetation, and invasive species treatment: on five Wildlife Management Areas in southwest Arkansas (Rick Evans Grandview, Bois D'Arc, Sulphur River, Ozan, and Hope Upland), Grandview Conservation Education Center, and three adjacent private landowners. This will address four funding priorities, notably including native grassland restoration, the highest priority of the bird taxa team. At least 15 Arkansas Wildlife Action Plan species of greatest conservation need (SGCN) will benefit from this project's landscape-scale restoration, which will increase the amount of suitable habitat available to SGCN at local (patch size) and regional scales.

**SWG Funding Requested:** \$55,000 (50%)

Amount and Source of Matching Funds: \$55,000 (50%) (Arkansas Game and Fish Commission and The Nature Conservancy)

Total Project Costs: \$110,000

**Project Lead:** **Brad Townsend**, Arkansas Game and Fish Commission,  
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**Project Partners:** **Clint Harris**, The Nature Conservancy, [charris@tnc.org](mailto:charris@tnc.org) ; (903)280-0948



**NEED:** Blackland prairies and pine/oak woodlands were historically abundant in the south-central United States, occurring primarily in northeast and east-central Texas with smaller tracts in southwest Arkansas, northwest Louisiana, Mississippi, and Alabama. Before European settlement, there were approximately 12 million acres of this blackland ecosystem, but by 1975, only about one percent (~100,000 acres) remained. In the past 25 years, these remnants have been converted to agricultural fields, urban areas, and other land uses, further reducing the amount of extant blackland prairie. Beyond land conversion, other major threats to blackland remnants include altered fire regimes, the encroachment of invasive non-native and native plant species (e.g., eastern red cedar and white sweet clover), conversion to non-native pasture grasses (e.g., tall fescue and bermuda grass), and habitat fragmentation through development. The Byers/AD Smith Preserve complex, Columbus Prairie Preserve, Rick Evans Grandview are among the highest-quality blackland prairie complexes remaining in the state. Collectively, these sites encompass over 5,000 acres of blackland community types, including prairie and pine-oak woodland.

Grassland-associated birds such as Henslow's sparrow and painted bunting, and woodland birds including Bachman's sparrow and yellow-billed cuckoo have been observed throughout the blackland system.

Fire is the most important ecological process maintaining the distribution, composition, and diversity of blackland prairie and pine-oak woodland communities. Decades of fire suppression have altered the species composition and structure of prairie and pine-oak woodlands throughout the blackland ecosystem. Prairie openings have declined in size due to encroaching woody vegetation, and coupled with grazing, likely facilitated the invasion of eastern red cedar and other woody species. A lack of fire also facilitated woody succession in the pine-oak woodlands, resulting in high stem density and a minimal herbaceous layer.

Because so much of Arkansas's blackland and pine-oak ecosystem has been lost, restoring extant habitat is crucial to increase the number and viability of SGCN. This project builds upon decades of prior strategic work and planning as focus of efforts by various partners within the best remaining remnants concentrated in landscape-scale areas. Restoration of degraded blackland prairie and pine-oak woodlands at these sites within a landscape context will further this long-term effort and benefit at least 15 SGCN.

**FUNDING PRIORITIES:** Restoring degraded blackland prairie and pine-oak woodlands at eight sites will address four 2016 Arkansas Wildlife Action Plan funding priorities for: (1) Grassland Birds – implementation and/or evaluation of habitat restoration and management for native grasslands, (2) Pine Woodland and Savanna Birds – implementation and/or evaluation of habitat restoration and management of pine woodland and savanna, (3) Woodlands – habitat management to maintain or increase habitat quality or increase patch size for SGCN, (4) Prairies and Native Grasslands – habitat management to maintain or increase habitat quality or increase patch size for SGCN. Restoration and management of native grasslands for grassland birds are identified as the bird taxa team's highest priority in the 2016 State Wildlife Grants RFP.

**PURPOSE AND OBJECTIVES:** The purpose of this project is to increase scale of high-quality habitat at regional and local levels across southwest Arkansas to benefit SGCN that use blackland prairie and pine-oak woodland habitat by increasing the scale and logistical and financial efficiency of prescribed burning by establishing larger burn units at two sites, thereby extending ecological benefits well beyond the project period.

This project will restore and improve quality of blackland prairie and pine-oak woodland habitat at the regional and local scale by reintroducing fire, reducing woody encroachment, and invasive plants on 5,500 acres across eight sites of southwestern Arkansas using mechanical and chemical methods and prescribed fire, thereby increasing viability of the SGCN that occur there. Larger burn units will be established at two sites to more easily implement prescribed fire and significantly reduce its long-term cost per acre. Project completion will take two years; proposal objectives are:

**1) Fire Management Objectives:**

- Restore fire to 5,000 acres once within two years, with average 80% unit coverage.
- Attain moderate overall burn intensity for 70% of the burns.
- Post burn effects monitoring will be conducted after each fire.

**2) Invasive Species Control Objectives:**

- Conduct invasive species treatment on 100 acres.

**3) Woody Stem Removal:**

- Conduct woody stem control on 20 acres within two years, using prescribed fire and mechanical removal

**LOCATION OF WORK:** Project activities will restore eight areas of blackland prairie and pine-oak woodlands in two counties (Hempstead and Miller) of the West Gulf Coastal Plain (Figure 1).

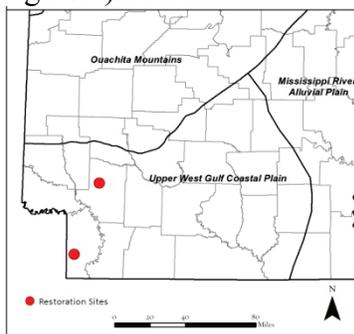


Figure 1: Project restoration sites

**APPROACH:**

- Joint burn crews
- Bigger more efficient Units
- Year round burning

**EXPECTED RESULTS AND BENEFITS:** Historically, the blackland prairie and pine-oak region of southwestern Arkansas supported high species diversity in prairie and pine-oak woodland communities. These habitats were greatly degraded or destroyed over the past 150 years, and many of the species are now considered SGCN. This project builds upon prior strategic work and planning: a focus of efforts by various partners within the best remaining remnants concentrated in landscape-scale areas. This project will further efforts to restore communities in a landscape context at both regional and local (patch) scales that we will maintain in future years, thereby increasing diversity and viability of 15 SGCN known from these eight sites (Table 1).

*Table 1: SGCN that will benefit from this project (20) species known from targeted blackland sites are in bold*

<b>anthophorid bee</b>	<b>Northern bobwhite</b>
<b>Bachman’s sparrow</b>	<b>Painted bunting</b>
<b>Brown-headed nuthatch</b>	<b>Prairie warbler</b>
<b>Byssus skipper</b>	Red-headed woodpecker
<b>Chuck-will’s widow</b>	<b>Red milkweed beetle</b>
<b>Diana</b>	<b>Robberfly</b>
<b>Henslow’s sparrow</b>	Sedge wren
Lark sparrow	Texas milkweed beetle
<b>Le Conte’s sparrow</b>	<b>Yellow-billed cuckoo</b>
<b>Migrant loggerhead shrike</b>	<b>Whip-poor-will</b>

**BUDGET 50 - 50% Cost Share:**

<i>Category</i>	<i>Funds Required</i>	<i>Match</i>	<i>Total</i>
<i>Salaries and Benefits</i>	<i>\$47,000</i>	<i>\$47,000</i>	<i>\$94,000</i>
<i>Operating Expenses</i>	<i>\$8,000</i>	<i>\$8,000</i>	<i>\$16,000</i>
<i>Capital Expenses</i>	<i>\$0</i>	<i>0</i>	
<b>Total</b>	<b>\$55,000</b>	<b>\$55,000</b>	<b>\$110,000</b>

**ORGANIZATION AND STAFF QUALIFICATIONS:**

**Brad Townsend** has worked in the Upper West Gulf Coastal Plains, for the Arkansas Game and Fish Commission since 2003. He received a B.S. degree in Forestry from the University of Arkansas at Monticello in 2003. His work area includes seven counties, and Wildlife Management areas in Southwest Arkansas, this includes Rick Evans Grandview Prairie WMA, the largest contiguous tract of Blackland Prairie in Public Ownership in the nation. He is an Arkansas Registered Forester and a state certified burn boss.

**Clint Harris** is the Southwest Arkansas Project Manager and has worked for TNC for over 10 year in habitat and fire restoration. During his decade of fire management he has reached the qualification of RXB2 and has been on over 60,000 acres of prescribed fire. Clint is also trained in planning and implementing ecological restoration activities that include forest management and invasive species control.

**Griffin Park** is the Region 5 Wildlife Supervisor and has worked for the Arkansas Game and Fish Commission for 26 years. He has served as a Habitat Biologist and Assistant Supervisor in the region before assuming his current position. He is responsible for managing wildlife and habitat in the seven southwest counties of Arkansas consisting of 2.7 million acres and 18 Wildlife Management Areas. One of these WMAs is Rick Evans Grandview Prairie WMA, the largest contiguous tract of blackland prairie in public ownership in the nation. Griffin graduated from the University of Arkansas at Monticello with a B.S. in Wildlife and Fisheries Biology. He is also an Arkansas Registered Forester.

**Susan Nimmo** is the Region 4 Wildlife Supervisor with the Arkansas Game and Fish Commission. She graduated with a B.S. in Biology with a focus in Environmental Science from Furman University in Greenville, South Carolina. She earned an M.S. in Wildlife Management at the University of Arkansas in Monticello. She has worked for the Arkansas Game and Fish Commission for 10 years, serving as a Private Lands Biologist and Assistant Supervisor in the region before assuming her current position. She is responsible for managing wildlife and habitat in nine counties in south-central Arkansas, including eight Wildlife Management Areas. Susan has also conducted wildlife research in Georgia, Montana, and Canada.